PROCEEDINGS BOOK

4th INTERNATIONAL AFRICAN CONFERENCE ON CURRENT STUDIES

*Bani Waleed City, (المسلات) Amasallat

October 20-22, 2021

BANI WALEED UNIVERSITY, LIBYA

Editors

Asst. Prof. Dr. Abdussalam Ali Ahmed
Samira KHADHRAOUI ONTUNC

Institute Of Economic Development And Social Researches Publications®
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TURKEY

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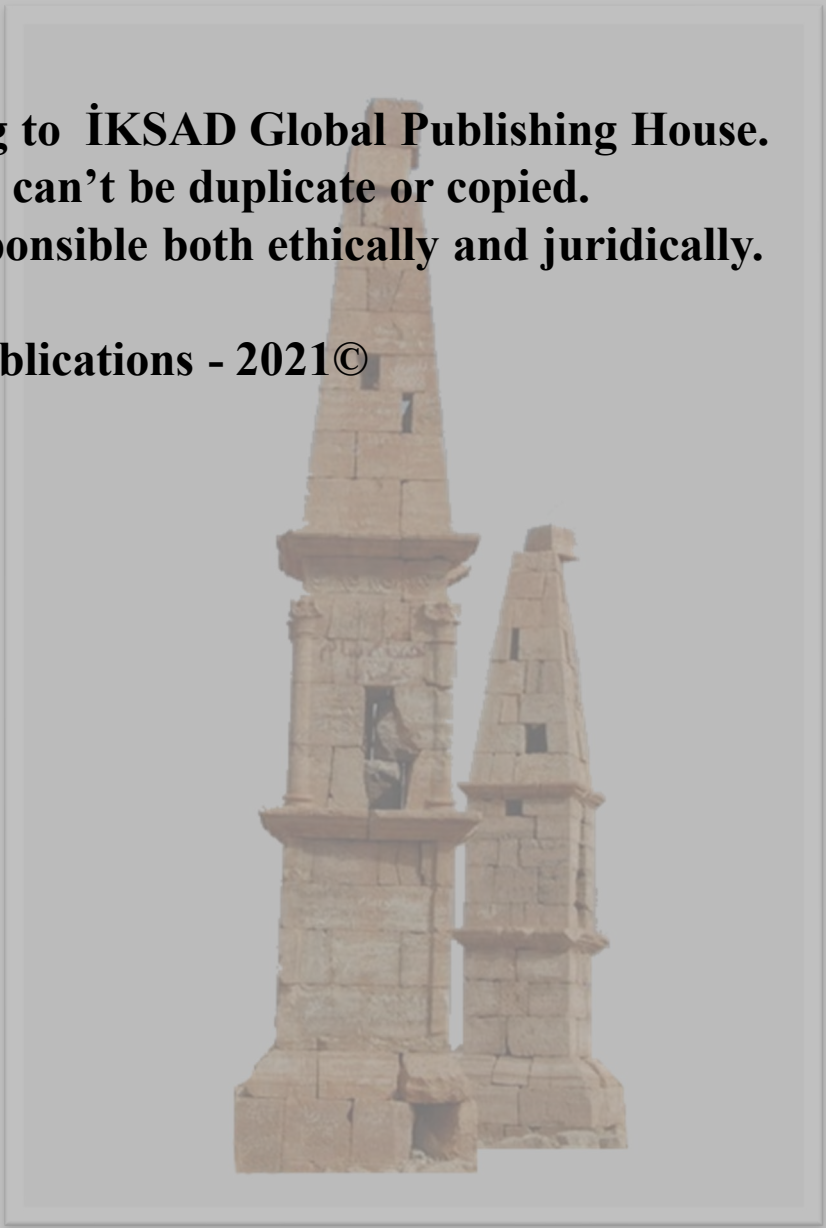

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4th INTERNATIONAL AFRICAN CONFERENCE ON CURRENT STUDIES

ORGANIZING INSTITUTIONS

INSTITUTE OF ECONOMICS DEVELOPMENT AND SPCAIL RESEARCHES (IKSAD)

&

BANI WALEED UNIVERSITY, LIBYA

TOTAL NUMBER OF PAPERS FROM TURKEY

32

TOTAL NUMBER OF INTERNATIONAL PARTICIPANTS

41

PARTICIPANTS COUNTRIES

Libya, Turkey, Morocco, Lebanon, Philippines, Iran, Tunisia, France, Saudi Arabia, Vietnam, Nigeria, Pakistan, India, Malaysia, China, Indonesia, Republic of Moldova, Azerbaijan, Spain, Iraq, Algeria

TOTAL ACCEPTED PAPERS

73

TOTAL REJECTED PAPERS

21

EVALUATION PROCESS

All applications have undergone a double-blind peer review process

PRESENTATION

Oral Presentatıon

CONFERENCE ID

TITLE

4th INTERNATIONAL AFRICAN CONFERENCE ON CURRENT STUDIES

DATE - PLACE

October 20-22, 2021 BANI WALEED UNIVERSITY, LIBYA

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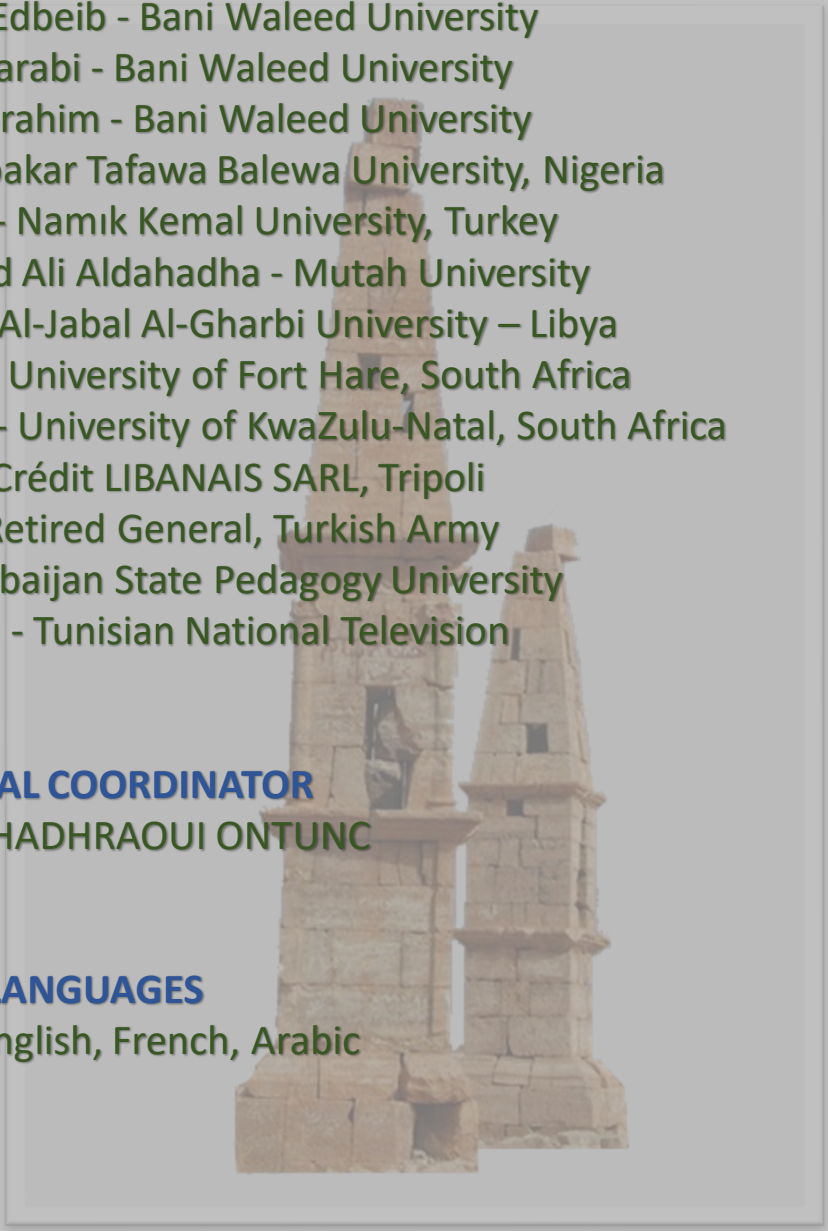
LANGUAGES

Turkish, English, French, Arabic



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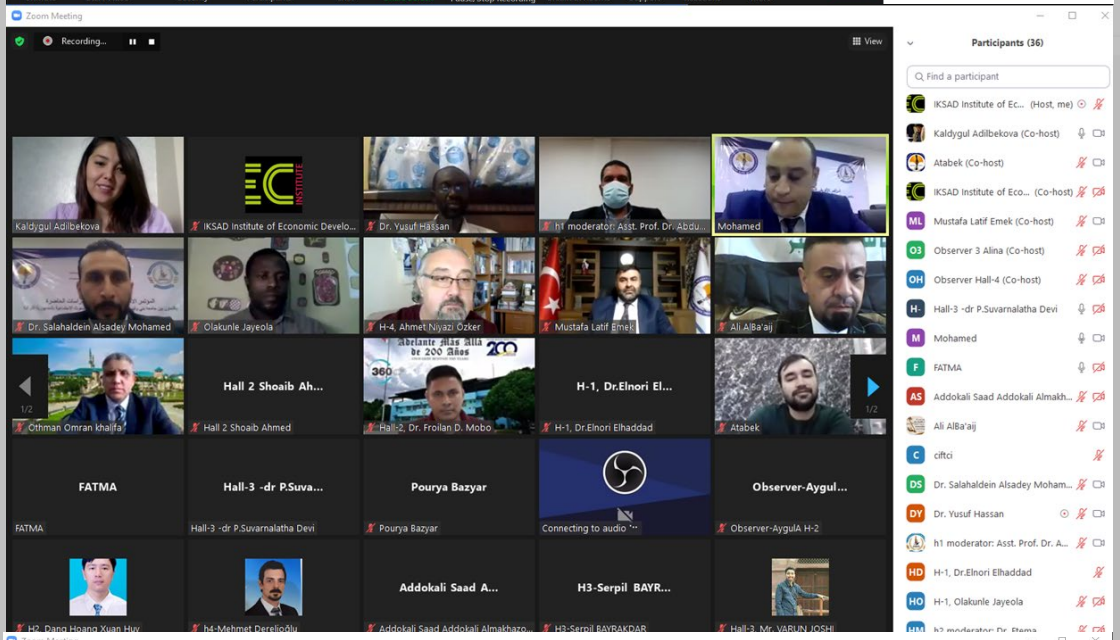

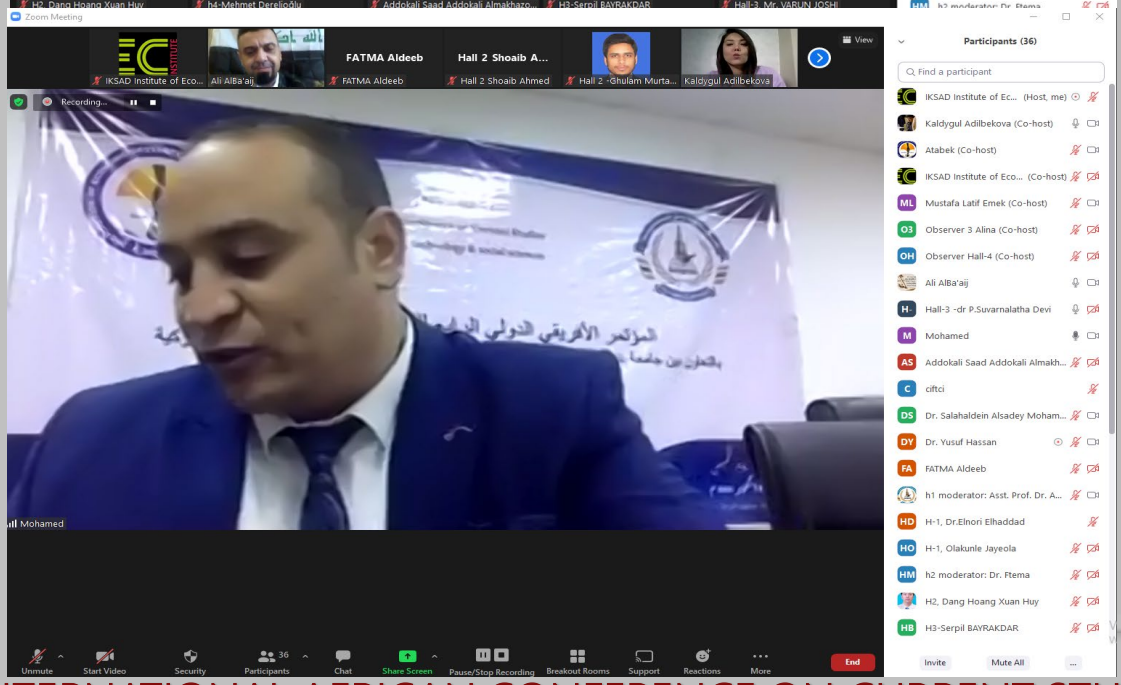

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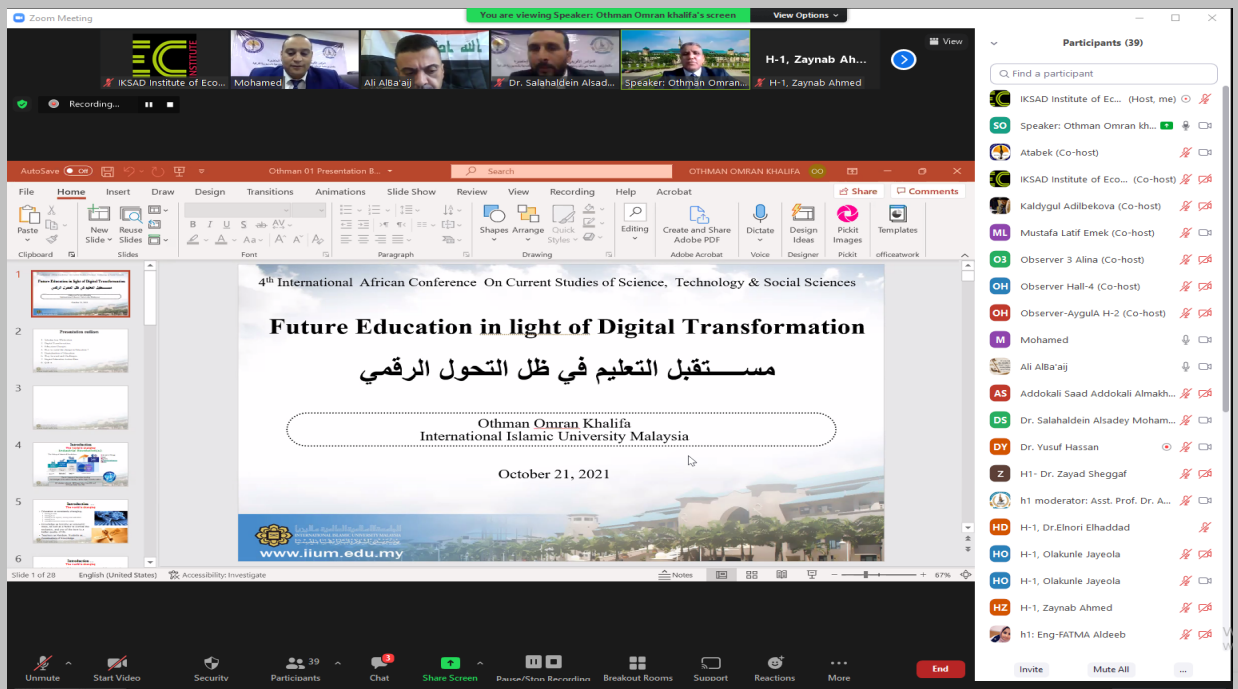

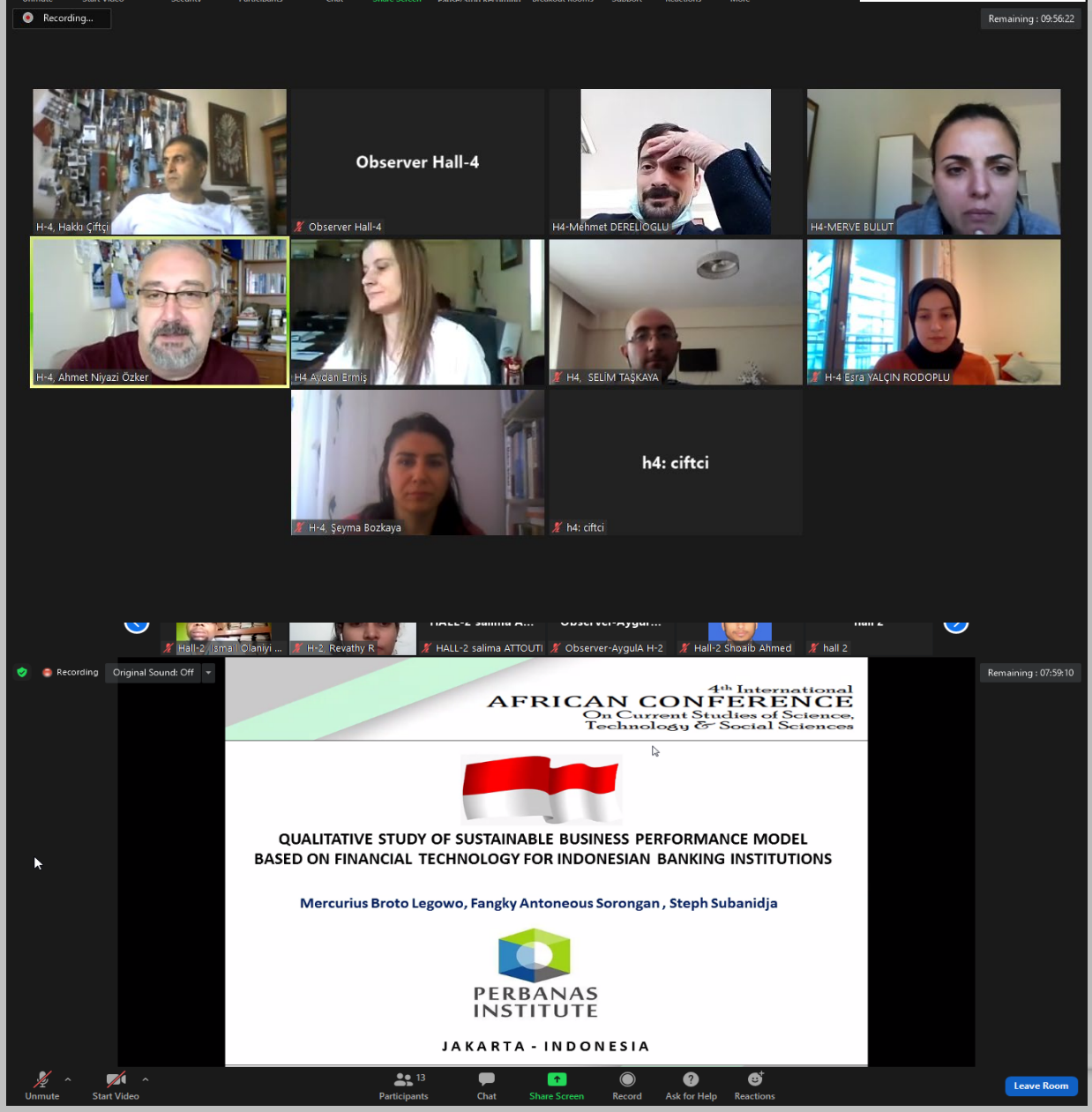

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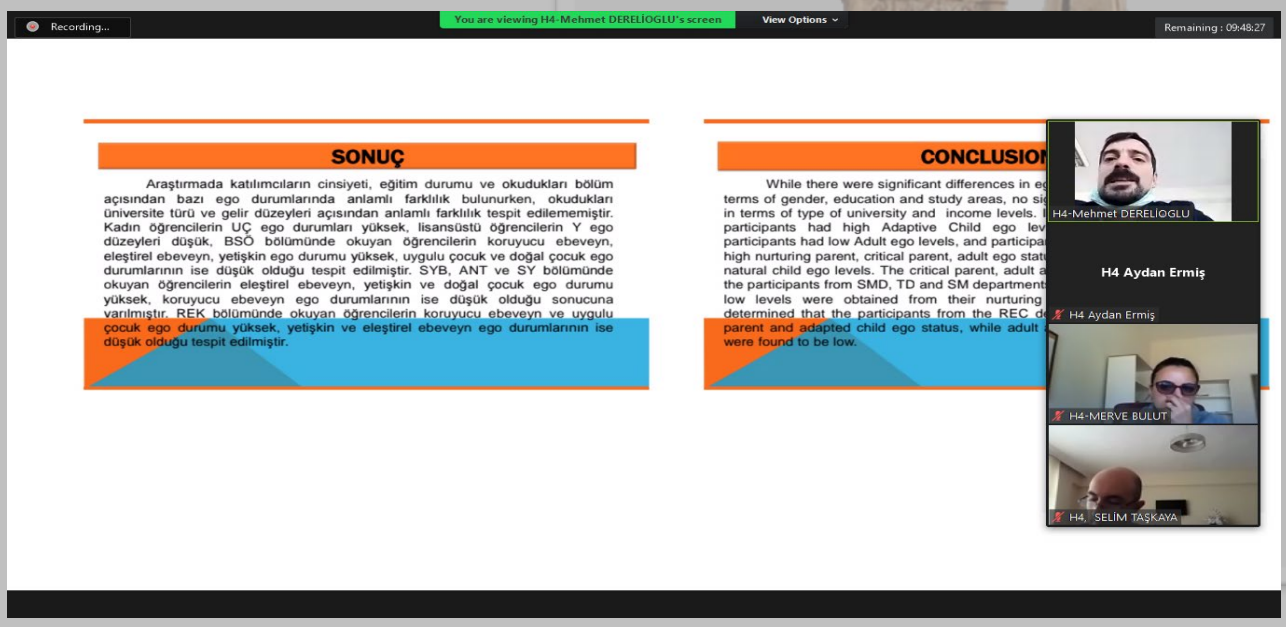

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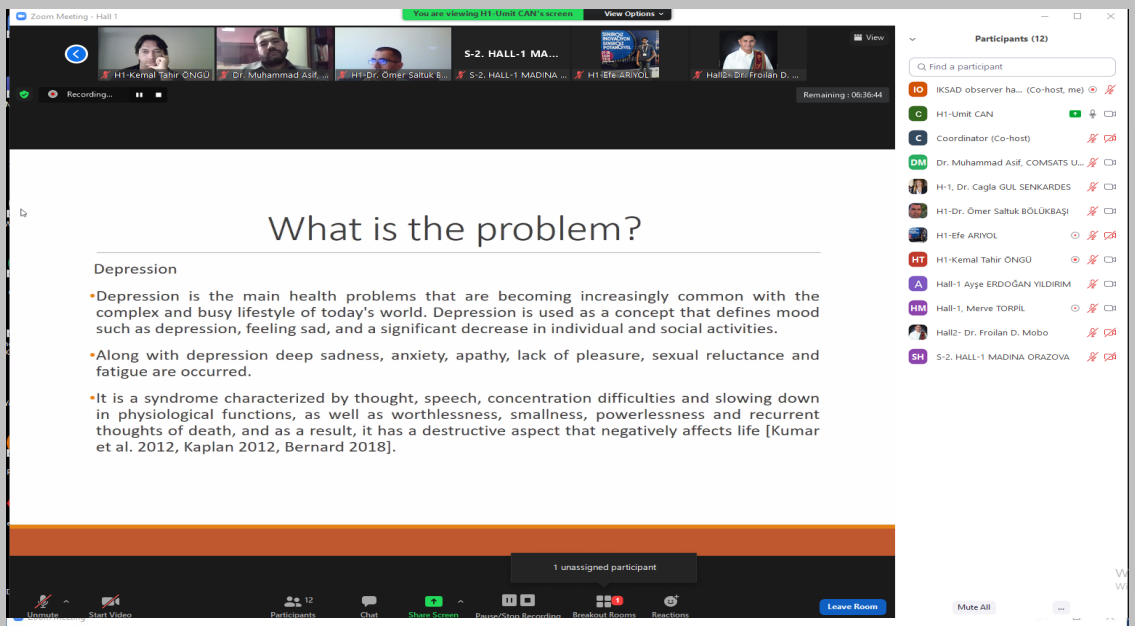

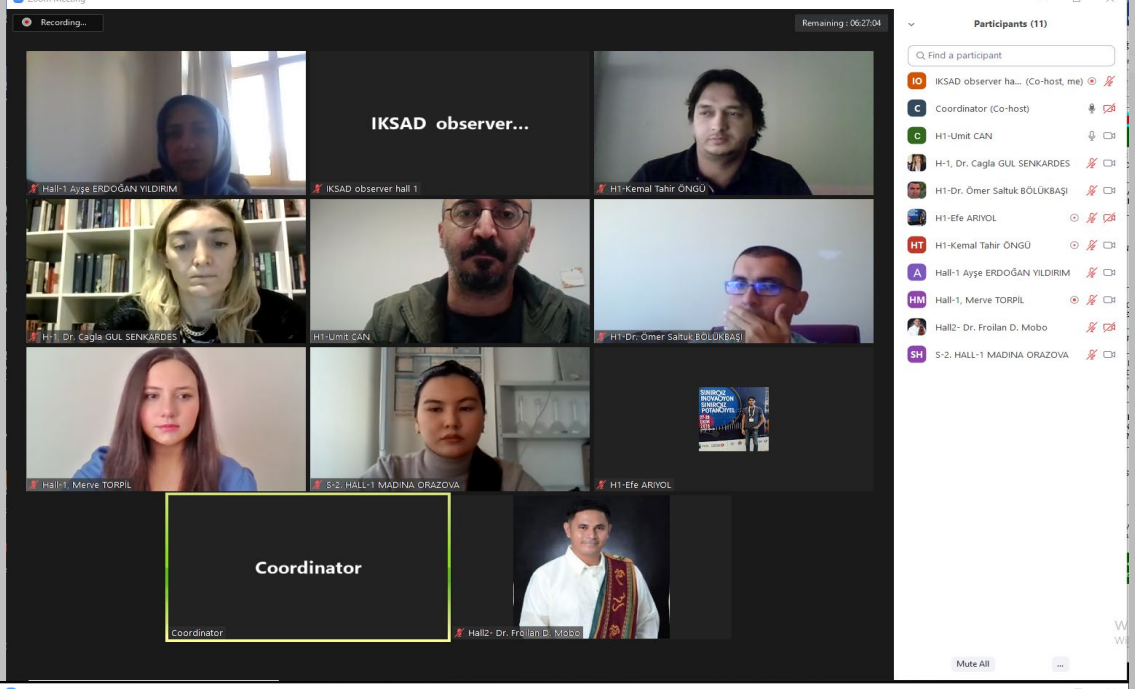

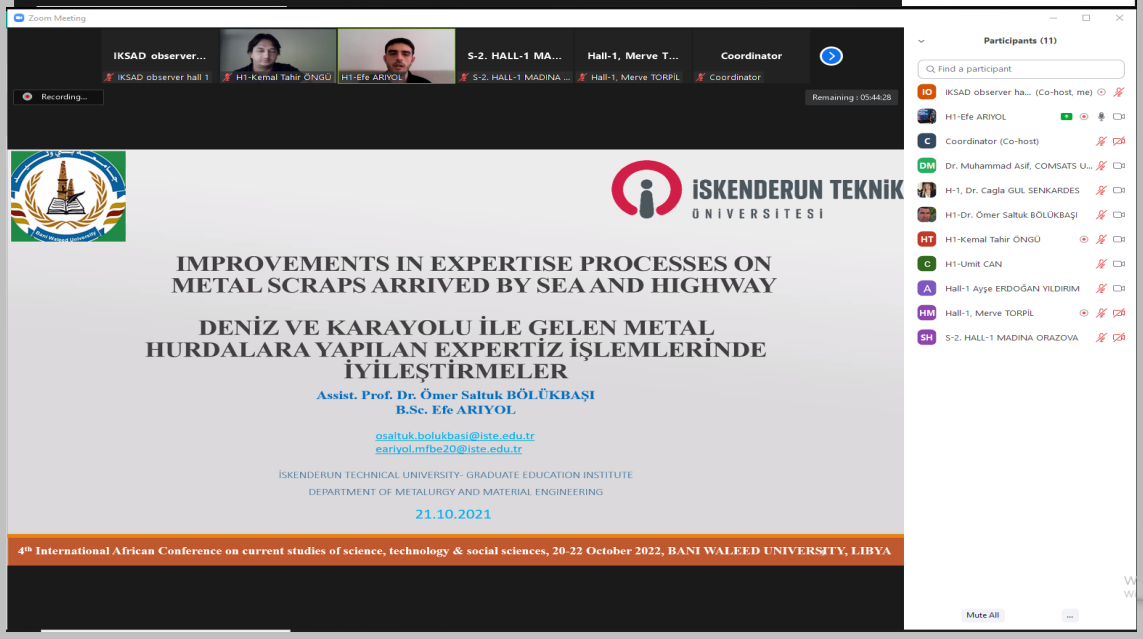

4th INTERNATIONAL AFRICAN CONFERENCE ON CURRENT STUDIES

4th International

AFRICAN CONFERENCE

On Current Studies of Science, Technology & Social Sciences

CONFERENCE PROGRAM

October 20-22, 2021

BANI WALEED UNIVERSITY, LIBYA

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Participants Countries (21)

Libya, Turkey, Morocco, Lebanon, Philippines, Iran, Tunisia, France, Saudi Arabia, Vietnam, Nigeria, Pakistan, India, Malaysia, China, Indonesia, Republic of Moldova, Azerbaijan, Spain, Iraq, Algeria

TOTAL NUMBER OF PAPERS: 73

THE NUMBER OF PAPERS FROM TURKEY: 32

OTHER COUNTRIES: 41

OPENING CEREMONY

21.10.2021

Tripoli Local Time: 08:30–09:00

Ankara Local Time: 09:30–10:00

~Welcoming Speech~

Dr. Mustafa LATIF EMEK

President & Founder of the
Institute of Economic Development and Social Researches (IKSAD)

Assoc. Prof. Dr. Salahaldein Alsadey

Head of conference
Bani Waleed University, Libya

~Opening Speech~

Asst. Prof. Dr. Mohamed Faraj Edbeib

Bani Waleed University, Libya

~Keynote Speaker~

Prof. Dr. Othman Omran Khalifa

"Future Education in light of Digital Transformation"
International Islamic University Malaysia

21.10.2021 | SESSION-1 | HALL-1

Tripoli Local Time: 09:00–11:30

Ankara Local Time: 10:00–12:30

MODERATOR: Asst. Prof. Dr. Abdussalam Ali Ahmed

Authors	Affiliation	Presentation title
Fatma ALDeeb **Abdussalam Ali Ahmed**	*College of Computer Technology, Benghazi, Libya* *Bani Waleed University, Libya*	REVIEW OF SOFTWARE-DEFINED WIDE AREA NETWORK (SD-WAN): ARCHITECTURE
Zayad M. Sheggaf **Abdussalam Ali Ahmed** **Masood A. Masood**	*Bani Waleed University, Libya*	CONTRIBUTIONS OF LIBYAN HIGHER EDUCATION INSTITUTIONS TO USE MODERN TECHNOLOGIES IN THE LABOUR MARKET
Elnori Elhaddad **Abdussalam Ali Ahmed**	*Bani Waleed University, Libya*	THE IDIOMATIC CONCEPT OF COMPREHENSIVE QUALITY AND PROGRAM ACCREDITATION AND INSTITUTIONAL
Abdussalam Ali Ahmed **Huria K. M. Eltarmal** **Hamza Khalifa** **Zaynab Ahmed Khalleefah** **Samia Mustafa Abusaoud**	*Bani Waleed University, Libya* *University of Zawia, Libya* *Higher Institute of Medical Sciences, Libya* *Gharyan University, Libya*	THE IMPACT OF E-ADMINISTRATION ON THE PERFORMANCE OF GOVERNMENT INSTITUTIONS AND THE IMPROVEMENT OF THE PUBLIC SERVICES
Elnori Elhaddad	*Baniwaleed University, Libya*	Effect of choke size and perform a system analysis, case study in Libya
Ahmed Salem Adaba	*Bani Waleed University, Libya*	Who are we? How did we become who we are now?Sequencing of the ancient genome and its applications in historical and archeological studies
Abdulhafeed Al Kateb **Abu Baker Gusbi** **Mohammed Gabaj** **Emhemmed Gerish**	*Biotechnology Research Centre, Libya* *University of Tripoli, Libya* *Misurata University- Libya*	Phylogenetic Analysis of Chicken Infectious Anaemia Virus Among Broilers, Broiler Breeders and Fre-Range Chicken Flocks in Libya
Sama Mohamed Eljarushi	*Misurata University, Libya*	GLOBALIZATION'S IMPACT ON CULTURAL IDENTITY AND STUDENTS' ATTITUDES TOWARD IT
HIND A. AGEEL **LUTFIYA S. ALBGGAR**	*Bani walid University, Libya*	The trend towards psychotherapy among those who are reluctant and unhesitating to charlatans in the Bani Walid community
Mosbah Jemmali **Marwa Saidi** **Lotfi Bessais**	*University of Sfax, Tunisia* *University of Paris Est Creteil, France* *Qassim University, Saudi Arabia*	Influence of Cu substitution on the structure and magnetic properties of the new GdFe2-xCux (x = 0, 0.1, 0.15 and 0.2) solid solution
Olakunle Jayeola **Shafie Sidek** **Hu Jimin**	*Adekunle Ajasin University, Nigeria* *Universiti Putra Malaysia, Malaysia* *Ganzhou Teachers College, China*	Is Government Financial Support Effective for Cloud Enterprise Resource Planning Implementation and Financial Performance of Small and Medium Enterprises (SMEs)?

(All speakers required to be connected to the session 10 min before the session starts)
Moderator is responsible for ensuring the smooth running of the presentation, managing the group discussion and dynamics.

21.10.2021 | SESSION-1 | HALL-2

Tripoli Local Time: 09:00–11:30

Ankara Local Time: 10:00–12:30

MODERATOR: Assoc. Prof. Dr. Ftema Aldbea

Authors	Affiliation	Presentation title
Pourya Bazyar	*University of Tehran, Iran*	An overview of using image processing and hyperspectral Remote Sensing applications in Agriculture
Mohammed Ismael	*Institute of Natural and Applied Science, Turkey*	COMPARISON OF HOLLOW CORE REINFORCED CONCRETE SLABS TYPES
Veronica Kawang **Jeffreyka Peter** **Iggyson Ligel**	*Keningau Vocational College, Malaysia*	MULTIUSE TROLLEY FOR A CONVENIENT AND SAFE AUTOMOTIVE WORKSPACE
N. Bensitel **K. Haboubi** **A. El Kasimi**	*Abdelmalek Essaadi University, Morocco*	RECYCLING OF DRINKING WATER TREATMENT SLUDGE AND OPTIMIZATION OF THE AMOUNT OF COAGULANT USED
Ismail Olaniyi MURAINA **Rasheed Olatunde AJETUNMOBI** **Akeem Ademola ADEDOKUN**	*Adeniran Ogunsanya College of Education, Nigeria*	ACCELERATE DATA SCIENCE AND DATA ANALYTICS OPTIMIZATION WITH EDGE COMPUTING
A. U. Arun **Usha K**	*Cochin University of Science and Technology, India*	TOWARDS A BETTER FUTURE – A SNIPPET VIEW OF INDIA'S RESPONSE TOWARDS CLIMATE CHANGE
Dr. A. U. Arun **Revathy R**	*Cochin University of Science and Technology, India* *Nirmala College, Kerala, India*	ASSESSMENT OF POTENTIAL LARVICIDAL ACTIVITY OF CERTAIN PLANT EXTRACTS AGAINST MOSQUITO LARVAE
Salima Attouti **Mourad Termoul** **Atika Soualili** **Benaouda Bestani** **Noureddine Benderdouche**	*Abdel Hamid Ibn Badis University, Algeria*	REMOVAL OF RHODAMINE B BY LOCAL BIOMASS
Chidoud Hassan **Aarab Ahmed** **Abid Mohammed** **El Mzibri Mohammed** **Laglaoui Amin**	*University Abdelmalek Essaâdi, Morocco* *Biology and Molecular Research Unit(CNESTEN)*	Can technology (especially artificial intelligence) serve the agri-food sector to improve performance?
Mercurius Broto Legowo **Fangky Antoneous Sorongan** **Steph Subanidja**	*Perbanas Institute, Indonesia*	QUALITATIVE STUDY OF SUSTAINABLE BUSINESS PERFORMANCE MODEL BASED ON FINANCIAL TECHNOLOGY FOR INDONESIAN BANKING INSTITUTIONS
Shoaib Ahmed **Rana Atta ur Rahman** **Awais Awan** **Ghulam Murtaza** **Sajjad Ahmad**	*University of Engineering and Technology, Taxila, Pakistan* *Quaid-e-Azam College of Engineering and Technology, Sahiwal, Pakistan* *International Islamic University, Islamabad, Pakistan*	OPTIMIZATION OF FRICTION STIR WELDING PARAMETERS FOR AA5451 TO IMPROVE HARDNESS AND PERCENTAGE ELONGATION

(All speakers required to be connected to the session 10 min before the session starts)
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21.10.2021 | SESSION-1 | HALL-3

Tripoli Local Time: 12:00–14:30

Ankara Local Time: 13:00–15:30

MODERATOR: Prof. Dr. Sibel Yalçın Tokgöz

Authors	Affiliation	Presentation title
Gül ÖZKAN KIZILIRMAK **Emre SEVGİ** **Şerife BÜYÜKKÖSE**	*Gazi University, Turkey*	SOME RESULTS ON DEGREE-SUM, DEGREE SQUARE SUM, FIRST ZAGREB AND SECOND ZAGREB ENERGIES OF THE FIBONACCI SUM GRAPH
Serpil BAYRAKDAR **Kadir SERVİ**	*Fırat University, Turkey*	INVESTIGATION OF THE EFFECTS OF LYCOPENE ON THROMBOCYTOPENIA INDUCED BY CISPLATIN AND CARBOPLATIN IN RATS
Zengin, H. **Dağoğlu, G.** **Tanyıldızı, S.** **Keskin, Z.** **Vezir, Y.** **Ünal, N.**	*Fırat University, Turkey* *Dollvet Veteriner Aşı İlaç Biyolojik Madde Üretimi Sanayi ve Ticaret A.Ş. Turkey*	INVESTIGATION OF IMMUNMODULATOR EFFECTS OF INACTIVE PARAPOXVIRUS
Mehmet Yildirim **Ferhat Kizilgeci** **Ferhat Ozturk**	*Dicle University, Turkey* *Mardin Artuklu University, Turkey* *Şırnak University, Turkey*	ASSESSMENT OF VARIETY RELEASING PERFORMANCE FROM WINTER WHEAT GERMPLASM AT DIYARBAKIR CONDITION
Nawar İmad AHMED **Prof. Dr. Cahit BAĞCI**	*Sakarya University, Turkey*	ELECTRO-ACUPUNCTURE AND DIABETES IN EXPERMENTAL STUDIES
Prof. Dr. Sibel Yalçın Tokgöz **Dr. Hasan Bayram**	*Uludag University, Turkey*	A SPECIAL SOLUTION FOR A SUBCLASS OF MULTIVALENT HARMONIC FUNCTIONS
Prof. Dr. Sibel Yalçın Tokgöz **Dr. Hasan Bayram**	*Uludag University, Turkey*	ON HARMONIC UNIVALENT FUNCTIONS AND SPECIALIZED PASCAL DISTRIBUTION SERIES
Öğr. Gör. Özge ÖKCÜ **Öğr. Gör. Berkay Eren PEHLİVANOĞLU** **Arş. Gör. Sanem GÜVEN**	*İstanbul Rumeli University, Turkey*	THE RELATIONSHIP WITH QUALITY OF LIFE, PHYSICAL ACTIVITY AND NUTRITION IN PATIENTS WITH BREAST CANCER-RELATED LYMPHEDEMA- LITERATURE REVIEW
Tuğra AKKUŞ **İsmail GÜNAL** **Ömer YAPRAKCI**	*Harran University, Turkey*	Determination of Some Lipid Profile Concentrations After CIDR Use in Awassi Sheep
Varun Joshi **Manojkumar Mahajan** **Aman Upaganlawar** **Chandrashekhar Upasani**	*SNJB's Shriman Sureshdada Jain College of Pharmacy, India*	Anxiolytic activity of methanolic extract of Tephrosia purpurea Linn using experimental anxiety models

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21.10.2021 | SESSION-1 | HALL-4

Tripoli Local Time: 09:00–11:30

Ankara Local Time: 10:00–12:30

MODERATOR: Prof. Dr. Ahmet Niyazi ÖZKER

Authors	Affiliation	Presentation title
Mehmet DERELİOĞLU **Soner ÇANKAYA**	*Avrasya Univesity, Turkey*	EGO STATUS OF STUDENTS STUDYING IN SPORTS SCIENCE
Aydan ERMİŞ **Seda SABAH** **Soner ÇANKAYA**	*School of Foreign Languages, Samsun, Turkey* *Institute of Health Sciences, Amasya, Turkey* *Yaşar Doğu Faculty of Sport Sciences, Samsun, Turkey*	EXAMINATION OF TRUST LEVELS OF FOOTBALL FANS IN SPORTS CLUBS
Dr. Merve BULUT	*Muğla Sıtkı Koçman University, Turkey*	Marketing Consciously: Innovative Business and Customer Centric Service Marketing Mix in New Normal Based on the Lives of Customers with Disability
Prof. Dr. Ahmet Niyazi ÖZKER	*Bandirma Onyedi Eylul University, Turkey*	PRECEDENCE OF A LABOR-ORIENTED TAX SYSTEM IN OECD COUNTRIES AND PROSPECTS FOR EMERGING ECONOMIES
Prof. Dr. Ahmet Niyazi ÖZKER	*Bandirma Onyedi Eylul University, Turkey*	THE FISCAL INTENSITY BY EXTERNAL FINANCIAL SHOCKS IN OECD COUNTRIES, AND DEVIATIONS FOR FISCAL PROJECTIONS
Dr. Elif Değirmenci **Esra YALÇIN RODOPLU**	*Nişantaşı University, Turkey* *İbn Haldun University, Turkey*	A Study On The Evaluation Of The Service Received From City Hospitals During The Pandemic Period, Başakşehir Çam And Sakura City Hospital Case
Mahmut Sami DURAN **Şeyma BOZKAYA**	*Selcuk University, Turkey* *Nevsehir Haci Bektas Veli University, Turkey*	EXAMINATION OF THE RELATIONSHIP BETWEEN TAX COMPONENTS AND ECONOMIC GROWTH IN THE USA WITH THE TODA-YAMAMOTO CAUSE TEST
Assoc. Prof. Dr. Hakkı ÇİFTÇİ	*Cukurova University, Turkey*	WAYS TO SUSTAINABLE ECONOMIC GROWTH
Selim Taşkaya **Semih Taşkaya**	*Artvin Çoruh University, Turkey* *Fırat University, Turkey*	DESIGNING NATURAL GAS LINES BY ARTIFICIAL NEURAL NETWORKS TECHNIQUE IN ZONED AREAS IN CITIES, THE CASE OF ELAZIG
Assoc. Prof. Dr. Ömer Gökhan ULUM	*Mersin University, Turkey*	THE EXCLUDED SOCIETIES IN THE EFL TEXTBOOK ENGLISH NET 6: A CRITICAL PERSPECTIVE TOWARDS THE EFFECTS OF COLONIZATION
Fulya Soyata	*Kakdıköy Adult Education Center Academican, Turkey*	EFFECTS OF SOCIAL MEDIA AND LEARNING ON ADULT'S EDUCATION DURING PANDEMIE

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21.10.2021 | SESSION-2 | HALL-1

Tripoli Local Time: 12:00–14:30

Ankara Local Time: 13:00–15:30

MODERATOR: Samira KHADHRAOUI ONTUNC

Authors	Affiliation	Presentation title
Dr. Çağla Gül Şenkardeş	*İstanbul Bilgi University, Turkey*	EFFECTS OF MOBILE APPLICATIONS, FINANCIAL TECHNOLOGIES AND BLOCKCHAIN TECHNOLOGY ON FINANCIAL INCLUSION
Ayşe ERDOĞAN YILDIRIM	*Fırat University, Turkey*	Optimization of PID Controlled Robotic Finger Orthosis with Harmony Search Algorithm
Umit Can **Bilal Alatas** **Anıl Utku**	*Munzur University, Turkey*	DETECTION OF DEPRESSION IN ONLINE SOCIAL NETWORKS
Prof. Dr. Ali Kara **Merve Torpil** **Prof. Dr. Gökhan Göktalay**	*Bursa Uludağ University, Turkey*	CITICOLINE ADSORPTION ONTO MAGNETIC POLYMERIC MICROPARTICLES
Prof. Dr. Ali Kara **Madina Orazova**	*Bursa Uludağ University, Turkey*	SALICYLIC ACID ADSORPTION ONTO MAGNETIC POLYMERIC PARTICLES
Assist.Prof. Dr. Ömer Saltuk BÖLÜKBAŞI **Kemal Tahir ÖNGÜ**	*Iskenderun Technical University, Turkey*	INVESTIGATION OF CONSISTENCY LIMITS USING IRON STEEL SLAG ADDED SOIL SAMPLES AT THE DETERMINED PROPORTIONS
Assist.Prof. Dr. Ömer Saltuk BÖLÜKBAŞI **Kemal Tahir ÖNGÜ**	*Iskenderun Technical University, Turkey*	EXAMINATION OF THE CLIMATE EFFECTS OF CONCRETE MORTAR SAMPLES WITH ADDITIONAL BLAST FURNACE SLAG IN SALTY ENVIRONMENT
Assist.Prof. Dr. Ömer Saltuk BÖLÜKBAŞI **Efe ARIYOL**	*Iskenderun Technical University, Turkey*	IMPROVEMENTS IN EXPERTISE PROCESSES ON METAL SCRAPS ARRIVED BY SEA AND HIGHWAY
Assist.Prof. Dr. Ömer Saltuk BÖLÜKBAŞI **Efe ARIYOL**	*Iskenderun Technical University, Turkey*	THE IMPORTANCE OF SCRAP CLASSIFICATION IN THE IRON AND STEEL INDUSTRY
Asst. Prof. Dr. Muhammad Asi **Zaheer Ahmed** **Asst. Prof. Dr. Muhammad Aamir** **Jamil Farid**	*COMSATS University Islamabad, Pakistan*	IMPACT OF HEALTH CAPITAL ON ECONOMIC GROWTH IN PAKISTAN

(All speakers required to be connected to the session 10 min before the session starts)

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21.10.2021 | SESSION-2 | HALL-2

Tripoli Local Time: 09:00–11:30

Ankara Local Time: 10:00–12:30

MODERATOR: Dr. Caroline Akhras

Authors	Affiliation	Presentation title
Dr. Caroline Akhras	*Notre Dame University, Lebanon*	The Keys to Unlock Women Leadership
Dr. Froilan D. Mobo	*Philippine Merchant Marine Academy, Philippines*	The Role of Emerging Trends in Education
Dang Hoang Xuan Huy **Hoang Van Tuan** **Vo Dinh Quyet**	*Nha Trang University – Vietnam*	ASSESSMENT OF POVERTY, INEQUALITY, AND PERSONAL SAVING BEHAVIORS OF COMMUNITY COMMUNITY IN KHANH HOA, VIETNAM
Abdulgaffar Muhammad **Maryam Ammani Lawal** **Maryam Bala Adamu** **Ali Mansur Garba** **Umar Hamisu** **Nwaha Abdullahi Onimisi** **Abubakar Hamisu Mai Iyali**	*International Organization of Management Professionals of Nigeria* *Pharmaceutical Society of Nigeria* *Ahmadu Bello University, Nigeria* *Federal College of Education Kano, Nigeria* *Nigerian Institute of Transport Technology* *Hussaini Adamu Federal Polytechnic, Nigeria*	A CRITIQUE OF THE EUROCENTRIC CURRICULA IN THE CONTEXT OF AFRICA'S SOCIO-POLITICAL HERITAGE: A MISMATCH
Abdulgaffar Muhammad **Maryam Ammani Lawal** **Maryam Bala Adamu** **Ali Mansur Garba** **Umar Hamisu** **Nwaha Abdullahi Onimisi** **Abubakar Hamisu Mai Iyali**	*International Organization of Management Professionals of Nigeria* *Pharmaceutical Society of Nigeria* *Ahmadu Bello University, Nigeria* *Federal College of Education Kano, Nigeria* *Nigerian Institute of Transport Technology* *Hussaini Adamu Federal Polytechnic, Nigeria*	THE DYNAMICS OF POLITICAL RELATIONS AND ITS IMPACT ON ECONOMIC DEVELOPMENT IN NIGERIA (2011-2020)
Dr. Aneesh V. Pillai	*Cochin University of Science and Technology, India*	SCOPE OF 'ACCESS TO INTERNET' AS A HUMAN RIGHT: AN INTERNATIONAL AND INDIAN LEGAL PERSPECTIVE
Ali Ghafil Harbi	*The Iraqi Ministry of Education / Al-Qadisiyah Education Directorate*	DIFFICULTIES FACING LEARNERS OF ENGLISH GRAMMAR IN IRAQI SCHOOL
HASAN SAYİM VURAL **MOHAMED AHMED ADAN**	*Ankara University, Turkey*	A DECADE OF FEDERALIZATION IN THE POST-CONFLICT SOMALIA
Dr. Swati Munot	*K G College of Arts and Commerce, İndia*	Online learning Preparedness: A study with special reference to Traditional courses students of Savitribai Phule Pune University students of Ahmednagar City
Alakbarova Khumar Elqam	*Institute of Oriental Studies named after academician Bunyadov Z. of ANAS*	The war realities in works by Mohammed Yusuf Al Quayid

(All speakers required to be connected to the session 10 min before the session starts)

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21.10.2021 | SESSION-2 | HALL-3

Tripoli Local Time: 12:00–14:30

Ankara Local Time: 13:00–15:30

MODERATOR: Prof. George O., Ayenigbara

Authors	Affiliation	Presentation title
G. P. Ashwinkumar **B. Ranjana**	*Vijayanagara Sri Krishnadevaraya University, India*	Significance of thermal radiation on MHD flow of hybrid nanofluid over a stretching surface
Gediz UĞUZ	*Ondokuz Mayıs University, Turkey*	EVALUATION OF ANTIOXIDANT EFFECTIVENESS OF GINGER EXTRACT IN BIODIESEL
G. P. Ashwinkumar **P. Nanda**	*Vijayanagara Sri Krishnadevaraya University, India*	Magnetohydrodynamic flow of Casson hybrid nanoliquid above a slendering surface with slip effects
Ala Fulga **Aurelia Coretchi**	*"Nicolae Testemitanu" State University of Medicine and Pharmacy, Republic of Moldova*	TARAXACUM OFFICINALE IS A PROMISING SOURCE OF HYDROXYCINNAMIC ACID DERIVATIVES
Antonio Arnaiz-Villena **Valentin Ruiz-del-Valle** **Adrian Lopez-Nares** **Luis Barrera** **Fabio Suarez-Trujillo**	*University Complutense, Spain*	The Saharan Contribution to Classic Maditerranean/Atlantic Culture
Suvarnalatha Devi Potireddy **M. Rajaswi Devi** **M. Nagalakshmi Devamma**	*Sri Venkateswara University, India*	Hepatoprotector acvity of Commelina benghalensis Linn. in Cadmium induced Wister rats
Abdul Ademola Olaleye **Emmanuel Ilesanmi Adeyeye** **Aminu Dauda**	*Federal University Dutse, Nigeria* *Ekiti State University, Nigeria*	ASSESSMENT OF THE PROXIMATE, MINERALS AND MINERAL SAFETY INDEX OF FIVE SPECIES OF EDIBLE INSECTS CONSUMED IN NIGERIA
Dr. Adeboye I., Elumaro **Prof. George O., Ayenigbara** **Dr. Joseph S., Adegboro** **Dr. Danjuma M., Momoh**	*Adekunle Ajasin University, Nigeria*	Exploring talent development environments in Nigeria: A case study of sport development framework in Ondo state
Pham Ngoc Nhan	*University of Economics Ho Chi Minh City, Vietnam*	TRANSFORMING THE PLANT STRUCTURE IN AGRICULTURE SECTOR: A CASE STUDY IN MEKONG DELTA, VIETNAM
Chaimae BENAISSA **Belkacem BOUHMADI** **Abdelhamid ROSSI**	*Abdelmalek Essaâdi University, Morocco*	HYDROCHEMICAL CHARACTERIZATION OF WATER FROM A SOURCE IN AL HOCEIMA REGION – MOROCCO: WET AND DRY PERIODS
Nguyen Thi Tuoi **Nguyen Phu Son** **Le Nhu Bich**	*Dalat University, Vietnam* *Can Tho University, Vietnam*	REVIEW OF AGRICULTURAL VALUE CHAIN ANALYSIS

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SOFTWARE DEFINED WIDE AREA NETWORK SD-WAN: PRINCIPLES AND ARCHITECTURE

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Abstract
Wide-area connectivity between enterprise site-edge networks and central office core networks/cloud data centers has seen a significant increase in demand. Various software defined wide area network (SD-WAN) solutions have been created with the primary goal of increasing the use of WAN links.
SD-WANs resolve some of the most pressing WAN problems clients currently face when building and managing hybrid WANs.
For organizations to communicate essential data across various locations and enhance sales, a reliable Wide Area Network (WAN) has become necessary. It is also possible to say that SD-WAN (Software-Defined Wide Area Networking) is a new networking paradigm that brings the benefits of Software Defined Networking (SDN) to enterprise networks. In this paper, the definition and architecture of the Software-defined Wide Area Network (SD-WAN) will be explained in addition to obtain reasons to use SD-WAN and how SD-WAN works.

Keywords: Software Defined Wide Area Networking (SD-WAN), Wide area networks, Business, Software, networks, Architecture.

Introduction and Background
This part of the paper presents the most important concepts and definitions of the Software-Defined Wide Area Network (SD-WAN) which have been published by many researchers interested in this topic.
There has been a lot of improvement in technology in terms of internet services in the previous few decades. A WAN, like the inter-data network in the center, industry channels, and transportation systems, has built the important foundations of the knowledge community as essential synchromesh mechanisms available on the Internet [1].
SD-WAN (Software-Defined Wide Area Network) is an overlay architecture that creates secure unified connectivity over any transport and simplifies operations by allowing for centralized management, policy control, and application visibility. The SDWAN network follows standard routing concepts, divides the data and control planes, and virtualizes a large portion of the routing functions [2]. The control plane is overseen by centralized controllers that run the virtualized network as an overlay over cost-effective hardware. Routing and routing ads, as well as the ability to partition different traffic flows, are all included in the secure virtual IP fabric. It also protects user data using authentication and encryption. The control plane, data plane, and virtual IP fabric all work together to create a secure, scalable network.
Virtualization is a network architecture that enables network services to be designed, implemented, and managed significantly more efficiently than ever before [3]. Two major characteristics enabling this shift are software-defined networking SDN and network

functions virtualization NFV. SDN divides the control plane from the forwarding plane to manage networks. Software is used by network architects and businesses to configure and administer network services through a centralized control server [4]. This method develops networks that are dynamic, agile, secure, and scalable, utilizing the virtualized infrastructure of modern data centers to respond quickly to changing business needs.

With the gradual migration of businesses to the cloud, WAN bandwidth demand has increased, resulting in an increase in each company's annual link rental costs. According to Google, however, traditional WAN utilization is always maintained at 30%-40%. As a result, businesses must capitalize on bandwidth's potential. Simplificating the deployment process, dealing with the cloud era of fast on-line business trends, and providing better support for the Internet of Things all necessitate WANs that are more programmable, easier to deploy, and more dependable.

To comprehend the benefits that SD-WAN may provide, we must first grasp what SD-WAN is. "SD-WANs use centralized controllers without relying on interactions with underlying provider transport solutions," according to Gibson in "Software-Defined-WAN-for-Dummies" [5]. This is made possible by decoupling the data plane from the control plane, replacing internetworking protocols with APIs, and constructing rules based on application metrics rather than network metrics."

Figure 1 depicts a new WAN concept, which will be addressed in greater depth later in this section. It's commonly known as a hybrid WAN. It's absolutely worth looking at the combination of all of these capabilities in one unified solution that can surpass the competition at a reasonable price. In this section, we'll look at some of the most popular SD-WAN providers, as well as the operating principles and distinct types of SD-WAN.

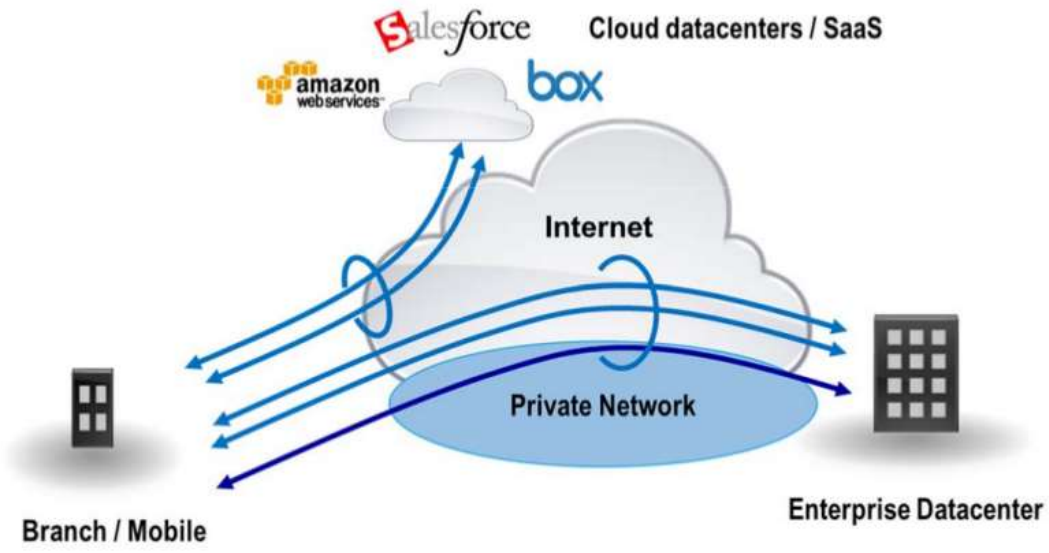


Figure 1: The SD-WAN concept [6]

We can say that it is possible to rely on the Internet to connect practically any two remote points, but when a secure connection is needed to transfer data (and this is what we need to connect the branches of a particular company to each other), this option becomes unacceptable due to the possibility of exposure to various intrusions through the Internet, especially The information transmitted is not necessarily encrypted, in addition to other problems related to the inability to prioritize, distribute the load on auxiliary links, or even provide replacement links in the event that the current link breaks down. MPLS (Multi-Protocol Label Switching) technology has provided a solution to all of the above problems of

normal connection in the Internet, as shown in Figure (2), where companies are now provided with a connection in the Internet as well, but it is wrapped to provide the required services, alternatives and confidentiality in the transfer of information By creating a virtual private network (VPN) within the Internet, as shown in Figure (3), it is also possible to use the IPsec protocol, which enables encryption (encryption) and reliability at the network layer level in the Internet.

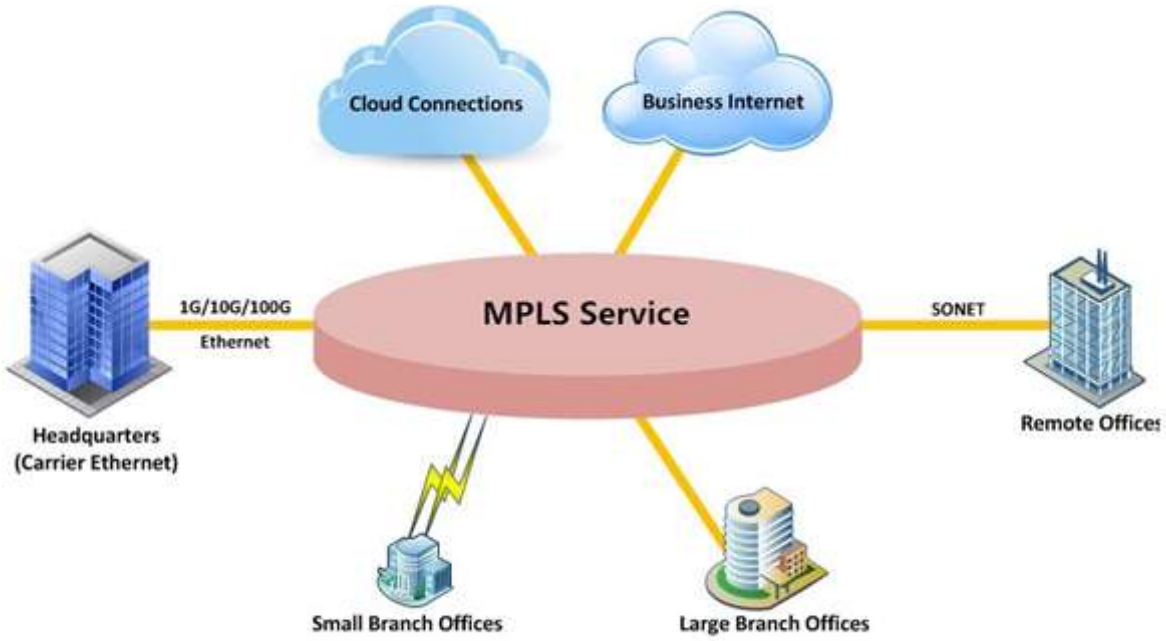


Figure 2: Connecting enterprise centers using MPLS technology.

The main disadvantages of MPLS technology are: high cost, guest flexibility, and lack of self-management. These disadvantages have prompted most organizations to use a hybrid WAN. It uses at least two WAN connections from each branch, allowing two types of access technology (MPLS, broadband Internet, LTE, etc.), and the choice between these links depends on the type of data traffic and the required performance parameters. This type of solution has increased the level of flexibility, but it still suffers from the high cost and difficulty of self-management. At the same time, many updated principles appeared in the world of networks; The most important of them are: SDN: Software Defined Network, and NFV: Network Function Virtualization, due to their widespread use at the present time in addition to the ongoing research work in their development on the one hand, and in determining the mechanisms of their use within modern technology on the other hand, as in SD-WAN: Software-defined Wide Area Network.

SD-WAN networks are the latest development currently that allows centralization and tuning of services according to the approved policies, as this network has adopted the addition of a special policy layer that can be dynamically configured to manage the WAN connections of all branches.

Figure 3: Using a VPN to provide Internet traffic.

SDN can be defined as a network principle in which two network levels are separated. They are: the control plane, where control and marking operations take place, and the data plane, where the passing and routing operations of packets carrying data take place. This is achieved by placing the network design and network management into central controllers that distribute instructions to a number of low-cost network nodes. If we make a comparison with traditional networks that use an independent block for both levels within each node (as shown in Figure (4)), we find that the leadership in software-defined networks is separated within a higher level, which allows a very important advantage is the ability to manage the network programmatically. Some books and articles Programmatically Defined Networks Programmable Networks.

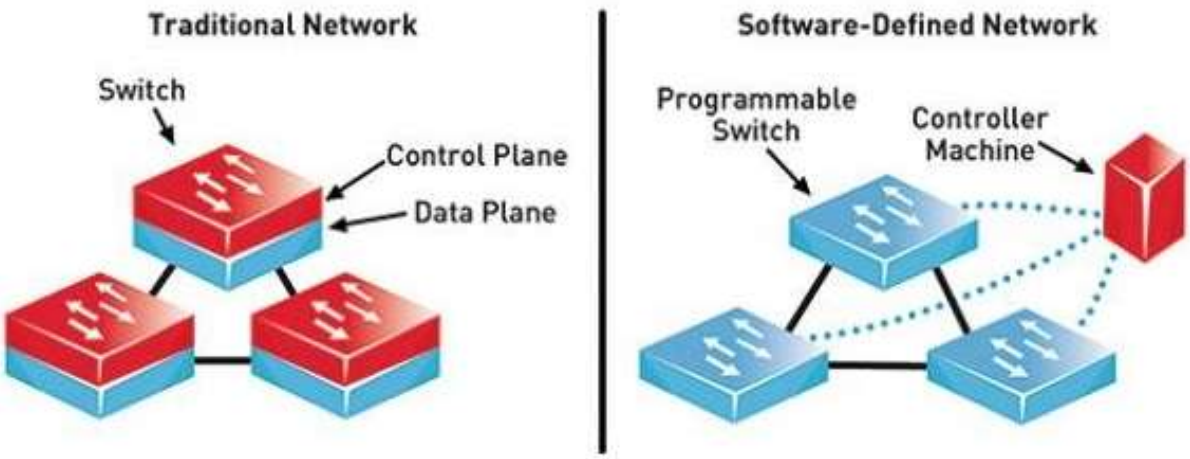


Figure 4: The difference between SDNs and traditional networks.

The Architecture of the SD-WAN

Figure 6 depicts the SD-WAN architecture. The design has three major layers, as shown in the diagram: cloud network, virtual services, orchestration, and analytics. The cloud network layer allows for the creation of an overlay network capable of communicating over both private and public IP infrastructures. It is made to make communication between geographically dispersed places, as well as cloud applications and services, easier. Security is an important aspect of the cloud network layer. [7] Given that SD-WAN relies on the public internet as a transport network, security is a critical component of its operation. The following are some best practices for safeguarding communication channels: [8]

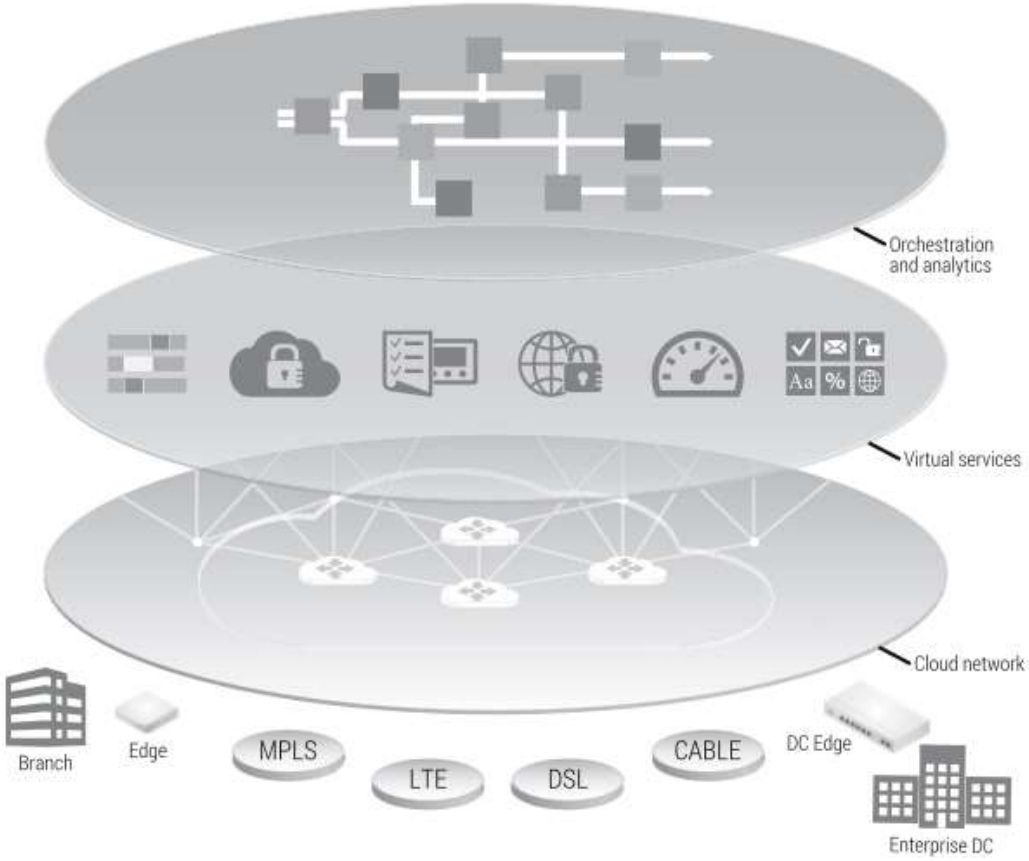


Figure 5: The SD-WAN architecture [7]

To give more pieces of information about the architecture of SD-WAN, One of the important studies that deal with SD-WAN architecture, functions and benefits presents the SD-WAN architecture [9]. SD-WAN, as mentioned before in many published works, is currently one of the most actual topics because it connects SDN, NFV, CC and WAN services (e.g. broadband Internet service) [10].

SDWAN architecture (Figure 7), similar to SDN architecture consists of three architectural planes. They are infrastructure, or data plane, control plane and orchestration plane.

1. ***Data plane***

Both private and public IP / WAN infrastructures can be used by the data plane to make connections. It has intended to make communication between geographically dispersed sites, as well as cloud applications and services, easier. SD-WAN does this by erecting a software-managed logical architecture on top of the current physical infrastructure. The existing physical infrastructure is known as Underlay, and this form of network is known as Overlay. The physical infrastructure of underlay WAN networks is typically heterogeneous and fragmented, but SD-WAN overlay is usually uniform and consistent. Only one uplink may be used in some setups (i.e. MPLS). Other options can rely solely on a local Internet connection with a single uplink, or combine lines and technologies (DSL, 4G/5G, etc.) or even leased lines or other private WAN solutions.

2. *Control plane*

SD-WAN, like SDN, operates on the premise of separating the control plane from the data plane in order to centralize control logic. The controller (or numerous controllers) is the plane's principal entity, and it can be placed at a branch, headquarters, data center, or in the cloud. While the CPE is linked to the controller via a secure control connection, this layer is responsible for controlling the configuration of the attached devices (southbound API). The East-West API can be used to implement controller federation and clustering (MP-BGP, or custom solutions). This layer is also in charge of improving the communication flow between the VPN tunnel and each of the various types of services, such as branch, data center, and cloud services. The SD-WAN service is programmed towards the orchestrator entity (or manager) via the Northbound API interface, which mostly uses RestAPI.

3. *Orchestration plane*

The Orchestration Plane [11] provides a business policy framework for service security policies and corporate governance strategies.The management level is a high-level abstraction for policy enforcement (centralized and unified policy management), configuration management, troubleshooting, monitoring, analytics, predictions ,correlations, reporting, and notifications. Then there are service-related functions, such as creating and managing services. Consolidation of these features creates a superior management interface that can easily manage large deployments.

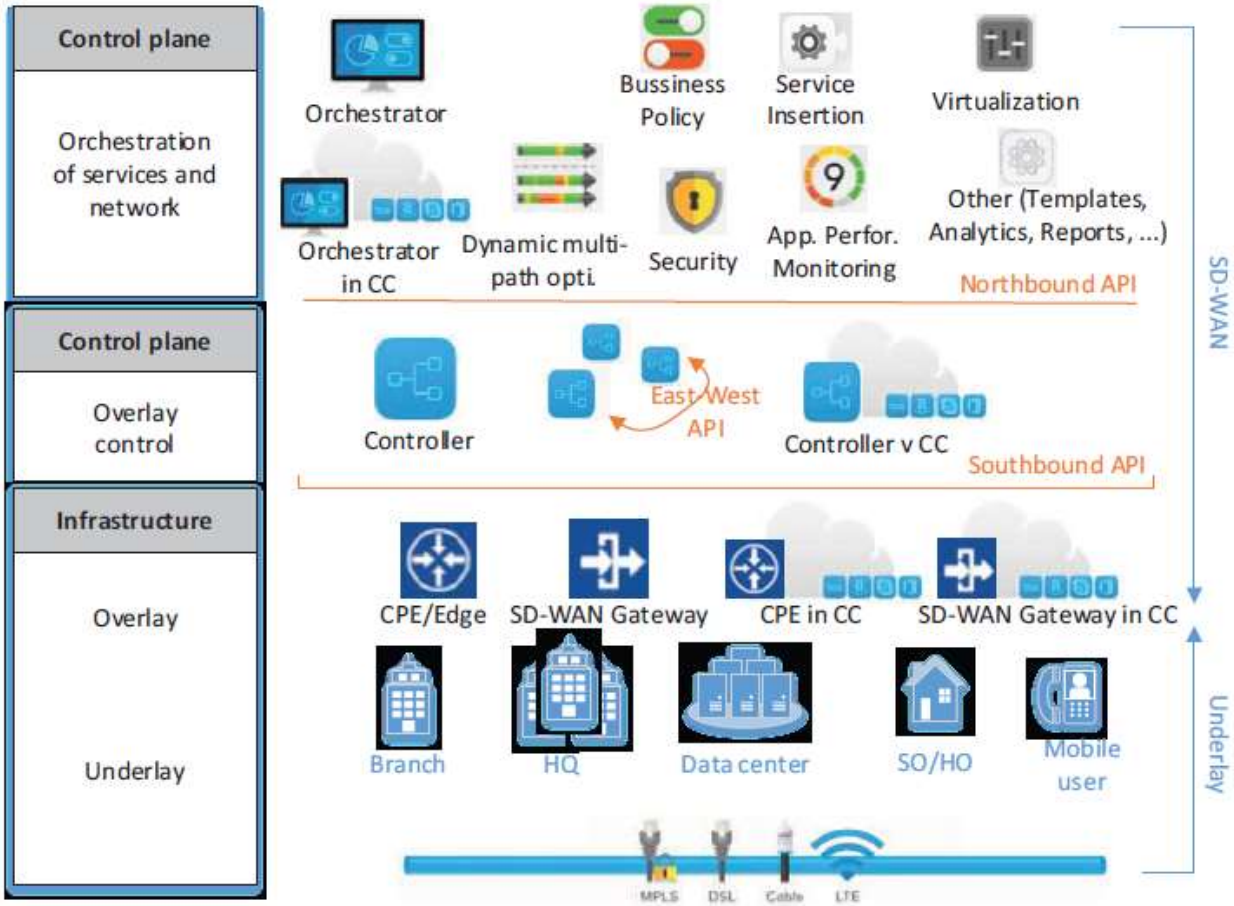


Figure 6: other architecture of SD-WAN [8]

Challenges in SD-WAN

There are five common SD-WAN challenges and how to prepare for them:

The five challenges IT teams are facing when evaluating SD-WAN vendors ate discussed [12]. Vendor selection, underlay provisioning, cloud connectivity, cost reduction and management are all challenges that must be considered along with specific requirements.

***A**. Vendor selection*

The first problem with SD-WAN is deciding which vendor to use. Most IT decision-makers will start their SD-WAN research by looking into the top providers. Due to the abundance of marketing in the SD-WAN product field, this first step is difficult. Marketing data points show that each product can enable digital transformation across WAN services, but IT teams are overburdened.

***B.** Underlay provisioning*

It makes sense for SD-WAN to go from private WAN technologies like MPLS to the internet as the default connectivity choice.The SD-WAN difficulty is determining which underlay service providers are best suited to a company's locations, as well as whether to use a single IP backbone or a multi-ISP architecture.

***C.** Cloud connectivity*

AWS, Microsoft Azure, or Google Cloud Platform connections are required in practically all SD-WAN vendor selection projects. In terms of their ability to access cloud services, SD-WAN suppliers will often fall into one of three categories:

1. Native cloud access is embedded into the vendor's architecture, and branch office sites are connected via cloud backbone technology.SD-WAN appliances are delivered to cloud environments via public gateways or private backbones.
2. Customers are responsible for deploying appliances within their local cloud data center, according to vendors.

***D.** Cost reduction*

One of the key drivers and marketing claims related with SD-WAN is cost reduction. Cost reduction, on the other hand, is frequently not measured in bottom-line savings and necessitates evaluation of the entire benefit to the company. Adopting SD-WAN with SASE, for example, allows for more efficient working procedures. While enabling customers to rapidly access programs does not appear on the budget, the overall impact on the business can be significant.

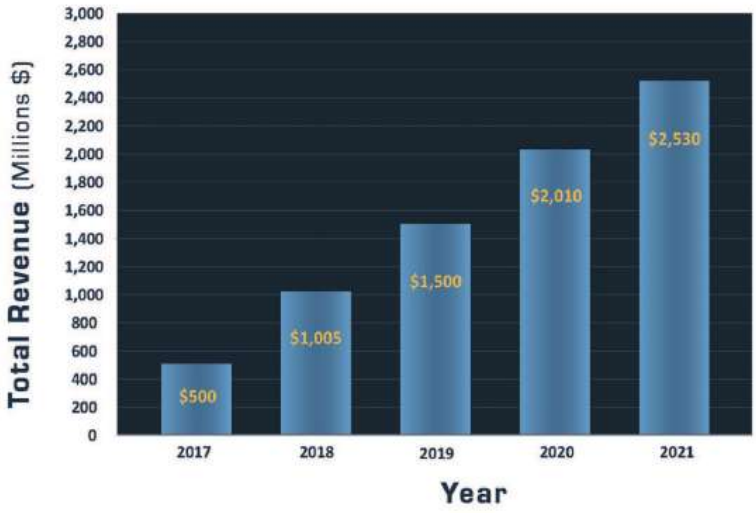
***E.** Management*

The distinctions between DIY, co-managed, and fully managed SD-WAN are becoming blurred thanks to SD-WAN. Businesses do not have to choose their management level in the same manner they did in the past.

SD-WAN Growth Forecasts

SD-WAN is undeniably a hot sector, attracting billions of dollars in investment and piqued client interest. After years of hype, the deployments have begun in earnest, with consumers paying real money in exchange for a significant return on investment. In order to acquire

insight into how revenue will scale in the market, Futuriom conducted in-depth interviews with SD-WAN service providers, technology vendors, and customers [13].
The full market forecast can be seen on the chart on the following figure.



Total Revenue:	**2018:** $1,005	**2019:** $1,500	**2020:** $2,010	**2021:** $2,530
Annual Growth Rate: (from prior year)	**2018:** 100%	**2019:** 50%	**2020:** 33%	**2021:** 20%
CAGR (2018-2021):	35%			

Figure 7: The full market forecast of the SD-WAN Growth

Conclusion

The above can be concluded as follows: in recent years there have been many important changes in wide area networks, and one of the main changes is the development and introduction of software-defined "WAN" i.e. "SD-WAN", as this leads to a change in usage and various improvement, such as PBX Multiple Protocols "MPLS", Frame Relay, and "DSL", a huge amount of data networks these days include cloud technology such as cloud storage and cloud computing.
The use of a flexible software-defined "WAN" approach is more effective, as it is able to provide security and other required features in addition to supporting cloud work, and "SD-WAN" can support applications hosted in on-premises data centers, public or private clouds, solutions.

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THE OUTCOMES OF THE LIBYAN PUBLIC AND PRIVATE HIGHER EDUCATION INSTITUTIONS AND THEIR RELATIONSHIP TO THE LABOUR MARKET: AN OVERVIEW

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Abstract
Higher education institutions are considered one of the most important pillars that contribute to the development of societies, especially in light of the rapid development of all aspects of life. Therefore, these institutions must take major and important steps, including developing curricula for a limited period, as well as directing graduation research with a well-thought-out plan, according to the needs of the region, and here lies the role of universities in Libya to involve private and public sector institutions in the field of scientific research in order for the benefit to prevail and to contribute to raising scientific competencies as well as the development of the local product and consequently the advancement of the state's economy. In addition, the selection of specializations in the institution must be thoughtful so that it meets the requirements of the region according to its needs and the resources in it, which contributes to covering the local market, especially the private sector, which reduces unemployment and contributes to raising the local economy. The private Libyan labor market to enter the advanced manufacturing technology represented by the use of modern technologies such as computer-controlled wood engraving machines, as well as laser cutting machines, which required the availability of labour which does not depend on skill only, as in the past when using machines Rather, it needs the presence of specialized elements in this field with high educational qualifications to operate, program and maintain these machines, and the use of modern cars requires maintenance with high-tech detection devices that require elements qualified scientifically and linguistically, here lies the role of higher education institutions in Providing these elements to cover the needs of the market and contribute to the development of the local industries sector and by carrying out creative research tasks, distinguished training and unique development of competencies.

Keywords: Education, Technology, Development, Modernity, Labour market, Private sector.

واقع مخرجات مؤسسات التعليم العالي الليبية العامة والخاصة وعلاقته بسوق العمل: نظرة عامة

الملخص

تعتبر مؤسسات التعليم العالي من أهم الركائز التي تساهم في تطور المجتمعات خاصة في ظل التطور السريع لكافة مجلات الحياة و لمواكبة هذا التطور على مؤسسات التعليم العالي القيام بدورها في المجتمع من حيث تأهيل الكوادر ذات المهارة العالية و المساهمة بفعالية في تطوير المجتمع بكافة المجلات, و لإنجاح ذلك على هذه المؤسسات القيام بخطوات رئيسية و هامة, منها تطوير المناهج كل فترة محدودة و كذلك توجيه بحوث التخرج بخطة مدروسة و ذلك حسب احتياجات المنطقة فعلى سبيل المثال تقوم الشركات العالمية في الدول المتقدمة بعرض مشاكلها التقنية على الجامعات مع تقديم دعم مالي فتعرض كبحوث تخرج للطلبة, و هنا يكمن دور الجامعات في ليبيا لأشراك مؤسسات القطاع الخاص و العام في مجال البحوث العلمية لكي تعم الاستفادة و للمساهمة في رفع الكفاءات العلمية و كذلك تطور المنتج المحلي و بالتالي النهوض باقتصاد الدولة. بالإضافة الي ذلك فأن اختيار التخصصات في المؤسسة يجب أن يكون مدروسا بحيث يلبي متطلبات المنطقة حسب احتياجاتها و الموارد الموجود بها مما يساهم في تغطية السوق المحلية خاصة القطاع الخاص مما يقلص البطالة و يساهم في رفع الاقتصاد المحلي, فعلى سبيل المثال لا الحصر في العقد الأخير بدء سوق العمل الليبي الخاص في الدخول الي تقنية التصنيع المتقدم و المتمثلة في استخدام التقنيات الحديثة مثل الات النقش على الخشب و التي يتم التحكم فيها بالحاسوب و كذلك الات القطع بالليزر مما تطلب توفر اليد العاملة و التي لا تعتمد على المهارة فقط كما في السابق عند استخدام الآلات التقليدية بل تحتاج لوجود عناصر متخصصة في هذا المجال و ذات مؤهلات تعليمية عالية لتشغيل و برمجة و صيانة هذه الآلات, كما أن استخدام السيارات الحديثة توجب صيانتها بأجهزة الكشف ذات التقنية العالية و التي تتطلب عناصر مؤهلة علميا و لغويا, هنا يكمن دور مؤسسات التعليم العالي في توفير هذه العناصر لتغطية احتياجات السوق و المساهمة في تطوير قطاع الصناعات المحلية و من خلال القيام بالمهام البحثية الإبداعية والتدريب المتميز والتطوير الفريد للكفاءات.

الكلمات المفتاحية: التعليم، التقنية، التطور، الحديثة، سوق العمل، القطاع الخاص.

المقدمة

إن انعدام التواصل بين مؤسسات التعليم العالي والمجتمع متمثلاً في مؤسساته المدنية والحكومية أدى إلى ضعف عملية التخطيط لوضع استراتيجية التعليم كآلية اختيار التخصصات لتلبية احتياجات المجتمع خاصةً القطاع الخاص منه والذي يساهم في رفع القدرة الاقتصادية للدولة والتقليل من معدل البطالة، حيث اقتصر دور هذه المؤسسات على التعليم فقط بل أصبح الكثير منها مشابهاً لمؤسسات التعليم الأساسي كالمدارس الثانوية وهو ما أشار إليه الدكتور عزت السيد أحمد في كتابه تطوير التعليم [1]. أحد جوانب القصور التي تعاني منها مؤسسات التعليم العالي هي أن مخرجاتها لا تملك الكفاءة اللازمة للدخول لسوق العمل مباشرة، وقد عزي بعض الباحثين [2] ذلك لضعف المستوى المعرفي لديهم أو لعدم مطابقة تخصصهم الجامعي مع متطلبات سوق العمل أي أن المعرفة التي تلقاها الخريج لا يستفيد منها في سوق العمل لأن التعليم العالي لا يواكب تغيرات ومتطلبات سوق العمل. عدم وجود رؤية واضحة لهذه المؤسسات بالخصوص والذي انعكس سلباً على التعليم العالي أدى إلى تنامي ظاهرة البطالة بين خريجيه. قبل اكتشاف النفط كان الاقتصاد الليبي يعتمد بالأساس على الزراعة، وقد شهد تحولاً شاملاً ليصبح اقتصاداً ريعياً يعتمد اعتماداً كاملاً على عائدات النفط.

تعمل الغالبية الساحقة 85 % من الأيدي العاملة النشطة في ليبيا بالقطاع العام، وهي نسبة مرتفعة جدا حتى بالمقاييس الإقليمية بل تزيد النسبة لأكثر من ذلك في حالة النساء 93 %. قبل سنة 2011 كانت الأيدي العاملة الأجنبية تمثل قرابة 50 % من اجمالي الأيدي العاملة في ليبيا بتعداد 2.6 مليون عامل تقريباً، أنخفض هذا العدد لقرابة 1.9 مليون سنة 2012 [3].

بتقييم سوق العمل الخاص في ليبيا (يستند هذا التقييم إلى إطار لجانبي العرض والطلب على الوظائف) و تحديد احتياجاته من العمالة الماهرة و المتخصصة لكل منطقة يمكن وضع استراتيجيات خاصة بكل مؤسسة تعليم عالي بالأخص التقنية منها يمكن تأهيل العمالة المناسبة و المطلوبة من القطاع الخاص لتعزيز الصلاحية للتوظيف في إطار استراتيجية أوسع لخلق فرص العمل, بذلك يمكن تحويل الاقتصاد الليبي من اقتصاد ريعي يعتمد اعتماداً كلياً على عائدات النفط إلى اقتصاد إنتاجي متنوع من خلال الشراكات الاقتصادية والفنية أن تساعد في تسريع وتيرة خلق الفرص الاقتصادية والوظائف. إن التعاون بين القطاع العام المتمثل في مؤسسات التعليم العالي والقطاع الخاص من شأنه أن يمثل مكونا جوهريا لبناء اقتصاد قوي.

المواد وطرق العمل

اعتمدت هذه الدراسة على بعض المراجع الخاصة بتطوير التعليم العالي [1, 2] وتقرير البنك الدولي (ديناميكية سوق العمل الليبي) [3] وكذلك على دراسة ميدانية لسوق العمل الخاص في مدينة بني وليد تضمنت بعض الورش الخاصة وهي ورش اللحام والنجارة والتي تستخدم الآلات حديثة (CNC Router) وكذلك ورش صيانة السيارات والتي تستخدم جهاز كشف أعطال السيارات، للوقوف على احتياجاتهم من العمالة الماهرة والمتخصصة وتحديد المشاكل التقنية الخاصة بطبيعة عملهم.

تمت مقارنة هذه الاحتياجات مع مخرجات مؤسسات التعليم العالي في المنطقة من حيث الكفاءة و مطابقة التخصصات المطلوبة في سوق العمل الخاص.

النتائج والمناقشة

ركزت الدراسة الميدانية على الورش التي تستخدم الآلات ومعدات حديثة والتي تفتقر لليد الماهرة المطلوبة لعمليات التشغيل والصيانة، حيث تضمنت ورشة اللحام والتي تستخدم آلة القطع بالليزر لتشكيل صفائح الحديد والمتحكم بها بواسطة الحاسوب (CNC router Laser Cutting Machine) وقد قام القطاع الخاص باستيرادها نظرا لدقتها في عملية القطع واستخدامها لزخرفة الابواب والنوافذ كما أنها رخيصة الثمن نسبياً خاصةً المصنعة في دولة الصين كما أنها بسيطة التركيب وغير معقدة. ساهم التطوير السريع لأنظمة التحكم في السيارات الحديثة في زيادة كفاءتها و إطالة عمرها و ذلك بإضافة حساسات لبعض أجزاء السيارة و ربطها بحاسوب (يطلق عليه بالعامية الدارجة البوكس) لجمع بيانات كل جزء عن طريق الاشارات المستلمة من الحساس لقياس أدائه، و لفحص السيارة أثناء حدوث عطل بها حيث تقوم ورشة الكشف على أعطال السيارات الحديثة باستخدام جهاز لفحص وبرمجة حواسيب السيارات و الكشف عن أعطالها مثل جهاز (Lunch)، حيث يتم ربطه بوصلة خاصة ليقوم الجهاز بفحص كافة معدات و أجهزة السيارة الموصلة بحاسوبها الرئيسي لتحديد مكان العطل. إن كافة أجزاء هذه المنظومة هي معدات حديثة يصعب على محدودي التعليم فهم آلية عملها خاصة المتعلقة بالحساسات وأكواد الأعطال التي يتعرف عليها الجهاز، حيث يتطلب على مشغل الجهاز أن يكون ملم بأساسيات الهندسة الكهربائية والميكانيكية وهندسة التحكم الآلي.

أما بالنسبة لورش اللحام فقد لوحظ وجود عدة مشاكل من بينها مشكلة التشغيل و الصيانة، حيث تتكون آلة القطع بالليزر من مجموعة محركات تعمل بالتيار المستمر (DC Motors) و لوحة تحكم توصل بالحاسوب لكي تتم برمجتها حسب العمل المراد القيام به، فعند تشغيل الألة لنقش رسم معين على صفيحة الحديد يقوم المشغل باختيار نقش جاهز مرفق مع الالة دون القدرة على رسم نقش جديد لعدم قدرته على البرمجة و الذي يحد من كفاءته على تشغيل الالة، كما أن صيانة الألة يتطلب معرفة الفني لأساسيات الهندسة الكهربائية و هندسة التحكم و الذي تفتقر إليه هذه الورش فتطلب توقف بعض الآلات عن العمل مما استلزم صيانتها خارج المنطقة أو توقفها نهائياً عن العمل. غالباً لا يتم التركيز في مناهج التعليم العالي على التطبيقات العملية للمواد الدراسية كهندسة التحكم و الهندسة الكهربائية هندسة الحاسوب و هنا تكمن أولى المشاكل حيث يكون الخريج ملم بالأساسيات فقط دون تطبيقاتها بينما يجدر بالمؤسسة التعليمية تحديث المناهج و ملائمتها حسب احتياجات سوق العام و بالأخص سوق العمل الخاص حتى مع عدم وجود الامكانيات بالمؤسسة يمكن لها التعاون مع القطاع الخاص كتدريب الطلبة أثناء فترة إنجازهم لبحث التخرج أو أثناء التدريب الميداني و الذي يهمله أغلب المؤسسات التعليمية في الآونة الاخيرة، لذا ينبغي على كل مؤسسة تعليمية موائمة تخصصاتها مع متطلبات السوق الخاص بالمنطقة و تحديث مناهجها حسب مستجدات و احتياجات سوق العمل الخاص.

أدى عدم توفر اليد العاملة الماهرة لقلة المستثمرين المحليين و ضعف القطاع الخاص، فبناء على هذه الدراسة يشتكي أغلب أصحاب الورش من عدم توفر الأيدي المشغلة للآلات الحديثة و كذلك صيانتها، فمع توفر رأس المال لا يمكن للمستثمر شراء الآلات الحديثة إلا بتوفر الأيدي العاملة و مع الظروف السياسية الراهنة التي أشار إليها تقرير البنك الدولي (ديناميكية سوق العمل الليبي) [3]، و التي أدت إلى نقص العمالة الأجنبية و الذي يمكن الاستفادة منه من قبل الدولة بتعويض هذه النقص بعمالة محلية و الذي يؤثر ايجابياً بتقليل نسبة البطالة و رفع كفاءة الاقتصاد المحلي و ذلك بوضع استراتيجية خاصة بتطوير التعليم العالي بناء على متطلبات سوق العمل الخاص و تشجيع المستثمرين المحليين و الأجنبيين و توفير اليد العاملة الماهرة لهم و كذلك تغيير مفهوم العمل للخرجين بالاعتماد على الخاص بدل القطاع العام الذي اثقل كاهل الدولة بصرف ميزانيات كبيرة على المرتبات و كذلك صرف مبالغ طائلة بالعملة الاجنبية لاستيراد بعض المنتجات يمكن تصنيفها محلياً. كما أشار التقرير إلى المشاكل التي سببت في تضخم القطاع العام، ومنها قلة وظائف القطاع الخاص المتاحة لليبيين سواء كانوا من العمال المهرة أم غير المهرة. كما أن ضعف كفاءة الانتقال من مرحلة الدراسة إلى العمل بالنسبة للخريج نتيجة لنقص الكفاءة في الجانب العملي سبب في ابتعادهم عن العمل في القطاع الخاص و الانتظار لوقت طويل للحصول على وظائف في القطاع العام مما سبب في ازدياد نسبة البطالة و تراكم العاطلين عن العمل مع استمرار مؤسسات التعليم العالي في توفير الخريجين، كما ذكر التقرير وجود ضعف في استعداد الليبيين لقبول الوظائف المهنية واليدوية، التي يشغلها بالتبعية في الغالب الأعم عمال أجانب من ذوي المهارات المتدنية، كما أن الوظائف التي تتطلب مهارات عالية يشغلها أيضاً عاملون من غير الأهالي. ويشكو 30 % من الشركات من ملاقاتها صعوبة في توظيف مواطنين ليبيين مؤهلين، بينما تقوم الشركات الاجنبية بتوظيف ليبيين لتلبية حصص العمالة المنصوص عليها باللوائح التنظيمية في الوقت الذي تستعين فيه بعمال أجانب على مختلف مستويات المهارة لتلبية الاحتياجات الفعلية للعمل والذي يدل على ضعف مخرجات مؤسسات التعليم في ليبيا.

من منطلق أن الشركات تعطي ثقلا أكبر لخبرة العمل السابقة لا للخلفية التعليمية فقد أقترح التقرير تصميم برامج سوق العمل بصورة موجهة مباشرة بدرجة أكبر لبناء المهارات ذات الصلة بالوظائف ويمكن توفير ذلك بإنشاء مراكز تدريب داخل مؤسسات التعليم تقوم بهذا العمل والذي سوف يترتب عليه في نهاية المطاف أن يخلق القطاع الخاص في ليبيا الكثير من فرص العمل الجديدة ضمن القطاعات الغير المستغلة واستيعاب الوافدين الجدد على سوق العمل.

في دراسة تحليلية معاصرة [4] لتأثير التعليم العالي في ليبيا على سوق العمل يشير الكاتب الي أولى الخطط التنموية عند بداية انشاء الجامعات في ليبيا، حيث حددت سياساتها التعليمية بمجموعة نقاط من أهمها ربط التعليم بمتطلبات خطط التنمية للبلاد و كذلك اعتماد المسؤولين في الدولة على الجامعات لتقديم الاستشارات الفنية لتحقيق عملية تنموية شاملة، و لكن حدوث مجموعة من المشاكل و العراقيل واجهت مؤسسات التعليم العالي حالت دون تحقق أهدافها من أهمها عدم التنسيق بين سياسات سوق العمل و سياسات قبول الطلبة في المؤسسة التعليمة أدى لانقطاع الصلة بين المقررات الدراسية و متطلبات واقع سوق العمل، و من العراقيل الاخرى انخفاض مستوى الخدمات التعليمية مثل المعامل و المختبرات مما ادى لانخفاض التوازن بين مقررات المادة الدراسة بين جانبيها النظري و العملي و الذي اثر سلباً على التحصيل العلمي للطلبة. أقترح الكاتب مجموعة من الحلول من بينها ربط سياسات قبول الطلبة باحتياجات سوق العمل وكذلك توفير الاحتياجات اللازمة للعملية التعليمية خاصة الجانب العملي منها والاهتمام بمتطلبات أعضاء هيئة التدريس.

الخلاصة

من الدراسة الميدانية التي قمنا بها وبناء على الدراسات السابقة والتي لها علاقة بموضوع الدراسة فإننا نوصي بضرورة الربط بين السياسات الاقتصادية للدولة ومخرجات العملية التعليمية خصوصاً الجامعية والعمل على زيادة الانفاق على التعليم والبحث العلمي أسوةً ببعض الدول المتقدمة وربط كافة قطاعات الدولة العامة والخاصة بقطاع التعليم للاستفادة من خبراته الاستشارية. أيضاً يجب أن يدرك المسؤولين على قطاع التعليم العالي في ليبيا والمختصين في مؤسسات التعليم العالي بالإضافة لمنظمات القطاع الخاص بأهمية وفوائد صناعة وتعزيز علاقات شراكة فعالة بينهما والتي ستكون انعكاساتها على أداء ومخرجات كلا الطرفين، وأن يقوم كل طرف بأداء دوره بشكل فاعل في تفعيل وتعزيز هذه العلاقات خدمةً للصالح العام.

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THE IDIOMATIC CONCEPT OF COMPREHENSIVE QUALITY AND PROGRAM ACCREDITATION AND INSTITUTIONAL

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Abstract
From 1980 to the present, Libya's educational process has been influenced by administrative and political instability, which has had a significant impact on the education system and the efficiency of its outputs. Education requires social, political, and economic stability, as well as motivation and training, as well as a country capable of supporting and controlling educational needs. This research uses descriptive method that is suitable for the subject and is focused on scientific literature and previous field studies that show the performance for Libyan administrative colleges is zero. Another study says that universities presidents in Libya do not use any quantitative indicators to measure the level of performance of their educational institutions. Basically, they do not understand these metrics and do not use statistical and quantitative methods of analysis, but rather they use the data to make decisions and plan for the future, and because quality assurance and accreditation have become an urgent necessity and it is considered one of the challenges that will face universities education institutions that we will strive to assert themselves because competition will be fierce and whoever fails will exit and will not have a status until proving himself again or withdrawing from being an independent educational institution on its own. For all of this, the aim of this research was to confirm that the standard concept of quality, as well as institutional and program awareness, has weakened within university education institutions, and to clarify and consolidate these concepts, which have become terms as a result of their focus. Simultaneously, this research recommends to enhance a comprehensive quality culture among all employees in educational institutions through conferences and scientific training courses in order to raise total quality knowledge, enhance results, and reduce errors.

Keywords: Comprehensive quality, Institutional accreditation, Program accreditation, Idiomatic concept.

المفهوم الاصطلاحي للجودة الشاملة والاعتماد المؤسسي والبرامجي

الملخص
شهدت العملية التعليمية في ليبيا من عام 1980م إلى الوقت الحاضر فوضى إدارية وسياسية أثرت بشكل كبير على نظام التعليم وجودة مخرجاته. يتطلب التعليم استقرار اجتماعيا وسياسيا واقتصاديا وتحفيز وتدريبا وبلدا يمكنه تلبية احتياجات المنظومة التعليمية ومراقبتها. يعتمد هدا البحث على الأساليب الوصفية المناسبة لطبيعة الموضوع ويعتمد على المؤلفات العلمية والدراسات الميدانية السابقة التي تؤكد أن حصيلة مؤشر الجودة للكليات الإدارية في ليبيا صفرا ـ كما تقول دراسة أخرى أن رؤساء الجامعات في ليبيا لا يستخدمون أي مؤشرات كمية لقياس مستوى آدا مؤسساتهم التعليمية. إنهم في الأساس لا يفهمون هده المقاييس ولا يستخدمون الأساليب الإحصائية وطرق التحليل الكمي لكنهم يستخدمون البيانات لاتخاذ القرارات والتخطيط للمستقبل. ولأن ضمان الجودة والاعتماد أصبح ضرورة ملحة ويعتبر من التحديات التي سوف تواجه مؤسسات التعليم الجامعي التي سوف تسعى لتأكيد نفسها لان المنافسة سوف تكون شرسة ومن سوف يفشل سوف يخرج ولن تكون له مكانة حتى إثبات نفسه مرة أخرى أو الانسحاب من كونه مؤسسة تعليمية مستقلة بذاتها. من أجل دلك كله جاء

هدا البحث لتأكيد أن هناك اضمحلال في المفهوم الاصطلاحي للجودة والاعتراف المؤسسي والبرامجي داخل مؤسسات التعليم الجامعي ولتوضيح وترسيخ هده المفاهيم التي أصبحت مصطلحات بعد تأكيدها وفي نفس الوقت يوصي هدا البحث بنشر ثقافة الجودة الشاملة بين جميع العاملين في المؤسسات التعليمية من خلال المؤتمرات والدورات التدريبية العلمية لزيادة الوعي بالجودة الشاملة وتحسين الأداء وتقليل الأخطاء.

الكلمات المفتاحية: الجودة الشاملة، الاعتماد المؤسسي، الاعتماد البرامجي، المفهوم الاصطلاحي.

المقدمة

بناء على دراسات سابقة مهتمة بجودة التعليم، حيث أكدت هده الدراسات إنه إدا لم يتم تأسيس ثقافة الجودة الشاملة بين العاملين في المؤسسات التعليمية، فإن كل الجهود المبذولة لتحسين جودة التعليم سوف يكون مصيرها الفشل. هده الدراسات أكدت أن الجودة ليست مجرد استراتيجيات وإجراءات وتقنيات ولكن هناك أيضا ثقافة عمل وطريقة جديدة في التفكير. الجودة ليست عملية بسيطة تتم بين عشية وضحاها، ولكنها رحلة طويلة يجب أن يشارك فيها المجتمع بأكمله ومؤسساته الاجتماعية. **د. عبدا لرحيم محمد (الجودة الشاملة، المفهوم وفلسفة التطبيق، 2010.**

الاستثمار في التعليم له عوائد اقتصادية واجتماعية وسياسية غير محدودة. عندما نولي اهتماما للعلاقة الوثيقة بين التعليم والاقتصاد، حيث يرتبط التعليم بالتنمية الصناعية والزراعية والتجارية، فهو مرتبط بالتنمية والتقدم الاقتصادي، فضلاً عن تنوع التعليم وتنوع مواد الإنتاج وظروف الإنتاج، **أ. غربي صباح(2008) .**

بالنسبة للاستثمار المكافئ هنا: الوقت + الطاقة + المال والنتيجة هي تحسن في الأداء، وهو ما ينعكس بشكل مباشر على المستفيد.

تبدو الصورة مظلمة والأفق مرئي بشكل خافت، لكن ليس لدينا خيار سوى أن نأمل أن تتغير الصورة، وسيظهر شعاع من الضوء من وراء الأفق المظلم، لكن يجب علينا بذل المزيد من الجهد للحفاظ على هذا الأمل، حتى بعد إنفاق المزيد من الوقت والطاقة والمال، سنكون قادرين على القيام بذلك حتى نتمكن من وضع أساس فعال لبناء دولة تهتم بمؤسساتها التعليمية. الأمل الوشيك هو الاهتمام بجودة المؤسسات التعليمية.

التجربة الليبية في مفهوم الجودة والاعتماد في التعليم الجامعي تناولها **الدكتور حسين سالم مرجين** (رئيس الجمعية للجودة والتميز في التعليم) في ورقته بعنوان: التجربة الليبية في الجودة والاعتماد في التعليم الجامعي **2008 - 2014**, *وخلصت* الورقة إلى التوصيات التالية: ومنها الحاجة إلى تطبيق معايير الجودة بشكل أكثر صرامة والاستمرار في نشر ثقافة الجودة وضمانها والحاجة إلى استقلالية المركز لضمان الجودة عن وزارة التعليم.

الجودة الشاملة في تحسين أداء مؤسسات التعليم العالي الليبي، تناولها كلا من **د. أنور صالح المجراب و د. ماجد المبروك الغريب و د. محمد عبد السالم القريو** في ورقة بحثية بعنوان: دور إدارة الجودة الشاملة في تحسين أداء مؤسسات التعليم العالي الليبي. مراجعة نظرية للدراسات السابقة للمؤسسات التعليمية **2018**، وخلصت الورقة إلى التوصيات التالية: نشر ثقافة الجودة، الاهتمام بدعم البحث العلمي، دعم الإدارة العليا لتطبيق إجراءات اعتماد مؤسسات التعليم العالي الليبي الصادرة من المركز الوطني لضمان الجودة، كما تناولها بالبحث **د. محفوظ أحمد جودة، (2014)** بورقة بعنوان: إدارة الجودة الشاملة: مفاهيم وتطبيقات **و د. رشدي أحمد طعيمة، (2006)** الجودة الشاملة في التعليم بين مؤشرات التميّز ومعايير الاعتماد - الأسس والتطبيقات.

تساهم الشراكة بين القطاع العام والخاص بالنهوض بالنمو الاقتصادي والإنتاجي. لا يمكن إهمال شراكة القطاعين الخاص والعام مع المركز الوطني لضمان الجودة واعتماد المؤسسات في تطوير معايير الجودة وتحقيق رضا المستفيد الذي يمثل رأيه قراراً مُهمًّا لابد وأن يؤخذ في الحسبان عند قياس جودة المخرجات.

تجربة التعليم الجامعي الخاص في الأردن **للدكتورة: هالة عبد القادر صبري، (2009)**، جاءت هذه الدراسة إلى أنه لا يمكن إهمال أو التقليل من القطاع الخاص لما يقدمه من خدمات تساهم في تعزيز الاقتصاد وخدمة لأعداد كبيرة من الخريجين وتوظيفهم لكننا نحتاج لضمان جودة هذه المخرجات من أجل التميز والرقي بهذه الكوادر لذلك كانت الحاجة لمركز ضمان الجودة واعتماد المؤسسات التعليمية.

تعتبر جودة المؤسسات التعليمية من الموضوعات التي تؤرق الدولة الليبية التي لم تتمكن إلى حد الآن من وضع حلول مناسبة لتقييم مخرجات التعليم المتوسط والجامعي والعالي وسبَّب ذلك في فقدان الثقة في المؤسسات التعليميَّة القائمة، وتزايد الفجوة بين مخرجات تلك المؤسسات ومتطلَّبات احتياجات سوق العمل ومنذ عقود مضت والمحاولات لم يكتب لها النجاح والسبب الرئيسي هو ضعْفَ مفهوم إدارة وثقافة الجودة الشاملة وأهميتها وفائدتها ومتطلبات تطبيقها.

وبحسب دراسة **أمنينة (2001)** فإن المشاكل التي واجهها قطاع التعليم خلال الفترة من 1980-2000 كانت بسبب التغيرات الهيكلية والتنظيمية التي شهدها القطاع والتي أثرت على استقرار الإدارات والأقسام ذات الصلة وتنفي بوضع وتنفيذ سياسات التنسيب. كما امتازت هذه السياسة بعدم الاستقرار، أيضاً عدم قدرة أمانة التعليم على فرض ومتابعة تنفيذ سياسة التنسيب.

وجد **العفاس (2010)** في دراسته بعض النتائج منها تخلف أنظمة المعلومات والمكتبات، غياب روح الابتكار ومواكبة التطور العلمي، وقلة التقويم المنتظم للمواد والأساليب التدريسية التي تواكب التطور العلمي.
يقارن بحث **مجبري (2010)** جودة التعليم في الجامعات الليبية بجودة البلدان الأخرى باستخدام بيانات من تقرير التنافسية العالمية 2009-2010. يبني المجبري استنتاجاته على مؤشرات مثل جودة كليات إدارة الأعمال والتعليم الجامعي بشكل عام. وكانت حصيلة مؤشر الجودة للكليات الإدارية في ليبيا صفراً، وفسر المجبري في بحثه أن ليبيا هي اخر دولة في العالم من حيث جودة الإدارة وكليات إدارة الأعمال.
ليبيا، بحسب **المجبري، (2010)**، هي آخر دولة في العالم من حيث الإدارة وجودة كلية إدارة الأعمال. تعد ليبيا أقل من 4٪ فقط من دول العالم من حيث جودة التعليم العالي، مما يعني أن التعليم في ليبيا قد تدهور وضعيف الجودة. من حيث الأسباب التي تسهم في ضعف المستوى التعليمي في ليبيا، أما فيما يخص جودة التعليم العالي فليبيا أفضل من 4٪ فقط من دول العالم، مما يعني أن جودة التعليم في ليبيا تراجعت والجودة متدنية. وفيما يتعلق بالعوامل التي تؤدي إلى انخفاض مستوى التعليم في ليبيا، فإن بحثه الميداني يثبت هذه العوامل: **لا يستخدم قادة الجامعات في ليبيا أي مؤشرات كمية لقياس مستوى أداء مؤسساتهم التعليمية. إنهم في الأساس لا يفهمون هذه المقاييس، ولا يستخدمون الأساليب الإحصائية وطرق التحليل الكمي، لكنهم يستخدمون البيانات لاتخاذ القرارات والتخطيط للمستقبل**. أيضاً لا تملك الجامعات خطط استراتيجية واضحة، كما أنها لا تملك وسائل تمكنها من معرفة احتياجات الطلبة، احتياجات أعضاء هيئة التدريس، ومنظمات القطاع العام والخاص.
فيما يتعلق بدراسة **عبانيه وشعيب (2010)** فقد وجدا أن درجة ممارسة **مؤشرات جودة الأداء الجامعي بكلية الآداب مصراته غير عالية** ويعود ذلك من وجهة نظر الباحثان إلي حداثة تجربة الكلية والجامعة في مجال ضبط الجودة وظهرت بعض الصعوبات تمثلت في عدم اعتماد إدارة الكلية والأقسام علي التقنيات الحديثة في تقديم خدماتها (مثل الانترنيت)، عدم وجود برامج تطوير مهني لأعضاء هيئة التدريس و لأمناء الأقسام ، عدم توفر الإسعافات الأولية الطارئة التي قد تحصل في الكلية , عدم توفر الهدوء في الأماكن القريبة من القاعات الدراسية، عدم توفر المستلزمات الدراسية في بداية العام الجامعي. أيضاً فقد أظهرت الدراسة أن درجة ممارسة مؤشرات جودة الأداء الجامعي بالكلية من وجهة نظر أعضاء هيئة التدريس لا تختلف باختلاف المؤهل العلمي والجنسية لعضو هيئة التدريس ولكنها تختلف باختلاف عدد سنوات العمل.
الممارسة الواقعية للإدارة الإستراتيجية كمدخل لرفع كفاءة الجامعات الليبية: تقرير ميداني عن جامعة عمر المختار كان موضوع ورقة **الحداد (2010)**. كان تركيز الدراسة على كيفية تطبيق ممارسة الإدارة الاستراتيجية في جامعة عمر المختار عمليًا.
ورقة الحداد (2010) كانت حول الممارسة العملية للإدارة الإستراتيجية كمدخل لتحسين أداء الجامعات الليبية: دراسة ميدانية على جامعة عمر المختار. المشكلة التي تناولتها الدراسة هي كيف تتم الممارسة العملية للإدارة الاستراتيجية في جامعة عمر المختار.
توصلت الورقة إلى النتائج التالية:
أن جامعة عمر المختار لديها رسالة محددة ومكتوبة ومنشورة ولكن لم يشارك فيها جميع الأطراف من لهم علاقة بالرسالة داخل الجامعة. أكدت عينة الدراسة أن للرسالة تأثير إيجابي على الأداء الجامعي. تعتبر الرسالة بمثابة مرشد حقيقي لاتخاذ الإجراءات والقرارات الاستراتيجية عندما يشارك جميع المسؤولين بالجامعة فيها، بوضع أهدافها وأن أهداف رسالة جامعة عمر المختار عند وضعها لا تتصف بالخصائص العملية للأهداف من حيث الدقة والوضوح والقابلية للقياس بشكل جيد , لا تقوم الإدارة بالجامعة بتحليل البيئة الخارجية بتحديد الفرص والتهديدات فيها ولا البنية الداخلية لتحديد نقاط القوة والضعف. لا تستخدم الجامعة الأساليب الوصفية في التحليل البيئي ولا في عملية الاختيار الاستراتيجي. لا تستخدم الجامعة أسلوب تحليل مصفوفة SWOT في تحليل البيئة الداخلية والخارجية وفي تحديد البدائل الاستراتيجية. لا يوجد في الجامعة نظام معلومات فعال يساعد في وضع الاستراتيجيات ويساهم في تسهيل عملية اتخاذ القرارات المختلفة. يتصف نظام الرقابة السائد في الجامعة بأنه اقتصادي.
درس المنصوري (2011) الأبعاد الاستراتيجية في تطوير نظام التعليم الليبي وهدفت دراسته إلى تسليط الضوء على التعليم في ليبيا من خلال اقتصاديات التعليم والاستقرارية الإدارية للنظام التعليمي وخصخصته، وفلسفة التعليم الجامعي، والانفتاح والتعاون مع الآخر، ومدى انعكاس ذلك على تبني التغيير المطلوب في ظل توجه استراتيجي منشود.
توصل المنصوري إلي إن هناك تحديات كبيرة تواجه التعليم في ليبيا منها انتشار الأمية في ليبيا، نمو التعليم كماً على حساب الكيف، نوعية التعليم التي يتلقاها الطالب الليبي غير مرضية، وتقل عن مستوي نظرائهم في الدول الأخرى.
يجب أن نتذكر أنه على الرغم من اختلاف الدراسات العملية السابقة من حيث الأهداف والمنهجية، إلا أنها توصلت جميعًا إلى استنتاجات متشابهة حول العقبات التي تواجه تطور التعليم العالي في ليبيا وان الحاجة التي تطبيق الجودة الشاملة أصبحت ضرورة ملحة ولكن قبل التطبيق علينا فهم المصطلحات. ولان الجودة والاعتماد يعتبر موضوع جديد في ليبيا ولم يتم تطبيقه حتى الآن وهو يعتبر من التحديات التي سوف تواجه مؤسسات التعليم العالي التي سوف تسعى لتأكيد نفسها لان المنافسة سوف تكون شرسة ومن سوف يفشل سوف يخرج ولن تكون له مكانة حتى إثبات نفسه مرة أخرى أو الانسحاب من كونه مؤسسة تعليمية مستقلة بذاتها.
هذا ما نهدف إلى توضيحه في هذه الورقة البحثية من خلال الإجابة على التساؤل المحوري التالي:

ما المفهوم الاصطلاحي للجودة الشاملة والاعتماد المؤسسي والبرامجي؟

ولا يتسنى ذلك إلا من خلال الإجابة على التساؤلات الفرعية التالية:

1. ما المقصود بالجودة الشاملة؟

2. ما الفرق بين المفهوم والاصطلاح؟

2. ما المقصود بالاعتماد المؤسسي والأكاديمي والمهني؟

3. ما المقصود بالدراسة الذاتية؟

وللإجابة عل هذه التساؤلات وجب التطرق إلى النقاط التالية:

1. مفهوم الجودة وأهميتها ومراحلها.

2. فكر الجودة قديماً.

3. أبرز المفكرين الأوائل الذين كان لهم دور في إنشاء وتطوير مفهوم الجودة.

4. المفهوم الحديث للجودة (مثلث الجودة).

5. الفرق بين المفهوم والاصطلاح

6. مفهوم معايير الاعتماد.

7. خصائص أو سمات معايير الاعتماد.

8. مفهوم الاعتماد المؤسسي والبرامجي والمهني.

9. شروط التقدم للحصول على الاعتماد.

10. مراحل عملية الاعتماد المؤسسي والبرامجي.

أهمية البحث ومبرراته وأهدافه:

تتضح أهمية البحث في النقاط التالية:

1. نقص الوعي بمفهوم مصطلح الجودة الشاملة في المؤسسات التعليمية الليبية لهدا تطلب المزيد من البحث لنشر ثقافة وزيادة الوعي بمفهوم مصطلح الجودة الشاملة والاعتماد المؤسسي والبرامجي.

2. مساعدة قطاع التعليم الجامعي للاستعداد والتهيئة للتقدم للاعتماد المؤسسي والبرامجي.

3. تزايد أهمية الجودة في قطاع التعليم، وما يمكن أن تسهم به هده الورقة من تحسين الأداء ورفع مستوى الكفاءة وتحسين المخرجات.

4. نشر ثقافة الجودة الشاملة ومفهوم معايير الاعتماد المؤسسي والبرامجي.

5. توضيح دور الجودة في تحسين أداء المؤسسات التعليمية وتعزيز القدرة التنافسية فيما بينها.

المنهجية

يتبنى هذا البحث المنهج الوصفي الذي يتلاءم وطبيعة الموضوع وذلك بالاعتماد على المؤلفات العلمية باللغة العربية والأجنبية والدراسات المتخصصة والبحوث من أجل تعميق وزيادة الوعي بمفهوم الجودة الشاملة ومفهوم الاعتماد المؤسسي والبرامجي.

مفهوم الجودة كمفهوم وكاصطلاح
المفهوم يركز على الصورة الذهنية (أفكار).
الاصطلاح يركز على الدلالة اللفظية للمفهوم.

المصطلح ينشأ على يد عالم من العلماء ثم يأخذ طريقه للشيوع، فإما أن يستقر ويشيع بين العلماء وإما أن يترك ويستعاض بغيره عنه. سعاد كوريم (2010).

المصطلح يقوم على الاتفاق. فالاتفاق إدا معيار يكسب المصطلح صفته الاصطلاحية ومن دونه نكون أمام مفهوم متنازع فيه ويعني دلك أن ما قبل الاتفاق يسمى مفهوما وما بعد الاتفاق يسمى مصطلحا وعلى هدا الأساس فقد استعمل لفظ المصطلح للدلالة على ما هو متفق عليه، بينما استعمل لفظ مفهوم للدلالة على ما هو مختلف عليه. أما خاصية النضج التي يتميز بها المصطلح عن المفهوم فتعتبرها، سعاد كوريم (2010) شرطا أساسيا في حصول خاصية الاتفاق. فالمصطلح يكتسب صلاحيته حين يحظى بالاتفاق ويصبح متفقا عليه حتى يبلغ ذروة النضج، فالنضج إدا يحقق المصطلح وجوده وحين يغيب النضج نكون أمام لفظ لغوي مجرد عن أي حمولة مفهوميه مصطلحية وعندما يحضر النضج حضورا غير تام فإن اللفظ اللغوي يتحول إلى مفهوم، أما إدا كان النضج كامل الحضور فإن اللفظ اللغوي أو المفهوم ينتقل إلى مرحلة المصطلح

أولاً: مفهوم الجودة ومراحلها

المفهوم: هو عبارة عن أفكار ناتجة عن العملية العقلية.

المصطلح: هو ما تم الاتفاق عليه من العلماء وإثباته. فنحن أمام مفهوم الجودة والدي تم الاتفاق عليه ووصل لمرحلة النضج وله مصطلحا ته، ويرجع الفضل إلى علماء الجودة من أمثال: **إدوارد ديمنج** وإيشيكاوا و **جوران.**

مصطلح ضمان الجودة: هو عملية إيجاد آليات وإجراءات تطبق في الوقت الصحيح والمناسب للتأكيد من أن الجودة المرغوبة ستحقق بغض النظر عن كيفية تحديد معايير هده الجودة.

مصطلح ضبط الجودة: هو مجموعة من الإجراءات التي تقيس مدى تطابق المنتج لمجموعة من المعايير المحددة مسبقا وقد تؤدي عند الضرورة إلى تعديل في عمليات الإنتاج ليصبح المنتج أكثر إتقانا مع المواصفات المرسومة.

مفهوم الجودة: هي مقياس للتميز أو حالة الخلو من العيوب وهناك وجهات نظر عديدة متفاوتة من قبل المفكرين حول مفهوم دقيق وموحد للجودة حتى نتمكن من تعريفها.

الجودة: هو شعور بالرضا أو السعادة – ارتياح – تميز – عند دخولك لأي مؤسسة تعليمية قد تشعر بالارتياح أو الإحباط للوهلة الأولى. الجودة أسلوب حياتي، تقديم خدمة تنال رضاء المجتمع. لا توجد جودة في التعليم إلا إدا كان فكر المسئولين عن التعليم جيد. كل العاملين في المنظومة التعليمية ابتداء من الوزير وانتهاء بعامل النظافة. فكر متقن يؤدي عمله كما ينبغي أن يكون ليس مجرد شعارات.

من خلال الأبحاث السابقة هناك من توصل إلى أن الجودة لا يمكن تحقيقها إلا بموارد مالية كبيرة جدا وهده النتيجة غير صحيحة لان **الجودة تتطلب ضمير وإتقان العمل وبمواد مالية بسيطة** والدليل دول الجوار تونس ومصر والمغرب حققت تقدم في مستوى التعليم رغم مواردهم البسيطة مقارنة بموارد ليبيا. **الذي ينقصنا هو الحس الوطني وفكر الجودة.**

الجودة هي رضا المستفيد من خدمتك (الطالب، المجتمع)، رضا العميل الداخلي وهو الطالب ورضا العميل الخارجي وهو صاحب العمل (قطاع عام – قطاع خاص). **أ.د. خضير كاظم حمود ،2007.**

مراحل تطوير الجودة:

المرحلة الأولى: مرحلة الفحص من 1930 إلى 1940

وهي مرحلة فحص المنتج بعد التصنيع وفي هده المرحلة كانت نسبة العيوب كبيرة.

المرحلة الثانية: مراقبة الجودة من 1940 إلى 1970

في هده المرحلة تم التركيز على جودة المنتج وتم تقليل نسبة العيوب.

المرحلة الثالثة: تأكيد الجودة من 1970 إلى 1985: وكان أسلوب فعّال في مجال الرقابة على الجودة. وكان الهدف في هذه الفترة هو الوصول إلى مستوى عالي من الجودة وتحقيق إنتاج خالي من العيوب.

المرحلة الرابعة: إدارة الجودة الشاملة من 1985 ومستمرَّة للوقت الحالي.

إن مفهوم إدارة الجودة الشاملة يعتبر من المفاهيم الإدارية الحديثة التي تهدف إلى تحسين وتطوير الأداء بصفة مستمرة وذلك من خلال الاستجابة لمتطلبات العميل. هده المرحلة تُركّز على جودة المنتج الخالي من العيوب والأخطاء، كذلك جودة الأنشطة التي يتم بها إنتاج المنتج. وتُركّز على مبدأ العمل الجماعي، اندماج العاملين فيما بينهم، العمل كفريق يساعد على الاستفادة من خبرات العاملين والعمل على إيجاد حلول للمشاكل التي يواجهها. وازداد اهتمام منظّمات الأعمال بإدارة الجودة الشاملة بسبب زيادة المنافسة فيما بينها ولكي تواكب التطوّر بسبب التقدّم التكنولوجي. إدارة الجودة الشاملة هي التحسين المستمر في التطوير لجني النتائج طويلة المدى. إدارة الجودة الشاملة هي التطوير المستمر للعمليات الإدارية وذلك بمراجعتها وتحليلها والبحث عن الوسائل والطرق لرفع مستوى الأداء وتقليل الوقت لإنجازها بالاستغناء عن جميع المهام والوظائف عديمة الفائدة والغير ضرورية للعميل أو للعملية وذلك لتخفيض التكلفة ورفع مستوى الجودة مستندين في جميع مراحل التطوير على متطلبات واحتياجات العميل.

المرحلة الخامسة: الآيـــزو (ISO)

هي منظمة عالمية تعمل على وضع معايير الجودة وهي اتحـاد عالمـي مقره جـنيف ويضم في عضويتـه أكثر من 90 هيئة معايير وطنية، جاء اختصارها (ISO) اعتماداً على الكلمة اليونانية " ISOS " والتي تعني "متساوي". وقد أصدرت المنظمة الدولية للمعايير حتى الآن 22919 وثيقة في الزراعة والبناء والهندسة الميكانيكية وفي مجالات عديدة. **معالي عباس شريف عبد الرحمن، 2018.**

فكر الجودة قديماً:

قال الرسول صلى الله عليه وسلم: إذا عمل أحدكم عملا أن يتقنه.

والقران الكريم يقول: وقل أعملوا فسيرى الله عملكم ورسوله والمؤمنين وستردون إلى عالم الغيب والشهادة فينبئكم بما كنتم تعملون.

رواد الجودة: من أبرز المفكرين الأوائل الدين كان لهم دور في إنشاء وتطوير مفهوم الجودة مثل:

Dr. William Edwards Deming

هو مهندس تصنيع، أمريكي الجنسية، يعتبر الأب الروحي للجودة ورقابة الجودة في العصر الحديث، **, له نظرية سميت بدائرة ديمنج** التي بناها على أربعة محاور (تخطط – تنفيذ – فحص – تحسين). **د. مأمون سليمان الدرادكة (2008)**

المرحلة الأولى: التخطيط

يقول إدوارد ديمنج:

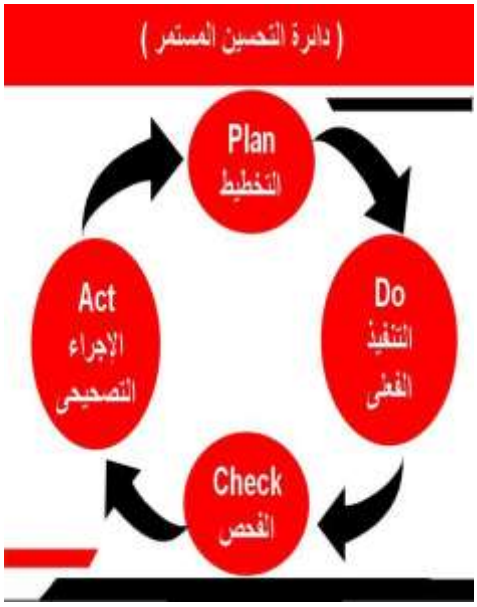
إن فشلت في وضع الخطة فهدا يعني إنك تخطط للفشل.

If you fail to plan that means you plan to fail.

المرحلة الثانية التنفيذ: في هده المرحلة تبدأ تنفيذ الخطة التي قمت بعملها في المرحلة الأولى والتي سوف تساعدك في الوصل إلى هدفك.

المرحلة الثالثة: الفحص: في هده المرحلة سوف نعمل مقارنه بين نتائج المرحلة الثانية وما بين المعايير التي تم تحديدها في المرحلة الأولى. تقارن نتائجك أو دراستك الذاتية بالمعايير التي تم القياس عليها. هل تتطابق أم أن هناك قصور معين يجب إصلاحه (نقاط القوة والضعف).

المرحلة الرابعة: التحسين : في هده المرحلة سوف تتعرف على الخلل الذي سبب في عدم تطابق أو انخفاض نتائجك أو مخرجاتك الغير مثالية والتي تحتاج إلى تحسين. أنظر الشكل (1) لتوضيح نظرية ديمنج للتحسين المستمر.

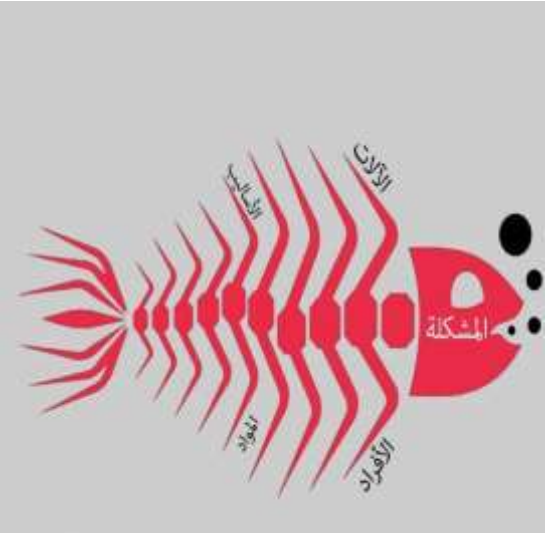


شكل 1: يوضح خطوات تحسين الجودة حسب نظرية ديمنج. Mitra, Amitava, 2003

KAURO ISHIKAWA

يعتبر (**إيشيكاوا**) أحد رواد الجودة اليابانيين المشهورين ويعتبر الأب الحقيقي لحلقات مراقبة الجودة، له العديد من المؤلفات حول إدارة الجودة الشاملة. عمل أستاذا في جامعة طوكيو باليابان وفي عام 1952م حصل على جائزة ديمنغ تكريما له على إسهامه العلمي والعملي في تطوير مفهوم الجودة والطرق الإحصائية لتطبيقها، فهو أول من استخدم الطرق الإحصائية في مراقبة الجودة.

يعرف تخطيط عظم السمكة ويسمى أيضا " مخطط السبب والأثر " وعند بعض خبراء الجودة يسمى بتخطيط , "إيشيكاوا"، وتظهر المشكلة أو العيب عند رأس التخطيط، ثم يتفرع من العمود الفقري ليشير إلى الأسباب والعيوب المحتملة , شكل (2).



شكل 2: تحليل المشاكل باستخدام مخطط (ايشيكاوا) – مخطط السبب والأثر

يمكن أن يساعد مخطط هيكل السمكة في توضيح مدى تأثير المشكلات المختلفة على بعضها البعض ولقد استخدمت هذه الأداة بشكل واسع كوسيلة تعليمية في ورش الجودة كما يمكن أن تساعد الموظفين على فهم العلاقات التي لابد من مراقبتها لتحسين الجودة، ولقد استخدم المديرون مخطط هيكل السمكة كبداية لمناقشة والبحث عن جذور المشكلة.

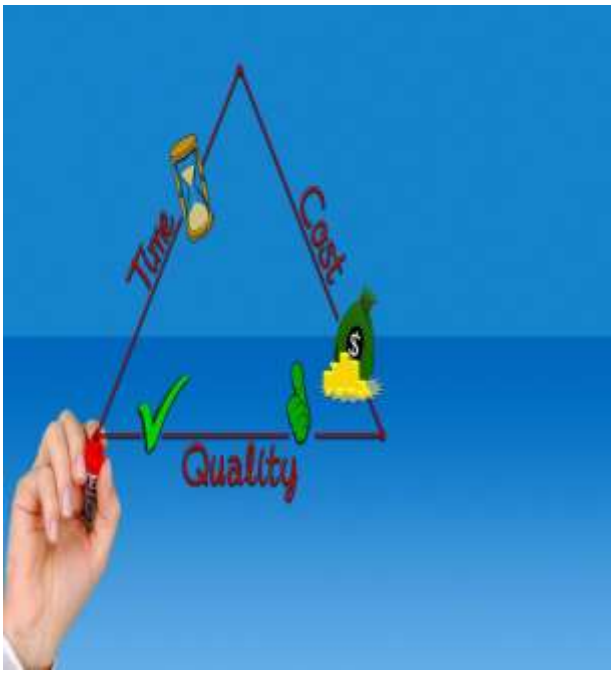
JURAN

يعتبر العالم جوران من أهم رواد الجودة في العصر الحديث بعد العالم ديمنج فقد قدم في عام 1986م طريقة شاملة للتفكير في موضوع الجودة أطلق عليها اصطلاح ثلاثية الجودة و هي تركز على ثالث عمليات رئيسية:

- ▲ **التخطيط للجودة**
- ▲ **الرقابة على الجود**
- ▲ **تحسين الجودة**

المفهوم الحديث للجودة (مثلث الجودة)

مثلث الجودة هو التصميم والأداء والإنتاج. يقصد به الجودة المتاحة في فترة الإنتاج والعملية الإنتاجية كما يطلق عليها جودة المطابقة أو التطابق مع الظروف الإنتاجية مما يكون له نتيجة جيدة وإيجابية بشكل عام، وكل ذلك يحقق توازناً بين رغبة المستهلك وظروف وإمكانيات المؤسسة في مجال الإنتاج وهو ما يطلق عليه مثلث الجودة في النهاية، شكل (3).



شكل 3: يوضح المفهوم الحديث للجودة من خلال تقليل التكلفة والتركيز على النوعية وتقليل الوقت. . د. سوسن شاكر مجاهد و د. محمد عواد الزيادات (2007).

ثانيا معايير الاعتماد

ما المقصود بكلمة معيار؟

- هو ما ينبغي أن يكون عليه الشيء، أي مستوى الشروط، مستوى المتطلبات الذي ينبغي أن تفي بها المؤسسة التعليمية لكي تعتمد من مركز ضمان الجودة والاعتماد المؤسسي والأكاديمي الليبي.

- المعيار هو الحد الأقصى للأداء (الشيء المثالي)، الشيء الذي أقيس عليه أداء العاملين بالمؤسسة التعليمية.
- التقييم الداخلي أو ما يعرف بالدراسة الذاتية والتقييم الخارجي لا بد من أن يتم وفق معيار , ومدى الاقتراب والابتعاد عن هدا المعيار يتوقف عليه هل المؤسسة التعليمية أدائها جيد أم سيئ.
- لا يوجد أاعتماد بدون معيار ولا توجد جودة بدون معيار.
- لا تمنح أي مؤسسة تعليمية شهادة الاعتماد إلا إدا استوفت معايير الجودة.

يقول كرفت (Craft 1994) إن العولمة أدت إلى انتقال الكفاءات وأصحاب المعرفة بين دول العالم مما دفع نحو التنافس على اجتذاب هده الكفاءات ودفع الحكومات إلى التعرف على المعايير المعتمدة في الدول الأخرى للجودة والتميز والاستفادة منها في تطوير معاييرها وضمان تمتعها بالسمعة الجيدة والمواصفات العالية في مستوى التدريس والبحث العلمي والخريجين مُقَارِنَةٌ بغيرها من المؤسسات التعليمية مما يؤهلها لجدب أفضل الكفاءات من أعضاء هيئة التدريس والطلبة المتميزين.

كذلك يقول كرفت إن باستطاعة المستفيدين وأصحاب العلاقة أن يسجلوا ماهية العيب والخلل في عملية التعليم وهدا ما تريد هده الورقة التأكيد عليه وهو مشاركة أصحاب المصلحة " المستفيدين من مخرجات التعليم " في تحديد معايير جودة التعليم الجامعي والعالي. وهدا يتم عن طريق ما يسمى " بالتغذية الراجعة " لتحسين الخدمة وهي من أهم العناصر في الإدارة النوعية التي يدخل فيها التدقيق في جميع الإجراءات والأنظمة وتقييم العمل في المؤسسة الأكاديمية ومراقبته.

تعد معايير الاعتماد المؤسسي والأكاديمي فى مؤسسات التعليم العالى وضمان الجودة من القضايا التى تحتلُّ مرتبة مهمَّة بين مشروعات التطوير التربوى فى الآونة الأخيرة فى العديد من دول العالم. للرقي بالتعليم ينبغي مراقبة مؤشرات الأداء لكلا من المعلم والطالب والإدارة ومراقبة المناهج التعليمية في التعليم الجامعي والعالي وهل تتوافق مع متطلبات السوق المحلي والدولي أم لا. وكيف لرئيس قسم أو عميد كلية أو رئيس جامعة ألا يكون على دراية تامة بمفاهيم الجودة الشاملة ولهدا كان الفشل حليف من لا يدرك طبيعة عمله.

خصائص أو سمات معايير الاعتماد

- معايير الاعتماد يجب أن يشارك فيها كل الجهات المستفيدة من الخدمة.
- يجب تشكيل فرق متخصصة تمثل جهات المجتمع المختلفة المستفيدة من التعليم من اجل وضع معايير اعتماد مدروسة بشكل جيد.
- يجب أن تتسم هده المعايير بالمرونة (معايير ليست ثابتة متغيرة).
- يجب أن تكون هده المعايير متطورة وترتبط بالمجتمع والعالم وما يحدث فيه من متغيرات مرتبطة بالتعليم.
- يجب آن تتناسب مع المعايير الدولية.
- المعايير يجب أن يعاد فيها النظر كل خمس سنوات.
- لابد أن تكون تلك المعايير معبرة عن الجوانب الأساسية المرتبطة بالمنظومة التعليمية ككل. أي تكون هده المعايير شاملة لكل مكونات المنظومة التعليمية.
- هناك معايير مرتبطة بقدرة المؤسسة التعليمية مثل الرؤية والرسالة – الإدارة – الموارد المادية والبشرية – المشاركة المجتمعية – توكيد الجودة والمساءلة.
- هناك معايير مرتبطة بالفاعلية التعليمية مثل: المعلم – الطالب – مفردات المنهج – المناخ التربوي.

ثالثاً: أنواع الاعتماد

1. الاعتماد المؤسسي 2. الاعتماد البرامجي (تخصصي) 3. الاعتماد مهني

- الاعتماد هو شهادة أو اعتراف تحصل عليه المؤسسة التعليمية إدا استوفت معايير الجودة التي حددها المركز الوطني لضمان جودة واعتماد المؤسسات التعليمية والتدريبية.

- الاعتماد (مجموعة خطوات) تحصل المؤسسة التعليمية على شهادة الاعتماد إذا استوفت واقتربت من معايير الجودة.

1. الاعتماد المؤسسي

هو اعتماد المؤسسة ككل وفقا لمعايير محددة فهو يركز على التقويم الشامل للخصائص المؤسسية المتمثلة بالسلطة القانونية والإدارية التي تحكم المؤسسة وعلاقة المؤسسة بالمجتمع المستفيد من خدماتها التعليمية من خلال مجموعة من الإجراءات تخضع لها المؤسسة التعليمية حتى تتبين نقاط القوة والضعف التي توجد في هده المؤسسة مما يترتب عليه إعطاء حكم على كفاءة وأهلية ومدى جودة هده المؤسسة التعليمية للقيام بمسؤوليتها تجاه المجتمع وتصحيح أخطائها ومدى قوة ثبات مصادر التمويل ونظام القبول والخدمات الطلابية، وفعالية المؤسسة **(Harman & Meek , 2000)**.

2. الاعتماد البرامجي (التخصصي)

وهو الاعتراف بالبرنامج الأكاديمي الذي تقدمه المؤسسة التعليمية أو أحد أقسامها والتأكيد على جودة هده البرامج من خلال فحص وتقييم مفرداتها ومراجعها ومدى تناسبها لمستوى الشهادة الممنوحة بما يتفق مع المعايير المحددة من مركز ضمان جودة المؤسسات التعليمية.

3. الاعتماد المهني.

ويمنح هدا النوع من الاعتماد من قبل مؤسسات الاعتماد التي أعدت لهدا الغرض كالنقابات والاتحادات والروابط المهنية الخاصة بالمهنة، كالعلوم المهنية والتدريس والمحاماة والهندسة والإدارة.

س: من أين يبدأ الاعتماد؟

الاعتماد يبدأ من المؤسسة التعليمية عندما تكون جاهزة ومستوفية لجميع معايير الجودة، تتقدم بمبادرة إلى المركز الوطني لضمان الجودة لغرض الحصول على الاعتماد المؤسسي والأكاديمي.

شروط التقدم للحصول على الاعتماد:

الشرط الأول: أن تكون هده المؤسسة كيان قانوني مصرح له بمزاولة مهنة التعليم وتقديم خدمة لأبناء المجتمع أي يكون لديها قرار صدر بإنشائها من الجهة المعنية (وزارة التربية والتعليم) سوى كانت هده المؤسسة حكومية أو خاصة.

الشرط الثاني: إن تكون المؤسسة التعليمية قد أتمت دورة تعليمية حسب برنامجها الأكاديمي أي خرجت على الأقل دفعة واحدة. ودلك حتى يضمن المقيم الخارجي جودة مخرجات هده المؤسسة التعليمية، ودلك لضمان جودة المدخلات وهي خريجي هده المؤسسة عند تشغيلهم في القطاع العام أو الخاص. هده الجهات تريد ضمان جودة هده المدخلات.

ولكي تكون المؤسسة جديرة بالتقدم للحصول على الاعتماد يشترط المقومات الأساسية الآتية:

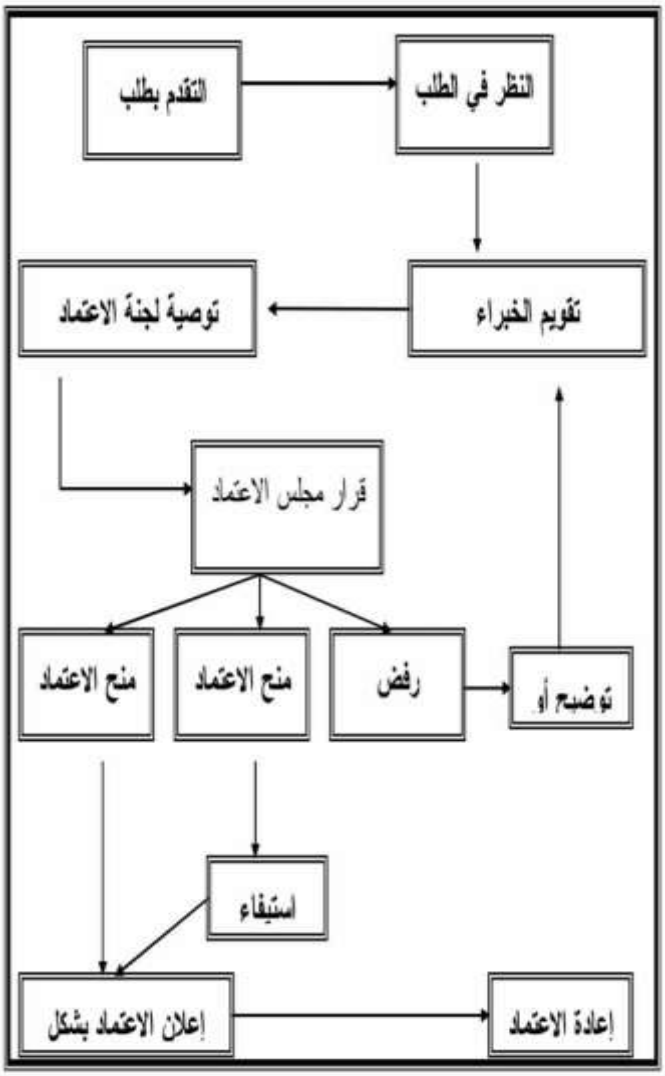
- وجود رؤية ورسالة مؤسسية
- امتلاك مصادر وموارد وبنية تحتية مناسبة لتحقيق الرسالة والأهداف التعليمية.
- وجود نظام توثيق أعمال الطلبة المرتبطة بالأهداف التعليمية
- وجود ضمانات تؤكد قدرة المؤسسة على الاستمرارية.

هناك فرق بين الترخيص والاعتماد: الترخيص يأتي من الجهة المسؤولية عن التعليم في الدولة أما الاعتماد فيمنح من جهة مستقلة عن التعليم.

الاعتماد ليس مجرد الحصول على شهادة. الاعتماد فكر وثقافة وسلوك المفروض يكون سائد داخل المؤسسة التعليمية.

مراحل عملية الاعتماد المؤسسي والأكاديمي.

الشكل رقم (4) يوضح مراحل الاعتماد.



شكل 4: خطوات الاعتماد

Source: Higher Education Quality Committee, Guide for evaluator.

المصدر: منهجية وخطوات الاعتماد الأكاديمي: درندري وهوك, 2007 , دراسة استطلاعية لأراء بعض المسئولين وأعضاء هيئة التدريس عن إجراءات تطبيق عمليات التقويم وضمان الجودة في الجامعات السعودية، ص 9

قبل التقدم بالطلب للاعتماد المؤسسة التعليمية عليها القيام بالخطوات التالية:

الدراسة الذاتية – وتسمى التقويم الذاتي وكذلك تسمى بالمراجعة الداخلية، (مجيد , 2010)

- الدراسة الذاتية هي تقييم المؤسسة لنفسها وتتم حسب معايير مركز ضمان الجودة واعتماد المؤسسات التعليمية

- هدف الدراسة الذاتية هو معرفة نقاط القوة والضعف للمؤسسة ثم وضع خطط للتطوير وخطط للتحسين.

س: من الذي يقوم بالتقييم الذاتي للمؤسسة التعليمية؟

الذي يقوم بالتقييم الذاتي كل العاملين في المؤسسة التعليمية

1. إدارة المؤسسة التعليمية (المدير والوكلاء ...)

2. رؤساء الأقسام

3. أعضاء هيئة التدريس

4. الإداريين في المؤسسة التعليمية

5. الطلاب

هم جميعا على دراية تامة بنقاط القوة ونقاط الضعف في المؤسسة التعليمية.

مهام لجنة الدراسة الذاتية:

1. وضع خطة للتقويم الذاتي أو الدراسة الذاتية

2.تشكيل فرق عمل

3. الإشراف على فرق العمل

4. تجهيز الأدوات الخاصة بجمع المعلومات والبيانات

5. عمل توجيه ونصح ومشورة بصفة مستمرة لكل العاملين داخل المؤسسة

6. عمل تحليل بيانات، يمكن استخدام الجداول والرسومات البيانية في مرحلة التحليل من اجل الحصول على معلومات أكثر دقة

7. يتم تقسيم اللجنة إلى مجموعة فرق كل فريق يستلم معيار ويبدأ في تقييمه من الإلف إلى الياء أي كل المؤسسة يجب أن تشارك اللجنة في التقييم، فقط من لدية المهارة والكفاءة العلمية والاستعداد لخدمة مؤسسته التعليمية.

هناك صفات أو سمات لابد أن يتمتع بها رئيس لجنة الدراسة الذاتية وهي كالأتي:

- يجب أن يتمتع بالصفات القيادية

- يتمتع بمجموعة من المهارات التي تجعل كل الناس تلتف حوله، أي لديه مهارات العمل التعاوني للفريق على اعلي مستوى

- يجب أن يتسم باتزان نفسي وانفعالي.

- يجمع ما بين المصلحة العامة للمؤسسة والهدف العام للمؤسسة وأهداف العاملين الدين معه في الدراسة الذاتية.

- يعمل على تحفيز العاملين وجعلهم يحبون العمل لاستكمال الدراسة الذاتية في وقتها المحدد.

أهداف الدراسة الذاتية

هناك هدفين رئيسين

الهدف الأول: مرتبط بالاعتماد وهو تزويد مركز الجودة بالتقارير والوثائق التي يتم في ضوءها التقييم الخارجي إي إن التقييم الخارجي لا يبدأ إلا بعد انتهاء التقييم الذاتي للمؤسسة التعليمية.

الهدف الثاني: مرتبط بالمؤسسة التعليمية وهو تشخيص الوضع الراهن للمؤسسة الذي من خلاله نعرف نقاط القوة ونقاط الضعف في المؤسسة التعليمية.

- نقاط القوة اعمل على تطويرها ونقاط الضعف أضع لها خطة لعلاجها وتحسينها

- نعرف أين موضعي من معايير الاعتماد، هل قريب منها أم بعيد وما هي النواقص لكي أتقدم للاعتماد

- إدا مؤسسة ما عملت تقييم ذاتي لنفسها ووجدت نفسها بعيدة عن معايير الاعتماد فلا تتقدم للاعتماد هده السنة حتى يتحسن أداء المؤسسة وتقترب من معايير الاعتماد.

- تقدير الموارد والإمكانيات الموجودة جيدة أم لا، تؤهلني للاعتماد أم لا، في حالة وجود أي قصور في هده الموارد أقوم بتطويرها. نضع خطة لسد هدا العجز.

- بناء على نتائج الدراسة الذاتية نضع خطط استراتيجية لتطوير وتحسين نقاط القوة والضعف.

- الدراسة الذاتية هي عملية تطويرية تخطيطية تؤدي في النهاية إلى تطوير وتحسين الأداء المؤسسي

- تساعدني الدراسة الذاتية لوضع رؤية للمؤسسة التعليمية في ضوء الإمكانات والمعايير. لابد لها من الوصول إلى هده الرؤية وهده الرسالة.

- والهدف المرتبط بالتقويم الذاتي: نشر ثقافة الجودة ونشر ثقافة الاعتماد داخل المؤسسة التعليمية.

الفريق الذي يقوم بعمل التقويم الذاتي يعمل على جمع البيانات والمعلومات عن الوضع الراهن للمؤسسة التعليمية ولكن كيف يجمع هده البيانات والمعلومات؟

عن طريق أدوات , أي الفريق الذي يجمع البيانات والمعلومات متوفر له أدوات وهي :

1. الملاحظة 2. الاستبيانات 3. المقابلات 4. فحص الوثائق

رابعاً: المراجعة الخارجية وتسمى بالزيارة الميدانية أو التقييم الخارجي

التقييم: هو عملية منظمة لجمع بيانات ومعلومات عن مؤسسة ما وإصدار حكم تقديري في حقها.

التقييم: هو إصدار حكم ويصدر من جهة محايدة ولا يصدر من الجهة المقدمة للخدمة أي من خارج وزارة التربية والتعليم.

التقييم: هو(تشخيص)، تقدير قيمة الأشياء وإصدار الحكم عليها.

التقويم: هو (علاج)، هو إصلاح مواطن الضعف أو الحفاظ على مواطن القوة وتعزيزها.

القياس: (وصف كمي)، هو وضع الظواهر في صورة كمية باستخدام الاختبارات والمقاييس (إعطاء قيمة رقمية للأشياء).

التقييم = قياس + حكم

التقويم = التقييم + إصلاح

مركز الجودة بمجرد استلام ملفات التقييم الخاصة بالمؤسسات التعليمية والتي ترغب في الحصول على الاعتماد , يبدأ في تشكيل لجان لكي تبدأ العمل على تقييم المؤسسات التعليمية وهده الفرق لها عدة مسميات :

1. فريق النظير 2. فريق المراجعة الخارجية 3. فريق الزيارة الميدانية 4. لجنة الاعتماد

الاعتماد هو مسؤولية أسياسية تقع على عاتق مركز الجودة واعتماد المؤسسات التعليمية.

هناك مجموعة من الضوابط والمحاذير يجب ألا يقترب منها من هو مرشح للجنة اعتماد المؤسسات التعليمية:

1. تضارب المصالح.

2. الاتزان الانفعالي لان لجنة التقييم الخارجي تعمل تحت ضغط.

3. عدم الدخول في علاقات مع المؤسسة المراد تقييمها.

4. احترام المؤسسة المتقدمة للاعتماد (تصيد أخطاء – تعطيل اليوم الدراسي – التصوير مع أفراد المؤسسة المتقدمة للاعتماد للذكرى.

5. عدم قبول أي نوع من الهدايا أو إقامة أي علاقات مع المؤسسة قيد الاعتماد.

هدف لجنة التقييم الخارجي أن تتأكد من مصداقية كل شيء ورد في تقرير الدراسة الذاتية (يتأكد من كل معلومة أو بيان ورد في تقرير لجنة الدراسة الذاتية صحيح كما ورد أم لا).

لجنة التقييم الخارجي لديهم مهارات فحص أي ملف بشكل جيد وهم في إثناء فحصهم لأي ملف يرغبون في التأكد من المعلومات التي لم تستوفيها المؤسسة التعليمية (معلومات مفقودة في تقرير الدراسة الذاتية الذي قدمته المؤسسة المتقدمة للاعتماد) , مثل توصيف المقررات الدراسية – توصيف البرنامج الأكاديمي – بيانات عن الطلبة – بيانات عن أعضاء هيئة التدريس – بيانات غير مستوفية بالكامل أي بها قصور.

الأهداف الرئيسية التي تسعى إليها لجنة التقييم الخارجي:

1. تقييم مستوى أداء المؤسسة التعليمية

2. معرفة نقاط الضعف ونقاط القوة في المؤسسة التعليمية المتقدمة للاعتماد

3. معرفة قربها أو بعدها من معايير الاعتماد.

4. معرفة إدا كانت المؤسسة قد استوفت كل المعايير أم هناك نقص لديهم.

5. التأكد من كل ما جاء في تقرير الدراسة الذاتية ودلك بعمل مقابلات مع كل ما يرتبط بالمؤسسة مثل عمل مقابلات مع الطلاب، أولياء الأمور، الإدارة، أعضاء هيئة التدريس.

6. التعرف عن قرب بالمشاكل التي تعاني منها المؤسسة التعليمية وما الخطط التي وضعت لتحسين نقاط الضعف وتطوير نقاط القوة.

7. على المؤسسة التعليمية المتقدمة للاعتماد توفير للجنة التقييم الخارجي كل المستندات وكل البيانات والمعلومات وتسهيل عمل المقابلات التي تطلبها اللجنة مع العلم إن حديث لجنة التقييم الخارجي مع الطلاب أو أعضاء هيئة التدريس أو الموظفين لا يتم في وجود إدارة المؤسسة حتى تضمن اللجنة أن الحديث يكون بشفافية وبدون ضغط على الطلاب أو هيئة التدريس أو الموظفين من الإدارة.

لجنة الاعتماد الخارجي التابعة لمركز جودة وضمان المؤسسات التعليمية توصي بمنح أو عدم منح شهادة الاعتماد في ضوء المعايير.

القرار الأساسي لمركز ضمان الجودة بمنح أو عدم منح شهادة الاعتماد المؤسسي والأكاديمي.

مركز ضمان الجودة يصدر 3 أنواع من القرارات :

القرار الأول: (قرار يعتمد): أي إن المؤسسة التعليمية قيد التقييم وقيد الاعتماد وبعد تقييمها ثبت إنها تلتزم بالمعايير المتفق عليها (الحد الأدنى من المعايير) وبالتالي فهي جديرة بالحصول على شهادة الاعتماد.

القرار الثاني: (تأجيل الاعتماد) لفترة معينة من 3 إلى 6 شهور في بعض الدول. مركز الجودة يعلم المؤسسة المتقدمة للاعتماد بالأتي: (المؤسسة قريبة من الاعتماد ولكن هناك بعض نقاط الضعف في المؤسسة لو تم معالجتها وتحسينها سوف تحصلون على الاعتماد وفي المدة الممنوحة لكم).

القرار الثالث: (لا تعتمد المؤسسة): تبث أن المؤسسة قيد التقييم والاعتماد بالأدلة والشواهد إنها لم تستوفي الحد الأدنى من معايير الجودة وبالتالي فهي غير جديرة بالحصول على الاعتماد.

الاعتماد لفترة معينة فقط وتسمى مدة الاعتماد , في معظم الدول خمس سنوات.

1. المؤسسة خلال كل سنة تصدر تقرير عن أدائها.

2. تقرير عن خطط التحسين التي تقوم بها وفي نفس الوقت مركز الجودة يبعث ممثل له ليتأكد أن المؤسسة ملتزمة بمعايير الاعتماد كل سنة. ملتزمة بإجراءات خطط التحسين التي وضعتها وفي نهاية الأربع سنوات تبدأ المؤسسة في إجراءات إعادة الاعتماد.

النتائج

هناك اضمحلال في المفهوم الاصطلاحي للجودة الشاملة والاعتراف المؤسسي والبرامجي داخل مؤسسات التعليم الجامعي. من أجل دلك جاء هدا البحث لتوضيح مفهوم الجودة والاعتماد المؤسسي والبرامجي مع العمل على نشر ثقافة الجودة الشاملة لدى جميع العاملين في المؤسسات التعليمية من خلال إقامة مؤتمرات ودورات علمية وتدريبية لرفع مستوى الوعي بالجودة وتحسين الأداء والتقليل من الأخطاء.

يجب أن نتذكر أنه على الرغم من اختلاف الدراسات العملية السابقة من حيث الأهداف والمنهجية، إلا أنها توصلت جميعًا إلى استنتاجات متشابهة حول العقبات التي تواجه تطور التعليم العالي في ليبيا وان الحاجة التي تطبيق ضمان الجودة الشاملة أصبح ضرورة ملحة ولكن قبل التطبيق علينا فهم المصطلحات. ولان الجودة والاعتماد يعتبر موضوع جديد في ليبيا ولم يتم تطبيقه حتى الآن فهو يعتبر من التحديات التي سوف تواجه مؤسسات التعليم الجامعي التي سوف تسعى لتأكيد نفسها لان المنافسة سوف تكون شرسة ومن سوف يفشل سوف يخرج ولن تكون له مكانة حتى إثبات نفسه مرة أخرى أو الانسحاب من كونه مؤسسة تعليمية مستقلة بذاتها. من أجل دلك كله جاء هدا البحث لتأكيد أن هناك اضمحلال في المفهوم الاصطلاحي للجودة والاعتماد المؤسسي والبرامجي داخل مؤسسات التعليم الجامعي ولتوضيح وترسيخ هده المفاهيم التي تحولت إلى مصطلحات.

التوصيات

ومن توصيات هدا البحث الأتي:

1. الاستمرار في نشر ثقافة الجودة وضمانها.

2. الحاجة إلى تطبيق معايير الجودة بشكل أكثر صرامة.

3. وضع ملف تدقيق داخلي في غاية الأهمية والذي يحتاج إنجازه إدارات مثقفة في هذا الموضوع ولديها إيمان بضرورته.

4. الحذر من تضارب محتمل في المصالح بين المدققين الخارجيين والمؤسسات التي يجري تقييمها.

5. تقديم الدعم اللازم لمدراء الجودة وإلزامهم بالقيام بالتقييم الذاتي بشكل مستمر.

6. إيجاد برامج لتحفيز ومكافأة العاملين المتميزين في تطبيق نظام الجودة.

7. زج مفاهيم الجودة المعاصرة ومبادئها وأداة ذلك هو التدريب المكثّف.

8. الحاجة إلى تقييم الأداء ونظم المقاييس.

9. أوصي أن يدرس مقرر الجودة في جميع المراحل التعليمية.

10. مشاركة الجهات المستفيدة من خدمة التعليم في وضع معايير الجودة أصبحت ضرورة ملحة.

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THE IMPACT OF E-ADMINISTRATION ON THE PERFORMANCE OF GOVERNMENT INSTITUTIONS AND THE IMPROVEMENT OF THE PUBLIC SERVICES

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Abstract
There is no doubt electronic administration represents an important aspect of management until now especially after the tremendous progress that has taken place in the means and methods of communication and information technology. It also has many advantages and positive effects for all levels of work (economic, social and political) in the country organizations, as it works on getting rid of the shortcomings of the traditional administration system and aiming to achieve many advantages and results that aim in general to achieve the general goal of the organization, and it did not neglect the relationships between employees and some of them and the administration, and it took into account the achievement of beneficiaries' satisfaction with the product or service provided. The research aims to clarify everything related to electronic administration and its impact on the performance of government organizations, where the concept of electronic administration has been defined and the nature of electronic administration, in addition to the objectives of electronic administration and its importance and impact on the national side as well. The repercussions of electronic administration on the development of the functional and administrative aspect of organizations and identification of the advantages of e-administration were also identified.

Keywords: Electronic administration, Government organizations, Public services, Communication technologies, National security

تأثير استخدام أنظمة الإدارة الإلكترونية على أداء المؤسسات الحكومية وتحسين الخدمات العمومية

الملخص
لاشك أن الإدارة الإلكترونية تمثل جانباً مهماً من جوانب الإدارة في الوقت الحالي وخاصةً بعد ما حدث من تقدم هائل في وسائل وأساليب تكنولوجيا الإتصالات والمعلومات كما أن لها العديد من المزايا والتأثيرات الإيجابية لجميع مستويات العمل (الاقتصادية والإجتماعية والسياسية) في المؤسسات، كما أنها تعمل على التخلص من جوانب القصور في النظام الإداري التقليدي وتهدف إلى تحقيق العديد من المميزات والنتائج التي تهدف إجمالاً إلى تحقيق الهدف العام للمؤسسة، كما أنها لم تهمل العلاقات بين الموظفين وبعضهم وبين الإدارة، وقد أخذت في اعتبارها تحقيق رضا المستفيدين عن المنتج أو الخدمة المقدمة، وقد هدف البحث إلى توضيح كل ما يتعلق بالإدارة الإلكترونية وتأثيرها على أداء المؤسسات الحكومية حيث تم تحديد مفهوم الإدارة الإلكترونية و التعرف على ماهية الإدارة الإلكترونية، بالإضافة إلى أهداف الإدارة الإلكترونية و

أهميتها وتأثيرها أيضاً على الجانب القومي. أيضاً تم التعرف على انعكاسات الإدارة الإلكترونية على تطوير الجانب الوظيفي والإداري للمؤسسات وتحديد مميزات الإدارة الإلكترونية.

الكلمات المفتاحية: الإدارة الإلكترونية، المؤسسات الحكومية، الخدمات العمومية، تكنولوجيا الإتصالات، الأمن القومي.

المقـدمــة

إن قيام الدول المختلفة وقدرتها على النهوض يعتمد في المقام الأول على التغيير، ونتيجة للتطور الكبير الحادث في الوقت الراهن كان لابد من التغيير والتطوير لمواكبة كل المستجدات الحضارية ؛ ولهذا ظهر اهتمام كبير في عمليات إصلاح الإدارة وذلك في معظم دول العالم كما أن الإدارة الإلكترونية قد نالت اهتمام منقطع النظير، مما أدى إلى أن يطلق المفكرون على هذا العصر عصر تكنولوجيا المعلومات بإعتبار أنها إحدى الركائز الأساسية لنموذج الإدارة الحديثة في الوقت الحالي (الطائش، 2016 ، 19)، فالإدارة الإلكترونية تعد من أهم ثمار المنجزات التقنية في العصر الحديث، وقد ظهرت نتيجة التطورات الهائلة في مجال الإتصالات والمعلومات، فقد أدى هذا التطور إلى تفكير حكومات الدول المختلفة في الإستفادة من منجزات الثورة التقنية في مجال الحاسبات وشبكات الإنترنت وذلك لإنجاز الاعمال وتقديم الخدمات المختلفة للمواطنين، فالإدارة الإلكترونية تتميز بالسرعة في إنجاز الأعمال كما انه توفر الوقت والجهد (ابن القاسمي، 2017، 25)، ونتيجة لثورة المعلومات والإتصالات زاد الإقبال على الإدارة الإلكترونية ولم تقف الإدارة الإلكترونية على حدود منظمات الأعمال والعمل بل امتدت لتشمل جميع فئات وطبقات المجتمع، ونستطيع القول بأن الإدارة الإلكترونية تتمثل في تحويل الأعمال الإدارية التقليدية إلى أعمال إلكترونية (آل دحوان، 2008، 19 ،20).

مما لاشك فيه أن الخدمات العامة تعد من أهم وظائف الدولة منذ نشأتها وحتى الوقت الحالي من أجل تقديم الخدمات المختلفة لاكتساب رضاء المواطنين بهدف استقرار المجتمع، كما أن الدول المختلفة تعمل جاهدة على تحسين تقديم هذه الخدمات، وقد أدى التطور في تكنولوجيا الإتصالات والمعلومات إلى ظهور نمط جديد في الإدارة وذلك في ظل التنافس المتزايد والمستمر أمام الإدارات البيروقراطية وذلك من أجل تحسين المستوى وقد أطلق على هذا النظام اسم الإدارة الرقمية أو إدارة الحكومة الإلكترونية أو الإدارة الإلكترونية (هنيدي ، 2017 ، 104)، فهي تعتبر احد سمات تطبيق الأعمال الإلكترونية التي زاد استخدامها بعد انتشار الإنترنت، وقد تم استخدامها في تطوير أسس ومبادئ إدارة المؤسسات، فقد أدى استخدامها إلى فتح العديد من المجالات الجديدة والمحافظة على الميزة التنافسية مع إضافة مزايا عديدة كما أدت إلى سهولة التعامل مع العولمة (عبد الرسول ، 2015 ، 337).

إشكالية البحث

إن الإدارة التقليدية قد ظهر بها العديد من العيوب في الآونة الأخيرة، وقد نتج عنها العديد من المشكلات التي تعرقل مسيرة العمل سواء على مستوى القطاع العام أو الخاص، لذلك كان لابد من الاتجاه نحو ايجاد بديل لكي نقلل السلبيات المترتبة على انظمة الإدارة التقليدية، وقد اظهرت الإدارة الإلكترونية نجاحاً ملحوظاً في التخلص من سلبيات انظمة الإدارة التقليدية، كما أن لها العديد من المميزات التي تساعد في تحقيق الأهداف التي ترجوها المنظمة بشكل سريع وفعال.

أهداف البحث

يهدف البحث إلى توضيح مفهوم الإدارة الإلكترونية، وتوضيح دورها الفعال في مساعدة المنظمات على تحقيق أهدافها المرجوة، مع تسليط الضوء على مميزات الإدارة الإلكترونية وقدرتها على اصلاح عيوب أنظمة الإدارة التقليدية.

منهج البحث:

يعتمد البحث على المنهج الوصفي التحليلي الذي يعتمد على مناقشة الظاهرة وتحديد أسبابها وتحليليها.

فرضيات البحث:

1- أنظمة الإدارة التقليدية تزدحم بالعديد من المستندات والأوراق التي من شأنها ابطاء سير العملية الإنتاجية في منظمات المال والاعمال.

2- أنظمة الإدارة التقليدية تحتاج إلى التطوير والتعديل من أجل تحقيق أهداف المنظمات بشكل فعال ومرضي لمستقبل الخدمة.

3- ظهرت الإدارة الإلكترونية كنتاج للتطور الهائل في تكنولوجيا المعلومات والاتصالات.

4- تعمل الإدارة الإلكترونية على تجنب أخطاء أنظمة الإدارة التقليدية.

5- تتسم الإدارة الإلكترونية بالمرونة مما يساهم في تحسين الأداء كما انها تساعد المنظمة على مسايرة تغيرات السوق.

مفهوم الإدارة الإلكترونية

تعتبر الإدارة الإلكترونية أو الرقمية نتاجاً لما ظهر في الآونة الأخيرة من ثروة في مجال المعلومات والإتصالات والتقنيات الحديثة ، فالإدارة الإلكترونية تمثل الإتجاه الجديد في الإدارة في الوقت الحالي، حيث يتجه العالم كله اليوم إلى استثمار جميع التقنيات الحديثة لتطوير أعمال المنظمات المدنية وتحويلها إلى منظمات إلكترونية تستخدم الشبكة العنكبوتية (شبكة الإنترنت) في إنجاز المهام والأعمال المنوطة بها ليس ذلك فقط بل امتدت ليتم استخدامها في نظم التوجيه والرقابة وإنجاز الكثير من الأعمال مثل : تسويق الإنتاج ، والتمويل، والأعمال المكتبية وغيرها من الاعمال (شلبي، 2011 ، 8)، وقد تم استخدام مصطلح الإدارة التقليدية ليعبر عن الأفراد الذين يقومون بممارسة الأعمال الإدارية في منظمة ما، فهو يدل أيضاً على الوظيفة أو المركز الذي يشغله هؤلاء الأفراد كما تم التعبير عنها أيضاً على إنها ذلك العلم أو الفن الذي يتم من خلاله الوصول إلى الهدف بأحسن الوسائل وبأقل التكاليف.

(خلوف، 2010، 12)، كما أن عملية الإدارة يقصد بها عملية الإشراف والسيطرة وتنسيق الأنشطة الإنتاجية سواء في الصناعة أو التنظيمات الرسمية الأخرى وعند النظر إلى الإدارة من الناحية التنظيمية نجدها إنجاز أهداف تنظيمية من خلال الأفراد والموارد الأخرى.

(شواى، 2016، 3390) ومن هنا نجد أنه يمكن تقسيم الإدارة الإلكترونية إلى مقطعين الأول هو الإدارة وهي عبارة عن إنجاز الوظائف والأعمال من خلال ما يبذله الآخرين من جهود وذلك لتحقيق الأهداف المرجوة، والمقطع الثاني هو العملية الإلكترونية وهي عبارة عن نوع من التوصيف كمجال لأداء النشاط في المقطع الاول، وبالتالي هي أداء هذا النشاط من خلال استخدام الوسائل والوسائط التكنولوجية.

(عبد الرسول، 2015، 338)، ونجد أن البنك الدولي قد عرفها على أنها مفهوم ينطوي على استخدام تكنولوجيا المعلومات والإتصالات، وذلك لتغيير الطريقة التي يتفاعل من خلالها المواطنين، كذلك المؤسسات التجارية مع الحكومة وذلك للسماح للمواطنين بالمشاركة في عملية صنع القرار، وربط طرق أفضل للوصول للمعلومات وزيادة الشفافية، والعمل على تعزيز المجتمع المدني (عبد الكريم، 2010، 14).

ماهي الإدارة الإلكترونية

إن فكرة الإدارة الإلكترونية تتعدى بكثير مفهوم الميكنة الخاصة بإدارات العمل داخل المؤسسة إلى مفهوم أعم وأشمل وهو تكامل المعلومات والبيانات بين الإدارات المختلفة، واستخدام تلك البيانات والمعلومات في توجيه سياسات وإجراءات عمل المؤسسة وذلك من أجل تحقيق أهدافها كما أنها تعمل من خلال الإدارة الإلكترونية على توفير المرونة اللازمة للاستجابة للمتغيرات سواء كانت هذه المؤثرات نابعة من داخل المؤسسة أو من خارجها (رضوان، 3).

فالإدارة الإلكترونية تعتمد على التقنيات الحديثة وتكنولوجيا الإتصالات والمعلومات في تحقيق الأهداف مع توفير الجهد والمال (زواغي، 2017، 604)، كما أنه تجدر الإشارة إلى أن الإدارة الإلكترونية هي إدارة غير مسبوقة فهي تتميز بأنها إدارة غير ورقية وبلا حدود وقتية كما أنها أيضاً بدون مباني أو هياكل تنظيمية تقليدية وهي خالية أيضاً من عملية الأرشفة التقليدية، ومن هنا يمكننا أن نطلق عليها إسم إدارة المعرفة (شلبي، 2010، 10).

أهداف الإدارة الإلكترونية

تعتبر الإدارة الإلكترونية جزءاً من واقع معاملات الحياة المعاصرة ويرجع ذلك بسبب تطور نظم المعلومات والإتصالات المحلية والعالمية على حد سواء، كما امتد تأثيرها ليغطي كافة مجالات الحياة في وقتنا الحالي، كما أن الإدارة الإلكترونية تؤثر على أداء مؤسسات المعلومات، حيث أنها تؤثر على جميع الوظائف والعمليات والأنشطة التي تمارسها المؤسسات (عبد الرسول، 2015، 343)

تسعى الإدارة الإلكترونية إلى تحقيق العديد من الأهداف التي تخدم المؤسسة الحكومية والخاصة وتحقق المزيد من النفع وتصب جميعها في الهدف العام للمؤسسة وهو تحقيق أعلى مستويات الإنتاج والأداء.

(آل دحون، 2008، 24) و(شواي 2016، 3393)، إن فلسفة الإدارة الإلكترونية تقوم على أساس أن الإدارة هي مصدر الخدمات وأن المواطنين والشركات والمؤسسات يوصفون على أنهم زبائن أو عملاء لديهم الرغبة في الإستفادة من هذه الخدمات وعلى ذلك نجد أن أهداف الإدارة الإلكترونية تتحدد فيما يلي:

تقليل تكلفة الإجراءات الإدارية.

القدرة على استيعاب أكبر عدد من الزبائن مع القدرة على إتمام معاملاتهم بسهولة ويسر على أساس الشفافية والمساواة.

زيادة كفاءة عمل الجهات الإدارية سواء الحكومية أو الخاصة.

التخفيف من العلاقة المباشرة بين العملاء والإداريين مما يؤدي إلى التقليل من تأثير العلاقات الشخصية في الحصول على الخدمات.

جعل عملية الأرشفة عملية إلكترونية، وإلغاء الأرشيف الورقي المعرض للتلف والتزوير.

القضاء على البيروقراطية الجامدة وتسهيل عملية التخصص في العمل وتقسيمه.

التأكيد على مبدأ الجودة بمفهومها الحديث.

تعمل أغلب مبادرات الإدارة الإلكترونية على تحقيق انتقال وتحول جذري من الأساليب التقليدية إلى العمل الإلكتروني وذلك لتحقيق العديد من الأهداف والتي تتمثل في استبدال حفظ الملفات باستعراضها ومراجعة محتواها بدلاً من كتابتها، كما أنها تعمل على الاعتماد على مراسلات البريد الإلكتروني بدلاً من الصادر والوارد التقليدي، كما أن الإدارة الإلكترونية تعمل على تخفيض حدة الجهاز البيروقراطي وتعقيداته، حيث أنها لا تكون بحاجة إلى تضخم وتعدد المستويات الإدارية وتعددها كما أن الإدارة الإلكترونية تستهدف تحقيق الشفافية فيما يخص الأعمال الإدارية والمعلومات التي يتم عرضها أمام العملاء، والمواطنين، والموردين وغيرهم ممن يتلقون الخدمات من المؤسسة.

(عبدالكريم، 2010 ، 16)، إن التعامل بنظام الإدارة الإلكترونية يعمل على زيادة الترابط بين العاملين والإدارة العليا وإدارة الموارد كافة، أما فيما يتعلق بالعملاء فنجدها تحقق أقصى فائدة لهم، وتحقق الكفاءة والفاعلية في تقديم الخدمات للمستفيدين وتحقيق الاستغلال الأمثل للموارد، وتحسين مستوى الخدمة، (شلبي، 2011 ، 11) وفيما يخص الموظفين نجد أنها تعمل على رفع كفاءة الموظفين وتعمل على توفير المعلومات والبيانات لأصحاب القرار في الوقت المناسب، كما أنها تجعل المؤسسة قادرة على تصحيح الأخطاء بسرعة فائقة، كما نجدها تعمل على إيجاد مجتمع قادر على التعامل مع معطيات العصر التقني بحيث تأخذ العمل المؤسسي بعيداً عن المحسوبية، ومن ناحية أخري نجدها تعمل على الحفاظ على حقوق الموظفين.

إن الإدارة الإلكترونية تعمل على الحفاظ على سرية المعلومات والتقليل من مخاطر فقدها، وتلغي عامل الزمن، وتؤكد على مبدأ الجودة الشاملة Total quality management بمفهومها الحديث، كما أن الإدارة الإلكترونية لها العديد من الأهداف الاقتصادية منها: أنها تحدث انتعاش اقتصادي للدولة وتجذب الاستثمارات من خلال الآليات المتطورة والمتوفرة في أي مؤسسة مع خفض تكاليف التشغيل (حمزة، 2019، 13).

إن الإدارة الإلكترونية تركز على النتائج، فنجد أن الحكومة الإلكترونية تهتم بتحويل الأفكار إلى نتائج مجسدة في أرض الواقع، وأن تحقق فوائد للجمهور تتمثل في تخفيف العبء على المواطنين من حيث الجهد والمال والوقت، كما أنه تعمل على توفير خدمات مستمرة طوال الوقت مثل: دفع الفواتير عن طريق بطاقات الائتمان بدون الانتقال إلى مراكز الهاتف أو الغاز لتسديد الرسوم أو الفواتير المطلوبة، وعلى الجانب الآخر فهي تعمل على ان تكون الخدمات متاحة بسهولة للجميع بمعنى آخر أنها تعمل على اتاحة خدمات الحكومة الإلكترونية للجميع في المنازل والمدارس والمكتبات وذلك حتى يستطيع كل مواطن التواصل (زواغي، 2017 ، 604 ، 605).

أهمية الإدارة الإلكترونية

أن الإدارة الإلكترونية قادرة على إحداث ثورة هائلة في أسلوب أداء العمليات الإدارية المختلفة للحكومات فهي تعمل على الوصول إلى المعلومات والربط بين الإدارات المختلفة في وقت واحد مما يزيد من الميزة التنافسية للمؤسسة (الطائش، 2016، 27).

إن الإدارة الإلكترونية عملت تحولاً أساسياً في مجال الخدمات العامة، فهي تعمل على ترسيخ قيم الخدمة العامة ويصبح الجمهور المستفيد من هذه الخدمات هو محور الاهتمام من قبل مؤسسات الدولة، كما أن مفهومها يزيد من مجرد التميز في أداء الخدمة العامة إلى خلق التواصل مع الجمهور وتعزيز دور المشاركة والرقابة، كما أنها تتضمن تعديلات هيكلية في البناء التنظيمي (زواغي، 2017، 605).

أيضاً تكمن أهمية الإدارة الإلكترونية في أنها تعمل على تبسيط الإجراءات داخل المؤسسة مما ينعكس بالإيجاب على مستوى الخدمات التي يتم تقديمها مع زيادة جودة الخدمات، وتعمل على اختصار وقت انجاز المعاملات الإدارية، وتضمن الدقة والموضوعية في العمليات التي تتم داخل المؤسسة، وتقلل من مخاطر التعامل الورقي، كما تكمن أهميتها كذلك في إنشاء قنوات اتصال إضافية بين الزبائن ومؤسسات الأعمال ومنظمات المجتمع المختلفة من جهة والحكومية من جهة أخرى بالإضافة لتوفير المعلومات للزبائن داخل الوطن وخارجه، كما أنها تعمل على التوسع في استخدام تكنولوجيا المعلومات لسد الفجوة الرقمية مع المجتمعات المتقدمة (شريهان، 2016 ، 24 ، 25).

أهمية الإدارة الإلكترونية على مستوى الدولة

ذكر هنيدي (2017، 116، 117) أنه تعتبر الإدارة الإلكترونية مهمة على المستوى القومي، فهي تعمل على تحقيق العديد من المزايا والإيجابيات في تحسن مستوى الخدمات العمومية مما يعمل على تحقيق المصلحة العامة ويسهم في نمو الإقتصاد الوطني ويحقق العدالة الاجتماعية وتكمن أهمية الإدارة الإلكترونية على المستوى القومي فيما يلي:
تحسين اداء المنظمات الحكومية.
تشجيع الاستثمار في المجال التكنولوجي.
دعم صادرات الدولة والإقتصاد القومي.
زيادة قدرة المشروعات الصغيرة والمتوسطة الحجم للمشاركة في حركة التجارة العالمية.
إيجاد فرص جديدة للعمل الحر

انعكاسات الإدارة الإلكترونية على تطوير العمل الوظيفي والإداري في الدولة

قد ذكر شواي (2016، 3402، 3403) أن الإدارة الإلكترونية تؤدي إلى:

زيادة حجم العمل: وذلك عن طريق استمرار العمل جميع أيام الأسبوع وعلى مدار الساعة.

تقليل الأخطاء في العمل: حيث يمكن اكتشاف الأخطاء ورصدها واتخاذ الإجراءات المناسبة لتصحيحها أولاً بأول.

تقليل الجهد والوقت والتكلفة المادية الازمة لإنجاز المهام.

القدرة على إحداث التغيرات المناسبة في العناصر البشرية: حيث تحتاج الإدارة الإلكترونية إلى أفراد على علم ومعرفة بالتقنيات الحديثة.

يتيح فرص للإبداع والابتكار، ويبسط الإجراءات الإدارية.

اتخاذ القرار بسرعة: وذلك لأنه يحتوي على معلومات مرنة.

يسمح لظهور القيادة الذاتية القائمة على التفاعل بين القائد والزبون: حيث انه يبتعد عن هرمية المعلومات السائدة في النظام التقليدي.

ضبط الرقابة على التنفيذ: حيث يعمل ضمن نظام بإمكانه مراجعة الأعمال والوقوف على مواطن الضعف ومحاسبة المقصرين وتسجيل جميع الحركات على العمليات.

إن تطبيق نظام الإدارة الإلكترونية يعمل على تطوير النظام الإداري وذلك عن طريق استخدام أساليب إلكترونية تتسم بالفاعلية والسرعة والدقة بالإضافة إلى قدرتها على مواجهة عيوب الإدارة التقليدية والقضاء عليها (سمان، 2020، 26).
تعمل الإدارة الإلكترونية على تحقيق التعاضد والتكامل سواء على المستوى الداخلي أو الخارجي بين عناصرها مما يتيح للمؤسسة فرص استثنائية لمشاركة المعلومات التي يتم تبادلها بشكل بيني وفوري وأيضاً داخلي وخارجي، مما يؤدي إلى زيادة عوائد الأصول الرقمية ورأس المال المعرفي الفكري للمؤسسة، كما ان إدارة عملية التعاضد والتكامل تقع على عاتق صناع المعرفة. (الحسيني، والخيال، 2013، 60).

مزايا الإدارة الإلكترونية

تتسم الإدارة الإلكترونية بالعديد من المزايا والتي تجعل المؤسسات تسعى إلى الإعتماد عليها كنمط إداري بديلاً عن النمط الإداري، فهو يحقق العديد من الفوائد من الناحية الإدارية والسياسية والإقتصادية والإجتماعية ومن هذه المميزات أنها تسهل عملية التخطيط وذلك عن طريق ما توفره الإدارة الإلكترونية من نظم معلومات وشبكات اتصال بجميع الإدارات، كما انه يجعل هناك قدر من المرونة في الهيكل التنظيمي، وبالتالي تستطيع التكامل والتنسيق بين الإدارات المختلفة (الحسيني والخيال، 2013، 56). الميزة الأخرى أنها تعمل على إدارة ومتابعة الإدارات المختلفة في المؤسسة وكأنها وحدة مركزية حيث تعطي الإدارة الإلكترونية دعم لمراقبة اتخاذ القرارات، كما أن عملية جمع البيانات والمعلومات تكون أكثر دقة لأنها تعمل على جمعها من مصادرها الأصلية بصورة موحدة مع التقليل من معوقات اتخاذ القرارات عن طريق توفير البيانات وربطها (حمزة، 2019، 12).
إن الإدارة الإلكترونية تعمل على تقليل أوجه الصرف في متابعة عمليات الإدارات المختلفة، وتوظف تكنولوجيا المعلومات من أجل دعم وبناء ثقافة مؤسسية إيجابية لدى جميع العاملين، كما أنها تدعم التعلم المستمر وبناء المعرفة، وتزيد الترابط بين العاملين والإدارة العليا، وتمتد مميزات الإدارة الإلكترونية إلى المستفيدين فنجدها توفر لهم البيانات والمعلومات بصورة فورية (رضوان، 4). إن نظام الإدارة الإلكترونية يتميز بالدقة والسرعة في تخزين البيانات وتكوين ما يسمى ببنك المعلومات ومعالجة واسترجاع النتائج في وقت قصير مقارنة بالنظام التقليدي، وعلى صعيد آخر نجد أنه يعمل على الحفاظ

على البيئة من خلال تقليل ازدحام المواصلات لأن المستفيدين في ظل هذا النظام يستطيعون الحصول على ما يحتاجونه من خدمات من منازلهم (خلوف، 2010، 15، 16).

في المنطقة العربية، أحرزت دول مجلس التعاون الخليجي خطوات مهمة نحو تطوير الحكومات الإلكترونية، حيث جاءت دولة الإمارات كأعلى دول المجلس أداءً على المؤشر، تليها كل من البحرين والكويت وقطر. وتمكنت دول مجلس التعاون من إنجاز سلسلة من المنجزات الكبيرة على صلة بتحسين نظم الحكومة الإلكترونية، وتيسير قدرة المواطنين على استخدام البوابات الإلكترونية الحكومية الخاصة بدول مجلس التعاون الأخرى. الشكل 1 يبين تصنيف الدول العربية ضمن استبيان الأمم المتحدة الخاص بتطور الحكومات الإلكترونية عام 2018 (المصدر: استبيان الحكومات الإلكترونية، ديسا، 2018).

الدولة	الترتيب 2018	مؤشر تطوير الحكومة الإلكترونية 2018
الإمارات	21	0.8295
البحرين	26	0.8116
الكويت	41	0.7388
قطر	51	0.7132
السعودية	52	0.7119
عُمان	63	0.6846
تونس	80	0.6254
الأردن	98	0.5575
لبنان	99	0.553
المغرب	110	0.5214
مصر	114	0.488
الجزائر	130	0.4227
ليبيا	140	0.3833
سوريا	152	0.3459
العراق	155	0.3376
جيبوتي	179	0.2401
السودان	180	0.2394
جزر القمر	182	0.2336
موريتانيا	183	0.2314
اليمن	186	0.2154
الصومال	193	0.0566

الشكل 1: يبين تصنيف الدول العربية ضمن استبيان الأمم المتحدة الخاص بتطور الحكومات الإلكترونية 2018.

وظائف الإدارة الإلكترونية

أشار عبد القادر (2016، 82، 83) إلى ان الإدارة الإلكترونية تؤدي عدداً من الوظائف الأساسية وهذه الوظائف تعد مرتكزات هامة في الإصلاح الإداري وحدوث تغيير جذري في أساليب الإدارة التقليدية وتتمثل هذه الوظائف فيما يلي:

التخطيط الإلكتروني.

التنظيم الإلكتروني.

الرقابة الإلكترونية.

القيادة الإلكترونية.

القيادة التقنية العملية.

القيادة البشرية الناعمة.

القيادة الذاتية.

تطبيقات الإدارة الإلكترونية (المجتمع الليبي نموذجاً):

تسعى دولة ليبيا الحديثة للعمل على بناء حكومة الكترونية بمفهومها الكامل ،على ان تتلاءم مع تقنيات البنية التحتية المتوفرة بها ،كما تطمح الإدارة السياسية والإدارية لتوطين الإدارة الإلكترونية ونشرها بين مؤسسات الدولة المختلفة ،وفي مختلف القطاعات ،فمنذ أول حكومة انتقالية بعد السابع عشر من فبراير قد تم انشاء إدارة خاصة بالحكومة الإلكترونية ،وذلك بديوان رئاسة الوزراء ،وبدأت هذه الحكومة بوضع الخطط والتصورات العلمية والفنية لبناء الحكومة الإلكترونية ،ووضع أسسها ،وفي نطاق هذا بدأت بعض الهيئات والمؤسسات في بناء أنظمتها المعلوماتية التي تعتبر حجر الأساس للحكومة الإلكترونية.

نماذج الخدمة في الحكومة الإلكترونية:

حكومة إلى حكومة (G2G): وهي عبارة عن مشاريع أو أنظمة تدعم عملية التشارك في المعلومات بين الوزارات والمؤسسات الحكومية المختلفة.

حكومة إلى مواطن (G2C): وهي عبارة عن مشاريع أو أنظمة تقديم المعلومات والخدمات إلى المواطنين.

حكومة إلى أعمال (G2B): وهي عبارة عن مشاريع أو أنظمة تيسر العلاقة بين قطاعات الحكومة وقطاعات الأعمال المختلفة والشركات.

حكومة إلى موظفين (G2E): وهي عبارة عن مشاريع أو أنظمة تعمل على تقديم الخدمات للعاملين في القطاع الحكومي (الباعور ،أبو راوي ،2013).

الخلاصة

نستنتج من هذه الدراسة أهمية الإدارة الإلكترونية في مؤسسات الدولة ومنظمات الأعمال فهي تساعد على الارتقاء بعمل الحكومة كما أنها من ناحية أخري تساعد على تقديم الخدمات للعملاء والمواطنين بشكل أسرع وبطريقة أكثر مرونة من الطريقة التقليدية في الإدارة مما يكسب المؤسسة رضا العملاء والمستفيدين. إن العمل بنظام الإدارة الإلكترونية يوفر الجهد والوقت والمال كما أنه يقضي على البيروقراطية التي قد اتسمت بها نظم الإدارة التقليدية مما يكسب الأعمال الإدارية مرونة ودقة أكثر، كما أنه يساعد في عمليات الرقابة وتقييم الأداء وزيادة جودة الخدمات ويخلق بيئة عمل متجانسة ومتناغمة تعمل جميع أطرافها من أجل تحقيق الصالح العام للدولة، ليس ذلك فحسب بل نجد أن لها العديد من الإيجابيات على المستوى القومي، كما إن الإدارة الإلكترونية تقضي على العديد من عيوب الإدارة التقليدية وتقضي على المحسوبية مما يكسب بيئة العمل قدر كبير من الشفافية.

النتائج

يمكن تلخيص نتائج هذه الدراسة من خلال الدراسة السابقة إلى العديد من النتائج والتي يتم إيجازها فيما يلي:

الإدارة الإلكترونية تتمثل في استخدام الأساليب التكنولوجية الحديثة والتقنيات الحديثة في مجال الاتصالات في إدارة مؤسسات المال والأعمال وذلك للإستفادة من التطور التكنولوجي الهائل الذي يشهده المجتمع في الوقت الحالي.

إن استخدام الإدارة الإلكترونية لها نتائج إيجابية على سير العمل، فهي تقلل الوقت والجهد وتكاليف إنجاز المهام، وتقلل من حدوث الاخطاء.

تعمل الإدارة الإلكترونية على دعم العلاقات بين العاملين في المؤسسة، فهي تعمل على خلق التواصل الفعال بين العاملين وبين العاملين والإدارة وبين الإدارات المختلفة.

تقضي الإدارة الإلكترونية على العديد من المشاكل والمعوقات التي ظهرت في نظم الغدارة التقليدية والتي تعرقل سير العمل.

في ظل نظام الإدارة الإلكترونية نجد العملاء والمستفيدين أكثر رضا عن المؤسسة وعن الخدمة التي يتلقوها منها وذلك مقارنة بنظام الإدارة التقليدي.

تعمل الإدارة الإلكترونية على تحسن أداء المؤسسات العامة في الدولة.

تصب جميع عوائد ومنافع الإدارة الإلكترونية في صالح المؤسسة وبالتالي في صالح المجتمع.

إن مهام الإدارة الالكترونية تتمحور حول الإصلاح الإداري في المؤسسات.

تعتمد الإدارة الإلكترونية على التكنولوجيا والإنترنت مما يجعلها اداة للتخطيط بسهولة.

استخدام الإدارة الإلكترونية يساعد في تيسير مسيرة العمل في المنظمات لما تتسم به من مرونة، ودقة، وقدرتها على توفير الوقت والجهد.

التوصيات

بعد البحث والدراسة وتحليل جميع جوانب الموضوع محل الدراسة نوصي بما يلي:

دعم الإدارة الإلكترونية والعمل على ممارستها في جميع الجهات الحكومية والخاصة.

تدريب الموظفين والعاملين على أساليب الإدارة الإلكترونية.

عمل دورات تدريبية وورش عمل للموظفين بالقطاع العام وذلك من أجل زيادة مهاراتهم في استخدام أساليب التكنولوجيا الحديثة.

ضخ عناصر عمل جديدة تتميز بقدرتها على التعامل مع التطور الحادث في مجال تكنولوجيا الإتصالات والمعلومات.

توفير وسائل الدفع الإلكتروني في مختلف الأماكن.

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EFFECT OF CHOKE SIZE AND PERFORM A SYSTEM ANALYSIS, CASE STUDY IN LIBYA

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Abstract
A source of error in completion design is the installation of chokes/beans that are too large. This happens a lot on wells that are expected to produce at high rates. Increased well performance can be achieved by larger bean size on the wellhead. As choke size is increased the friction losses decrease which results in a lower $P_{wf,}$ and therefore, a larger inflow. However, as the choke size is further increased the well begins loading with liquid and the flow becomes intermittent or unstable. As the liquid level in the well builds the well will eventually die. This study was conducted by using Gilbert correlation and PIPESIM software for a system in which the choke size is too small, the well performance suffers, too much pressure drop occurs in the choke size, for this type, it is obvious that improving the reservoir performance by stimulation would be a waste of effort unless larger choke size was installed. However, if the choke size is too large, the velocity of the fluid moving up may be too low to effectively lift the liquids to the surface, and finally getting low production rates. The well-used in this case study will be designated as E-226. The GialoPaleocene Limestone Reservoir. This well produces excessive water 92% and produces hydrocarbons only 8%. In this study, the well don't have surface choke installed, withdrawing fluid at higher than optimum rates with fully open choke size may create a host of unwanted problems like water/gas breakthrough, sand production, erosion. So, as you suspect, changing choke size will eventually change FBHP and flow-rate, which will change Tubing Head Pressure. To model that, you need to consider wellhead and flow line performance curve. The case study emphasizing on the use of production optimization of an oil well with optimize choke size.

Keywords: effect of choke size, system analysis, Gilbert correlation, pipesim software.

Introduction

In practice, it is worth mentioning that very few wells are produced without any restrictions at all to obtain the maximum production rate [1]. The overall performance of the production well is a function of several variables, e.g. tubing size, flow line size, choke size, etc. Flow rate (Q) is a measure of the rate of production of reservoir fluids, which is a function of perforation density, reservoir pressure, tubing size, choke / bean size, flow line diameter, and separator pressure [2]. This means that any change in these variables will change the performance of the well, shown in Figure (1).

The wellhead chokes in the oil and gas industry are used to regulate the flow rate in order to maintain the allowable well, which helps maintain reservoir pressure, protect the surface equipment, to prevent water and gas coning, and provide the necessary back pressure to avoid configuration damage due to excessive drawdown [3].

The published multiphase flow correlations are highly empirical for Offshore Bouri Oil field, Libya[4]. Several correlations have been offered for describing critical and subcritical multi-phase flow through wellhead chokes [5]. Majority of such correlations are based on limited

ranges of flow variables. According to quality and scope of data upon which they are based, the validity of those correlations is limited.

The most popular correlation was developed by Gilbert [6], but it is valid for critical flow occurring when the upstream pressure of the choke is at least 70% higher than the downstream pressure or when the ratio of downstream pressure to upstream pressure is equal to 0.588 [7]. However, other researchers proposed various correlations rather than Gilbert's equation in the literature.

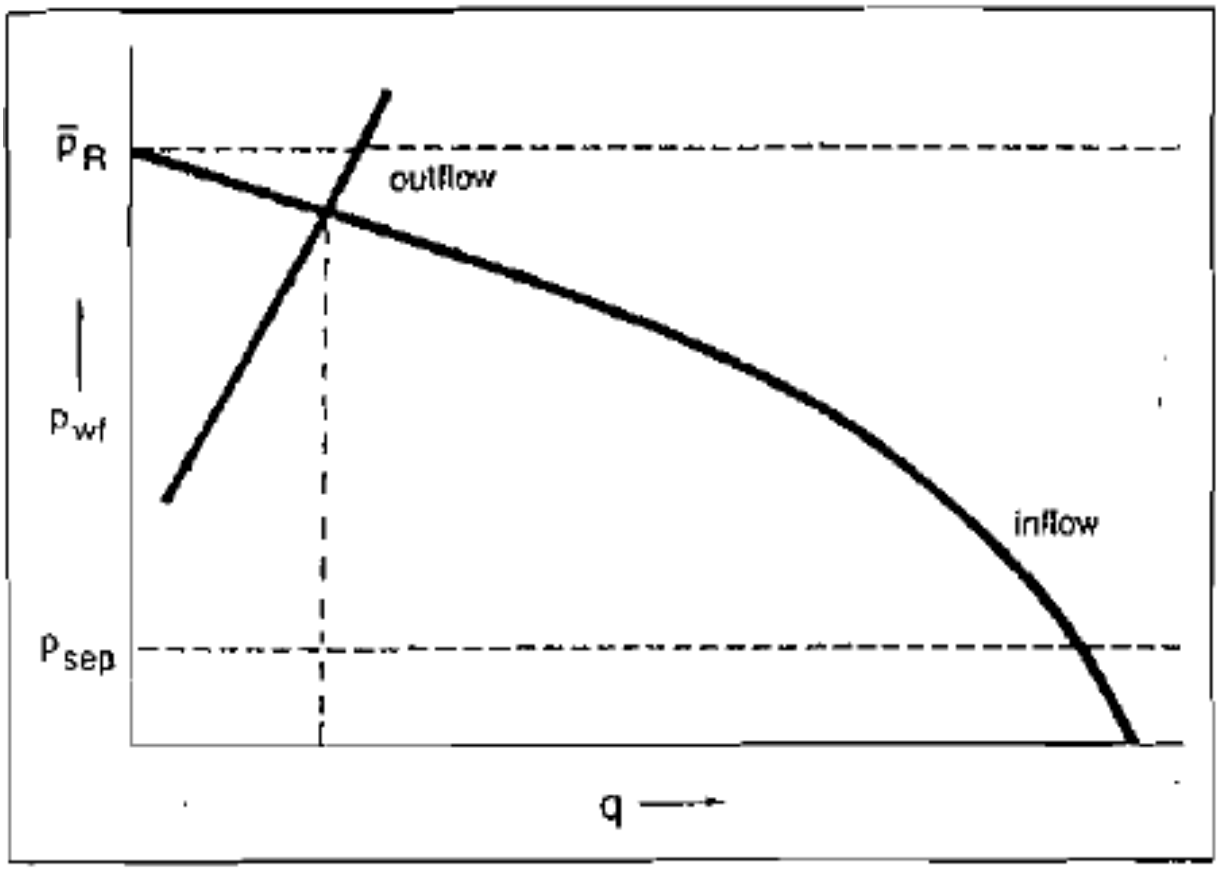

Figure 1. Well restricted by choke size are too small, the well is going to die [8].

As choke size is increased the friction losses decrease which results in a lower P_{wf} and therefore, a larger inflow performance. However, as the tubing size or choke size is further increased the well begins loading with liquid and the flow becomes intermittent or unstable. As the liquid level in the well builds the well will eventually die [8], shown in Figure (2).

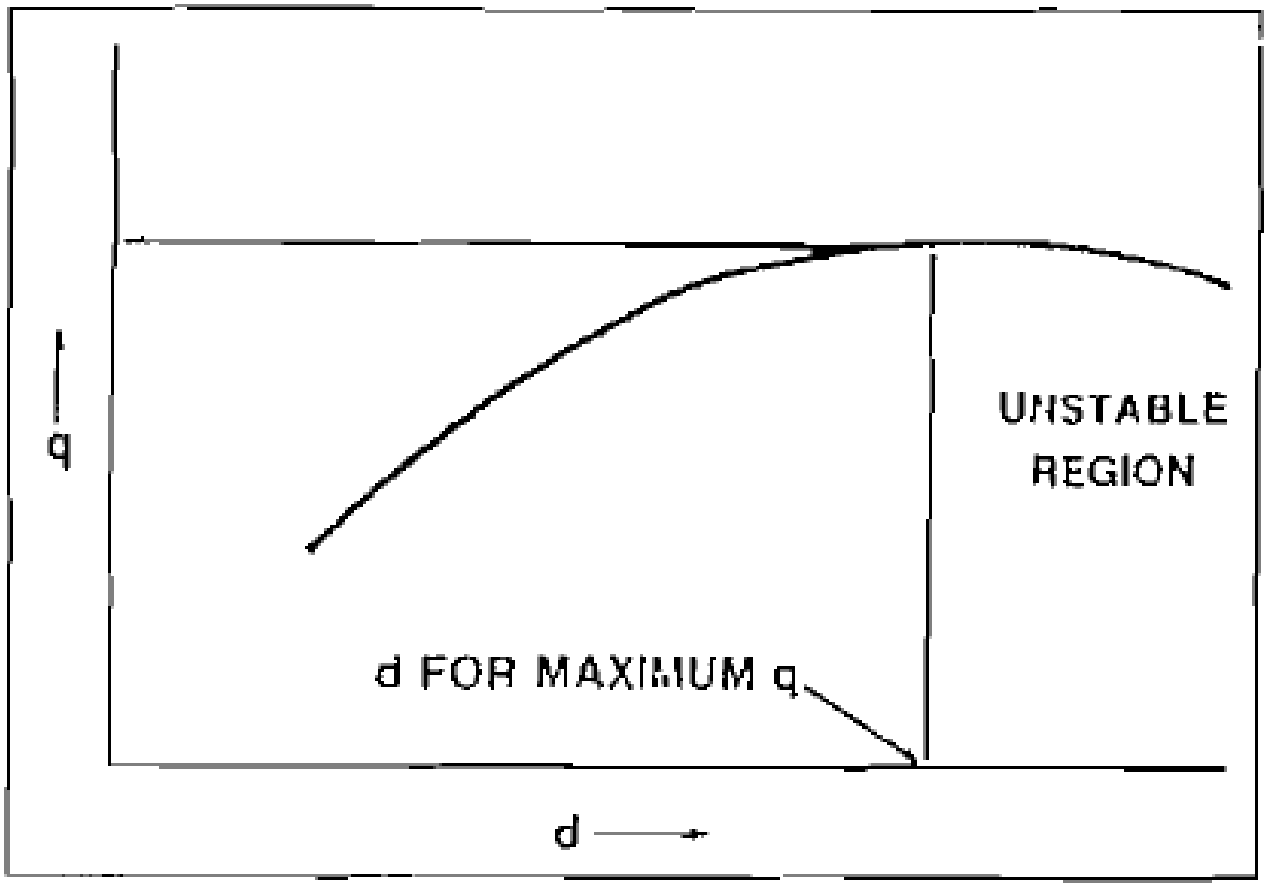

Figure 2. Finding the optimum choke size [8].

- The case study emphasizing on the use of production optimization of an oil well with optimize choke size.

Many empirical equations have been developed to estimate the relationship between production rate and wellhead pressure for two-phase critical flow. The first empirical correlation for choke selection was done by Gilbert in 1954. He developed an empirical correlation for critical flow through a choke. He used production data from flowing oil wells in the Ten Section field of Californnia [9]. Gilbert's equation consists mainly of a three parameter equation in which the flow rate is linearly proportional to the upstream pressure.The second experimental relation was proposed by Baxendell in 1957. He revised Gilbert's equation to update the coefficients based on incremental data [10]. The third experimental relation was proposed by Achong in 1961. He modified Gilbert's equation to match the performance of wells in Lake Maracaibo field in Venezuela [11].
In 1960, a new theory based on Tangren's theory was proposed by Ros for a continuous gas phase. This analysis led to the development of an equation relating mass flow of gas and liquid, upstream pressure and choke size [12]. To make Ros' correlation available to oil field workers, Poetmann and Beck converted the correlation to oil field units and reduced it to a graphical form [13].

In 1969, Omana, Brown, Brill and Thompson conducted experimental field tests at the facilities of Union Company of California's Tiger Lagoon Field in Louisiana to study the multiphase flow of gas and liquid (gas-water system) through a small-sized choke in a vertical position, and used dimensional analysis to obtain their empirical equation [14]. In 1975, a

theoretical model relating dynamic orifice performance in both critical and sub critical flow regimes was developed [15].

In 1986, *Sachdeva*, Z. *Schmidt*, Brill and Blais developed a model to calculate flow rate of a choke by investigating a two-phase flow through wellhead chokes, including both critical and subcritical flow [16]. *Ajienka*, JA, *Ikoku* CU, 1996, analyzed several correlations, including those by Gilbert, Baxendell, Ros, Achong, and Ashford, and proposed two well models [17].

In 1996, Elgibaly and Nashawi developed a correlation to describe the choke performance of the Middle-East oil wells [18]. In 2007, Ghareeb and Shedid attempted to overcome the limitations of the existing correlations for artificially flowing wells by developing a new correlation capable of calculating precisely the wellhead flow production [19]. In 2007, Alrumah and Bizanti used actual data production tests from vertical wells from Sabriyah fields in Kuwait to establish a new generalized multiphase flow choke correlation that predicts liquid flow rates as a function of flowing wellhead pressure, surface choke size and gas-liquid ratio [20].

In 2014, Ebuka used an integrated production model (Prosper software) to optimize production in a mature Niger Delta field where continuous declining rates greatly limited the economics for routine production optimization activities [21]. In 2007, Vidovic and Gluscevic optimized production in geothermal wells by performing system analysis at bottomhole and wellhead nodes [22].
In 2015, Okon used sixty four field test data from oil producing wells in the Niger Delta region of Nigeria to develop wellhead pressure-production rate correlations based on Gilbert and modified Gilbert equations [23].

Research Method

The well-used in this case study will be designated as E-226.The Gialo Paleocene Limestone Reservoir was first discovered in March 1961 by drilling of well E1, and put on production in November 1964. The Gialo Paleocene reservoir produces from the Zelten Limestone member of the Upper Paleocene Epoch. Three Facies with insignificant differences in properties have been identified.

Paleocene is the lowest productive reservoir in the Gialo horst block. The maximum gross thickness is **150** feet in the east-central part of the reservoir and thins to the west. The main reservoir is a structural trap in Zelten limestone, delineated by faults. Oil has been trapped in a structural high formed by the Gialo Block. The reservoir data summary includes average values of the fluid and rock properties is given in Table 1**.**

Reservoirdata summary
Paleocene Zelten Limestone Reservoir – Gialo Conc. 59E

Table 1.0 Basic reservoir data

Producing Formation	**Paleocene Limestone**
Top of Pay Formation	**6300 ft. KB**
Datum Depth	**5900ft.**
Productive Acreage	**15,008 Acres**
Average Net Pay	**47.6 ft**
Original Reservoir pressure at Datum	**2726 psig**
Reservoir Temperature at Datum	**186 deg F**

Table 2.0 Average rock properties

Porosity	**25.2 %**
Permeability (horizontal)	**14.5 md**
Water Saturation	**37.4 %**

Table 3.0 Fluid properties

Saturation Pressure	**927 psig**
Differential Solution GOR	**440 scf/stb**
Flash Solution GOR	**300 scf/stb**
F.V.F. at Original Pressure	**1.282 RB/STB**
Current Reservoir Pressure	**2238 psig**
API Gravity at 60 deg F	**39.4deg API**

Well Data.

E-226 Well.

The Configuration and Completion data for this well as the following;

Location: 28° 42' 22" N 21 25' 26" E
Elevation: 332' GL 340 KB
Depth: 6340' MD 6300' (TVD)

Table 4.0 Well completion data.

Casing	Size (in)	Weight (Ib/ft)	Grade	Depth (ft)
surface casing	**13 3/8**	**61**	**J55**	**831**
production casing	**9 5/8**	**40**	**J55**	**2753**
Production Liner	**7**	**23**	**N80**	**2572 - 6338**

The Cumulative Oil production is 2.57 MMBBL
The oil production rate is 140 STB/D and the water cut is 92%.
The SBHP is 2086 psig and the P.I is 0.169 BOPD/psig.

1. Calculate the inflow and outflow performance for the well at original conditions

Stable point: Q = 2287 (STB/DAY), P_{WF} = 1401 psig, Reservoir pressure =2726 psig

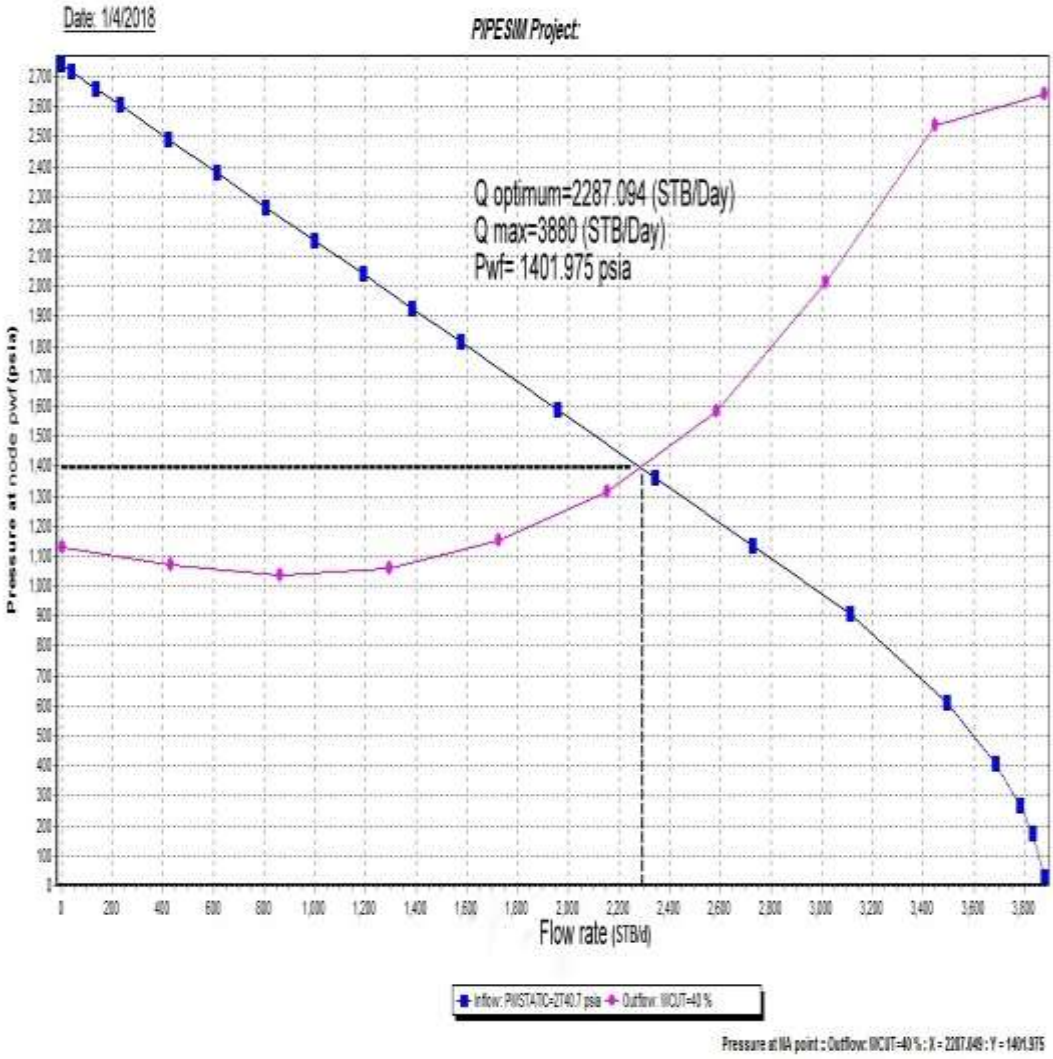

Figure 3. shows inflow and outflow performance relationship curve for the well at original conditions.

2. Calculate the inflow and outflow performance for the well at actual conditions

Stable point: Q = 1728 (STB/DAY), P_{WF} = 1282 psig, Reservoir pressure =2300 psig

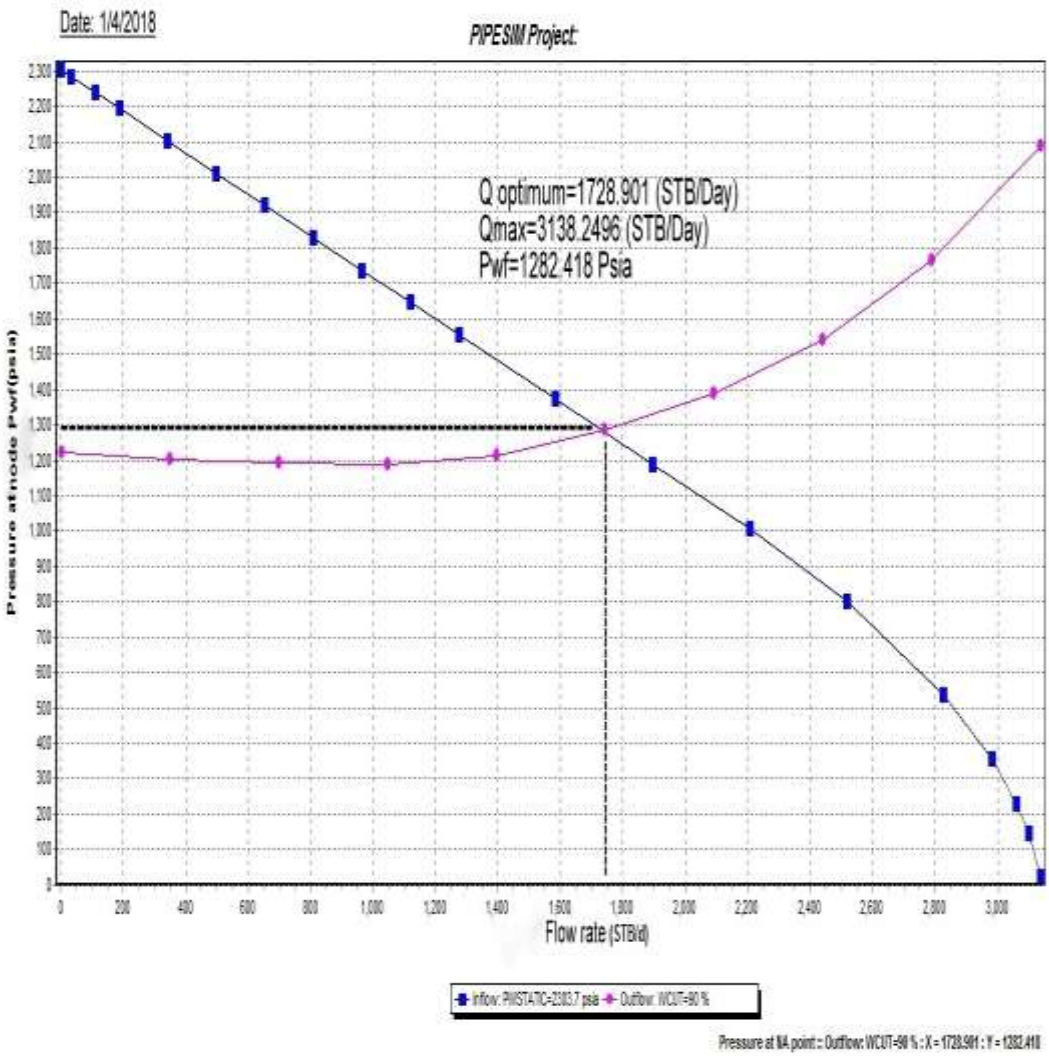

Figure 4. Shows inflow and outflow performance relationship curve for the well at actual conditions.

The multiphase flow of oil and gas from the reservoir into the storage tanks is noted in Fig (5), and is divided into three stages: inflow, Vertical flow and horizontal flow, and the pressure losses are:

1. Δp_1: Flow through the porous medium (inflow performance). Δp_1 will vary from 10 – 50 % of the total loss.
2. Δp_2: multiphase flow from the bottom of the well to the surface. Δp_2 will vary from 30 - 80% of the total pressure loss.
3. Δp_3: multiphase flow from the wellhead into the storage tanks (surface flow performance). Δp_3 will vary from 5-30% of the total pressure loss depending upon many factors and in particular on whether or not the well needs to be choked.

Stages 2 and 3 require their own multiphase flow correlation in order to determine Δp_2 and Δp_3. These pressure losses are shown graphically in (Fig (5).

The following stepwise procedures will help to understand this plot:

1. Plot the inflow curve using Vogel Equation [24]. Developed for saturated reservoir (at or below bubble point):

i. Can be applied for any reservoir where gas saturation increases as pressure declines.

ii. No skin effects, but can be extended for skin effects

iii. Vogel found that the production Q_o can be expressed as

$$\frac{q_o}{q_{o,\max}} = 1 - .2\frac{P_{wf}}{P_R} - .8\left(\frac{P_{wf}}{P_R}\right)^2$$

- One test point required $R = P_{WF} / P_R$

2. The values of the wellhead pressure corresponding to different flow rates may be found using pressure traverse curves and plotted using variables such as well depth, gas liquid ratio, flowing bottom hole pressure, flow rate, and tubing size.

3. Plot the surface separator pressure horizontal line. These it can be selected for the desired rate.

4. Draw in a vertical line at the rate desired. This will be the equilibrium condition, given Q, P_{wf} and P_{wh}.

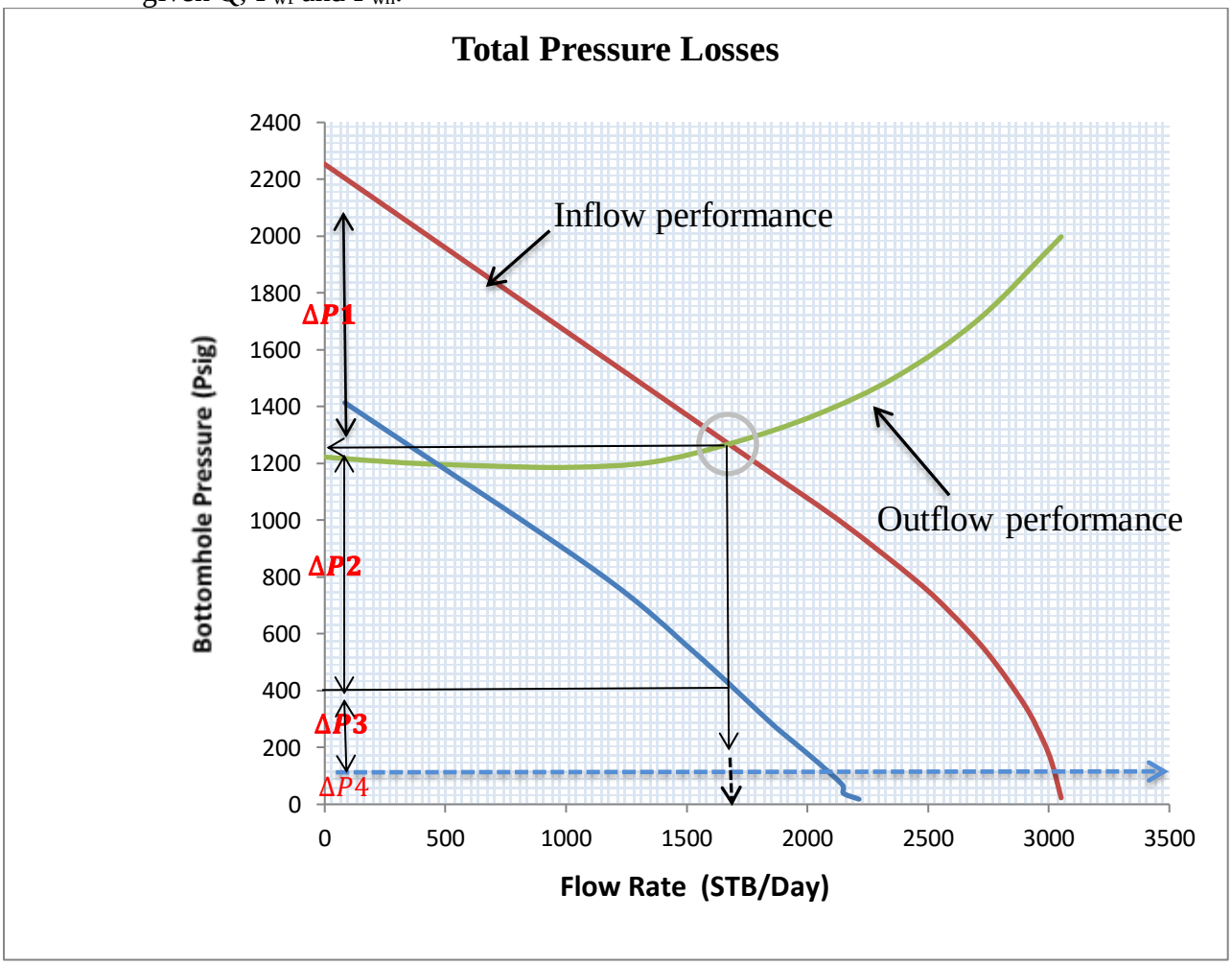

Figure.(5), shows determination of flow rate, the three stages; Inflow performance, Vertical flow and horizontal flow performance and total pressure losses before optimizing.

Wellhead pressure can be calculated now from Figure (5) after calculating Δp_3 or by Gilbert Equation. P_{wh}= 400 psig for flow rate = 1728 STB/d

- Since the VLP and IPR were calculated, it was possible to move on and use it to perform a system analysis.

Gilbert Equation

$$pwh = \frac{A1qlR^{A2}}{d^{A3}}$$

A_1=3.86*10^{-3}
A_2=0.546
A_3=1.89

Where:
Q_l: total flow rate of total liquid.
R: gas liquid ratio.
d: chock size diameter (1/64).
Since:
Q =1728.901 (STB/D).
R=300 (SCF/STB).

Results and Discussion

The calculations of inflow and outflow performance relationship curve for the well at actual conditions;

Stable point where, Q = 1728 (STB/DAY), P_{WF} = 1282 psig, Reservoir pressure =2300 psig,

Draw down pressure 2300 – 1282 = 1018 psig

The calculations of inflow and outflow performance relationship curve for the well at original conditions

Stable point where, Q = 2287 (STB/DAY), P_{WF} = 1401 psig, Reservoir pressure =2726 psig.

Draw down pressure from reservoir pressure to the bottom hole pressure:
2726 – 1401 = 1325 psig

Currently the well production rate is about 1728 STB/D with a 92 % water cut.

Table (5.0), shows E-226 well choke sizes at different flow rates and wellhead pressures. Generally, almost all flowing wells utilize wellhead chokes in order to regulate the flowing rate, prevent water and gas coningand sand problems, as well as valves installed for safety purposes. As a major factor of killing the producer well, theinaccurate flow rate predictions may inevitably lead towardsgas or water coning, sand entry and excessive pressures at the separator. Larger amount of produced water contributes to high operating costs and is a major environmental concern for oil production.

The most of published multiphase flow correlations are highly empirical. Several correlations have been offered for describing critical and subcritical multi-phase flow through wellhead

chokes. Majority of such correlations are based on limited ranges of flow variables. According to quality and scope of data upon which they are based, the validity of those correlations is limited. The most popular correlation was developed by Gilbert (1954) but it is valid for critical flow occurring when the upstream pressure of the choke is at least 70% higher than the downstream pressure or when the ratio of downstream pressure to upstream pressure is equal to 0.588. However, other researchers proposed various correlations rather than Gilbert's equation in the literature.

Flow through the wellhead chokes mainly fall into two critical and subcritical conditions. Within this context, the critical flow condition refers to the state which the flow rate reaches a maximum value that is independent of a pressure drop applied across the choke and changes in pressure downstream of the choke do not affect the flow rate. Hence, wellhead chokes are commonly operated under critical flow conditions in order to isolate the reservoir from pressure variation introduced by surface equipment. Empirical correlations are mainly used for critical flow condition.

In this study, production data from E-226 well, choke sizes have calculated at different flow rates and wellhead pressures, have shown in Table (5.0). First and foremost, this well don't have surface choke installed.

Reservoir and by extension, wells have an optimum production rate, which depends on numerous factors like reservoir pressure, drive mechanism, permeability, viscosity, porosity, thickness of oil column, etc. Withdrawing fluid at higher than optimum rates with fully open choke size may create a host of unwanted problems like water/gas breakthrough, sand production, erosion, etc. Installation of choke creates a back pressure on the well, thereby restricting fluid flow to the required rates.

Table 5.0 shows well E-226 choke sizes at different flow rates and wellhead pressures

Bean size (inches)	Wellhead Pressure (psig)	Q (STB/D)
0.20	3147.160874	No intersection
0.25	2064.234436	No intersection
0.28	1666.237698	No intersection
0.30	1462.535659	77.652
0.40	849.1262201	1144.658
0.50	556.9450226	1556.48
0.70	294.8698301	1888.085
0.80	229.1002483	1976.334
1	150.2676987	2088.65
1.5	69.83178697	2190.27
2	40.54328586	2227.708

▲ So, when choke size increased, the well head pressure and flow rate will be increase.

▲ This well don't have surface choke installed, withdrawing fluid at higher than optimum rates with fully open choke size may create a host of unwanted problems like water/gas breakthrough, sand production, erosion, etc.

▲ At choke sizes 0.2, 0.25 and 0.28 there is no flow because of choke sizes are too small.

Conclusion and recommendations

Chokes are normally used to control fluid flow rate or downstream system pressure.

Reservoir and by extension, wells have an optimum production rate, which depends on numerous factors like reservoir pressure, drive mechanism, permeability, viscosity, porosity, thickness of oil column, etc. Withdrawing fluid at higher than optimum rates with fully open choke size may create a host of unwanted problems like water/gas breakthrough, sand production, erosion, etc. Installation of choke creates a back pressure on the well, thereby restricting fluid flow to the required rates.

Reservoir pressure is substantially higher than the design pressure of surface equipment. Installing a choke ensures that the pressure downstream of the choke are compatible with the equipment pressure.

Smaller the choke opening --> More restriction --> More back pressure at Bottom hole ---> Increase in FBHP ---> Reduced flow rate from Reservoir to the wellbore --> Reduced flow rate in the tubing --> Less production.

As the flow in the pipe is reduced, it will modify the pressure loss profile / Vertical lift performance for flow through tubing and accordingly you will get different Well head pressure. So, as you suspect, changing choke size will eventually change FBHP and flow rate, which will change Tubing Head Pressure.To model that, you need to consider wellhead and flow line performance curve.

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WHO ARE WE? HOW DID WE BECOME WHO WE ARE NOW? SEQUENCING OF THE ANCIENT GENOME AND ITS APPLICATIONS IN HISTORICAL AND ARCHEOLOGICAL STUDIES

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Abstract
Over the past three decades, a new generation of researchers using modern genetics techniques has begun to try to come up with objective answers to the many questions that history and archaeology raise about human migrations, the division and reconfiguration of groups, the changes that have occurred as a result of selective pressures and/or adaptations to different environments, the exchange of ideas and human movements Relying on ancient genome sequencing, for example, DNA mitochondria sequences and the chromosome Y have been used to explain many thorny and complex topics such as the hypotheses relationships that connect Denisova and Neanderthals to modern humans, the emergence of behavioral modernity, and the physical change that occurred in Paleolithic times...
As a matter of fact, genome research is currently booming because of the ever-finer and faster technologies in gene sequencing, computer analogies, and extraction protocols that can capture very small, specific parts of human DNA from the vast mix of non-human genetic material found in ancient samples.

Generally, this study seeks to illustrate and highlight the enormous addition of ancient genome sequences to historical and archaeological studies on human evolution, the spread of man throughout the Old World ecomene, and then towards the rest of the world in the Americas and Oceania, and the blending of population, isolation and form that we have become today. This is through a multidisciplinary methodology/approach in which the sequence of the ancient genome is first determined, and then linked to the historical event that may be responsible for demographic and cultural change. The study also provides a critical presentation of theories and hypotheses relevant to the topic of ancient genomes, such as: multiregionalism theory, molecular clock hypothesis, and out of Africa theory, also out of Africa and back again theory.

The most important findings of this study can be summarized in the following: ancient genome sequencing enables us to make an actual/living analysis of the variables in the human past, and then to come up with more accurate and flexible results, horizontal and vertical distributions, and variations in the historical, archaeological and genetic record, through which we form a solid base on which.

الملخص:

خلال العقود الثلاثة الماضية بدأ جيل جديد من الباحثين باستخدام تقنيات علم الوراثة الحديث في محاولة الوصول إلى اجابات موضوعية على العديد من الأسئلة التي يثيرهما علمي التاريخ والآثار حول الهجرات البشرية، وانقسام الجماعات وإعادة تشكيلها، والتغيرات التي طرأت عليها نتيجة الضغوط الانتقائية و/أو التكيفات مع البيئات المختلفة، وتبادل الأفكار والتحركات البشرية بين أفريقيا وأوراسيا والعكس. معتمدين في ذلك على تسلسل الجينوم القديم، فعلى سبيل المثال تم استخدام تسلسلات الدنا الميتوكوندري؛ والكروموسوم Y في تفسير الكثير من المواضيع الشائكة والمعقدة مثل: علاقات التهجن التي تربط إنسان الدينيسوفا وانسان النياندرتال بالإنسان الحديث، وظهور الحداثة السلوكية، والتغير المادي الذي حصل في الأزمنة الباليوليتية... وغيرها.

في الواقع تشهد أبحاث الجينوم حاليا ازدهاراً كبيراً بسبب التقنيات التي صارت أدق وأسرع من أي وقت مضى في مجال تحديد التسلسل الجيني، والتناظرات الحاسوبية، وبروتوكولات الاستخلاص التي يمكنها أن تلتقط أجزاء صغيرة جداً ومحددة من الحمض النووي البشري من الخليط الهائل من المواد الوراثية غير البشرية الموجودة في العينات القديمة.

عموماً، تسعى هذه الدراسة إلى توضيح وإبراز الإضافة الهائلة التي يقدمها تسلسل الجينوم القديم بالنسبة للدراسات التاريخية والآثارية حول التطور البشري، وانتشار الإنسان في كل أرجاء إيكومين العالم القديم، ومن ثم نحو باقي العالم في الأمريكيتين وأوقيانوسيا، والامتزاج الذي حدث بين السكان والعزلة والشكل الذي أصبحنا عليه في أيامنا هذه. وذلك من خلال منهجية/مقاربة متعددة التخصصات يتم فيها تحديد تسلسل الجينوم القديم أولاً، ومن ثم ربطه بالحدث التاريخي الذي قد يكون مسؤولاً على التغير الديموغرافي والثقافي. تقدم الدراسة أيضا عرضاً نقدياً للنظريات والفرضيات ذات الصلة بموضوع الجينوم القديم مثل: نظرية تعدد الأقاليم، فرضية الساعة الجزيئية، فرضية الخروج من أفريقيا، أيضاً الخروج من أفريقيا والعودة ثانية.

هذا، ويمكن أن نختزل أهم النتائج التي توصلت إليها هذه الدراسة في التالي: إن تسلسل الجينوم القديم يمكننا من اجراء تحليل فعلي/حي للمتغيرات في الماضي البشري، ومن ثم الخروج بنتائج أكثر دقة ومرونة، وتوزيعات أفقية وعمودية، وتنوعات في السجل التاريخي والآثاري والوراثي، نشكل من خلالها قاعدة صلبة/متينة نشيد عليها تفسيراتنا المختلفة.

PHYLOGENETIC ANALYSIS OF CHICKEN INFECTIOUS ANAEMIA VIRUS AMONG BROILERS, BROILER BREEDERS AND FRE-RANGE CHICKEN FLOCKS IN LIBYA

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Abstract
Chicken infectious anaemia virus (CIAV) belongs to the genus *Gyrovirus* of the family Circoviridae. It is a naked virus, with icosahedral symmetry, and a 2.3 kb negative polarity circular single stranded DNA genome that contains three partially overlapping genes: VP1, VP2 and VP3. CIAV is the causative agent of chicken infectious anaemia, an immunosuppressive disease that affects fowls. The clinical diagnosis of CIAV is difficult, since the disease often presents in its milder forms, and goes unnoticed. The diagnosis by isolation and identification of the virus with serological tests can be complex as routine techniques. The objective of this study was to AGV2 on DNA extracted from samples of thymus, liver tissues and egg shell membranes of broilers breeders and free-rannge chickens housed in different breeding areas in Libya. With methodology, sixteen field samples from birds with presumptive signs of immunosuppression were analyzed, detecting the presence of the viral genome in all of them. In addition, perform phylogenetic analysis of AGV2 positive samples. Results showed that of all birds tested were positive for CIAV. On the positive material for AGV2 were selected eleven amplicons for sequencing and phylogenetic analysis, where it became clear that there were no differences among the samples. The sequences obtained were compared with samples from other phylogenetic analysed isolates from various areas worldwide. The sequencing of the amplicon made it possible to establish that the Libyan field strains belong to the same genetic clade (Clade III). This study is the first to focus on the diagnosis and genetic characterization of field strains of CIAV in Libya and the results indicate that field strains of the virus circulate in broilers, broilers breeders and free-rannge flocks, possibly affecting their immune system.

Key words: Chicken Anemia Virus. *Gyrovirus*; Phylogenetic Analysis; Broilers; Broiler breeders; Free-range; Chickens; Libya

GLOBALIZATION'S IMPACT ON CULTURAL IDENTITY AND STUDENTS' ATTITUDES TOWARD IT

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Abstract
Globalization has a strong and discernible effect on the cultural identities of university students, as young people are the lifeblood of any society. As a result, the youth stage receives considerable attention, as evidenced by the identification of problems and the assistance provided to young people in confronting them, because they represent the future generation and the energy that contribute to society's goals and achievements. The youth stage is regarded as one of the most critical stages of human development, particularly among university-aged students who enter various fields of work, as the globalization phenomenon has social and economic consequences for various societies and peoples in general, and Arab societies in particular, at a time when the world is becoming increasingly connected and interdependent in many ways. Through the communications and information revolution, individuals are becoming more familiar and interacting in all fields, yet cultural and societal obstacles and concerns are also developing. Perhaps the most visible of these difficulties confronting the world today, particularly the Arab and Islamic worlds, is the intellectual and cultural invasion wrought by globalization, which imperils identity. We must learn how to confront and interact with globalization in ways that are consistent with its religious and cultural character.
The significance of the research is to provide an objective analysis of the concept of globalization, its dimensions, and the trends among university students as a conscious category in order to ascertain their understanding of globalization and their strategies for confronting and interacting with it, as well as their capacity to adapt, particularly in light of recent global changes, the cognitive technology revolution, and the spread of electronic communication.
Students are regarded to be more affected by these positive or bad developments due to their scientific qualifications, qualities, and goals, as they are the leaders of the near future.
Among the conclusions drawn from theoretical conceptions and past research is that young people must challenge proponents of globalization and unipolar world dominance, while benefiting from global experiences and cultural blending, in order to retain our cultural identity and authenticity.

Keywords: Idiomatic and procedural concepts, Trends, Globalization, Cultural identity.

الملخص
للعولمة أثراً كبيراً وواضحاً على الهوية الثقافية لدى طلاب الجامعات حيث يمثل الشباب القوى البشرية في أي مجتمع لهذا تحظى مرحلة الشباب باهتمام كبير يتمثل في التعرف على المشكلات و مساعدة الشباب في مواجهتها لأنهم يمثلون جيل المستقبل و الطاقات التي تسهم في تحقيق أهداف المجتمع و إنجازاته، حيث ان مرحلة الشباب تعتبر من أهم مراحل حياة الانسان و خصوصاً لدى الشباب في الجامعة المقبلين على مجالات العمل المختلفة حيث إن ظاهرة العولمة لها أثار اجتماعية و اقتصادية على مختلف المجتمعات و الشعوب عموماً و المجتمعات العربية خصوصاً، ففي الوقت الذي يزداد فيه العالم تقارباً و ترابطاً في كافة المجالات تزداد الشعوب تعارفاً و تفاعلاً من خلال ثورة الاتصالات و المعلومات، كما تزداد التحديات و المشكلات الثقافية و الاجتماعية، و لعل من أبرز هذه التحديات التي تواجه العالم اليوم ومنه العالم العربي

و الإسلامي الغزو الفكري و الثقافي بصورة العولمة التي تهدد الهوية، لذلك يجب علينا معرفة الطرق الملائمة لمواجهة العولمة و التفاعل معها و ذلك بما يتفق مع هويتها الدينية و الثقافية .
وتأتي أهمية البحث لتقديم تحليل موضوعي لمفهوم العولمة وأبعادها واتجاهات الطلبة الجامعيين باعتبارهم فئة واعية للتعرف على مدى تفهمهم للعولمة وطرق مواجهتها والتفاعل معها، ومن أجل التكيف خاصة في التغيرات العالمية الجديدة وثورة التكنولوجيا المعرفية وانتشار الاتصالات الإلكترونية.
يعتبر الطلاب بحكم تأهيلهم العلمي وخصائصهم وتطلعاتهم أكثر تأثراً بهذه التحولات الإيجابية أو السلبية على سواء باعتبارهم قادة المستقبل القريب.
ومن النتائج التي تم الوصول إليها من خلال التصورات النظرية والدراسات السابقة أن على الشباب مواجهة دعاة العولمة وهيمنة القطب الواحد على العالم والاستفادة من التجارب العالمية ومن تمازج الثقافات محافظين على هويتنا الثقافية وما تحمله من أصالة.

الكلمات المفتاحية: المفاهيم الاصطلاحية والإجرائية، الاتجاهات، العولمة، الهوية الثقافية.

أولا: مقدمة البحث:

يشهد عالمنا المعاصر حاليا اتجاها نحو استخدام أحدث منجزات التقدم التقني لتعميم ظاهرة العولمة، من خلال الخفض التدريجي من شأن الحدود الفاصلة بين الدول والكيانات السياسية أولاً، وبين الخصوصيات الثقافية ثانياً، ومن الطبيعي في مثل هذه الظروف، أن تشتد حركات المقاومة وتتخذ أشكالاً وأساليب سليمة وغير سليمة. كما تتعالى الأصوات الداعية الى تشديد الضوابط والقيود على عملية انتقال السلع والأفكار والقيم والمضمون الفكري والقيمي للهوية الثقافية موضع التهديد. و تتفاوت القيود المفروضة على المظاهر المختلفة للعولمة، بحسب التفاوت في تقدير النظام السياسي و الاجتماعي القائم في كل دولة لدرجة تهديد خطر العولمة عليه، كما يلخص هذا التفاوت مستويات التخوف من اجتياحات العولمة مرتبة بحسب الأنظمة السائدة في تلك الدول مما أوجد صراعاً ما بين العولمة والمحلية (الهريش، 2013، ص 15).

ولا يزال العالم منشغلا بالعولمة ومفاهيمها وآثارها الآنية والمستقبلية، ولقد اختلف العلماء والمؤرخون والأدباء والكتاب في مواقفهم حول انعكاسات العولمة وآثارها على الدول النامية، ومنها العربية.

لا أن هناك ثمة ما يشبه الإجماع بين المهتمين بالموضوع على أن العولمة ترمي بالدرجة الأولى إلى إحداث تغيرات في هياكل و بنى المجتمعات النامية و مؤسساتها و تغيير منظومة القيم الاجتماعية و الثقافية لشعوبها. و من هذا المنطلق فان البحث يحاول إلقاء الضوء على اتجاهات الشباب الجامعي نحو العولمة و مدى تأثيراتها على الهوية الثقافية لديه. (الحسينات وآخرون ,2012 ,ص4).

الدراسات السابقة

1.دراسة ريمي (عولمة التعليم)1992 بعنوان "اتجاهات طلبة الدراسات العليا في الجامعة الأردنية نحو العولمة".

هدفت للتعرف إلى مدى حيادية معلم الدراسات الاجتماعية في قضية عولمة التعليم و تكونت عينة الدراسة من215 معلما للمراحل الدراسية المختلفة ، و قد وجد أن غالبية المعلمين لا تتوفر لديهم الحيادية و الموضوعية إزاء القضايا التي يدرسونها في حين إن القسم الآخر من المعلمين و هو القسم القليل أكد على ضرورة الانعتاق من التحيز للحضارة التي ينتمي إليها المعلم أو الدولة التي هو عضو فيها و ذلك على إن الحيادية و الموضوعية لا تؤثر سلبا في خلق مواطنين صالحين ينتمون إلى وطنهم و يغيروا هذا النظام ليصبح عاكسا للحقائق العالمية.

2.دراسة إسماعيل الفقي عام 1999:"تناولت الدراسة إدراك طلاب الجامعة لمفهوم العولمة وعلاقته بالهوية الانتماء"

وصيغت مشكلة الدراسة من سؤالين: ما ادراكات طلاب الجامعة لمفاهيم العولمة والهوية الثقافية؟ وهل هناك علاقة بين إدراك الطلاب لمفهوم العولمة وإدراكهم لمفهومين الهوية والانتماء؟

طبقت الدراسة على طلاب كلية التربية بجامعة عين شمس وكان عدد العينة 190 مفحوصا.

وكشفت النتائج عن علاقة مفهوم العولمة بمتغيرين آخرين مرتبطين ارتباطا وثيقا، وهما: الهوية والانتماء، وضرورة إخضاع مفهوم العولمة وتأثيراتها إلى دراسات علمية موضوعية.

3.دراسة احمد كنعان عام 2000: تناولت الدراسة العولمة والتعليم العالي والبحث العلمي في الوطن العربي"

وهدفت إلى إلقاء الضوء على مفهوم العولمة وإشكالياتها ومدى انتشارها وتأثيراتها ولاسيما على الهوية الثقافية وموقف الباحثين والتربويين منها وكذلك سعت الدراسة الى تعرف البحث العلمي وعلاقته بالعولمة، ومعرفة واقع البحث العلمي في الوطن العربي عامة والقطر العربي السوري خاصة. وذلك من خلال دراسة ميدانية لأراء أعضاء الهيئة التدريسية في جامعة دمشق وكليات التربية في الجامعات السورية.

توصل الباحث إلى ضرورة التسلح بالعلم والمعرفة، وإتقان لغة البحث العلمي في مختلف مناحي الحياة وأن نحافظ على أخلاقنا العربية والقيم الأصيلة، ونواجه دعاة العولمة وهيمنة القطب الواحد على العالم مستفيدين من التجارب العالمية ومن تمازج الثقافات محافظين على تراث أمتنا وأصالتها مؤمنين بقدرتها على ريادة العالم من جديد إذا ما أولت البحث العلمي اهتماما أكبر وخصصت له الميزانيات الملائمة للنهوض به، وإفادة من خبرات أبناء الأمة وباحثيها الذين يوزعون إبداعاتهم في أنحاء العالم.

4.دراسة إبراهيم الحسين عام 2001بعنوان: "اتجاهات طلبة جامعه دمشق نحو مفهوم العولمة وانعكاساتها على الهوية الثقافية "

هدفت إلى التعرف إلى اتجاهات طلبة الجامعة نحو مفهوم العولمة و انعكاساتها على الهوية الثقافية و صيغة مشكلة الدراسة من سؤالين:

ما اتجاهات طلبة الجامعة نحو العولمة؟ وما اتجاهات طلبة الجامعة نحو مفهوم الهوية الثقافية.

تكونت عينة البحث من طلاب الدراسات العليا في كلية التربية لجامعة دمشق، وبلغ عدد الذين أجابوا عن أسئلة الدراسة 84 طالباً و طالبة، و قد توصلت الدراسة الى مجموعة من النتائج من أهمها:

- لدى الطلاب وعي بالهوية الثقافية، وهذا الوعي متأصل في نفوس الطلاب.
- رأى الطلاب أن العولمة تعطي الهوية الثقافية فرصة للانفتاح والتعرف والتفاعل مع مستجدات العلم والمعرفة، وأن العولمة تعطي فرصة لإعادة الديمقراطية لمجتمعاتها ولتجديد الهوية الثقافية لذاتها وإبداع أفرادها.
- أما التأثير السلبي للعولمة في الهوية الثقافية فقد تمثل برأي الشباب في وسائل الإعلام وتقنيات الاتصال من خلال تسطيح البرامج الإعلامية والثقافية.

5.دراسة كنعان 2008: الشباب الجامعي والهوية الثقافية في ظل العولمة الجديدة "دراسة ميدانية على طلبة جامعة دمشق".

هدفت إلى تحديد مشكلات الشباب المعاصرة وبيان أسبابها، والوقوف عند نظرة الشاب الجامعي نحو مفهوم الهوية الثقافية، وبيان أثر العولمة في الشباب الجامعي. وللوصول إلى هذه الأهداف صمم الباحث استبانة خاصة تضمنت ثلاث محاور ركزت على معرفة اتجاهات الشباب الجامعي نحو مفهوم الهوية الثقافية والعولمة، والمشكلات التي يعاني منها الشباب الجامعي وسبل مواجهتها، وأخيراً نظرة الشباب الجامعي للمستقبل.

وتم تطبيق الدراسة على عينة من الشباب بجامعة دمشق بمختلف تخصصاتهم العلمية والإنسانية، وأبرز أهم مشكلات الشباب ومنها المشكلات الاجتماعية والاقتصادية والدينية والأخلاقية والسياسية والذاتية الشخصية، والتوقف عند أسباب هذه المشكلات التي يعود بعضها إلى جوانب عده منها: الأسرة والجنس والمهنة والهوية والإيمان والاغتراب واللامبالاة، وكما بين مصادر القلق لدى الشباب التي تعود إلى مظاهر عدة منها: عدم الثقة بالنفس والظروف الاقتصادية السيئة وقلة فرص العمل، وقد توصل الباحث إلى مجموعة من النتائج أهمها:

- احتلت المشكلة الاقتصادية المرتبة الأولى بنسبة موافقة (92.84%)، وهذا إن دل على فإنما يدل على أن الجانب المادي يشكل عبئاً كبيراً يثقل كاهل الشباب فيطفو بذلك على السطح جميع مشكلاتهم.

- احتلال الهوية بنسبة (21.26%) من الموافقين المرتبة الأخيرة في قائمة أسباب المشكلات وهذا دليل كبير على إدراك ووعي عميق للهوية الثقافية وإيمان راسخ بها مما يجعلها لا تشكل سبباً للمشكلات بالنسبة لشبابنا، إذ بلغت بنسبة (61.07%) من الشباب الرافضين عدها سبباً للمشكلات.

- وتتطلع روح الشباب المنطلقة والواعية للواقع والراغبة في تحسينه إلى التحرر من هيمنة أمريكا والخروج من سيطرتها ومقاومة محاولتها حكم العالم، وكان ذلك بنسبة (92.19%) .

6.دراسة مجاهد 2011 بعنوان "المخاطر التي تهدد الهوية الثقافية للمجتمع ودور التربية في مواجهتها ".

هدفت إلى التعرف على ظاهرة العولمة ومتابعة تجلياتها المتنوعة والكشف على مخاطرها التي تهدد الهوية الثقافية للمجتمع المصري، كما قامت الدراسة بتسليط الضوء على ظاهرة العولمة متى تتضح معالم المنهج الصحيح للتعامل معها وتقديم تصور مقترح لدور التربية في مواجهة مخاطر العولمة الثقافية.

حيث استخدم الباحث في دراسته المنهج التحليلي النقدي وقد توصلت الدراسة إلى نتائج أهمها:

- إن هناك جدلية في النقاش حول ماهية هذه الظاهرة مازالت قائمة على الرغم من كثرة الكتابات و الاتجاهات التي حاولت توضيح مفهوم العولمة.

- إن العولمة هي عملية مركبة و لها أبعادها و مظاهرها المختلفة، ومن الصعب تناول مفهومها من منظور واحد، لوجود الترابط و التداخل بين كل هذه الأبعاد.

- إن العولمة في بعدها الثقافي تسعى إلى تمديد الثقافة الأمريكية وطمس الهوية الثقافية للشعوب الضعيفة، وإزالة مقوماتها.

ثانياً: مشكلة البحث:

يمثل الشباب القوى البشرية في أي مجتمع لهذا تحظى مرحلة الشباب باهتمام كبير يتمثل في التعرف على المشكلات و مساعدة الشباب في مواجهتها لأنهم يمثلون جيل المستقبل و الطاقات التي تسهم في تحقيق أهداف المجتمع و إنجازاته حيث إن مرحلة الشباب تعتبر من أهم مراحل حياة الإنسان و خصوصا لدى الشباب الجامعي المقبلين على مجالات العمل المختلفة حيث أن ظاهرة العولمة لها آثار اجتماعية و اقتصادية على مختلف المجتمعات و الشعوب عموما و المجتمعات العربية خصوصا ففي الوقت الذي يزداد فيه العالم تقاربا و ترابطا في كافة المجالات تزداد الشعوب تعارفا و تفاعلا من خلال ثورة الاتصالات و المعلومات كما تزداد التحديات و المشكلات الثقافية و الاجتماعية و لعل من ابرز هذه التحديات التي تواجه العالم اليوم ومنه العالم العربي و الإسلامي الغزو الفكري و الثقافي بصورة العولمة التي تهدد الهوية لذلك يجب علينا يجب علينا معرفة الطرق الملائمة لمواجهة العولمة و التفاعل معها و ذلك بما يتفق مع هويتها الدينية و الثقافية , و تتخلص مشكلة البحث في الإجابة على التساؤلات الآتية :

- ما اتجاهات الطلبة الجامعيين نحو مفهوم العولمة؟
- ما اتجاهات الطلبة الجامعيين نحو مفهوم الهوية الثقافية؟

ثالثاً: أهمية البحث:

في ضوء ما اطلعت عليه الباحثة من مراجع و ما عرضناه في مشكلة البحث بخصوص اتجاهات الطلبة نحو التعامل مع العولمة و انعكاساتها على الهوية الثقافية تكمن هذه الأهمية في اختلاف الاتجاهات و الآراء بين السلبية و الإيجابية، كما تأتي الأهمية النظرية لتقديم تحليل موضوعي لمفهوم العولمة و أبعادها.

كما يعتبر البحث الحالي إضافة للمكتبة العلمية خاصة أن هناك ندرة في مثل هذه البحوث التي تتعلق بتأثيرات العولمة على هويتنا الثقافية.

وتتمثل الأهمية التطبيقية في كونها تركز على توعية الطلبة الجامعيين بثقافة العولمة وأهدافها وطرق مواجهتها و التفاعل معها من اجل التكيف و خاصة في ظل التغيرات العالمية الجديدة و ثورة التكنولوجيا المعرفية و انتشار الاتصالات الالكترونية.

رابعاً: أهداف البحث:

1- جمع معلومات كافية لتقديم تشخيص موضوعي عن البحث الحالي.
2- الوصول إلى مجموعة من التوصيات لضبط هذه الظاهرة والمساهمة في اقتراح آليات تحافظ على مقومات المجتمع.
3- معرفة تأثير العولمة والهوية الثقافية على تكوين اتجاهات لطلبة الجامعة.

خامساً: منهج البحث:

يعتمد هذا البحث على المنهج الوصفي التحليلي، وذلك لما يتميز به هذا المنهج من الدقة والتركيز، الذي يتطلبه هذا البحث.

الإطار النظري

أولاً: الاتجاهات

تمهيد:

تعد الاتجاهات من بين الموضوعات الرئيسية التي يدرسها علم النفس الاجتماعي و أكثرها ثراء، بل إنها تعد المحور الأساسي لعلماء النفس الاجتماعي، فالأفراد يحملون في داخلهم عددا كبيرا جدا من الاتجاهات نحو العديد من الأشياء و نحو غيرهم من الأفراد و كذلك نحو أنفسهم أيضاً، و نحن في جميع جوانب حياتنا الاجتماعية دائما ما نسعى للكشف عن اتجاهات الآخرين و إخبارهم عن أفكارنا ومحاولة تغيير آرائهم بما يتفق مع الاتجاه الذي نسلكه.

تعريف الاتجاهات:

تعددت تعريفات الاتجاهات وذلك حسب اهتمام العلماء والباحثين ومن التعريفات نجد:

تعريف حامد زهران للاتجاه:

هو "تكوين فرضي، أو متغير كامن أو متوسط يقع فيما بين المثير والاستجابة، وهو عبارة عن استعداد نفسي أو تهيؤ عصبي متعلم للاستجابة الموجبة أو السالبة نحو أشخاص أو موضوعات أو مواقف أو رموز في البيئة تستثير هذه الاستجابة" (زهران، 1977، ص144)

تعريف "فلورنس وزملاؤه":

" الاتجاه ما هو إلا موجه الهدف إلا أنه يحدد ما هو مفضل ومتوقع ومرغوب، كما يتحدد ما يجب الابتعاد عنه، وبذلك توجه الاتجاهات الفرد إلى الموقف الذي يجد فيه الفرد ذاته ". **(دويدار ،1992، ص58)**

مكونات الاتجاه:

تتكون الاتجاهات من ثلاثة مكونات أساسية تتصف بالترابط وتتأثر بعضها البعض وهذه المكونات هي:

1-المكون المعرفي:

ويتكون من الأفكار والمعتقدات والمفاهيم والإدراك والحجج والبراهين تجاه موضوع الاتجاه.

فإن المكون المعرفي ينطوي على المعلومات والحقائق الموضوعية المتوافرة لدى المفرد عن موضوع الاتجاه، فإن كان الاتجاه في جوهره عملية تفضيل موضوع على آخر فان هذه العملية تتطلب العمليات كالتمييز والفهم والاستدلال والحكم.

2-المكون السلوكي:

ويتضمن ردود الأفعال والتصرفات المترابطة بموضوع الاتجاه كتجنب الأشخاص المعاقين على سبيل المثال أو المبادرة إلى مساعدة الآخرين أو التطوع في الأعمال الخيرية. (العتوم، 2009، ص198)

3-المكون الوجداني:

ويتضمن المشاعر والانفعالات وحالات الحب والبغض والقبول والرفض تجاه موضوع الاتجاه.

من خلال عرض المكونات الأساسية للاتجاه نقول انه قد يتفوق مكون على المكونات الأخرى حيث يطغي الجانب المعرفي على الجوانب السلوكية والوجدانية أو العكس أو يكون لديك اتجاه نحو موضوع ما دون ظهور المكون الانفعال أو السلوكي ولكن لابد من توفير المكون المعرفي. **(فضيلة ،2016، ص9-10)**

خصائص الاتجاهات النفسية والاجتماعية وأهميتها: (هاشم وآخرون، 2006 ،263-264).

تتميز الاتجاهات النفسية بعدد من الخصائص يمكن إجمالها فيما يلي:

-الاتجاهات مكتسبة ومتعلمة وليست وراثية ولا والدية.

-الاتجاهات تتكون وترتبط من بمثيرات ومواقف اجتماعية ويشترك عدد من الأفراد والجماعات فيها.

-الاتجاهات لا تتكون من فراغ ولكنها تتضمن دائما علاقة بين فرد وموضوع من موضوعات البيئة.

-الاتجاهات توضح وجود علاقة بين الفرد وموضوع الاتجاه.

-الاتجاهات لها صفة الثبات والاستمرار النسبي ولكن من الممكن تعديلها وتغييرها تحت ظروف معينة.

نظريات تفسير تكوين الاتجاهات:

النظرية السلوكية:

نظرية الإشراطالإجرائي للعالم الأمريكي الشهير "سكينر" فيقوم تعلم الاتجاهات على أساس اعتمادها على مبدأ التعزيز، إذ يرى أن سلوك الكائن الحي او استجابته التي يتم تعزيزها يزيد احتمال تكرارها، وبذلك فان الاتجاهات التي يتم تعزيزها تزيد احتمالية حدوثها أكثر من التي لا يتم تعزيزها. (بني جابر،2004، ص 28)

النظرية المعرفية:

يقوم هذا على مساعدة الفرد على إعادة تنظيم معلوماته حول موضوع الاتجاه و إعادة تنظيم البنى المعرفية المرتبطة به ، في ضوء المعلومات و البيانات المستجدة حول موضوع الاتجاه ،فالاتجاهات السلبية نحو شيء قد تكون اتجاهات خاطئة طورها الفرد بصورة خاطئة. (الزبيدي، 1992، ص 122)

النظرية الاجتماعية:

فسر "ألبرتباندورا" عملية تكوين الاتجاهات وفقا لعملية التعليم بالملاحظة فعندما نلاحظ شخصا بطريقة معينة، ويلقى إثارة لسلوكه، فمن المحتمل جدا إن نقوم بتكرار هذا السلوك، أما إذا كان سلوك ما يرتبط بعقاب، فالاحتمال الأكبر ألا نقوم بتكراره وتقليده. **(سلامة، 2007، ص 73)**

اختلفت النظريات في تفسيرها لتكوين الاتجاهات حيث ركزت النظرية السلوكية على المثير والاستجابة وأهملت الجانب المعرفي وعكس ذلك فسرت النظرية المعرفية تكوين الاتجاهات حسب معلومات مخزنة سابقا إلى ما جاءت به النظرية الاجتماعية من شروط التعلم التي تتم عن طريق التقليد والمحاكاة.

العوامل التي تساعد على تشكيل اتجاهات الفرد: (بن جابر , 2011 ,ص274)

1- إشباع الرغبات: عادة ما تنمى عند الفرد اتجاهات إيجابية نحو الأشخاص الذين يشبعون رغباته , تصبح كوسيلة محبوبة لتحقيق الفرد هدفه , فيحين نجد هذه الاتجاهات تنمو اتجاه الموضوعات أو الأشخاص التي تعوق وصول الفرد إلى هدفه .

2- تشكيل الاتجاهات وفقا للمعرفة التي يكتسبها الفرد: فمثلا نفترض مجتمع معين لا يعرفون عن الحرب الكيماوية وبالتالي سوف لا يكون لديهم أي اتجاهات حولها، وإذا نشرت وسائل الإعلام مخاطرها فسوف يتولد لديهم اتجاهات سلبية نحوها.

3- تساهم الجماعة التي يعتبرها الفرد عضوا في تكوين اتجاهاته: أن انتماء الشخص لجماعة معينة يكون له اتجاهات إيجابية نحو هذه الجماعة.

4- تأثير الجماعة الأولية والجماعات المرجعية: فالجماعات الأولية للفرد مثل الأسرة من أهم العوامل المؤثرة في اتجاهاته فهي تحدد للفرد موافقة وتخلق له الظروف التي تنتمي به المعتقدات و مشاعر معينة و بالتالي اتجاهات معينة و أما الجماعات المرجعية فهي التي لا يكون الفرد عضوا فيها في بعض الأحيان ولكنه يتواجد بها فتشكل اتجاهاته على غرارها.

5- تأثير الشخصية في تكوين الاتجاهات: رأينا الاختلاف فيما بين الأفراد ينتج عنها الفروق الفردية في شخصياتهم كالاتجاهات الفرد جرئ من شخصيا و هي تعكس تركيبة النفس إلى حد كبير .

طرق تعديل الاتجاهات وتغيرها:

تغيير الجماعة التي ينتمي إليها الفرد وانتقاله إلى مجموعه أخرى فمثلا تغيير المهنة التي ينتمي إليها يؤدي بلا شك إلى تغيير اتجاهاته أو تعديلها مع مضي الوقت.

الاتصال المباشر بموضوع الاتجاه الذي أحدث تغيير في موضوع الاتجاه نفسه وأدراك الفرد ذلك فإن اتجاهه نحوها يتغير.

تغيير أوضاع الفرد يمر الفرد خلال حياته لأوضاع متعددة وكثيرة ما تعدل اتجاهاته نتيجة هده الأوضاع.

تغير معايير الجماعة المرجعية للفرد يؤدي إلى تغيير معايير الفرد وتنقل مقاومته للتغير و يشترط لتحقيق هذا البند شعور هذا الفرد بالانتماء و الارتقاء للجماعة و ارتفاع مكانه العضوية فيها ووضوح المراد من تغيير الاتجاه نحو الهدف من هدا التغيير.

تغيير الموقف: تغيير اتجاهات الفرد والجماعة بتغيير المواقف الاجتماعية فمثلا نلاحظ أن: اتجاهات الطالب تتغير اتجاهات حينما يصبح مدرسا كما تتغير اتجاهات الفرد عندما ينتقل من مستوى إلى مستوى أعلى أو العكس. (جابر ولوك يا2006، ص107/108)

التغيير القسري في السلوك تحدث نتيجة تغيير بعض الظروف أو الشروط الحياتية التي تطرأ على الفرد كظروف الوظيفة أو للمهنة.

أثر وسائل الإعلام: نعمل وسائل الإعلام المختلفة لتقديم المعلومات والحقائق والأخبار او الأفكار الآراء حول موضوع الاتجاه وهذا من شأنه ان يساعد بطريقة ما على تغيير الاتجاه. (عكاشة،2002، ص145).

تأثير رأي الأغلبية والخبراء: تتأثر الاتجاهات باستخدام رأي ذوي الخبرة والشهرة والمكانة، والذين يثق الفرد فيهم بدرجة كبيرة.

التغيير التكنولوجي: فتطور العلمي التكنولوجي الذي شمل وسائل الإنتاج والمواصلات أدى إلى إحداث تغير ملموس في اتجاهات الأسرة والريف الأخضر.

المنافسة الجماعية: والقرار الجماعي تؤدي الى تغير الاتجاهات سواء كانت هذه المنافسات على مستوى الأسرة أو المنظمات الاجتماعية. (بني جابر ،2011، ص 280).

ثانياً: العولمة:

تمهيد:

تعد العولمة من أهم التغيرات العالمية المعاصرة بكل ما تحمله من تجليات وحقائق وأوهام ومخاطر ويبدو أن المدى الكبير في التغيرات الثقافية والاقتصادية الناجمة عن العولمة قد جعل بعض المفكرين يتوقعون حدوث تغيرات عميقة في نظم التعليم الجامعي في ضوء العولمة ،وتؤكد بعض المقترحات على زيادة الوعي بالثقافات الأخرى وينادي البعض الآخر بضرورة الحفاظ على الهوية الثقافية ، والخصوصية الحضارية في ظل هذا العالم المفتوح وظاهرة العولمة ليست ظاهرة جديدة ، حيث أن الحضارة الإنسانية طوال التاريخ تتوسع ، وهي ظاهرة في نفس الوقت في حالة انتقال دائم من موقع إلى موقع آخر وهذا ما يجعل الكوكب الذي نعيش عليه ينكمش وربما يكون ذلك شيئا طبيعيا .

نشأة العولمة:

إن علماء التاريخ يقولون إن العولمة ليست ظاهرة جديدة بل أن بدايتها الأولى ترجع إلى نهاية القرن السادس عشر مع بدء عملية الاستعمار الغربي لأسيا وأوروبا والأميركتين ثم اقتربت بتطور النظام التجاري الحديث في أوروبا الأمر الذي أدى إلى ولادة نظام عالمي متشابك ومعقد عرف بالعالمية ثم بالعولمة بعد ذلك.

فالعولمة ماهي إلا لفظ جديد لظاهرة قديمة نشأت في دنيا أصبحت في حجم قرية الكترونية صغيرة ترابطت بالأقمار الصناعية، والاتصالات الفضائية، وقنوات التلفزيون الدولي.

ويرى بعض الباحثين أن هناك أربع عمليات أساسية للعولمة وهي على التوالي:

1-المنافسة بين القوى العظمى

2-الابتكار التكنولوجي

3-انتشار عولمة الإنتاج والتبادل

4-التحديث

(قاسم ,2001,ص 17)

مفهوم العولمة:

ليس هناك تعريف جامع و مانع للعولمة وهو مصطلح غامض في أذهان الكثير،ويرجع سبب ذلك أنها ليست مصطلحا لغويا قاموسا جامدا يسهل تفسيرها بشرح المدلولات اللغوية المتصلة ،بل هي مفهوم شمولي يذهب عميقا في جميع الاتجاهات لتوصيف حركة التغيرات المتواصلة ، ويمكننا إجمالها في أربعة مفاهيم: ظاهرة اقتصادية ، وهيمنة القيم الأمريكية ، وثورة التكنولوجية ، وحقبة التاريخية .(ياسين، 2001 ، ص39)

1-ظاهرة اقتصادية:

وعرفها الباحث الاجتماعي الإنجليزي انتوني جيدنز بأنها " مرحلة جديدة من مراحل بروز وتطور الحداثة ، تتكاثف فيها العلاقات الاجتماعية على الصعيد العالمي حيث يحدث تلاحم غير قابل للفصل بين الداخل والخارج ، ويتم فيها ربط المحلي والعالمي بروابط اقتصادية وثقافية وسياسية وإنسانية .

-وعرفت من قبل اللجنة الأوروبية " بأنها العملية التي عن طريقها تصبح الأسواق والإنتاج في الدول المختلفة تعتمد كل منها على الآخر بشكل متزايد بسبب ديناميكيات التجارة في السلع والخدمات وتدفق رأس المال والتكنولوجيا ".(رشوان ، 2006 ، ص15– 14).

وحسب تقديرات بعض الباحثين بان العولمة ظاهرة سوف تؤدي إلى الكفاءة الاقتصادية لاستخدام الموارد من خلال اقتراب الاقتصاديات من بعضها البعض واتصالهم بنظام السوق، وان متضمنات اتفاقية الجات "Gatt"ومعاهدة "أوروغواي" وحصيلتها " منظمة التجارة العالمية " (OMC) ستؤدي إلىإلغاء القيود غير الاقتصادية على التجارة الخارجية ، والتي تشجع مصلحتها النهائية في استخدام الموارد في ظل " فرصة التكاليف البديلة " .(النجفي ، 2009 ، ص110 -111)

2-هيمنة القيم الأمريكية:

هذا التعبير للمفكر الأمريكي الياباني الأصل "توكوياما " والذي اعتبر فيه سقوط الاتحاد السوفيتي وانهيار الكتلة الاشتراكية انتصارا حاسما للرأسمالية على الشيوعية ، ويرى أن نهاية الحرب الباردة تمثل المحصلة النهائية للمعركة الأيدلوجية التي بدأت بعد الحرب العالمية الثانية بين الاتحاد السوفيتي والولايات المتحدة الأمريكيةوهي الحقبة التي تم فيها التركيز على نمو القدرات التكنولوجية الأمريكية ،و على تفوق المؤسسات و النظم على الطريقة الأمريكية ، ووفق هذه الرؤية تكون العولمة ظاهرة جيدة و تمثل تقدم في التاريخ لأنها ترمز إلى انتصار ظواهر التحدث و سيادة الديمقراطية كنظام سياسي **(بكر،2006، ص14)**.

3-ثورة تكنولوجية وسياسية:

يرى البعض أن العولمة ثورة تكنولوجية و اجتماعية، فهي شكل جديد من أشكال النشاط يتم فيه الانتقال بشكل حاسم من الرأسمالية الصناعية إلى مفهوم ما بعد المجتمع الصناعي. وهذا التحول تقوده نخبة تكنولوجية صناعية تسعى إلى دعم السوق العالمية الواحدة بتطبيق سياسات مالية وائتمانية و تكنولوجية و اقتصادية شتى. **(ياسين ، 2001، ص42)**

فالعولمة إذن هي " صبغ العالم بصبغة واحدة في أي مجال من المجالات ، بمعنى أن يتقارب البشر و تذوب بينهم الفوارق في الفكر و اللغة و المعتقدات و في أشكال الأزياء و صور التبادل التجاري و الصناعي ، فهي التوحد في كل شيء بحيث تذوب كل الفواصل و الحواجز بينهم ، سواء كانت حواجز مكانية أو زمانية بحيث يصبحون و كأنهم يعيشون في قرية واحدة . **(بن غربي ،2008، ص 46)**

4-حقبة تاريخية:

العولمة من وجهة نظر أصحاب هذا الرأي هي المرحلة التي تعقب الحرب الباردة من الناحية التاريخية، فالعولمة هي حقبة تاريخية زمنية تشير إلى مختلف التحولات و التغيرات التي طرأت على النسق الدولي ككل ، مشكلة بذلك ظاهرة أثرت في الميادين الاقتصادية والسياسية والاجتماعية و في غيرها من المواضيع ذات الصلة في جميع إنحاء العالم .

فالعولمة في صورتها الحالية ظاهرة تفرض تأثيرها على التاريخ الإنساني كله، تفرضه بقسوة على ماضيه وحاضره ومستقبله، كما انه تفرضه كحتمية تاريخية قاهرة، ومن تم فان النظرة إليها على أنها حالة عابرة أو فكرة طارئة يمكن طيها وإعادتها.

لقد أثارت العولمة وأطروحاتها الكثير من الجدل والاختلاف في الرؤية، وفي الطرح، وفي مدلولات الفهم والتحليل ، وما أفرزته من نتائج حتى الآن ،وردود الفعل ما بين التأييد والرفض وما بين المدح والذم ، وما بين الإيجاب والسلب وما بين الترحيب والكراهية .**(الخضيري ، 2000 ، ص49 -50)**

أسباب العولمة:

تعتبر العولمة نتيجة لعوامل عديدة فيها ما هو اقتصادي ومنها ما هو سياسي وثقافي وسنتطرق الى أهم هذه العوامل:

1-انتهاء الحرب الباردة وتفكك الاتحاد السوفيتي الذي كان يشارك أمريكا زعامة العالم.

2-انهيار الكتلة الشرقية وسياسة التعتيم التي كانت متبعة أمام محاولات الغزو الخارجي المختلفة.

3-وجود فائض في الإنتاج العالمي وحاجة الدول الصناعية الى أسواق خارجية.

4-التطورات التكنولوجية وثورة الاتصالات والالكترونيات.

5-انخفاض القيود على التجارة والاستثمار.

6-التطور الصناعي بين الدول النامية وزيادة تكاملها مع السوق العالمي.

7-تكامل أسواق المال الدولية.

أبعاد العولمة ومجالاتها:

يشير تركي الحمد (1999) في "كتابة الثقافة العربية في عصر العولمة الى العولمة والاجتماعي، هذه الظاهرة التي أصبحت بارزة للعيان بفعل الثورة التقنية "الاتصالات والمعلومات" مما جعل التحولات أسرع مما هي عليه في الماضي حدوثا وأثرا ".

لقد شهد العالم عدة ثورات زراعية وصناعية وتقنية المعلومات والاتصالات والتقنية البيولوجية كان أسرعها ثورة التقنيات حيث وافق تلك الثورة مجموعة تحولات ومتغيرات أدى إلى عولمة العالم أي توحيده في الكثير من المجالات ومنها: **(تركي الحمد ، 1999, ص30)**

-العولمة السياسية: "هي عكس سيادة الدولة أي فقدان الدولة لسيادتها ، ودورانها في عجلة العالمية ، وهو هدف تحاول الدول الراعية للنظام العالمي الجديد تحقيقه تحت مسمى العولمة وحدوث ذلك يؤدي إلى فقدان الدول نفوذها وتأثيرها في عالم السياسة ". **(كنعان ، 2000 ، ص9)**

-العولمة الاقتصادية:

هي حقيقة التحول الرأسمالي العميق للإنسانية جمعاء في ظل هيمنة دول المركز بقيادتها وتحت سيطرتها وفي ظل سيادة نظام عالمي للتبادل غير المتكافئ.**(خريسان ، 2001 ، ص19).**

-العولمة الاجتماعية:

وفيها "تتعرض مؤسسات المجتمع لكثير من الضغوط الخارجية التي تستهدف التأثير في معتقدات أبنائه ومشاعرهم واتجاهاتهم وانتمائهم إلى مجتمعهم من خلال مجموعة التقنيات الحديثة المتطورة، والبث الإعلامي المباشر واختراق سماء تلك الحدود ومن شأن ذلك التأثير في شخصية الفرد نفسيا واجتماعيا وعقليا بتقبل ما يستقبله من أفكار تؤثر في انتمائه للمجتمع" . **(كنعان، 2000، ص9).**

-العولمة الثقافية:

وهي تشير إلى بروز الثقافة كسلعة عالمية تسوق كأي سلعة تجارية أخرى ومن ثم بروز وعي وإدراك ومفاهيم وقناعات ورموز ووسائط ثقافية عالمية الطابع". **(خريسان، 2001، ص20).**

وهي محاولة لوضع شعوب العالم في قوالب فكرية موحدة وذلك لسلخها عن ثقافتها وموروثها الحضاري، "فالعولمة نظام يقفز على الدولة والأمة والوطن، نظام يريد رفع الحواجز والحدود، إنه نظام يعمل على إفراغ الهوية الجماعية للأمة من أي محتوى، ويدفع إلى التفتيت والتشتيت ليربط الناس بعالم اللاوطن واللاأمة واللادولة". **(الجابري، 1998، ص19).**

مظاهر العولمة:

للعولمة دور تاريخي في مراحل تحول العالم، ومن مظاهر هذا التحول:

1-المظاهر الاقتصادية:

تتمثل هذه المظاهر في زيادة معدلات التجارة العالمية، وحركة انتقال التكنولوجيا ورأس المال والخبرات، والاتساع الأفقي في عدد الشركات متعددة الجنسيات وتسارع نطاق أنشطتها، وقد ظهر ذلك في طبيعة المنتج الصناعي وتكامل الدول وبث مبدأ التنافس لإنتاج سلعة على درجة عالية من الجودة وبأقل سعر ممكن وبأقل مجهود يبذل مع أكبر قدر من الرضا والإنتاج. **(عثمان، 2007، ص35)**

وبهذا فالعولمة هي التعاون الاقتصادي المتنامي لمجموع دول العالم في تمويل المؤسسات الإنتاجية أو الخدمية وتسارع عمليات تحرير التجارة العالمية.

2-المظاهر الإعلامية:

تتمثل في زيادة التدفق الإعلامي عبر الحدود الوطنية للدول، وهذا التدفق الإعلامي يتمثل في شبكة الاتصالات مما ينعكس على المجتمعات بالرخاء والتماسك.

فالثورة المعلوماتية تؤدي إلى مزيد من الارتباط والتداخل بين مختلف مناطق العالم، وأن هذا المصدر المتجدد قوامه العقل الإنساني والقدرة على التطبيق في مجال العلمي لتحصيل الفائدة المرجوة من وراء هذه المعلومات. **(عثمان، 2007، ص36)**

3-المظاهر الاجتماعية والثقافية:

تتمثل في تزايد انتشار بعض الأنماط السلوكية من عادات وتقاليد اجتماعية، وأنماط الفن بأنواعه سواء فن العمارة أو فن المسرح أو خلافه.

آثار العولمة:

1-الآثار السلبية للعولمة:

حين تلتفت إلى الوجه السلبي للعولمة نجد مواقف الشك في جدولها والتردد في قبولها والنقد اللاذع لها، وينتشر هذا الواقع بين فئات من الناس والجماهير الكثيرة منهم يغلقون في وجهها الباب، ويصدون عنها خشية منها أو بغضا لها.

وتتمثل أهم الجوانب السلبية للعولمة فيما يلي:

- سحق الهوية والشخصية المحلية وإعادة صهرها وتشكيلها في إطار الهوية الشخصية العالمية بحيث يفقد الفرد مرجعيته ويتخلى عن انتمائه وولائه ويتنصل من جذوره.
- سحق الثقافة والحضارة المحلية وإيجاد حالة اغتراب ما بين الإنسان والفرد وتاريخه الوطني والمورثات الثقافية والحضارية التي أنتجها الآباء والأجداد أي فصل الجذع عن الجذور الممتدة فصل السطح عن الأعماق، وإيجاد شكل جديد من أشكال الثقافة العالمية التي صنعها البشر جميعا.
- سحق المصالح والمنافع الوطنية خاصة عندما تتعارض مع مصالح العولمة أو مع تياراتها المتدفقة في كل المجالات، وتدفع العولمة إلى الانفتاح الواسع ومحاربتها لأي قيود تحول بينها وبين ما تسعى للوصول إليه.
- السيطرة على الأسواق المحلية وذلك من خلال قوى فوقية تمارس سطوتها وتأثيرها ذات النفوذ القوي على الكيانات المحلية الضعيفة وتحولها الى مؤسسات تابعة لها.
- فرض الوصاية الأجنبية باعتبار إن العولمة مصدرها أجنبي وان هذا الأجنبي أكثر تقدما ونفوذا، ومن تم أذلال كل ما هو محلي والتنصل من إفرازاته، وممارسة القهر عليه في شكل موجات متتالية متصاعدة ومتلاحقة، حتى يتوقف عن المقاومة ومن تم الاستسلام لتيار العولمة والرضوخ لمطالبه والاستجابة لمتطلباته التي يقدمها.
- العولمة تهدم النظم المحلية، فهي تعمل على إفساد هذه النظم من اجل إيجاد قوى رفض لها.

وهكذا انهارت الصلة بين الهوية الوطنية القومية وبين المجال الإنتاجي للدولة وهذا عندما تقلصت لصالح نظام عالمي يخترق مشمولات الكيانات الدولية في أكثر خصوصياتها التقليدية، واستحكمت الأزمة الاجتماعية في اغلب الساحات الغربية رغم مؤشرات الانتعاش والنمو، وانهيار سياسات الضمان الاجتماعي وزيادة نسبة الفقر وفساد القضاء والإدارة.

2-الآثار الإيجابية للعولمة:

- الانفتاح على العالم، وتقريب المسافات وتسيير الوصول الى المعلومات واستعمالها.
- الاطلاع على ثقافات شعوب العالم والاستفادة من خيرات الدولة المتقدمة.
- الانفتاح على حضارات الدول الأخرى ومواكبة الحضارة والتكنولوجيا والتقدم.
- التأكيد على أهمية التقدم التكنولوجي كمبرر لقبول العولمة.

(كنعان،2008,ص35)

- بروز وعي جديد وإدراك ومفاهيم وقناعات ورموز ووسائل ووسائط ثقافية جديدة تتفق مع عصر العولمة.
- إحلال مجموعة مختلفة من القضايا السياسية العالمية محل قضايا السياسية الدولية القائمة الآن والتي ترتبط بفكرة الوحدة العالمية كمصدر ومنبع لتدفق تيار العولمة.
- بروز مجتمع حضاري مدني الذي يحقق فكرة الإنسان العالمي بما له من حقوق وما عليه من التزامات، وما يثيره هيكل القيم وبنيان العادات والتقاليد المعولمة، والتي تشير وتحث على أنشاء قضايا إنسانية مشتركة يتشكل في مجموعها العام إطار المجتمع الكوني المتعاظم.

لذا لابد من تهيئة الشباب قادة المستقبل ليكونوا قادرين على الاستفادة من إيجابيات العولمة وتجنب سلبياتها، من خلال تثقيفهم سياسيا واجتماعيا. **(رشوان،2006، ص50).**

ثالثا:/الهوية الثقافية:

تمهيد:

تعتبر الهوية الثقافية تحقيق لوجود الفرد والجماعة وإثبات لخصوصيتهم وذلك بناءا على محددات متعارف ومتفق عليها وفق إطارها المعبر عنها والتي تتجلى بصورة معلنة من خلال أنماط الكلام وأسلوب الأكل واللباس، وربما تستند إليه من فكر وقيم وأعراف وتقاليد ومعتقدات وقوانين نظم العلاقات ومعايير السلوك والتعاملات. ومن خلال الأزياء يمكن التعرف على الهوية الثقافية للفرد والمجتمع تأسيساً على الجانب التوصيف الذي حدده الفرد أو أعلنه المجتمع كمعبر مميز لذاته.

_مفهوم الهوية الثقافية:

هي معرفة وإدراك الذات القومية و مكوناتها من قيم و أخلاق و عادات و تقاليد و دين، و هي السمات و الخصائص التي يتميز بها شعب ما عن غيره من الشعوب، وترتبط هذه السمات بالسلوكيات العامة لمجموع الأفراد و العلاقات السائدة، و المنتج الفني و الثقافي و التي تميز في مجموعها هذه الجماعة أو هذا المجتمع. **(محمد منير حجاب ،2003).**

-هي تلك المبادئ الأصيلة السامية و الذاتية النابعة من الأفراد الشعوب، و تلك ركائز الإنسان التي تمثل كيانه الشخصي الروحي و المادي بتفاعل صورتي هذا الكيان، لإثبات هوية أو شخصية الفرد أو المجتمع أو الشعوب، بحيث يحس و يشعر كل فرد بانتمائه الأصلي لمجتمع ما، يخصصه و يميزه عن باقي المجتمعات الأخرى.

وهي تمثل كل الجوانب الحياتية الاقتصادية والاجتماعية والسياسية والحضارية والمستقبلية، لأعضاء الجماعة الواحدة التي ينتمي إليها الأفراد بالحس والشعور الانتمائي لها.

وأيضاً هي ذاتية الإنسان ونقاءه و جمالياته و قيمه، بحيث تعتبر الثقافة هي المحرك لأي حضارة أو أمة في توجيهها و ضبطها، أي هي من تحكم حركة الإبداع و الإنتاج المعرفي. **(السمحراني ،2002، ص82-83).**

_عناصر الهوية الثقافية:

تتجلى عناصر الهوية الثقافية في تلك المظاهر المهمة التي تمثل جوانب الهوية الثقافية بالنسبة للشعوب وللأفراد، إن كانت تتمثل في الغالب في ثلاث عناصر متمثلة في عنصر العقيدة واللغة والتراث الثقافي.

وعليه يمكن تقديم أهم العناصر الأساسية وهي:

1-العقيدة أو الدين: يعد الدين أول عنصر من عناصر الهوية الثقافية ولعل العولمة الثقافية منافية تماما للإسلام في إطار الحرب ضد الإسلام، وحرب الديانات بحيث يدرك الغربيون الصليبيون والصهيونية أن استعادة المسلمين لهويتهم وانتمائهم القرآني أنه أكبر الأخطار وعليه فكل قوى تغريب تعمل ضد هذا الاتجاه، وذلك بأسلوب الغزو الثقافي المتمثل في الاستشراق والتنصير.

2-اللغة: تعد اللغة اللسان الثقافي الأساسي للهوية الثقافية، وهي عامل يبين اختلاف الثقافة عن أخرى وهي أسلوب للتواصل وللاحتكاك وإثبات الهوية وتأكيد وجودها.

3-التاريخ والماضي: يمثل التاريخ والماضي المشترك للأفراد أو لشعب ما عنصراً يعبر عن هوية أساسية فالتاريخ يبين حقيقة الاستعمار المتجدد في العولمة الثقافية، والتاريخ هو من بين عناصر الهوية، باعتباره يدرس الماضي ويقف على الحقائق وتستند عليه الدول والشعوب للتطلع لبناء الحاضر والتطلع إلى المستقبل.

4-العادات والتقاليد والأعراف: هذه المجالات هي من صميم هوية المجتمعات من خلال إتباع سلوكيات معينة والتصرف والتعامل وفقاً لثقافة تنظمها العادات والتقاليد والأعراف.

5-العقد الاجتماعي والعقد السياسي: بحيث إن لكل دولة عقد اجتماعي من خلال مبادئ وثوابت المجتمع فيها، وما يطابقه من تصور وطموح سياسي مبني في مرجعية العقد الاجتماعي، وخاصة إن الدولة تعبر عن هويتها الثقافية في المجتمع الدولي من خلال دستور أو قانون له الوجه الاجتماعي والسياسي، بحيث الإرادة الثقافية للأفراد تكون مكفولة في الوجه السياسي الذي يعبر عنها.

6-الحقوق بحيث كل دولة أو شعب وكيف يرى ثقافته للحقوق والحريات المختلفة، ففي الإسلام تختلف الحقوق والحريات عن تلك الموجودة في الوضع الإنساني كالتي يصدرها الغرب الى الدول العربية والفقيرة ،من حقوق الانسان المزيفة، فثقافة حقوق وحريات الغرب هي ثقافة المادة لا الروح.

7-الأدب والفنون: حيث كل مجتمع وله أدبه وفنونه التي يزخر بها، والتي تميزه عن غيره من المجتمعات والتي تكون معبرة عن هويته الثقافية من خلال ثقافة التعبير القصصي والشعر، وفنون التشكيل والرسم والمسرح والتمثيل وفن العمران وغيرها، وكل له رسالة يريد إبلاغها للغير.

8-طريقة التفكير: يعد التفكير العنصر الحساس في أي ثقافة، فطريقة تفكير المسلم غير طريقة تفكير الغرب، فمثلا المجتمع المادي يفكر بطريقة مادية واستهلاكية. **(بو سالم، ص18).**

حدود الهوية الثقافية:

يقتصر البحث على المحددات العامة للهوية الثقافية ويقودنا لتتبع عددا من المفاهيم والتي تشكل مرتكزات هامة للخريطة الثقافية والجمعية (وتنطلق كافة هذه المفاهيم من تفاعل الذات و الآخر و عناصر البيئة المادية، و أنماط السلوك فمن تفاعل الذات بالآخر ينتج ما يسمى بالقوالب الجامدة.

ومن تفاعلها بعناصر البيئة المادية ينتج ما يطلق عليه المعايير والأدوار والاتجاهات و من تفاعل الآخر بأنماط السلوك تنتج المثل و الآمال و من تفاعل عناصر البيئة المادية بأنماط السلوك الثقافية تنتج القيم. وعلى أساس القيم تنشأ العادات والتقاليد والمعايير الاجتماعية و التي تعتبر من المحددات العامة للهوية الثقافية. **(أبو صبع و أخرون ، 1997، ص40).**

العلاقة بين الهوية والثقافية:

ثمة علاقة وثيقة بين الهوية والثقافة، بحيث يعتذر الفصل بينهما ، وإذ أن ما من هوية إلا وتختزل ثقافة ، وقد تتعدد الثقافات في الهوية الواحدة ،فقد تنتمي هوية شعب من الشعوب إلى ثقافات متعددة ،تمتزج عناصرها ،وتتلاقح مكوناتها، فتتبلور في هوية واحدة ، وعلى سبيل المثال ، فإن الهوية الإسلامية تتشكل من ثقافات الشعوب والأمم التي دخلها الإسلام سواء اعتنقته أو بقيت على عقائدها التي كانت تؤمن بها ، فهذه الثقافات التي امتزجت بالثقافة العربية الإسلامية وتلاحقت معها ، فهي جماع هوايات الأمم والشعوب التي انضوت تحت لواء الحضارة العربية الإسلامية ، وهي بذلك هوية إنسانية ، متفتحة، وغير منغلقة .(**التويجري،2015، ص9).**

مستويـات الهوية الثقافيـة:

1.المستـوى الفـردي:

يعرف أيضاً باسم الهوية الفردية، وهي التي تشير إلى ثقافة كل فرد من أفراد المجتمع بصفته الشخصية، أي أن الفرد الواحد يعكس الثقافة السائدة في المجتمع الذي يوجد فيه، فالفرد داخل الجماعة الواحدة سواءً كانت عائلة، أو قبيلة أو جمعية، أو غيرها من الجماعات، يعد عنصراً من العناصر المميزة، والمستقلة والذي يساهم في التأثير في الثقافة السائدة تأثيراً مباشراً، أو غير مباشر.

2.المستوى الجمـاعي:

يعرف أيضاً باسم الهوية الجماعية، وهي التي ترتبط بتأثير مجموعة من الأفراد الذين يمثلون جماعة معينة في الهوية الثقافية السائدة في المجتمع الذين يوجدون فيه، فيعتبرون كالأفراد داخل الجماعة الواحدة، وينظر إليهم على أنهم عنصر واحد يتميز بهوية ثقافية مشتركة ترتبط مباشرة بالهوية الثقافية للمجتمع.

3.المستوى القومي:

يعرف أيضاً باسم الهوية الوطنية، وهي التي تجمع بين الهوية الفردية، والهوية الجماعية في مجموعة واحدة تعد المكون الرئيسي للهوية الثقافية التي تشير إلى الأفراد، والجماعات داخل الدولة الواحدة، وتحرص الهوية القومية أيضاً على تعزيز التعايش الاجتماعي بين الأفراد داخل المجتمع الواحد.

أبعـاد الهويـة الثقافيـة:

كل الثقافات في المجتمعات الإنسانية تسعى إلى الحفاظ على هويتها التي تميزها عن غيرها من الثقافات، و تعطيها طابعاً مميزاً، وبالتالي استقلاليتها , ومن الملاحظ في الفترة الأخيرة ظهور قوى عالمية تحاول فرض ثقافتها على جميع الثقافات , و توحيد العالم تحت إطار ثقافة القطب الواحد , وبالتالي وجود خطر يهدد الهوية الثقافية للثقافات المختلفة , مما ينتج عنه الأبعاد الآتية :

-انتفاض المجتمعات للحفاظ على هويتهم التي تشكل أساساً للعيش بحياة مستقرة تحفظ لهم خصوصيتهم، وبالتالي حدوث صدام ثقافي مع الآخر.

-تكرس الحروب والصراعات بين الثقافات المختلفة، ولا يمكن تجاوز هذه الصراعات إلا بالإقرار بخصوصية كل ثقافة.

-الانتقال من التسامح إلى التعصب, واستبدال الحوار بالنزاع, بالإضافة إلى الانغلاق بدلاً من الانفتاح.

_ العلاقة بين العولمة والهوية الثقافية:

يوجد بين مفهوميّ الهوية الثقافية والعولمة مجموعةٌ من العلاقات الجدلية، والمميزة، والفريدة من نوعها في طبيعة العلاقة التي تربط بين الأشياء والمفاهيم، ولكنهما بشكلٍ عام مفهومان متجاذبان، ومتقاطبان، ومتكاملان في نفس الوقت، ومن هنا يمكن اعتبار الهوية هي الطريدة، وتأخذ العولمة دور الصيّاد، وهذا ما أشار إليه الدكتور (علي وطفة)؛ على اعتبار أنّ الهوية مطارَدةٌ ومحاصَرةٌ وملاحَقةٌ من العولمة، التي تُجهز عليها وتتغذى بها؛ لذلك تعاند الهوية هنا كلّ أسباب الفناء والذوبان، مطالبةً بالأمن والأمان والاستقرار، والتشبث بالوجود والديمومة.

حيث تسعى العولمة إلى نقل الثقافات والأفكار إلى أنحاء العالم لخلق مجموعة من المفاهيم والمصطلحات الإنسانية المشتركة بين مناطق مختلفة، وبالتالي فإن العولمة تهدف إلى خلق عالم بثقافة تنصهر شيئاً فشيئاً في ثقافة دولة أكثر هيمنة من الناحية الفكرية والحضارية ألا وهي ثقافة الغرب في وقتنا الحاضر، ومن مظاهر تأثير العولمة الثقافية في الهوية الثقافية للمجتمعات مايأتي:

- التأثير اللغوي : استخدام لغة مرتبطة بالدولة المهيمنة كلغة أم , بحيث تنتشر هذه اللغة في المقررات الدراسية وتُستعمل في وسائل الاتصال والإعلام والتخاطب اليومي .

- التأثير الخلقي: انتشار أفلام، وصور، وفيديوهات على شبكة الإنترنت، ووسائل الإعلام، والتلفاز وفق أخلاق الدولة المهيمنة، مما يؤدي إلى تدهور القيم الأخلاقية في مجتمعات مازالت تحتفظ بقيم مغايرة ومختلفة كلياً عن قيم دول الغرب.

- التأثير القيمي: محاولة جعل عادات اللبس، والمأكل، والشرب واحدة في كل أنحاء العالم.

في النهاية يمكن القول بأنّ العولمة تعني ذوبان الخصوصيّة، من خلال انتقالها من الجزء الخاصّ إلى العام، ومن الجهة الجزئية إلى الكلية، ومن المحدود إلى الشامل، وعلى العكس من ذلك تأخذ الهوية اتجاهاً كليّاً ومتقاطباً مع مفهومي العمومية والشمولية. (الود غيري ,2000, ص 54)

نتائج الهوية الثقافية:

من السابق نستنتج أنّه يستحيل وقوعها تحت مقولة العولمة، وذلك لتعدد الثقافات حول العالم، حيث إنّها لا توجد هناك ثقافةٌ عالميةٌ واحدة، ويستحيل أن تتواجد في يومٍ من الأيّام، لكن المتواجد عددٌ من الثقافات المتعددة والمتنوّعة على مستوى الأفراد والجماعات والأمم، وتعمل كل ثقافةٍ من هذه الثقافات بصورةٍ عفويّة وتلقائيّة، أو عن طريق تدخلٍ من أصحاب هذه الثقافة بهدف الحفاظ على مقوّماتها وكيانها الخاص، ومنها ما يميل إلى الانكماش والانغلاق، ونوعٌ آخر من الثقافات يهدف إلى التوسّع والانتشار.

إذاً فإنّ الهويّة الثقافيّة تغطّي ثلاثة مستويات فرديّة وجماعيّة ووطنيّة أو قوميّة؛ بحيث يتمّ تحديد العلاقة بين هذه المستويات بنوع الآخر المواجه لها، والعلاقة بين أطراف الهويّة الثقافية وهم الأفراد والجماعات والمجتمع أو الأمّة تأخذ شكل المدّ والجزر.
الهويّة الثقافيّة عبارة عن كيانٍ يمكن أن يتطوّر، ولا يمكن تحديدها كمُعطى نهائي؛ حيث إنّها يمكن أن تسير في اتجاه الانكماش والتقلّص أو باتجاه الانتشار، وتمتاز هذه الهويّة بغناها الناتج عن تجارب أصحابها وكمّ المعاناةِ التي مرّوا بها ونجاحاتهم وانتصاراتهم وتطلّعاتهم، إضافةً إلى احتكاكها الإيجابي أو السلبي بالهويّات الثقافيةِ الأخرى التي تتداخل معها بشكلٍ أو آخر.

التوصيات:

في ضوء ما تم عرضه في البحث توصي الباحثة بالتوصيات الآتية:

_ ضرورة استغلال هذا التفتح في الهوية الثقافية لدى الشباب الجامعة في تفعيل دور الأنشطة الطلابية في مكافحة الانحراف الفكري و الجمود العقلي، من أجل بناء جيل من الشباب وسطي و معتدل في تفكيره و مواكب للحياة الحديثة مع الارتباط بالهوية الثقافية.

_ ضرورة عقد ندوات تثقيفية بالأدوار المطلوبة من الشباب الجامعي في مقاومة آثار وتبعيات العولمة الضارة على الهوية الثقافية.

_ ضرورة تصميم ورش عمل تثقيفية بطبيعة تلك التأثيرات، وكيفية مقاومتها؟

_ ضرورة تصميم برامج جادة حوارية وتثقيفية تقوم بتوعية الشباب بمفهوم العولمة وأبعادها وتأثيرها على الهوية الثقافية.

_ ضرورة تفعيل دور الإعلام بمختلف وسائله في توضيح مفهوم العولمة ومدى تأثيراتها سواء الايجابية أو السلبية على الهوية الثقافية.

_ضرورة العمل على إزالة الانطباع الخاطئ لدى شبابنا بان التمسك بقيمنا وتقاليدنا العربية والإسلامية يتعارض مع اللحاق بركب العالم.

المقترحات:

1 – إجراء بحوث ودراسات مستقبلية تتناول مفهوم وأبعاد ومظاهر وتأثيرات العولمة على الاتجاهات لدى فئات عمرية أخرى غير الدراسة الحالية.

2 – إجراء المزيد من الدراسات حول الاتجاهات والعولمة وربطها بمتغيرات أخرى.

3 – إجراء دراسة مستقبلية تتعلق بالهوية الثقافية.

4 – إجراء المزيد من البحوث المتعلقة بالاتجاهات لدى الشباب الجامعي.

5_ إجراء بحث مماثل على أعضاء هيئة التدريس الجامعي

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The trend towards psychotherapy among those who are reluctant and unhesitating to charlatans in the Bani Walid community

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Summary
The spread and belief of the mythical ideas in societies may affect the attitudes and beliefs of individuals toward some things, including psychological illness and psychological treatment, some believe that the psychiatric patient is mad, some believe that he has lost his mind, and others believe that he is a fact-centered under the influence of hidden powers. Others see that he has a detoxin, so they see psychological treatment as a waste of time. According to these beliefs, a psychiatric patient is not convinced that his illness has a clinic treatment or that he fears to admit his illness and go to psychiatric clinics for treatment for rumors of his or her right, family's right, and social status in society, which may make him obliged to go to the public instead of psychiatrists on the hope of recovery In their hands, the researchers presented a vision from Beni Walid about the trend toward psychotherapy and that what people might see from symptoms of psychiatric illness treat it scientifically or toward different methods of helmet.

The current study was based on learning the trend toward psychological treatment among those who are hesitant and unhesitant in the community of Bani Walid, and what this trend may lead to the failure of the phenomenon of hesitation or continuation and spread of the pharaonic phenomenon, and the researchers' feeling of the importance of this subject was a motive for his choice of study. This study was aimed at identifying: -
The trend toward psychotherapy in the community of Benny Waleed.
The relationship between this trend and the hesitation of the charlatans.
This is by answering the following questions: -
What is the trend of a healthy brown society toward psychotherapy?
Are there differences in the trend toward psychological treatment between males and females in a newborn society?
Are there differences in the trend toward psychotherapy between those who are hesitant and unhesitant in the arterial community of Bani-Walid?

To conduct the study, the descriptive approach was used, as it was applied to a sample of 117 people selected in the stratified random way from the community of Bani Walid. The trend toward psychotherapy measure, which was prepared by the researchers and modified by presentation to a committee of arbitrators and specialists in this field, was used to calculate its truthfulness (apparent truthfulness) and its stability (application and reapplication) to (0.80). Following the application of the study tool and the acquisition of data, appropriate statistical methods were used: (Mean, standard deviation, variance, T-test, Pearson correlation coefficient)
The two researchers reached the following conclusions:
There is a positive trend toward psychotherapy in a healthy society
There are no statistically significant differences at an indication level (0.05) between males and females in the direction of psychotherapy.
3.there are statistically significant differences at an indication level (0.05) between the undecided and the undecided on the undecided in favor of the undecided.

Based on the findings of the present study, a set of recommendations and proposals for future studies has been formulated.

Keywords: Psychotherapy, superstitious thinking, sorcery, psychological direction

عنوان الدراسة: الاتجاه نحو العلاج النفسي لدى المترددين وغير المترددين على المشعوذين بمجتمع بني وليد

ملخص الدراسة:

ان انتشار الافكار الخرافية بالمجتمعات والإيمان بها ، قد تؤثر على اتجاهات أفراده واعتقاداتهم نحو بعض الأمور التي من بينها المرض النفسي والعلاج النفسي ، فالبعض يرى أن المريض النفسي مجنون فقد عقله ، والبعض الأخر يرى أنه مسحور واقع تحت تأثير قوى خفية ، والآخرون يرون أنه مصاب بالمس الشيطاني ، لذا يرون أن العلاج النفسي إنما هو مضيعة للوقت ، وتبعا لهذه الاعتقادات السائدة بين الناس أصبح المريض النفسي غير مقتنع بأن لمرضه علاجا في العيادات أو أنه يخشى الاعتراف بمرضه والذهاب للعيادات النفسية للعلاج لما سيواجهه من إشاعات بحقه وحق عائلته ومكانتها الاجتماعية في المجتمع وهذا ما قد يجعله مضطرا للذهاب للمشعوذين بدلا من الأطباء النفسيين على أمل الشفاء على أيديهم ، لذا قامت الباحثتان بتقديم رؤية من واقع بني وليد عن الاتجاه نحو العلاج النفسي وأن ما قد يشاهده الناس من أعراض المرض النفسي أيعالجونه بطريقة علمية أم يتجهون لأساليب الشعوذة المختلفة.

قامت الدراسة الحالية على معرفة الاتجاه نحو العلاج النفسي لدى المترددين وغير المترددين على المشعوذين في مجتمع بني وليد ، وما يمكن إن يؤدي إليه هذا الاتجاه من تلاشي لظاهرة التردد على المشعوذين أو استمرارها وانتشارها ، ولشعور الباحثتان بأهمية هذا الموضوع كان دافعا لاختياره للدراسة ، واستهدفت هذه الدراسة التعرف على :-

1 ـ الاتجاه نحو العلاج النفسي لدى أفراد مجتمع بني وليد.

2- علاقة هذا الاتجاه بالتردد على المشعوذين.

وذلك من خلال الإجابة على التساؤلات الآتية:-

1- ما اتجاه مجتمع بني وليد نحو العلاج النفسي ؟

2- هل هناك فروق في الاتجاه نحو العلاج النفسي بين الذكور والإناث في مجتمع بني وليد ؟

3- ـ هل هناك فروق في الاتجاه نحو العلاج النفسي بين المترددين وغير المترددين على المشعوذين في مجتمع بني وليد ؟

ولإجراء الدراسة استخدم المنهج الوصفي ، حيث طبقت على عينة قوامها (117) اختيرت بالطريقة العشوائية الطبقية من مجتمع بني وليد ، وتم استخدام مقياس الاتجاه نحو العلاج النفسي والذي تم إعداد فقراته من قبل الباحثتان وبعد تعديله عن طريق عرضه على لجنة من المحكمين و المتخصصين في هذا المجال حسبت صدقه (الصدق الظاهري) وثباته (بطريقة التطبيق وإعادة التطبيق) بلغ -(0.80) وبعد تطبيق أداة الدراسة والحصول على البيانات تم استخدام الوسائل الإحصائية المناسبة : (المتوسط الحسابي ـ الانحراف المعياري ـ التباين ـ الاختبار التائي ـ معامل ارتباط بيرسون)

وتوصلت الباحثتان إلى النتائج الآتية :-

1- هناك اتجاه إيجابي نحو العلاج النفسي لدى مجتمع بني وليد

2- لا توجد فروق ذات دلالة إحصائية عند مستوى دلالة (0.05) بين الذكور والإناث في الاتجاه نحو العلاج النفسي.

3.توجد فروق ذات دلالة إحصائية عند مستوى دلالة (0.05) بين المترددين و غير المترددين على المشعوذين لصالح غير المترددين.

وبناءا على ما توصلت إليه الدراسة الحالية من نتائج تم صياغة مجموعة من التوصيات والمقترحات لدراسات مستقبلية.

الكلمات المفتاحية: العلاج النفسي ، التفكير الخرافي ، الشعوذة ، الاتجاه النفسي

مقدمة:

يعد هذا الموضوع من الموضوعات المهمة والمثيرة للجدل من قبل الكثير من المتعلمين وغير المتعلمين ، إضافة إلى وجهات نظرهم المختلفة حول هذا الموضوع وخاصة في وقتنا الحالي ، حيث يطرح الكثير من الأحاديث في بعض وسائل الأعلام ووسائل التواصل الاجتماعي بعضها خيالي و بعضها حقيقي ، وهو إن الشعوذة يقوم بها بعض الأشخاص الدين يدعون أنهم يعالجون المرضي النفسيين والعقليين. وفي حقيقة الأمر أنهم لا يعالجونهم ، بل يعذبون المرضى بأساليب وطرق تعذيب ربما تكون أقرب إلى الجرائم منها إلى العلاج أو المساعدة لذلك نجد أن الأمراض النفسية والعقلية مازالت مصدرا للشعور بالعيب عند الكثير من الناس ، وهذا ما يجعل علاجها صعبا ، نتيجة لعدم اقتناعهم بوجود مرض نفسي ومعالج نفسي ، ولا يبدؤون العلاج النفسي إلا بعد فوات الأوان ، خوفا من أن يقال عنهم بأنهم مجانين ، والذي يؤثر بدوره على مستقبلهم من جميع النواحي ، فمن السهل من وجهة نظرهم القول بأن فلان يتلبسه جن ، بدلا من القول انه مريض نفسي ، لكي يذهب إلى مشعوذ بدلا من الذهاب إلى المعالج النفسي بعيدا عن الأهل والأقارب.

ومن هنا نجد أن بعض الناس من أجل الهروب من الواقع الذي يعيشون فيه يلجئون إلى إلقاء اللوم على الآخرين لتبرير مشكلاتهم، فيقومون مثلا بتصديق الأحاديث والمعتقدات الخاطئة حول هذا الموضوع كالاعتقاد في وهم العين والتعرض للسحر..الخ ويؤمنون بها على أنها حقائق ومسلمات صحيحة ، بحيث يصبح كل شخص يصيب بها هو نتيجة لعين الحاسدين والحاقدين ، وذلك نظرا لأن الشخص لا يستطيع تحمل القهر والعجز بسهولة أو أن يقوم بتقبل بعض المشكلات التي يتعرض لها فهو يحاول البحث عن حل يستوعب المأساة التي يمر بها وعندما يعجز عن التعامل بمنطقية و بواقعية مع المشكلات التي يتعرض لها ،فيقوم باللجوء إلى الخرافات والأفكار غير عقلانية من أجل تجميل الواقع ومحاولة السيطرة على المشكلات المختلفة .

مشكلة الدراسة :

مما لا شك فيه أن للاتجاهات النفسية أثرا كبيرا على أراء الأفراد وسلوكهم فأراء الأفراد تعتبر في معظم الأوقات تعبيرا صادقا عن اتجاهاتهم ، لهذا اتجه علماء النفس إلى استقراء الاتجاهات للجماعات عن طريق استطلاع الرأي العام والذي قد يتم عن طريق المقابلة أو الاستبيان. (قرفال والشيباني ، 1996 : 46)

ومجتمع بني وليد باعتباره شريحة من المجتمع الليبي الذي هو جزء من المجتمع العربي تنتشر فيه الأفكار الخرافية التي قد تؤثر على اتجاهات أفراده واعتقاداتهم نحو بعض الأمور التي من بينها كل من المرض النفسي والعلاج النفسي ، فالبعض يرى أن المريض النفسي مجنون فقد عقله ، والبعض الأخر يرى أنه مسحور واقع تحت تأثير قوى خفية ، والآخرون يرون أنه مصاب بالمس الشيطاني ، لذا يرون أن العلاج النفسي إنما هو مضيعة للوقت ، وتبعا لهذه الاعتقادات السائدة بين الناس أصبح المريض النفسي غير مقتنع بأن لمرضه علاجا في العيادات أو أنه يخشي الاعتراف بمرضه والذهاب للعيادات النفسية للعلاج لما سيواجهه من إشاعات بحقه وحق عائلته ومكانتها الاجتماعية في المجتمع وهذا ما قد يجعله مضطرا للذهاب للمشعوذين بدلا من الأطباء النفسيين على أمل الشفاء على أيديهم .

لذا قامت الباحثتان بتقديم رؤية من واقع بني وليد عن الاتجاه نحو العلاج النفسي وأن ما قد يشاهده الناس من أعراض المرض النفسي أيعالجونه بطريقة علمية أم يتجهون لأساليب الشعوذة المختلفة.

والملاحظ أن من المشاكل التي تحاصر علم النفس و تطبيقاته العلمية ما هو سائد بين العامة من أفكار كتلك التي تذهب إلى الرجم بالغيب من أساليب الشعوذة المنتشرة والتي تكشف الإطار الثقافي الذي تنتشر فيه وهي ليست إلا طرقا يستغلها المحتالون لاصطياد السذج . (جلال ، 1985: 14)

وعليه تتحدد مشكلة الدراسة في التساؤل الأتي :

ما طبيعة الاتجاه نحو العلاج النفسي لدى المترددين وغير المترددين على المشعوذين بمجتمع بني وليد ؟

أهمية الدراسة : تكمن أهمية الدراسة في:

1- أنها توجه الانتباه إلى أهمية العلاج النفسي وضرورة بناء اتجاهات إيجابية نحوه ، والعمل على تخليصه مما علق به من مفاهيم خاطئة.

2- أنها تدرس موضوع التردد على المشعوذين هذه الظاهرة التي يزداد انتشارها بحيث أصبحت خطر يهدد إيمان الكثيرين، فالملاحظ انتشار الشعوذة بين المتعلمين وغير المتعلمين ، بل أن أغلب الصحف والمجلات تفرد لها أماكن بارزة فيها بشكل منتظم في أحدى صفحاتها ، وكذلك تقوم بالدور نفسه الفضائيات العربية فلا تكاد تخلو قناة عربية من برنامج يستخدم أسلوب من أساليب الشعوذة المتطورة ، وكذلك الحال في شبكة المعلومات الدولية ومواقع التواصل الاجتماعي.

3- انها تحوي جانبا نظريا يفيد من يطلع عليه باعتبار ان النظريات المختلفة لم تدلي بدلوها في موضوع الشعوذة وتفسيره.

4- انها اجتهاد مستحدث يختلف عن الاجتهادات التقليدية سعيا نحو إلقاء الضوء على موضوع يتحاشى الكثيرون الدخول فيه لما لذلك من أهمية علمية تتمثل في إمكانية جعل الاتجاه نحو العلاج النفسي أكثر إيجابية ومحاولة تغييره من خلال التخطيط لإعداد برامج يمكن بواسطتها التقليل من المعارف والتصورات السلبية الخاطئة وتقديم كل ما هو إيجابي ويتفق مع التقدم العلمي الكبير الذي يشهده العصر وترك الاعتقاد بأساليب الشعوذة الخرافية .

أهداف الدراسة : هدفت الدراسة الحالة إلى معرفة :

1- الاتجاه نحو العلاج النفسي بين أفراد مجتمع بني وليد.

2- العلاقة بين الاتجاه نحو العلاج النفسي والتردد على المشعوذين في مجتمع بني وليد.

تساؤلات الدراسة : لتحقيق أهداف الدراسة تحاول الباحثتان الإجابة على التساؤلات الآتية :

1- ما طبيعة الاتجاه نحو العلاج النفسي لدى أفراد مجتمع بني وليد ؟

2- هل توجد فروق بين الذكور والإناث في الاتجاه نحو العلاج النفسي ؟

3- هل توجد فروق بين المترددين وغير المترددين على المشعوذين في الاتجاه نحو العلاج النفسي ؟

حدود الدراسة :

تتحدد الدراسة الحالية بدراسة موضوع **طبيعة الاتجاه نحو العلاج النفسي لدى المترددين وغير المترددين على المشعوذين بمدينة بني وليد** لسنة 2021 ف.

مصطلحات الدراسة:

الاتجاه: يعرفه محمود عوض بأنه استعداد وجداني مكتسب ، وهو ثابت نسبيا يحدد سلوك الفرد ومشاعره إزاء أشياء أو أشخاص أو جماعات أو موضوعات بالذات يفضلها أو يرفضها . (عوض ، 1980: 28)

ويعرفه روكيتش أنه تنظيم مكتسب له صفة الاستمرار النسبي للمعتقدات التي يعتقدها الفرد نحو موضوع أو موقف ، ويهيئه للاستجابة باستجابة تكون لها الأفضلية عنده (جلال ، 1980 : 151)

وتقصد الباحثتان به : حالة وجدانية مكتسبة تتسم بالثبات النسبي ويستدل عليه من خلال المظاهر السلوكية التي تدل على وجود ميل لدى الفرد لأشياء أو مواقف ، وهو يمثل مجموع الدرجات التي تحصل عليها أفراد العينة من المقياس على العبارات التي تقيس اتجاههم نحو العلاج النفسي .

العلاج النفسي : ويقصد به خدمة مهنية تتطلب جهدا فنيا من قبل شخص مختص لمساعدة شخص يعاني من اضطرابات والمشكلات وذلك من خلال استخدام بعض التقنيات التي تختلف من طريقة إلى أخرى .

الشعوذة : وتقصد الباحثتان بها :مجموعة من الأعمال والحركات يتم من خلالها التغرير بالناس وإيهامهم بإمكانية تحقيق أهدافهم وطموحاتهم ونسبة ذلك إلى الكرامات أو القدرات الخارقة ، ويتم فيها استخدام طقوس وعبارات وأشياء ذات قدسية عند الناس لضمان إيمانهم بها.

المشعوذون : هم أناس يستخدمون تلك الأعمال والحركات التي يغررون بالناس عن طريقها وذلك بأنهم يحيطون أنفسهم عادة ببعض المظاهر الغريبة في الملبس و المسلك والحديث ، ويضعون ضحيتهم أثناء ممارسة هذه الوسائل في جو غريب يدفعه إلى الإعجاب الكثير ، والرهبة الكبيرة ، يحرك الأمل ويثير الخوف.

التردد على المشعوذين : وتقصد الباحثتان بها :أن يقصد فرد ما الذهاب إلى المشعوذ بقصد العلاج من أمراض معينة، ولا يكتفي بالذهاب لمرة واحدة ، و إنما يكون ذهابه عدة مرات اقتناعا منه بأن الشفاء لدى هذا المشعوذ دون غيره.

تصنيف الاتجاهات :

1- موجبة وسالبة : فالموجبة كاتجاهات الحب و الاحترام ، والسالبة كاتجاهات النفور والكره أو الازدراء أو الرفض

2- نوعية وعامة : فالنوعية ما انصبت على موضوع خاص كالخوف من حيوان معين ، والعامة ما كان موضوعها عاما املا وفي هذه الحال يسمى الاتجاه سمة كسمة المحافظة على القديم بكل صوره، في مجالات تربية الأطفال واحترام الكبار والموقف من المرأة ..أو كسمة التعصب ضد كل ما هو أجنبي أو التوجس والخوف من كل شيء ومن هذه السمات المختلفة تتكون شخصية الفرد . (راجع ، 1991 : 122)

3- قوية وضعيفة : قد يكون الاتجاه مقويا كاتجاهنا بالحب أو الكراهية نحو شخص أو موضوع ، وهنا نسميه عاطفة ، ذلك أنه مشحون بشحنة انفعالية . وهو قد يأخذ الاتجاه الأعمى العنيد وهنا نسميه التعصب وقد يكون الاتجاه ضعيفا. (عوض ، 1980 : 28)

عوامل تكوين الاتجاهات :

1- تتكون الاتجاهات من تكرار ارتباط الفرد بموضوع الاتجاه في مواقف مختلفة ترضي فيه دوافع مختلفة وتثير في نفسه مشاعر سارة لذيذة ، أو تحبط لديه بعض الدوافع وتثير في نفسه مشاعر منفرة مؤلمة.

2- ويقوم الإيحاء بدور كبير في تكوين اتجاهاتنا وعواطفنا إزاء الآراء والأفكار والمعتقدات والنظم الاجتماعية . ويقصد بالإيحاء أو الاستهواء التأثير دون إقناع منطقي ودون أمر أو قسر لقبول فكرة أو عقيدة أو رأي معين أو احتضان اتجاه معين أو أداء فعل معين . وتزداد قابلية الفرد للإيحاء أي تقبله ما يوحى به إليه دون مناقشة أو نقد أو تمحيص إن كان طفلا أو منفعلا أو مريضا أو ضعيف العقل أو في حشد من الناس أو كان الإيحاء صادرا من شخصيات بارزة أو ذات نفوذ و إن تشرب الاتجاهات والمعايير لا يعني مجرد معرفتها ، بل يعني إستدماجها بما بها من شحنة انفعالية تجعل منها قوة دافعة .

3- التعميم : إن الاتجاهات والعواطف المعنوية المجردة كحب العدل وكره الظلم تتطلب جهدا كبيرا ووقتا طويلا حتى تستوي وتتبلور في نفس الفرد . فحب العدل مثلا هو فكرة مجردة لا تحتل مكانا في نفس الفرد إلا بعد أن يكون قد خبر العدل وعرف قيمته في مواقف خاصة مختلفة كثيرة يشعر في بعضها بالعدل فيسعد ، أو في بعضها بالظلم يصيبه فيشقى ويتألم ، وفي بعضها الأخر بالظلم يحيق بغيره فيثور ويسخط حتى ينتهي به الأمر إلى تكوين حكم عام من حالات فردية كثيرة . (راجح ، 1991: 123)

قياس الاتجاهات :

من أهم أسباب قياس الاتجاهات النفسية الاجتماعية أن قياسها ييسر التنبؤ بالسلوك ويزود الباحث بميادين تجريبية مختلفة . وبذلك تزداد معرفته بالعوامل التي تؤثر في نشأة الاتجاه ، وتكونه واستقراره وثبوته وتحوله وتطوره وتغيره ، وبذلك فإن قياس الاتجاهات له فوائد علمية في ميادين الصحة النفسية والتربية والتعليم والخدمة الاجتماعية. (زهران ، 1977 : 148)

الاتجاهات هي قوى محركة وموجهة لسلوك الفرد ، لذلك أدرك أهميتها القصوى ، فنشأت اتجاهات لقياسها و أصبح هناك مقاييس لها بهدف فهم سلوك الأفراد والتنبؤ بهذا السلوك ومن ثم ضبطه وتوجيهه .(عوض ، 1980 : 32)

تكمن أهمية قياس الاتجاهات في التعرف على طبيعة سلوك الفرد ، من خلال التعرف على الاتجاهات ومحاولة تعديل وتحويل الاتجاهات السلبية وتحسينها وتعزيز الاتجاهات الموجبة ، حيث تكون اتجاهات موجبه مثلا يعد من الأهداف العامة التي يسعى المجتمع لتحقيقها . (جلال ، 1989: 69)

أثر الاتجاهات في الآراء والسلوك :

الرأي هو حكم أو وجهة نظر إلى الموضوع معين . وهو اعتقاد يأخذ به الشخص على أساس من المعرفة والواقع ، لا على أساس العاطفة والرغبة غير أن الموضوعية المفترضة في الرأي غالبا ما تكون خداعا للذات ، إذ الواقع أن أغلب أرائنا وأحكامنا تعبر عن اتجاهاتنا وعواطفنا بدرجة أكبر مما نظن خاصة أرائنا في أنفسنا وفي الناس.

وبما أن كل اتجاه ينطوي على رأي ،ويتضمن حكما بالقبول أو الرفض بالموافقة أو المعارضة ، فأراء الفرد أو الجماعة تعطي فكرة نعبر بها عن اتجاهاتنا النفسية لذا تدرس الاتجاهات الجماعية للشعب أو الفئة منه عن طريق استطلاع الآراء الجماعية (الرأي العام) ويكون ذلك مثلا حين نريد معرفة اتجاهات الناس حيال موضوعات مثل تحديد النسل أو احتمال وقوع حرب وغير ذلك . (راجع ، 1991: 126)

العلاج النفسي وتطوره :

أن ما يسمى بالعلاج النفسي الآن عرفته قديما جميع المجتمعات وجميع الحضارات ، وكان ارتباطه في الأصل يرجع إلى الغيبيات أكثر منه إلى العلم . (عباس ، 1994 : 139)

ولابد من التطرق إلى طرق العلاج التي مارسها الإنسان في الماضي وتبدو ضرورة ذلك ليس فقط في إلقاء الضوء على الكيفية التي تطورت بها أساليب العلاج النفسي من القديم إلى الحديث ، ولا لما تدين به الطرق المعاصرة للطرق القديمة من أثر عليها ، و إنما أيضا لما نلاحظه من استمرارية لبعض الطرق القديمة في عصرنا الحالي.(كمال ، 1994 : 35)

وفيما يلي عرض مختصر لمحاولات الإنسان عبر العصور لفهم طبيعة السلوك الشاذ وكيفية علاجه:-

في العصور القديمة (3000 ق . م)

كان الاعتقاد حول المرض النفسي يتصور وجود أرواح لها القدرة على أن تنفذ إلى الجسم البشري وتسيطر عليه (عباس ،1994 : 140) وانبثق عن هذا الاعتقاد محاولات علاجية بدائية منها إحداث ثقب برأس المريض ، وكانت تعرف هذه العملية بالفصد أو التربنة وذلك باستخدام قطعة صخر مدببة (الحربة المقدسة) للسماح للأرواح الشريرة المحبوسة داخل المريض بالهروب.(عبد المعطي ، 1998 : 17)

وقد ارتبط العلاج بجميع أشكاله بالطقوس والسحر والتعاويذ التي يمارسها كهنة أو سحرة أو عرافين أو رجال دين ، وكانت طرق العلاج تشمل الدعاء للمريض أو إثارة الخوف في نفسه أحيانا كما لجأوا إلى تعذيب المريض لتخليصه من الأرواح الشريرة . (القذافي ، 1981: 155)

أما الحضارات القديمة (500ق م -200 ميلادية)

في الحضارة الهندية عند المريض النفسي ناشئ من غضب الآلهة و أنه عقاب للفرد بسبب معصيته .أو من تأثير أرواح الموتى وتقمصهم لجسد المريض وامتلاكه .

وفي الحضارة اليونانية أنشئت المعابد الاسكولابية التي هي مراكز طبية وملجأ للأشخاص المضطربين .

وفي الحضارة الصينية قد أنشئت (مؤسسات للجنون) يعالج فيها المرضى حتى الشفاء (عبد المعطي ، 1998 : 18) وفي العالم العربي بعد الإسلام ازدهرت الطرق العلاجية ، وقد تأثر العرب بروح الإسلام في رعايتهم للمرضى العقليين ، وتم إقامة المستشفيات البيمارستانات (دور المرضى) . (زهران ،1998: 97)

وقد أدرك الأطباء العرب المبادئ والمعالم الأساسية للطب النفسي الحديث فكرا وممارسة ، في الوقت الذي كانت فيه أوروبا تعيش فترة حالكة الظلمة من الفكر والعلم والممارسة الطبية (كمال ، 1994: 50)

وفي العصور الوسطى (500م) كانت أوروبا ترزخ تحت الجهل ، وقد عادت النظرة المرض النفسي إلى العصور القديمة بسبب سيطرة الكنيسة على الحياة العامة ، وبذلك عاد العلاج إلى سابق عهده وعاد الفكر الخرافي وانتشرت الشعوذة وساد الدجل. (زهران ، 1998: 97)

وساد الاعتقاد بأن المريض ليس مجرد محط السحر فقط ، و إنما متواطئا مع الروح الشريرة ، وكان العلاج لهذه الحالات هنا هو أسوء ما كان في أي وقت مضى في التاريخ. (كمال ، 1994: 50)

حيث ظهر مختصون بالشياطين مهمتهم التعرف على من سكنت الأرواح أجسادهم لتخليصهم من تأثيرها ، ومن الأساليب المستخدمة: استخدام التعاويذ والرقي واستخدام الصلوات والمياه المقدسة أو بصاق الكهنة و أنفاسهم ، وكذلك الوخز بالآلات الحادة والضرب بالسلاسل الحديدية وتغطيس المريض في الماء المغلي. (عبد المعطي،1998 : 39)

وكان يتم البحث عن المضطربين عقليا ، ويعمل على قتلهم و إبادتهم إبادة جماعية ، ورجمهم بالحجارة حتى تسيل الدماء منهم ، فالمرضى في نظرهم سحرة تسكنهم شياطين و أرواح نجسة ، وظلت بقايا هذه إلى مطلع الحديثة (فهمي ،1967:8)

وفي العصر الحديث ، وهو عصر النهضة العلمية (منذ قيام الثورة الفرنسية 1789) ظهر الفكر الحديث وزاد التقدم وظهرت أشكال جديدة من العلاج مازالت تستخدم حتى الآن. (زهران ،1998: 97)

تعريف العلاج النفسي :

1 ـ تعريف (مصطفى فهمي) للعلاج النفسي : هو صورة من صور مناقشة مشكلات ذات طبيعة انفعالية ، يقوم فيها شخص مدرب بتكوين علاقة مهنية من نوع ما ، مع مريض يسعى إلى إزالة أو تعديل أو تأخير أغراض معينة ، أو تغيير أنماط سلوك ظاهري ، وغايته من ذلك كله تعزيز وتقوية الجوانب الإيجابية في شخصيته النامية وتطويرها . (فهمي ، 1969ى : 386)

2ـ تعريف (نبيل حافظ):مجموعة من الجهود الفنية التي يقوم بها المعالج النفسي في سبيل مساعدة الفرد على حل مشكلاته التي يواجهه ، وتحول بينه وبين توافقه النفسي.(سري ، 2000: 84)

3ـ تعريف (الكسندر) : العلاج النفسي خدمة تهدف إلى إحداث تغيرات دائمة في شخصية العميل عن طريق زيادة قدرة الذات على الاندماج ، وكذلك عن طريق تغيير الذات بسبب تعرضها للأشياء المكبوتة والمتعارضة.(القذافي، 1992 : 37)

4 ـ تعريف (زهران) : هو نوع من العلاج يستخدم فيه أية طريقة نفسية لعلاج المشكلات أو الاضطرابات أو الأمراض ذات الصبغة الانفعالية التي يعاني منها المريض وتؤثر في سلوكه ، حيث يتم العمل على إزالة الأعراض المرضية الموجودة ، مع مساعدته على حل مشكلاته الخاصة وتوافقه مع بيئته ، واستغلال إمكاناته وتنمية شخصيته ودفعا في طريق النمو الصحيح ، بحيث يصبح المريض أكثر نضجا وقدرة على التوافق النفسي في المستقبل . (زهران ، 1997 : 183)

ومن خلال استعراض التعريفات السابقة نجد أن هناك اتفاقا حول العديد من الأوجه ، كما أن هناك العديد من الاختلافات ، والتي كانت سبب اختلاف النظريات أو الانتماءات النظرية لأصحاب هذه التعريفات ، فهناك من يرى أن العلاج النفسي هو مجرد مناقشة لفظية للمشكلات التي يعاني منها المريض فهمي أي أن ليست هناك إجراءات عملية معينة يقوم بها المعالج، بينما يرى حافظ أن عملية العلاج تقوم على جهود فنية أي أنها عملية بينما لم يحدد الكسندر ما إذا كان العلاج عملية أو أنه مناقشة لفظية إنما عرفه بأنه خدمة والخدمة يمكن أن تكون على الأمرين .

وقد كان هناك اتفاق بين التعريفات حول الهدف من العلاج النفسي وهو إما إزالة الأعراض أو تخفيفها ، و أما تغيير في الشخصية يحولها إلى إيجابية بدلا من السلبية التي كانت موجودة بسبب ما يعانيه الفرد من أعراض مرضية .

وبهذا تعرف الباحثتان العلاج النفسي أنه خدمة مهنية تتطلب جهد فني من قبل شخص مختص لمساعدة شخص يعاني من اضطرابات أو مشكلات نفسية ، و يهدف إلى إزالة أو التخفيف من الأعراض الدالة على تلك الاضطرابات والمشكلات ، وذلك من خلال استخدام بعض التقنيات التي تختلف من طريقة إلى أخرى

أهداف العلاج النفسي:

الهدف الأسمى للعلاج النفسي هو تحقيق الصحة النفسية والتوافق النفسي ، ويمكن تحديد الأهداف التي يسعى العلاج النفسي إلى تحقيقها بالنقاط الآتية : ـ

1ـ تعديل السلوك غير السوي واللاتوافقي للمريض ، وتعلم السلوك السوي والتوافقي ، وتحويل الخبرات المؤلمة إلى خبرات معلمه .

2ـ زيادة القدرة على حل الصراعات والتغلب على الاتجاهات ومواجهة الحرمانات ، وتحمل الصدمات(سري ، 200: 85)

3 ـ مساعدة المريض على الوصول إلى درجة مناسبة من التوافق الشخصي والاجتماعي بما يساعده أن يحيا حياة مشبعة وفعالة . (عباس ، 1994 : 148)

4ـ تحسين العلاقات مع الآخرين ، وإتاحة الفرصة لإعادة التعلم وتنمية الإدارة والضبط الذاتي. (عبد المعطي،1998: 363)

5ـ التخلص من المشكلات السلوكية، وتعليم أساليب مواجهتها مستقبلا والتخلص من نواحي الضعف والعجز، وتعزيز وتدعيم نواحي القوة والتعرف على القدرات وتنميتها.(زهران ، 1998 : 186)

6ـ مساعدة المريض على تعلم عادات جديدة سواء كانت عادات سلوكية أو عقلية أو نشاطات حسب ما يستدعيه الموقف ، و إضعاف العلاقة مابين المثير القديم والاستجابة الخاطئة واستبدالها باستجابة مناسبة و أقوى منها. (القذافي ، 1981 : 163)

7ـ إعادة بناء شخصية المريض وتعديل سلوكه حتى يتخطى صعوبات تكيفه ويعبر أزماته التي يعاني منها.(عمر,1989: 15)

8ـ تغيير مفهوم الذات السالب وتنمية مفهوم الذات الموجب ، وزيادة قوة الذات .

9ـ زيادة القدرة على حل الصراع النفسي والتغلب على الإحباط والتوتر والقلق .

10 ـ العمل على إتمام الشفاء.(زهران ، 1998 : 186)

ولكي تتحقق هذه الأهداف لابد من أن تتوفر لدى المعالج خصائص معينة ، لأنه يستخدم العلاج النفسي كأداة للوصول بالمريض للشفاء ، حيث يرى المريض في معالجه المنفذ من مشاكله وصراعاته ، والذي سيصل به إلى بر الأمان فالمريض النفسي يتأثر تأثرا كبيرا بشخصية المعالج وذاتيته مما له أثر كبير على العملية العلاجية برمتها .

وشخصية المعالج لها أهمية من حيث قدرته على بث الثقة في نفس المريض تجاه العلاج النفسي واستغلال توقعات المريض فيه وفي العلاج ، وان لا يكون فيه من صفات التعامل ما ينفر المريض ويعدم ثقته فيه وفي العلاج النفسي أيضا ويذكر توماس كورنبيشلر أن هناك اختلاف في نظرة عامة الناس للمعالجين النفسيين ما بين المبالغة بالتقييم والحط من القيمة، فإما أن يتم رفع المعالجين النفسيين إلى منزلة على أنهم من صانعي المعجزات والجبارون أو وضعهم في مرتبة النصابين والدجالين، فمن جهة ينظر إليهم على أنهم أصحاب الكرامات ومن جهة أخرى على أنهم دجالون(رضوان، 2002:45) وهذه النظرة لها أثر بالغ السوء على العلاج النفسي ، لأنها نظرة غير موضوعة ، لا تعطي للعلاج النفسي حقه لا بالإيجاب ولا بالسلب.

المعالج النفسي:

وهو الذي يقوم بالدور الرئيس في العلاج النفسي ، ويتوقف عليه مدى نجاح العملية العلاجية أو فشلها ، فالمعالج النفسي يحمل درجة جامعية في علم النفس أو الطب النفسي ، بالإضافة إلى تدريب عملي على العلاج النفسي ، مع الحصول على ترخيص بمزاولة العلاج من الجهات المختصة.(عبد الخالق ، 1993 : 89)

ويقوم بإجراء الاختبارات والفحوص والتشخيص والتنبؤ والاستشارة العلاجية ووضع الخطة العلاجية وممارسة العلاج .

ويتعين على المعالج النفسي أن يتمتع بخصائص شخصية أهمها :

1ـ الاهتمام بالناس والرغبة في معاونة الآخرين ومساعدتهم في حل مشكلاتهم.(سري ، 2000: 92)

2- التمتع بقدر عالي من الضبط الانفعالي ، فهذا يشكل مطلبا ضروريا يجب توافره خاصة على مستوى الممارسة ، لان ردود فعل المريض تتأثر بشكل أو بأخر بذاتية المعالج وانفعالاته .
3- القدرة على الاستبصار الذاتي لدوافعه ورغباته وحاجاته ومشاعره ، إذ أن هذه العوامل الذاتية لها تأثير كبير في ممارسة العلاج النفسي على المريض.
4- الإحساس بالمسؤولية المهنية والالتزام بمعايير المهنة ، تقنيا و أخلاقيا.
5- أن يكون مخلصا أمنيا في ممارسته وفي مساعدته للمريض ، مستخدما كافة مهاراته ومرونته ومعلوماته من أجل إيصال مريضه إلى الشفاء.(عباس ، 1994 : 85)
6- أن يكون المعالج ملزما بالتكتم عن كل الأسرار التي عرفها، أو أسرت إليه في أثناء ممارسته لمهنته(رضوان،2002: 97)

ويذكر رشدي قام خصائص أساسية يجب أن تتوفر في المعالج النفسي وهي: عشق العمل في مجال العلاج النفسي ، والحس الإكلينيكي ، والفطنة إلى حتمية الذاتية ، والاستماع الجيد بأذن ثالثة، وتوافر الذكاء المتقد ، والانشغال بمشكلة المريض ، والاستماع الجيد وقلة الكلام والاعتراف بأي خطا يقع فيه.(سري ، 2000 : 93)

العلاج النفسي :

العلاج النفسي عموما هو عملية مساعدة المريض للخروج من أزماته أو مشكلاته النفسية يقوم بها شخص مختص في معالجة المشكلات النفسية .

وهو نوع من العلاقات التفاعلية بين شخصين يعقدان محادثات دورية لمتابعة أهداف محددة وهي تقليل المشقة الانفعالية ، وتغيير جوانب سلوكية أخرى متنوعة .

والعلاج النفسي بوصفه أسلوب فني يقوده متخصص فان له عديد من الأساليب التي من أهمها : العلاج التحليلي ، العلاج السلوكي ، العلاج العقلاني ، العلاج الديني ، الإرشاد العلاجي ....الخ

طرق العلاج النفسي :

تتعدد طرق العلاج النفسي ، وذلك بحسب تعدد مدارسه ونظرياته ، ولكن كل طرق العلاج النفسي مهما اختلفت فإنها تسعى جميعا إلى تحقيق الأهداف العامة للعلاج النفسي . وفيما يلي عرض لأهم الطرق العلاجية المستخدمة : -

التحليل النفسي :

هو عملية علاجية شاملة ، طويلة الأمد ، يتم فيها استكشاف المواد المكبوتة في اللاشعور من أحداث وخبرات وذكريات مؤلمة ودوافع متصارعة وانفعالات عنيفة وصراعات شديدة سببت المرض النفسي ، واستدراجها من أعماق اللاشعور إلى حيز الشعور ، عن طريق التعبير اللفظي التلقائي الحر ، ومساعدة المريض في حلها في ضوء الواقع وزيادة استبصاره وتحسين الفاعلية الشخصية ، وهدفه النهائي هو إحداث تغيير أساسي شامل في بناء الشخصية . (عباس ، 1994 : 176)

مزايا التحليل النفسي وعيوبه :

يهتم بعلاج أسباب المرض وليس أعراضه فقط ، يتناول الجوانب اللاشعورية إلى جانب النواحي الشعورية ، يكشف عن العناصر اللاشعورية الثائرة على الشخصية ، مما يسهل ضبطها وتصحيحها ، ويحرر المريض من دوافعه الدفينة وخوفه من جهله بكيفية تحقيقها ، يؤدي إلى إعلاء الدوافع المكبوتة واستثمار طاقتها التي كانت معتقلة وسجينة ، يعود بالشخصية المفككة إلى حاله من التكامل والنضج والقدرة على مواجهة الواقع وتحمل الشدائد والاستمتاع بالحياة.(زهران، 1997: 235)

ومن عيوب التحليل النفسي ، طول مدة العلاج وارتفاع تكاليفه ، ولابد من تحليل المعالج قبل أن يمارس التحليل النفسي ، وهو يحتاج إلى تدريب عملي طويل وخبرة واسعة قد لا تتوفر إلا لعدد قليل من المعالجين . (سري ، 2000 : 118)

العلاج السلوكي :-

هو أسلوب علاجي يستخدم مبادئ وقوانين التعلم الاشتراطي والإجرائي والتعزيز لحل وعلاج المشكلات والاضطرابات السلوكية ، وذلك بضبط وتعديل السلوك المرضي المتمثل في الأعراض ، وتنمية السلوك الإرادي السوي لدى المريض .
(عبد المعطي ، 1998 : 371)

ويستخدم العلاج السلوكي مع الراشدين لعلاج أنواع محددة من السلوك كالمخاوف المرضية والقلق والاضطرابات الجنسية واضطرابات الطباع كالإدمان والاعتماد على العقاقير (عبد الخالق ، 1993 : 406)

مزاياه وعيوبه :

من مزاياه أنه يحتاج إلى زمن علاجي قصير ، وتكاليفه قليلة ، وهو أكثر ضمانة في النجاح من الطرق النفسية الأخرى ، غير أنه من سلبيات هذا العلاج أنه لا يستطيع إحداث تغيير في الشخصية ، كما أنه يتم بدون التطرق إلى المحتوى الفكري للمريض ، كما أنه في حاجة إلى تكرار المعالجة بين الحين والأخر لمنع معاودة الاضطراب . (كمال ، 1994 : 284)

العلاج الممركز حول العميل :

مؤسس هذا الأسلوب العلاجي كارل روجرز الذي رأي أن الثقة هي أكثر أسس العلاج النفسي أهمية لأنها يجب أن تغطي العلاقة بين المريض ومعالجه ، ويجب أن تسري داخل نفس المريض قبل أن يقدم على الرضا عن معالجه . وللثقة أيضا فعل الطاقة التي ستعمل على تحقيق ذاته ورأى روجرز أن هذه الثقة في الغير وفي النفس هي بداية تكوين صفات شخصية أفضل ، وقد بدا روجرز علاجه الذاتي بأسلوب فرد لفرد فيجلس طالب العلاج معه ، بطريقة تخلو من الرسميات ، ولا

يدون أقواله كلها ، أو يطبق عليه مقاييس نفسية ، أو يسأله عن قصة حياته . فكل هذه الأساليب التقليدية تقلل من أهمية المريض في نظر روجرز وتضع التشخيص والتبويب والنمطية في المعاملة في المقام الأول ، بدلا من إعطاء المريض الحق الأول في فردية موقفه ، ولهذا كان العلاج الذاتي يخص فردا بالذات عند بداية التفكير في الأسلوب ، إلا أنه امتد فيما بعد إلى العلاقات العامة في مواقف مختلفة كمجال التعليم (الفصول الدراسية)وتطوير الأساليب بالمؤسسات (القيادة / الإدارة / تقسيم العمل / علاج أنواع الصراع بين العاملين) ، وقد تمخض هذا التوسع في مجال العلاج الذاتي بسبب التهديدات التي تواجهها جماعات بأكملها والتي ترتبط بكل فرد داخلها أيضا . فأصبحت الصحة النفسية العامة أمرا مثل أهمية صحة الفرد في الموقف العلاجي . (حقي ، 2001 : 162)

مزايا وعيوب العلاج الممركز حول العميل : -

يتميز العلاج الممركز حول العميل بأنه مناسب جدا في حالات الإرشاد العلاجي والاستشارة النفسية و أنه مفيد مع أنواع معينة من المرضي وخاصة الذين يكون ذكاؤهم متوسطا ويكون لديهم طلاقة لفظية .

ومن عيوبه أنه قد لا يناسب كل أنواع اضطرابات الشخصية و أنه لا يصلح في العلاج الجماعي (زهران، 1997: 260)

الإرشاد العلاجي : -

عملية تعليمية تساعد المسترشد على أن يفهم نفسه بالتعرف على الجوانب الكلية المشكلة لشخصيته ، حتى يتمكن من اتخاذ قراراته بنفسه وحل مشكلاته بموضوعية مجردة مما يسهم في نموه الشخصي وتطوره الاجتماعي والتربوي والمهني . ويتم ذلك خلال علاقة إنسانية بينه وبين المرشد النفسي الذي يتولى دفع العملية الإرشادية نحو تحقيق الغاية منها بخبراته المهنية (عمر ، 1989 : 26)

ويمكن اعتبار الإرشاد المريض على مواجهة المشاكل الواقعية أكثر من مجرد مواجهة الصراع الشخصي الداخلي ، وقد لا يتعامل المرشد النفسي مع حالات ذات مشكلات موقفيه فقط ، ولكنه يتعامل مع مشكلات التوافق الشخصي والاجتماعي والانفعالي . (مرسي ، 1995 : 15)

العلاج الجماعي : -

طريقة تقوم بتقديم الخدمة النفسية لمجموعة من الناس في وقت واحد ، وغالبا ما تستخدم مع الإفراد الذين يعانون من حالات ذات صبغة اجتماعية ، ويجب في مجموعة العلاج أن يكونوا ذوي مشكلات متشابهة الأسباب والأعراض ، حتى يمكن أن تكون اجتماعاتهم العلاجية مثمرة ، وذلك من خلال مناقشة مشكلاتهم واستفادة كل منهم من الأخر ، على اعتبار أنه يعاني من نفس المشكلة ، وتتكون الجماعة من عدد محدود من الأفراد يعقدون الاجتماعات التي يستكشفون فيها عوالمهم أي أنواع السلوك التي تهزم فيها الذات نفسها بنفسها ، ويحدد الأعضاء أنواع ذلك السلوك ويعلنونها أمام الجماعة ويتخذون بشأنها قرارات يلتزمون بها وتتناول تلك القرارات أنواع السلوك التي سيعملون على تغييرها وكيف ، ، ويساعد قائد الجماعة (المعالج) كل عضو من أعضائها في وضع أهدافه الفردية (فطيم ، 1993 : 67)

وهناك أشكال عديدة للعلاج الجماعي من أهمها السيكودراما أو الدراما النفسية ، وهو الذي ابتدعه مورينو سنة 1911. (العيسوي ، 1984 : 215)

مزاياه وعيوبه:

تتلخص مزايا العلاج الجماعي في توفير الوقت والجهد والمال ، يكفل تصحيح وتعديل مفهوم المريض عن ذاته وعن الآخرين وعن العالم الخارجي عموما ، يتيح الفرصة لنمو العلاقات الاجتماعية ، وحل الصراعات والمشكلات في موقف جماعي قريب الشبه بمواقف الحياة الواقعية العملية ، و أنه يجمع بين خبرات المريض الداخلية وبين الواقع الاجتماعي الذي يعيش فيه ومن عيوبه أن قد تكون التغيرات السلوكية التي تحدث قصيرة الأمد وغير دائمة ، وقد يحدث لدى البعض انتكاسة، ويعتبر عملية معقدة وصعبة ، و أنه لا يحدث تغييرات جذرية في التركيب الأساسي للشخصية ، و أنه لا يفيد مع المرضي الذين يعانون من صراعات عنيفة.(زهران ، 1998 : 307)

العلاج الديني :-

طريقة علاج وتوجيه وإرشاد وتربية وتعليم ، وهو يقوم على معرفة المريض لنفسه ولربه وللقيم والمبادئ الدينية و الأخلاقية .(سري ، 2000 : 264)

فالدين يعطي للمريض قوة يستمدها من قوة عليا داخليا وخارجيا ، كما أن الدين يخلص المريض من مشاعر الذنب واليأس والقنوط ، وينمى لديه الخصائص النفسية الإيجابية كالصبر والإيثار ، بالإضافة إلى أنه يعطيه القوة التي بها يمكنه التحكم في نفسه وغرائزه وضبطها مما يجعل لذلك مردوده الإيجابي النفسي عليه فيجعل نفسه أمنة مطمئنة.(موسي ، 2001 : 12)

ويهدف إلى تحرير المريض المضطرب من مشاعر الإثم والخطيئة التي تهدد أمنه النفسي ، ومساعدته على تقبل ذاته ، وإشباع الحاجة إلى الأمن والسلام النفسي. ويحتاج هذا العلاج إلى المعالج المؤمن الذي يتبع تعاليم دينه ويحترم الأديان السماوية الأخرى، وهو عملية يشترك فيها المعالج والمريض ويتم خلالها إجراءات مثل الاعتراف ، والتوبة،والاستبصار والتعلم . ويلجا المريض إلى الله بالدعاء مبتغيا رحمته مستغفرا إياه ذاكرا ، صابرا ، متوكلا على الله(زهران ، 1998 : 358)

العلاج العقلاني الانفعالي :

وضع أليرت أليس أسلوب العلاج العقلاني الانفعالي ، ويؤكد هذا الأسلوب على التفكير أكثر من المشاعر ، ويقوم المعالج بمعظم الكلام في المقابلة العلاجية ، و أهدافه الأساسية : تخفيض مشاعر القلق والعداء وتزويد المريض بوسيلة لملاحظة

الذات وتقيمها بما يكفل اقل قدر من مشاعر القلق والعداء في بقية حياته . وتتحقق هذه الأهداف بشكل مباشر بان يوضح للمرضي كيف يضيفون افتراضات غير عقلانية لملاحظاتهم ، وكيف أن ردود أفعالهم الانفعالية من الممكن أن تصبح أكثر ملائمة إذا أزيلت هذه الافتراضات . والدور الأساسي للمعالج هو إيقاف الاستخدام الفضفاض للغة والتعميم الزائد من قبل المريض ، وجعله يحدد مصطلحاته بدقة ، ويظل وثيق الصلة بالواقع . (عبد الخالق ، 1993 : 305)

مزايا وعيوب العلاج العقلاني الانفعالي :

من أهم مزاياه أنه مناسب لمجتمعنا حيث المعتقدات اللاعقلانية والأفكار الخرافية كثيرة ، يعتبر أسلوب مثالي لتغيير المعتقدات غير العقلانية وغير المنطقية و إبدالها بأخرى عقلانية ومنطقية ، يحصن المريض ضد الأفكار غير العقلانية التي قد يتعرض لها مستقبلا ، ويكسبه أفكار عقلانية تحقق له السعادة .

أما عيوبه : تكمن في أنه يؤثر فقط في إزالة الأعراض دون علاج الاضطرابات الانفعالية التي يعاني منها المريض ، انه لا يصلح للاستخدام مع الأفراد ذوي الذكاء المحدود . (سري ، 2000 : 177)

فضلا عما تقدم من طرق العلاج النفسي ، هناك طرق أخرى منها :ـ العلاج التدعيمي ، العلاج بالواقع ، العلاج بالعمل ، العلاج باللعب ، العلاج المختصر ، العلاج الطبي النفسي ، العلاج بالقراءة ، العلاج بالفن ، العلاج بالموسيقى والعلاج المعرفي .

الشـــــعـــــوذة :

هي خفة اليد والقيام بعمليات من أجل خداع المشاهدين ، وهو فن يستعمل قوة غير عادية ، فيقوم المشعوذ بأعمال تظهر الشيء للمشاهدين على غير ما هو عليه في الواقع ، ومرجع ذلك إلى خفة في اليد . وتكتسب خفة اليد بممارسة الحيل وتنمية المهارة العضوية وبخاصة السرعة في حركة الأصابع . (الساعاتي ، 1983 : 80)

والشعوذة هي بعض الطرق التي خلع أصحابها عليها صفة العلم والإدعاء بامتلاك كرامات تجعلهم يعلمون الغيب وتنفيذ كل ما يريدون ، إذ هي لا تستغل إلا للدجل والخداع والاستغلال المادي والنفسي . (جلال ، 1985: 14)

يقصد بها اللجوء إلى وسائل خرافية سواء من حيث الكنه أو الاستعمال أو المعالجة . والاستناد على قوى غيبية سواء كانت قوى خيرة كالمدد الإلهي أو الملائكة ، أو قوى شريرة كالشياطين . وكذلك الاعتقاد بتأثير قوى غيبية على الإنسان من حيث الصحة أو المرض أو المحبة أو الكره ، أو اللجوء إلى وسائل مادية لمجابهة هذا التأثير المفترض للقوى الغيبية . (بدران والخماش ، 1988 : 248)

وتعرف الباحثتان الشعوذة بأنها : ـ مجموعة من الأعمال والحركات يتم من خلالها التغرير بالناس وإيهامهم بتحقيق طموحاتهم وأهدافهم وانساب ذلك إلى الكرامات أو القدرات الخارقة ، ويتم فيها استخدام أشياء ذات قدسية عند الناس لضمان إيمانهم بها .

المشـــعـــوذون: هم أناس يستخدمون تلك الأعمال والحركات التي يغررون بالناس عن طريقها وذلك بأنهم يحيطون أنفسهم عادة ببعض المظاهر الغريبة في الملبس والمسلك والحديث ، ويضعون ضحيتهم أثناء ممارسة هذه الوسائل في جو غريب فيه الإعجاب الكثير والرهبة الكبيرة ، يحرك الأمل ويثير الخوف . يتوسلون مواد و أدوات وطقوسا و أدعية وظيفتها الأساسية أن تبهر صاحب الحاجة ، وتشل مقاومته ، وتعطل تفكيره ، وتدفع به إلى الاستسلام لممارستهم وطلباتهم الكثيرة والمعجزة .

والمحترفون من هؤلاء يخلطون بين العلم ، والروحانيات ،والشعوذة ، ويصبحون ممارساتهم بتلاوات هي مزيج من الألفاظ المبهمة التي لا معنى لغويا لها ، والتي تدل في زعمهم على لغة التخاطب مع الجن ، والقصد من ذلك بالطبع اللعب على طالب الحاجة ، و إثارة دهشته . وهم إلى ذلك يحيطون أنفسهم بهالة هي مزيج من العلم الروحاني المزعوم ، والدين لتغطية شعوذتهم .(حجازي ، 1998 : 125)

عوامل انتشار الشعوذة :

إن الإنسان في حاجة ماسة إلى الأمان والشعور بالطمأنينة ، فهذه الحاجة تجعل منه يسند أي أحداث أو أعراض إلى أقرب تفسير يركن إليه ويعتقد أنه يمكن أن يحمى نفسه من أي خطر قد يتعرض له . لذلك فهو يرجع ما يرى من أعراض إلى سبب واحد وهو سبب غيبي مثل : الجن ، السحر ، العين ...الخ فهو بذلك يقول لنفسه إنما هذه الأعراض ناتجة عن أسباب غيبية وهذا من الأسباب التي تجعل الناس يعتقدون بالمشعوذين وزيارتهم والشفاء على أيديهم بالإيحاء ، وتزايد المشاكل الاجتماعية وغياب الحلول العلمية لها يجعل البعض يلجأون إلى هذا النوع من الممارسة الغيبية على أمل حل مشاكلهم بطريقة سحرية .

والانتشار الذي عرفته الشعوذة داخل خلايا المجتمع راجع إلى ثقافة تقليدية منغرسة في المجتمع ثقافة لا عقلانية تفسر كل شيء بالغيب ، ويعد الجهل والفقر والأمية من الأسباب التي تجعل نسبة كبيرة من الناس يترددون على المشعوذين ، إلا أن هذا لا يدل على أن هذا النوع من الممارسات حكر على الأميين والفئات الفقيرة من المجتمع ، بل إن الفئات المتعلمة هي أيضا تلجأ إلى هذه الممارسات ، وقد يختلف الإطار ولكن النتيجة والدوافع واحدة ، وذلك لأن مشاكل المجتمع هي نفسها . (أميتي ، 2003)

ويتناسب انتشار الشعوذة في وسط ما مع تضخم الإحساس بالعجز ، وقلة الحيلة وانعدام الوسيلة وكلما ضاقت أمام الفرد فرص الخلاص ، اندفع إلى التماس النتائج من غير أسبابها ، واستبدال السببية المادية بالسببية الغيبية ، وهكذا تنتشر شعوذات تتلاعب بأمل الإنسان في الخلاص مما هو فيه.(حجازي ، 1998 : 124)

ومما يؤكد جاهزية الناس للإيمان بالمشعوذين زيارة الأضرحة (قبور الأولياء الصالحين) حيث يلجأون إلى الأضرحة فيتباركون عند القبر ، ويطلبون منه مساعدتهم على النجاة من كرب أو شدة أو يطلبون منه أشفاء مرضاهم ، حيث يرجون استجابة (الولي) لدعوة المستغيث وشفاء المرضى .(عبد الصمد ، 1992 : 139)

ويأس الإنسان هو الذي يلجئه إلى مقامات الأولياء ، يتلمس بركتها وعونها والشعور بأهمية البركة يعني التقليل من دور الإنسان في الخلق والإبداع والتغلب والتفوق.(بدران والخماش ، 1988 : 160)

و البركة تعني بالنسبة لطالبها الشعور بالقوة التي يعتقد أن صاحب القبر قد منحها له .

الخـــرافـــة :- وهي اعتقاد أو فكرة لا تتفق مع الواقع الموضوعي بل تتعارض معه ، ولكن ليس كل اعتقاد أو فكرة تتعارض مع الواقع الموضوعي تعد من الناحية العلمية خرافة ، فيشترط في هذا الاعتقاد أن تكون له استمرار ، فهو ليس مجرد خاطر طارئ لموقف وقتي ، أو تفسير عارض لظاهرة عرضية بل إن له وظيفة في حياة من يؤمنون به ويستخدمونه في مواجهة بعض المواقف وفي حل بعض المشكلات الخاصة في الحياة.(الساعاتي ، 1983 : 59)

ومعني ذلك أن للخرافة وظيفة في تفسير الظواهر الغامضة والسيطرة عليها ويؤدي ذلك إلى الشعور بالأمان والاطمئنان عند من يؤمن بها . وفي هذا أحد الوظائف النفسية للخرافة فالمشاكل الغامضة المجهولة يسبب الشعور بالقلق ، ويخلصه التفسير الخرافي من هذا القلق.(العيسوي ، 1984 : 17)

العلاقة بين الخرافة والشعوذة :

لقد كان ظهور الخرافة في الأصل من ارتباط الإنسان ببعض الحكايات الوهمية والتي تظهر بعض الأعمال الأعجازية للجن وذلك فيما كان يرونه الناس من خرافات ، وهذا الارتباط زاد منه ما يسند لبعض الأولياء من كرامات و الذي أعطي للخرافة صبغة دينية جعله تصل مباشرة إلى قلب الإنسان وربطها بإيمانه الديني ، مما زاد في سطوتها عليه ودفعه للتمسك بها . وهذا الربط مع الزمن أكسبها قوة ودفع الناس إلى قبولها وتصديقها ، مما أتاح الفرصة لمحترفي الشعوذة لاكتساب مكانة أكبر في المجتمع و أصبح شأن هؤلاء يعلو ، حتى أن المجتمع بدأ ينسب إليهم كل ما هو خير كما يكسب إليهم القضاء على الشر ومحاربته ، المتمثل في محاربة الجن و العفاريت والتي تأتي إلى الإنسان لتخرب عليه حياته حسب ما تقول الخرافات التي بدأ الناس يصدقونها والمشعوذون يرجعون لها .

وبهذا أصبح المشعوذ يتحكم بأرزاق الناس و أقدارهم بفضل الخرافات التي تنسب إلى الجن من شر ودمار ، وما ينسب للمشعوذ من قدرة على محاربة ذلك الشر والدمار بقوة أكبر ، وهذه القدرة ممنوحة من الله وهي لا تقهر ولا يجب أن تحارب .

أشكال الشعوذة :- وتقسم الباحثتان أشكال الشعوذة كما يأتي :

1- العرافة والكهانة :-

يمارسها أصحابها إما بواسطة قراءة الفنجان ، أو قراءة الكف أو التنجيم أو قراءة ورق اللعب ، وضرب الودع ، وصور العرافة والكهانة عديدة ، وجميعها تلتقي في وعاء معرفة الغيب ، وهي أعمال توهم الناس عن طريق الخداع والاحتيال باستدعاء حقيقة معينة مستهدفة بهذا العمل . وهو في الحقيقة عمل خادع .

ويلجأ البعض إلى هؤلاء عندما تحل بهم بعض المصائب وتتوالى المحن عليهم ، فينتابهم الخوف من المستقبل . ولكي يتبدد الخوف من نفوسهم ، ويخرجوا من حيرتهم يلجأون إلى المشعوذ ويظنون أنهم سوف يتعرفون على مستقبلهم وغيب أيامهم القادمة ليتجنبوا بعض ما قد يلم بهم من شرور أو ليؤمنوا بعض حوادث وملمات الزمن.(عبد الصمد ، 1992 : 180)

ومن الواضح أنها تتراوح بين تقنيات يمارسها محترفون متخصصون و أخرى يقوم بها بعض العامة من الناس في وضعية هي بين الجد و التسلية في المجالس الاجتماعية . (حجازي ، 1998 : 144)

2 - الشعوذة العلاجية أو العلاج بالشعوذة : - و تضم مجموعة من الأساليب :

أ – الأحجبة :- وهي جمع حجاب ، ويشتهر استعماله بين العامة من الناس ، والعادة أن تكتب الورقة ثم تطوي ، وتوضع في جلد ، وتعلق في الرقبة أو تحت الثياب.

ويؤمن العامة بالأحجبة ومعظمها عبارة عن تعاويذ ، وآيات معينة من القران و أسماء الأنبياء المشهورين يتخلل هذا كله أرقام أو أشكال هندسية يقال أن لها مجتمعه أثرا لا يعلمه أحد . ويعتقد بقوة تأثير هذه الأجنحة وقدرتها على حفظهم من الأمراض والمس وغيرها من الشرور.(الساعاتي ، 1983 : 823)

ب - الحضرة : - وهي حفل استخراج الجن واستصالها من الجسد الذي حلت فيه ، كي يشفى من المرض الناتج عن حلولها هذا، وكما يشفي الطبيب أمرض الجسد ، فإن المشعوذ هو طبيب النفوس المريضة التي أصبها مس من جان، وكما يستدعي طب الجسد مهارة في معرفة المرض ، وأسبابه وعلاجه ، كذلك يستدعي المس والتلبس مهارة المشعوذ في التعامل مع الأرواح الشريرة وطرق طردها ، ومن الناحية النفسية العلمية ، جوهر الحضرة هي عملية التفريج للكتب المتراكم ، والذي ينخر المريض ، ويصبح هذا التفريج ممكنا من خلال جو الحضرة الأحد الذي يعطل الضوابط الخلقية ويصد مشاعر الإثم المسؤولة عن كبث الرغبات والنزوات ويعطل (الأنا الأعلى) ويحل شيخ الحضرة بسلطته محل (ألا الأعلى) للمريض من خلال عملية سيطرة نفسية عليه ، يتوسل إليها بالطبول والبخور والإيحاء بالرقص الهستيري . هذا الجو الغريب يؤدي إلى نوع من التحلل المؤقت من التزمت النفسي ، تطفو خلالها المكبوتات على السطح وتثار الهوامات اللاواعية . وعندما تنصرف المكبوتات على هذا الشكل وتشبع الرغبات بشكل خيالي من خلال الرضوخ لسلطة شيخ الحضرة ، ويخف ضغط اللاوعي ويشعر المريض بالارتياح لما يلازمه من حل للتأزم الكامن في أعماق النفس. (حجازي ، 1998 : 134)

ج ـ جلسات إخراج الجن :-

تعتمد على اقتناع المريض بأنه ممسوس بالجن أو أن بداخله جن لا يخرج إلا بأساليب معينة .

وهذه الجلسات يقودها أشخاص يتصفون بصفات معينة تحمل الكثير من القدرة على إقناع الآخرين بجدوى علاجهم ، وتبدأ الجلسة بقراءة بعض الآيات القرآنية لإيهام الناس أن العلاج إنما هو علاج ديني ، ثم محاولة إقناع الجن بالخروج من الجسد، و إن لم تجدي مع وسائل الإقناع الكلامية أخذ ينهال المعالج ضربا على المريض بعصا غليظة ليتعقب الجان في كل مكان من جسمه ليخرج . وبعد هذا الضرب المبرح للجن يقتنع أخيرا بالخروج ليتخلص من الألم الناجم عن هذا الضرب أو هروبا من الحرق بالنار .

ولقد ساعد في انتشار هذه الخرافة إنها تحمل معنى ديني ، بالإضافة إلى عوامل عديدة ، فسهولة العثور على آية قرآنية أو جزء منها أو حديث نبوي بالنص أو التأويل أو بالعنعنة أو الوضع ، يستفاد منها في ما يؤيد علاقة تلك الخرافة بالدين . (بدران والخماش ، 1881 : 74)

ويؤكد الشربيني أن نسبة لا تقل عن 70 % من المرضى يذهبون إلى المعالجين الشعبيين أو المشعوذين قبل أن يفكروا في زيارة الطبيب النفسي ، ورغم إنه لا يوجد دليل واحد على علاقة الشيطان بالأمراض النفسية فإن بعضا من المتعلمين إلى جانب البسطاء لا يستطيع فهم الحقائق العلمية التي تؤكد إن غالبية الأمراض النفسية الرئيسية قد تم التوصل إلى معرفة أسبابها ويمكن علاجها عن طريق تعديل الخلل الذي يعاني منه المريض والحالات الغريبة التي يتناقل الناس الحديث حولها، هي حالات لمرضى يغيبون عن الوعي ويبدأ الشيطان أو الجن في الحديث من داخلهم ، فالكلام يصدر عنهم ولكنه بنبرات و أسلوب يختلف عن طريقتهم المعتادة في الحديث ، والكل هنا يؤكد أن المتحدث هو المخلوق الغريب بداخلهم ، وربما يذكر هذا المتحدث اسمه وديانته والمكان الذي حصر منه فهناك الجن الكافر ، وهناك الشيطان الصغير ، والمرأة التي تبدي رغبتها في الزواج من المريض ، أو الرجل الذي يؤكد أنه يجب ضحيته ولن يتركها ، وكل هذه نماذج من الشياطين الذين يتحاورون مع المحيطين بالمريض وكثيرا ما يقدم الواحد منهم بعض المطالب حتى يتخلى عن المهمة التي يقوم بها مع هذا المريض ويتركه وشأنه .

والواقع أن هذه الحالات لا علاقة لها بالشيطان نهائيا ، والمتحدث هنا هو المريض نفسه وهو في حالة نطلق عليها التحول الهستيري يغيب فيها عن الوعي مؤقتا وتظهر محتويات عقله الباطن فيقوم بالتنفيس عن بعض رغباته المكبوتة ويهرب من الواقع والضغوط التي لا يحتملها فيتصور الجميع أن بداخله شيطان يتكلم ، وهذه الحالات لا تحتاج إلى الحضرة أو الذهاب إلى المشعوذين أو ضرب المريض بقسوة لإخراج الجن ، كل ما في الأمر هو تهدئه المريض وبحث حالته النفسية والتعامل مع الضغوط التي يتعرض لها ، وهنا تتحسن الحالة دون تعامل مع الشيطان . (الشربيني ، 2003 : 143)

الدراسات السابقة :

فيما يلي تعرض الباحثتان بعض الدراسات السابقة التي تحصلن عليها من بعض المجلات العلمية والمراجع ، وفي هذا الصدد جدير بالباحثتان أن يشرن إلى مدى الصعوبة التي واجهتهن في إيجاد تلك الدراسات ، مما أدى إلى اكتفاء الباحثتان ببعض الدراسات التي لا تشترك مع الدراسة الحالية في جوانب كثيرة:

1- قامت بها سامية حسن الساعاتي (1983) حول **ظاهرة السحر في مدينة القاهرة** وهدفها التعرف على ظاهرة السحر كما توجد ، وتمارس في مدينة القاهرة باعتبارها ظاهرة اجتماعية ذات تركيب وخصائص ، وتبين أحوال المشتغلين بالسحر وكذلك المترددين عليهم من ناحية والتردد على المشتغلين بها من ناحية أخرى ومدى شعور المترددين بالفائدة من ترددهم .

وقد أجرت الباحثة هذه الدراسة على ابرز المشتغلين بالسحر في مدينة القاهرة وعددهم 139 مشتغلا بالسحر ، وكل المترددين عليهم وقد بلغ عددهم 754 مترددا ومترددة . واستخدمت الباحثة استمارتي استبيان لجمع المعلومات من إعدادها وجهت إحداها للمشتغلين بالسحر، والأخرى للمترددين على السحرة وقد توصلك الدراسة إلى نتائج التالية: -

ـ إن الإناث أكثر ترددا من الذكور على المشتغلين بالسحر.

- إن الغالبية العظمى من المترددين على المشتغلين بالسحر تنتمي إلى فئات السن مابين (20 -50)

2 - قام بها عبد اللطيف محمد خليفة (1989) حول (**المعتقدات والاتجاهات نحو المرض النفسي لدى عينة من طلبة وطالبات المرحلة الثانوية في القاهرة**)وهدفت هذه الدراسة إلى استكشاف الاتجاهات التي تدور حول المرض والمرضى النفسانيين من حيث طبيعة المرض ، و أسبابه وطرق علاجه ، وتأثير المريض على أفراد الأسرة واستكشاف الاتجاهات التي تدور حول المرض النفسي ، ما إذا كانت تتسم هذه الاتجاهات بالايجابية أو السلبية .

وقد أجرى الباحث هذه الدراسة على عينة بلغ عددها (554) طالب وطالبة بالمرحلة الثانوية ، وقد استخدم الباحث مقياس المعتقدات والاتجاهات نحو المرض النفسي من إعداده وكانت النتائج كما يلي :

- تمسك أفراد عينة البحث ببعض المعتقدات أو التصورات الخاطئة حول طبيعة المرض النفسي و أسبابه وطرق علاجه ، وتأثير المريض على أفراد الأسرة

- وجود بعض الاتجاهات السلبية لدى أفراد عينة البحث من الطلبة والطالبات نحو المرض النفسي والمرضى النفسانيين.

- وجود فروق ذات دلالة بين الطلبة والطالبات في اتجاههم محو المرض النفسي

3 - قام بها محمد مرعي جبران القحطاني (1998) حول (**الاتجاهات نحو علم النفس لدى طلاب بعض الجامعات السعودية) هدفت** هذه الدراسة إلى التعرف على اتجاهات الطلبة السعوديين نحو علم النفس ، وقد أجرى الباحث هذه

الدراسة على عينة بلغ عددها (200) طالب و طالبة من طلاب الجامعات السعودية ، وقد استخدم الباحث مقياس للاتجاهات نحو علم النفس من إعداد الباحث نفسه . وكانت النتائج كما يلي :

- وجود فروق ذات دلالة في الاتجاه نحو علم النفس بين طالبات الجامعات السعودية
- وجود فروق ذات دلالة في الاتجاه نحو علم النفس بين الطلاب المتخصصين في العلوم النظرية عن اؤلئك المتخصصين في العلوم التطبيقية لصالح تخصصات العلوم الاجتماعية والعلوم الإدارية.

4 - قام بها عبد اللطيف محمد خليفة (1998) حول (**المعتقدات والاتجاهات نحو المرض النفسي وعلاقتها بمركز التحكم في القاهرة)** وهدفت هذه الدراسة إلى المقارنة بين ذوي التحكم الداخلي ، وذوي التحكم الخارجي من حيث معتقدات كل منهم حول أسباب المرض النفسي وطرق علاجه والشفاء منه والتعرف على الاتجاهات كل منهم نحو المرض النفسي والمرضى النفسانيين .

وقد أجرى الباحث هذه الدراسة على عينة بلغ عددها (274) طالب وطالبة بالمرحلة الثانوية. وقد استخدم الباحث ثلاثة مقاييس : مقياس المعتقدات نحو المرض النفسي ومقياس الاتجاهات نحو المرض النفسي من إعداد الباحث ، ومقياس التحكم الداخلي - الخارجي للتدعيم أعده (جوليان روتر)وكانت النتائج كما يلي :

- لا يوجد فروق ذات دلالة بين ذوي التحكم الداخلي ، وذوي التحكم الخارجي في معتقداتهم حول أسباب المرض النفسي ، وطرق علاجه ، والشفاء منه .
- يوجد فروق ذات دلالة بين ذوي التحكم الداخلي وذوي التحكم الخارجي في اتجاهاتهم نحو المرض النفسي.

لاحظت الباحثتان على الدراسات السابقة بان هناك بعض نقاط الاتفاق والاختلاف فيما بينها ويمكن إجمال بعض هذه النقاط في الأتي :

أولا من حيث الأهداف :استهدفت دراسة القحطاني (1998) التعرف على الاتجاهات الطلبة السعوديين نحو علم النفس .واستهدفت دراسة خليفة (1989)التعرف على الاتجاهات التي تدور حول المرض والمرضى النفسانيين . واستهدفت دراسة (الساعاتي (1983) التعرف على ظاهرة السحر كما توجد وتمارس ، وتبين أحوال المشتغلين بالسحر وكذلك المترددين عليهم .

فكانت الدراسة المختلفة التردد على السحرة الذي يعد سلوكا معبرا عن الاتجاه نحو العلاج النفسي بظهور السلوك المعبر عن ذلك الاتجاه وهو التردد الفعلي على المشعوذين .

ثانيا : عينة الدراسة : قامت دراسة القحطاني على عينة من طلاب الجامعات السعودية والبالغ عددهم (200) طالب وطالبة . وقامت دراسة خليفة على عينة من طلاب المرحلة الثانوية والبالغ عددهم (274) طالب وطالبة . كما قامت دراسة الساعاتي على عينتين ، عينة من المشتغلين بالسحر وبلغ عددهم (139) وعينة من المترددين على السحرة ، وقد بلغ عددهم (754) مترددا ومترددة ، في حين قامت الدراسة الحالية على عينة من مجتمع بني وليد والبالغ عددهم (117) ذكورا و إناثا تم اختيارهم بالطريقة العشوائية الطبقية.

ثالثا : أدوات الدراسة :اعتمدت دراسة خليفة سنة 1989 على استخدم مقياس للاتجاهات نحو علم النفس من إعداد الباحث . بينما اعتمدت دراسة الساعاتي 1983 على استمارتي استبيان من إعداد الباحثة . واعتمدت دراسة خليفة 1998 على ثلاثة مقاييس : مقياس المعتقدات نحو المرض النفسي ، ومقياس الاتجاهات نحو المرض النفسي من إعداد الباحث ، ومقياس التحكم الداخلي والخارجي للتدعيم الذي أعده (جوليان روتر)

ومن الملاحظ أن كل الدراسات السابقة استخدمت مقاييس اتجاهات من إعداد الباحثين الذين قاموا بالدراسة ، (كما هو الحال بالدراسة الحالية) وذلك نظرا للخصوصية التي تتطلبها دراسة الاتجاهات بسبب اختلاف العادات والتقاليد الاجتماعية التي تشكل في العادة الاتجاه السائد في المجتمع نحو أي ظاهرة ،

رابعا : نتائج الدراسة : توصلت الدراسات السابقة إلى وجود فروق ذات دالة في الاتجاهات بين الذكور والإناث نحو علم النفس وكذلك المرض النفسي ، والدراسة الحالية اختلفت عنها في ذلك.

منهجية الدراسة وإجراءاتها :

منهج الدراسة :

استخدمت الباحثتان المنهج الوصفي الذي يعد واحدا من المناهج العلمية وأكثرها شيوعا واستخداما في البحوث التربوية والنفسية والاجتماعية ، حيث يهدف هذا المنهج تحديد أوصاف دقيقة للأنشطة والأشياء والعمليات والاشخاص في وضعها الذي هي عليه ، وإبراز جوانب معينة فيها ، وتحديد العلاقات التي توجد بينها.(حقيق ، 1980 : 17)

مجتمع الدراسة: يتكون مجتمع الدراسة من جميع أفراد مجتمع بني وليد ذكورا وإناثا بجميع فئاته العمرية.

عينة الدراسة: قامت الباحثتان بسحب عينة الدراسة بالطريقة العشوائية البسيطة ، وذلك بأن قامت الباحثتان بتوزيع مجموعة من الاستمارات على الناس في محيطها حيث طبقت استمارة لكل من قبل بدون ضوابط معينة، من الفئات الاتية:

جدول رقم (1) يبين بيانات العينة

العينة	متعلمين	ذكور	اناث	غير متعلمين	ذكور	اناث
راشدين	مدرسين أساتذة جامعات ممرضين	5 10 -	10 - 8	متقاعدين غفراء مدارس ربات بيوت	10 11 -	- - 28
مراهقين وشباب	طلاب بخلوات المساجد طلاب جامعة طلاب ثانوي	- 11 12	12 - -	-	- - -	- - -
المجموع	-	38	30	-	21	28

وقد بلغ عدد أفراد العينة 130 فرد ، وبعد فرز استجابات أفراد العينة تم حذف 9 استمارات لعدم موضوعية الاستجابة و 4 استمارات لم تتم استعادتها ، وبذلك أصبح عدد الاستمارات الخاضعة للمعالجة الاحصائية 117 استمارة.

معيار موضوعية الاستجابة :

1 – بالاستجابة على فقرات متفقة المهنى ومختلفة الصياغة (عبارات كاشفة).

2 – ترك المفحوص بعض العبارات في مقياس الاتجاه دون اجابة.

3 – ترك المفحوص الاجابة على الفقرات الدالة على التردد بحيث يصعب تحديد ما اذا كان من المترددين أم لا.

أداة الدراسة:

لتحقيق أهداف الدراسة قامت الباحثتان بإعداد أداة ملائمة لقياس الاتجاه نحو العلاج النفسي ، ، وذلك للخصوصية التي تتطلبها دراسة الاتجاهات بسبب اختلاف العادات والتقاليد الاجتماعية التي تشكل في العادة الاتجاه السائد في المجتمع نحو أي ظاهرة ، ومن الملاحظ أن كل الدراسات السابقة استخدمت مقاييس اتجاهات من إعداد الباحثين الذين قاموا بالدراسة ، اذ تأكد الباحثتان ضرورة أن يكون مقياس الاتجاه نابع ومؤلف من ما ينشر في المجتمع من عادات وتقاليد اجتماعية تحكم سلوك الفرد وتشكل رأيه فيما يعرضه من أحداث

وقد مرت عملية اعداد هذه الاستمارة بالخطوات الاتية:

1 – جمعت الباحثتان كل المظاهر والدلائل التي تشير الى الاتجاه نحو العلاج النفسي سلبيا وايجابيا من المراجع والدوريات وضمنتها في استمارة بلغ عدد فقراتها 35 فقرة عرضت على عدد 9 من المحكمين من أساتذة علم النفس والتربية من أجل الحكم عليها من حيث صلاحيتها لقياس الاتجاه من عدمه ، مع امكانية الاضافة والحذف والتعديل.

2 – ومن تفريغ الاستمارة حصلت الباحثتان على فقرات أعدها 80 % من المحكمين صالحة لقياس الاتجاه نحو العلاج النفسي بلغ عددها 24 فقرة ، حيث تم حذف 11 فقرة، إما انها مكررة وتعبر عن معنى واحد أو لانها كانت لا تقيس ما وضعت لاجل قياسه.

3 – أضافت الباحثتان 3 فقرات لمعرفة ما اذا كان المستجيب من المترددين على المشعوذين أم لا ، ولا تستخدم لقياس الاتجاه ، والعبارات هي ذات الارقام 13 ، 15 ، 21

4 – ضُمنت الفقرات التي حصلت عليها الباحثتان من الخطوات السابقة في استمارة وزعت على أفراد العينة لقياس الاتجاه.

ثبات الاداة:

قامت الباحثتان بقياس ثبات الاستمارة عن طريق التطبيق على عينة قوامها 30 فردا ثم اعادة التطبيق بعد اسبوعين على نفس العينة ، وباستخدام معامل الارتباط (بيرسون) بلغ ثبات الاستمارة (0.84) وهو معامل ثبات مرتفع.

صدق الاداة:

كانت أراء لجنة المحكمين كافيا للحكم على صدق ومدى صلاحية فقرات المقياس لقياس ما أعدت لقياسه ، ومدى وضوح التعليمات على الاداة ، وسلامة الصياغة العلمية واللغوية للفقرات (الصدق الظاهري).

وتم تحديد أوزان الاستجابات على الفقرات السالبة والفقرات الموجبة ، كما يأتي:

الدرجة 2 لاجابة نعم ، الدرجة 1 لاجابة الى حد ما ، الدرجة 0 لاجابة لا.

وعلى العكس من ذلك بالنسبة للفقرات السالبة ، حيث تم تحديد الاوزان كما يأتي:

الدرجة 0 لاجابة نعم ، الدرجة 1 لاجابة الى حد ما ، الدرجة 2 لاجابة لا.

تطبيق أداة الدراسة: تم تطبيق الاداة عن طريق :

1 – الاستبيان.

2 – المقابلة الشخصية مع الافراد الذين لا يجيدون القراءة.

الوسائل الاحصائية المستخدمة:

تمت معالجة بيانات العينة بالوسائل الاحصائية الاتية:

1 – المتوسط الحسابي.

2 – الانحراف المعياري.

3 – التباين.

4 – الاختبار التائي (T.test) لعينة واحدة.

5 - -الاختبار التائي(T.test) لعينتين مستقلتين لاستخراج الفروق.

6 – معامل الارتباط (بيرسون) لقياس الثبات.

عرض النتائج ومناقشها:

أولاً: بالنسبة للتساؤل الأول والذي نصه :

- ما طبيعة الاتجاه نحو العلاج النفسي لدى مجتمع بني وليد ؟

حيث رصدت درجات اتجاه مجتمع بني وليد نحو العلاج النفسي (عينة الدراسة) ثم حللت البيانات إحصائياً باستخدام(T- test) لعينه واحده لمعرفة الفرق بين المتوسط الحسابي لدرجات اتجاه مجتمع بني وليد ككل والمتوسط النظري لمقياس اتجاه مجتمع بني وليد ، والجدول رقم (2) يوضح ذلك.

الجدول رقم (2) يبين الاتجاه نحو العلاج النفسي للعينة ككل:

العينة	حجمها	المتوسط الحسابي	الانحراف المعياري	المتوسط النظري	درجة الحرية	قيمه ((t)) المحسوبة		مستوى دلاله 0.05
ككل	117	33.46	6.97	21	116	19.32	1.98	دالة

وهذا يشير إلي أن هناك اتجاه إيجابي لدى مجتمع بني وليد نحو العلاج النفسي ، حيث يتضح وجود فرق ذو دلالة إحصائية، إذ كانت القيمة التائية المحسوبة (19.32) ، أكبر من القيمة الجدوليه (1.98) ، وهذه النتيجة ترجعها الباحثتان لما شهده مجتمع بني وليد في العقد الأخير من تطور ثقافي أدى إلي زيادة الوعي لدى الكثير من أفراده ، ولعل ذلك يرجع إلي أسباب عديدة ، قد تكون أهمها وسائل الأعلام والقنوات التلفزيونيه وارتياد مواقع الشبكة الالكترونية واستخدام وسائل التواصل الاجتماعي التي قامت مجموعه منها بإعداد ونشر برامج خاصة وتبيان رأي الشريعة والدين بهذا الموضوع ، مما أدى إلي انتشار الوعي الديني والتقليل من الاعتقاد في الأولياء والمشايخ ، مما قلل من أهميه الوسائل التي يستخدمها المشعوذون لإغواء الناس والتي تتخذ الطابع الديني ، وهذا بدوره فتح أعين الناس علي وسائل أخرى لعلاج أمراضهم منها العلاج النفسي ، فبدأ الاتجاه الايجابي نحو هذا النوع من العلاج يتنامى.

ثانياً:- بالنسبة للتساؤل الثاني والذي نصه:

- هل توجد فروق بين الذكور والإناث في الاتجاه نحو العلاج النفسي ؟

تم رصد الدرجات التي تحصل عليها مجموعة الذكور و الدرجات التي تحصلت عليها مجموعة الإناث ، ثم قامت الباحثتان بتحليل البيانات إحصائياً باستخدام (T- test) لعينتين مستقلتين لمعرفة دلالة الفروق بين متوسطات المجموعتين ،والجدول رقم (3) يوضح ذلك .

الجدول رقم (3) يبين الفروق بين الذكور والإناث في الاتجاه نحو العلاج النفسي:

العينـــــــة	حجمها	المتوسط الحسابي	التباين	درجه الحرية	قيمه t المحسوبة	الجدولية	مستوى دلاله 0.05
ذكـــــور	57	33.45	63.12	115	0.008	1.98	غير دالة
إنـــــاث	60	33.46	34.91				

اتضح عدم وجود فروق ذات دلالة إحصائية حيث كانت القيمة المحسوبة اصغر من القيمة الجدولية وهذا يشير إلى عدم وجود فروق بين الذكور والإناث في الاتجاه نحو العلاج النفسي ، واختلفت هذه النتيجة مع جميع نتائج الدراسات السابقة حيث اشارت لوجود هذا الفرق حسب متغير الجنس ،وترجع الباحثتان ذلك باعتبار أن الانخراط في مجالات الحياة المختلفة من تعليم وعمل أصبح متاحاً للإناث كما هو متاحاً للذكور ، كما إن الاهتمام بتعليم البنات في مجتمع بني وليد لا يختلف عن الاهتمام بتعليم الذكور ، مما أدى إلي التساوي في المستويات العلمية والثقافية بين الإناث والذكور ،بل إن الإناث فاقت الذكور في ذلك .

ولعل الفاحص لنتائج الامتحانات ولمستويات التحصيل سواء في المدارس أو الجامعات يجد إن الإناث أكثر تحصيلاً علمياً من الذكور ، وبما أن مواقع ووسائل التواصل الاجتماعي والأعلام كانت أحد الأسباب التي أدت إلي نمو الوعي وزيادة المستوى الثقافي لدى أفراد المجتمع ، فإن الإناث أكثر استفادة من الذكور في ذلك على اعتبار أن بقاء الإناث في البيوت وقتا أطول يجعلهن أكثر إلتصاقا بوسائل الأعلام ومواقع الانترنت ، فيحصلن من ذلك على ما يحصل عليه الذكور من خلال اختلاطهم بغيرهم من الناس والتنوع في الآراء والثقافات الذي غالباً ما يصادفونه عند أقرانهم أو من يختلطون بهم ، ،وبذلك لا يكون هناك كبير اختلاف بين الإناث والذكور في اتجاههم نحو العلاج النفسي.

ثالثا :- بالنسبة للتساؤل الثالث والذي نصه :-

ـ هل توجد فروق بين المترددين وغير المترددين على المشعوذين في الاتجاه نحو العلاج النفسي ؟

حيث تم رصد الدرجات التي تحصل عليها المترددين على المشعوذين والدرجات التي تحصل عليها غير المترددين على المشعوذين .

ثم حُللت البيانات إحصائيا باستخدام (T- test) لعينتين مستقلتين لمعرفة دلاله الفروق بين متوسطات المجموعتين (المترددين وغير المترددين على المشعوذين) ، والجدول رقم (4) يوضح ذلك.

الجدول رقم (4) يبين الفروق بين المترددين وغي المترددين على المشعوذين في الاتجاه نحو العلاج النفسي المترددين

العينـــــــــة	حجمها	المتوسط الحسابي	التباين	درجه الحرية	قيمه t المحسوبة	قيمه t الجدولية	مستوى دلاله 0.05
غير المترددين على المشعوذين	67	34.7	41.12	115	2.287	1.98	دالة
المترددين على المشعوذين	50	31.76	53.70				

اتضح وجود فروق ذات دلاله إحصائية حيث كانت القيمة المحسوبة أكبر من القيمة الجدوليه وهذا يشير إلى وجود فروق بين المترددين وغير المترددين على المشعوذين في الاتجاه نحو العلاج النفسي لصالح غير المترددين على المشعوذين وهذه النتيجة تعد منطقية ، لأنها تؤكد أن الاتجاه والميل هو السبب الأساسي في قيام الفرد بسلوك ما ، وهنا يتضح أن الاتجاه نحو العلاج النفسي كان سبباً رئيسياً في التردد إما على المشعوذين أو العيادات النفسية ، فالذين لديهم اتجاهات سلبية نحو العلاج النفسي كانوا يترددون على المشعوذين ، بينما لا يقوم بذلك من كان لديهم اتجاه إيجابي نحو العلاج النفسي وهذا أمر طبيعي ، خاصة وأن ثقافة المجتمع لا تزال تحمل للأولياء الصالحين والمرابطين الكثير من الاحترام والتعامل المبنى على الاعتقاد بأنهم من الله ولله ، وعلى هذا فمن الطبيعي أن يكون في المجتمع من له اتجاه ايجابي نحو كل ما هو خرافي وان يجافي عكس ذلك فمن يعتقد بأن الولي ينفع ويضر وأن زيارة القبر ربما تغير في الأمور شيئاً لابد له أن يتردد على من يعتقد أنهم أولياء الله ، وأن لديهم كرامات وأن يكون اتجاهه سلبي إلى كل ما يعاكس ذلك , حيث يؤكد علماء النفس إن للاتجاه دوراً رئيسياً في توجيه سلوك الفرد , و لذلك فمن الطبيعي إن ينزع الفرد إلى السلوكيات التي يشعر بالميل اتجاهها ويعتقد أنها الأصوب والأفضل لحياته ومستقبله, هذا الاعتقاد الذي ينطلق أساساً من وجود الاتجاه .

التوصيات: في ضوء نتائج الدراسة ، توصي الباحثتان بالاتي:

1- دعوة قسم علم النفس بالجامعات الليبية إقامة الندوات وإعداد برامج وخطط يمكن بواسطتها التقليل من المعارف والتصورات السلبية الخاطئة نحو العلاج النفسي والمعالجين النفسيين.

2- العمل على توعية الناس وتقديم لهم كل ما هو إيجابي ويتفق مع التقدم العلمي الكبير الذي يشهده العصر ، وترك الاعتقاد بأساليب الشعوذة الخرافية ، باستخدام وسائل الإعلام المرئي والمسموع والمكتوب ووسائل التواصل الاجتماعي بالشبكة العنكبوتية.

3- العمل على تأهيل الاخصائيين النفسيين من أطباء ومعالجين نفسيين وافتتاح عيادات نفسية في كل مناطق ليبيا حتى تكون هناك علاجات نفسية مُقنعة للناس تحل محل اعتقادهم بالشعوذة والمشعوذين.

4- دعوة الجهات المسئولة على تطبيق القوانين التي تمنع الاحتيال على الناس بأعمال كالسحر والشعوذة والدجل وغيرها.

المقترحات:

استكمالا للدراسة الحالية ، وفي ضوء ما أسفرت عنه نتائج الدراسة ، تقترح الباحثات الدراسات المستقبلية الآتية:

1- الاتجاه نحو العلاج النفسي لدى المرضي النفسانين .

2- الاتجاه نحو العلاج النفسي وعلاقته بالتردد على المشعوذين (دراسة مقارنة بين المتعلمين وغير المتعلمين)

3- تحديد العوامل الاجتماعية والثقافية التي تؤدي الى انتشار الشعوذة.

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Influence of Cu substitution on the structure and magnetic properties of the new GdFe2-xCux (x = 0, 0.1, 0.15 and 0.2) solid solution

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Abstract
The structural, magnetic and magnetocaloric properties of these intermetallic compounds $GdFe_{2-x}Cu_x$ (x = 0, 0.1, 0.15 and 0.2) were investigated systematically in detail using X-ray powder diffraction (XRD) analysis, Scanning electron microscopy (SEM) equipped with Energy dispersive X-ray spectroscopy (EDS), and magnetic measurements. These compound are synthesized successfully by means of arc-melting and annealed at 800°C for 1 week.. The Rietveld analysis of X-ray diffraction patterns proves that $GdFe_{2-x}Cu_x$ (x = 0, 0.1, 0.15 and 0.2) compounds crystallize in the cubic laves phase $MgCu_2$-type structure with the Fd-3m space group. Gadolinium and iron atoms statistically occupy the 8a and 16d sites respectively. Moreover, copper and chromium atoms substitute the iron atoms at site 8a in the MgCu2-type structure. The temperature dependence of magnetization studied in a broad temperature range reveals that all compounds exhibit a ferromagnetic- paramagnetic transition at Curie temperature. We find that the substitution of iron by copper and chromium leads to a decrease in the magnetic ordering transition temperature. The Arrott plots of all our samples show the occurrence of a second-order phase transition. Besides, the performance of magnetocaloric effect (MCE) for $GdFe_{2-x}Cu_x$ (x = 0, 0.1, 0.15 and 0.2) compounds was evaluated by the magnetic entropy change (-ΔSM) and the related Relative Cooling Power (RCP). In the vicinity of Tc, the -ΔSM reached a maximum value of 0.79 J/kg.K, 1.2 J/kg.K, 1.4 J/kg.K and 2.5 J J/kg.K, while the RCP was found to be 13.2 J/kg, 21.6 J/kg, 31.7 J/kg and 44.3 J/kg, respectively for GdFe2-xCux (x = 0, 0.1, 0.15 and 0.2) compounds under a field change of 1.56 T. Through these results, $GdFe_{2-x}Cu_x$ (x = 0, 0.1, 0.15 and 0.2) compounds can be an attractive material for use as active refrigerants, for magnetic refrigeration technology.

Keywords: X-ray diffraction · Magnetic · Theoretical and experimental magnetocaloric effect

Is Government Financial Support Effective for Cloud Enterprise Resource Planning Implementation and Financial Performance of Small and Medium Enterprises (SMEs)?

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Abstract
In order to drive economic developments, governments promote the usage of innovative technologies such as cloud ERP through a variety of support mechanisms that can be broadly classified as government financial support (GFS) and non-financial government support (NFGS). This support is largely directed at SMEs, particularly in developing countries. Cloud ERP is a low-cost, easy-to-deploy technology that provides organisations with a competitive edge and improved performance. However, SMEs are slow to implement the technology despite support from government. While the effect of government support on cloud ERP implementation is well documented, the precise impact of GFS on cloud ERP implementation and how this affects performance is unclear. The purpose of this study is to determine the influence of GFS on cloud ERP implementation and, how this in turn impacts the financial performance of SMEs businesses. The study's model was validated using data from 204 manufacturing SMES in Malaysia. Using partial least square structural equation modelling (PLS-SEM), the results indicate that GFS positively influences cloud ERP implementation, which in turn enhances financial performance. Policymakers and SMEs can use the findings to build strategies for improving cloud ERP implementation and economic development.

Keywords: government financial support; cloud enterprise resource planning; implementation; financial performance, small and medium enterprises; Malaysia.

1 Introduction

With the present advanced technological innovation, many nations strive to position themselves rightly in order to reap the benefits of emerging technologies to boost their economic performance. As a result, a basic topic that has consistently require policymakers' attention is the determinants of economic performance in today's knowledge-based economy (Doh and Kim, 2014) with special focus on SMEs technology adaptation.

As SMEs dominate the economies of majority of countries, they have been crucial beneficiaries of government support for technological innovation, especially in developing countries. This is because, entrepreneurship is commonly recognised as a means of generating jobs, innovation, and developing the economy (Pergelova and Agulo-Ruiz 2014), in which SMEs are dominant participants.
In emerging economies such as Malaysia, SMEs are critical, where they play a fundamental role in the country's economic success. For instance, SMEs account for 98.5% of total company entities (907, 065), 65% of total employment, about 18% of gross exports, and

36.3% of Gross Domestic Product (GDP) (Department of Statistics Malaysia, 2016; Fook Ming et al., 2018; The world bank, 2016).
Therefore, Malaysian government has been offering support in terms of policies, legislations and financial incentives for SMEs to embrace cloud computing (CC) services, such as cloud ERP. Cloud ERP is a software application deployed over the CC platform that enables businesses to access IT resources (such as storage, networks, and servers) on a pay-per-use basis for the purpose of integrating organisational processes involving several departments and functions. As such, Cloud ERP provides numerous benefits to SMEs, including flexible data access, ease of data control, reduced licencing expenses, minimal maintenance and overall investment costs (Lenart, 2011; Wrycza, 2011).

Generally, government supports for cloud ERP can be categorized as non-financial government support (NFGS), such as policies, legislations and government financial support (GFS) such as financial inducements. In this paper, we focus on GFS because Malaysian government has provided holistic financial support for SMEs to implement information technologies (IT) (Alam and Noor, 2009) such as cloud ERP. For example, the Malaysian government offers a six-month subscription cost reimbursement or up to RM1,500 (US$355) off the total cost for all types of software-as-a-service (SaaS) subscriptions, including cloud ERP (Hassan, 2017; Hassan et al., 2017). A RM1,059 (US$250) annual incentive is also offered to SMEs that embrace local SaaS business cloud solutions such as cloud ERP (Rosen et al., 2015). Over five years, SMEs will get a 50% matching grant equivalent to RM5,000 (US$1,180) each to buy cloud-based ERP and other cloud-based services (Singh, 2019). Additionally, because SMEs are recognised for their limited resources, GFS may be a more compelling reason for them to use cloud ERP than NFGS.

Despite the benefits of cloud ERP for SMEs and the significant financial assistance provided by the Malaysian government, only 44% of SMEs use cloud services, and cloud ERP is the least used digitization solution, accounting for only 10.5 percent of SMEs, according to a recent poll (SME Corp Malaysia and Huawei Technologies, 2018). SMEs tend to be uncertain about GFS's ability to aid them in successfully implementing cloud ERP, which can result in increased performance.

While past research has explored the effect of government support on cloud ERP implementation, the specific effect of GFS was overlooked. This is because past research on cloud ERP implementation (e.g., AlBar and Hoque, 2019; Amini and Bakri, 2015; Hsu and Lin, 2016) either combined GFS and NFGS measurement items as a single dimension or examined solely the NFGS dimension. As a result, it is unknown how GFS, especially in developing nations, assists SMEs in successfully implementing cloud-based services. Additionally, these studies omitted performance from their model. In other words, cloud service deployment is an intermediate organisational process that should be studied further for its final impact on business performance.

The purpose of this study is to close gaps in the literature by investigating the impact of a specific government support (GFS) on cloud ERP implementation success and how this in turn enhances better financial performance. The research question this research is set to answer is- Is GFS effective in helping SMEs implement Cloud ERP and improve their financial performance?

The remainder of the article is structured as follows: literature review and hypotheses development are presented in the next section. Section 3 depicts methodology, followed by data analysis in section 4. The paper concludes in section 5 by discussing the findings, theoretical and practical implications, highlighting limitations and areas for future research.

2. Literature review and hypotheses development

2.1 Cloud ERP Implementation in SMEs

CC is a technology that facilitates IT outsourcing by offering pay-per-use access to computing resources (such as storage space, servers, networks, software, and databases) through the internet (Martson et al., 2011; Yigitbasioglu, 2015). CC is comprised of three basic internet-based services: (1) Software as a Service (SaaS), which allows users with access to software applications; and (2) Infrastructure as a Service (IaaS), which provides users with access to infrastructure. (2) Infrastructure as a Service (IaaS), which provides network infrastructure, operating systems, virtual machines, servers, and storage, and (3) Platform as a Service (PaaS), which enables users to explore with and deploy software. (Bruque-Cámara et al., 2016; Mell and Grance, 2011; Vu et al., 2020).

In comparison to other CC services, SaaS is remotely hosted, created, managed, and distributed over the internet by a service provider (Cho and Chan, 2015), making it the most cost-effective option for SMEs. There are numerous SaaS business applications available for SMEs, including Gmail, Zoom, as well as more advanced business tools, such as cloud enterprise resource planning (ERP) and customer relationship management (CRM). This study focuses on cloud ERP, which is an assemblage of functional modules that represent an organisation's numerous logistics departments, such as production, sales, human resources, transportation, inventory management, warehousing, and procurement (Khamis and Mohd, 2016). Additionally, Cloud ERP has a variety of advantageous properties for various firms, particularly SMEs, who account for the great majority of Cloud ERP users (Wrycza, 2011).

In recent years, the business environment in which SMEs operate has undertaken a major change. The market now demands customer satisfaction and service flexibility from SMEs (Salum & Abd, 2015). To surmount these challenges, SMEs are turning their attention to evolving technologies such as cloud ERP that promise cost savings, timely decision-making, competitive advantage and enhanced performance.

Cloud ERP fuses both processes and functions of an enterprise creating a faultless, efficient and more visible way of executing business operation. Cloud ERP provides promising opportunity for SMEs to collaborate and create new competitive advantages in the current digital business era (Assante et al., 2016; Kumar et al., 2017).

Cloud ERP enables SMEs to enjoy the advantages and privileges of an ERP package without the need of installing IT hardware (Fosso- Wamba et al., 2016). Therefore, an emerging technology like cloud ERP solution is usually more effectual for SMEs than large companies (Fosso-Wamba et al., 2016; Utzig et al., 2013).

Various contextual factors affect cloud ERP usage in SMEs, however, without financial incentives that make good business sense, adoption is not guaranteed (Oliveira et al, 2014).

2.2 Hypotheses development

2.2.1 Government financial support and cloud ERP implementation

GFS is characterised as government support for SMEs' adoption of innovative technologies via cloud-based services, in addition to providing enterprises with a supplementary source of finance (Huong and Cuong, 2019; Sandu and Gide, 2018).

The majority of past research identified government support as a critical factor of innovative technology implementation, particularly in emerging economies (Amini et al., 2014; Ellahi et al., 2010). Haji Salum and Abd Rozan (2016) discovered that government support assisted Malaysian SMEs to embrace cloud ERP. Ezzaouia and Bulchand-Gidumal (2020) confirmed the important role of government support in IT deployment in the Moroccan hotel business.

Additionally, government support was cited as an important factor in the success of CC adoption by India's Micro, Small, and Medium-Sized Enterprises (MSMEs) (Raut et al., 2017). Government support was a critical facilitator for the adoption of CC among SMEs in Tamil Nadu, India (Wilson et al., 2016). In the CC study arena, government support has been extensively investigated as a unidimensional construct, with the majority of studies combining GFS and NFGS measuring items into a single dimension or examining only the NFGS dimension.

For example, GFS and NFGS measuring items were merged into a single dimension (AlBar and Hoque, 2019; Amini and Bakri, 2015; Haji Salum and Abd Rozan, 2016; Hsu and Lin, 2016), while others examined only NGFS dimension (Gangwar, 2017; Oliveira et al., 2014: Usman et al., 2019). As a result, it is doubtful how GFS helps SMEs in successfully implementing cloud ERP, particularly in developing nations. Given the Malaysian government's substantial financial support for CC implementation in SMEs, this study highlights the efficacy of GFS.

Financial support is critical for IT innovation (Chang et al., 2019; Kuan and Chau, 2001), and businesses can benefit from cloud services only if they have adequate financial resources to implement them (Ifinedo, 2011). Alsafi and Fan (2020) found that lack of government support in terms of funding of CC was a challenge for Saudi Arabian SMEs. Doh and Kim (2014) discovered a substantial positive association between innovation and the Korean government's technology development assistance funds while researching the influence of GFS on technology innovations in SMEs in South Korea. GFS is intended to incentivize SMEs to use CC and should therefore be a reliable predictor of successful cloud ERP implementation. As a result, the following hypothesis is developed:

H1: Government financial support positively influences cloud ERP implementation.

2.2.2 Cloud ERP implementation and financial performance

In general, IT deployment enables businesses to improve their performance by increasing market share, increasing productivity, establishing a stable customer-oriented position, improving product and service innovation, and responding more quickly to changing market conditions (Cardona et al., 2013; Tran et al., 2014). Hence, technology implementation is crucial only when it significantly improves business's performance (Yunis et al., 2018).

Gupta et al. (2018b) assessed the effects of big data predictive analytics and cloud ERP on corporate performance (operational and market). The study's findings indicated that both cloud ERP and big data had a strong favourable effect on operational and market performance. Munene (2017) examined the relationship between CC implementation and company performance in Kenyan SMEs. The results indicated that CC implementation had a considerable beneficial influence on all performance indicators.

CC was evaluated by Schniederjans and Hales (2016) and its effect on environmental and economic performance in the USA using several multisector companies. CC's positive effect on economic and environmental performance was affirmed based on findings.

Meanwhile, there have been criticisms that an IT is a commodity (Breznik, 2012) that may not offer benefits to firms by mere adoption, but through usage (e.g., Gangwar, 2017) and/or strategic alignment with firms' goals (e.g., Fuzes, 2018). Thus, adopting and aligning an IT resource effectively to increase an organisation's unique advantages improves the firm's success (Ilmudeen et al., 2019). Research in this field suggests that the greater the level of IT integration, the greater the profitability of businesses (Simoens and Scott, 2005). Additionally, the usage of IT may add value to operational efficiency, inventory management, and function integration, resulting in increased productivity (Liao et al., 2015). Similarly, Gangwar (2017)

established a favourable and statistically significant link between CC usage and organisational performance in India.

This study therefore conceptualizes cloud ERP implementation as usage and strategic alignment in order to capture value such as better financial performance (FP). Hence, the following hypothesis is proposed.

H2: Cloud ERP implementation positively influences financial performance.

The conceptual model that portrays the relationship of the constructs is presented in Figure 1

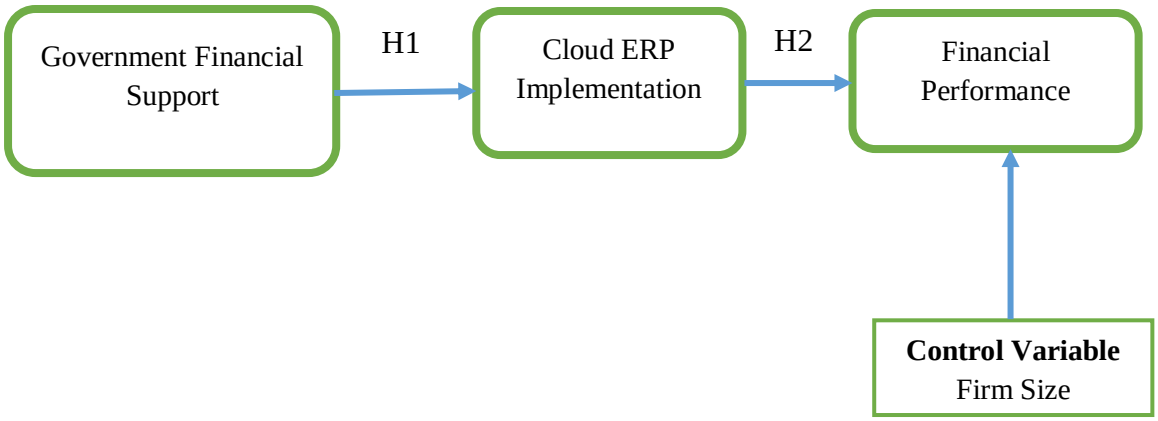

Fig 1. Conceptual model

3. Methodology

The sample was drawn from manufacturing SMEs in two Malaysian states (Selangor and Johor) and one federating territory (Kuala Lumpur), which have the highest density of SMEs (Department of Statistics Malaysia, 2016). The lists of registered SMEs were obtained from the SME Corp. and Federation of Malaysian Manufacturers directories (FMM). Between October 2020 and January 2021, an online survey using Google form as questionnaire tool was conducted. Prior to data collection, the study questionnaire was pre-tested by four respondents and one information systems researcher to confirm its understandability and usability. We modified some items based on their observations to increase the clarity of our questionnaire. Then, a pilot test was conducted with 30 firms sample that were not included in the main survey in order to avert learning effects (Joo and Suh, 2017). The results indicated the instrument's validity and reliability.

The unit of analysis was top-level managers and small business owners, as they are more accountable for strategy development and decision-making (Tajeddini & Mueller, 2012). Using stratified random sampling, a total of 208 completed questionnaires were retrieved from 1020 distributed to SMEs' email addresses, representing a 20% response rate. However, four were dismissed since they were filled by big companies. 204 responses were analysed, and no data were missing due to the online forced-answer approach, in which all questions must be answered. A Likert scale of 1-5 was employed, with 1 indicating strongly disagree, 2 indicating disagree, 3 indicating neutral, 4 indicating agree, and 5 indicating strongly agree.

There are several potential sources of common method biases (CMB) that stem from studies that use self-reported data (Podsakoff et al., 2003). CMB is typically problematic, and researchers are expected to exert maximum control over it (Podsakoff et al., 2003). To account for the possibility of CMV this study employed Harman's one factor technique.

All construct items were entered into a factor analysis, completed by a principal component analysis. The analysis showed that the first component accounted for 44.8 percent of the overall variance. As a result, no single general factor adequately explained the majority of the covariance (>50%) between the measures, therefore, CMV is not a problem in this data set.
Descriptive analysis shows that 48.5% of 204 respondents were owners, while about 69.6% were between 21-50 years. Most of the respondents had Bachelor degree (39.7%), were female (54.4%) mostly operating in small business category (49.0%). Majority (17.6%) operate in the Food, beverage and tobacco sector, whereas (76%) of the firms has used cloud ERP less than three years and a high number (80.4%) subscribed to public cloud ERP.
This study consists of two predictor constructs (government financial support and cloud ERP implementation) and one endogenous construct (financial performance). The measurements of the constructs were adapted from prior research to suit the context of this study. The study employs firm size as a control variable since various SMEs sizes have varying levels of resources, which can have an effect on their performance.

Table 1. Measurement items

Constructs (sub-construct)	Sources	Items
Government financial support.	Hassan (2017); Singh (2019).	4
Cloud ERP implementation *Strategic alignment,	Chiu and Yang (2019); Jorfi et al. (2017)	9
*Usage	Gangwar (2017)	3
Firm financial performance	Wang et al. (2008).	5

4 Data analysis

This study applied the Partial least squares-structural equation modelling (PLS-SEM) technique using the statistical software Smart PLS 3.3.2 to analyse the data because of the (1) non-normality of data distribution (2) small sample size of 204 (3) objective of maximising the variance explained by the dependent construct in the model (Hair et al., 2011, 2014).

4.1 Measurement model

Based on confirmatory factor analysis (CFA), a measurement model was conducted to assess the construct reliability, indicator reliability, convergent validity, and discriminant validity of the constructs. The constructs of the study comprise of lower-order constructs (LOCs) (GFS and FP) and higher-order construct (HOC) (cloud ERP implementation) which consist of LOCs "usage" and "strategic alignment". The LOCs were reflectively modelled in accordance with literature review. Similarly, based on the literature review and the conceptual logic that the HOC is the consequence of the LOCs (Mikulić & Ryan, 2018), the HOC was modelled as reflective-reflective (Sarstedt et al., 2019). Additionally, to specify and evaluate the HOC, we employed the disjoint two-stage approach. In the disjoint two-stage approach, antecedent paths were created to the LOCs of the HOC directly, without the inclusion of the HOC in stage 1, while the latent variable scores of the LOCs were saved and used to measure the HOC in second stage.

The first-order measurement model is shown in Table 2. Reliability scores of the constructs measured by CR ranged from 0.914 to 0.972, which are all higher than the 0.7 threshold suggested by Hair et al. (2014). These results guaranteed the internal consistency between these constructs. The indicators' loadings of the constructs were above the 0.7 threshold, demonstrating the constructs' reliabilities (Hair et al., 2010). Also, the AVE scores which were used to measure the common variance in a particular construct ranged from 0.748 to 0.895, indicating values higher than 0.5 threshold recommended by Fornell and Larcker (1981). Thus, assuring the convergent validity of the constructs. The discriminant validity was

assessed using the Heterotrait-Monotrait Ratio (HTMT) which is novel, rigorous and reaches a higher level of specificity than the Fornell-Larcker (1981) criterion and cross-loadings (Henseler et al., 2015). The HTMT scores presented in Table 3 were lower than 0.85 (Kline, 2011), suggesting there is no issue of discriminant validity. The measurement model of the HOC (cloud ERP implementation) was conducted next in Table 4. The CR for cloud ERP implementation (0.923) shows the internal consistency of the construct. The factor loadings for usage and strategic alignment (LOCs) of cloud ERP implementation indicates values higher than the 0.7 threshold (Hair et al., 2010), hence confirming the reliabilities of the LOCs. AVE of 0.857 for cloud ERP implementation confirms the convergent validity. Lastly, the discriminant validity of all constructs were evaluated as suggested by Sarstedt et al. (2019), and the HTMT values were below the 0.85 benchmark of Kline (2011) (see Table 5). The results support the reliability and validity of the constructs which can be used for the structural model assessment.

Table 2. First-order measurement model: Factor loadings, AVE, CR

Construct	Indicator	Loadings	AVE	CR
Government Financial Support	GFS1	0.966	0.895	0.972
	GFS2	0.949		
	GFS3	0.934		
	GFS4	0.936		
Cloud ERP Usage	ERP_usage1	0.914	0.780	0.914
	ERP_usage2	0.886		
	ERP_usage3	0.848		
Strategic Alignment of Cloud ERP	ERP_str_align1	0.870	0.748	0.964
	ERP_str_align2	0.838		
	ERP_str_align3	0.830		
	ERP_str_align4	0.874		
	ERP_str_align5	0.878		
	ERP_str_align6	0.900		
	ERP_str_align7	0.869		
	ERP_str_align8	0.854		
	ERP_str_align9	0.868		
Financial Performance	FIN_PERF1	0.913	0.811	0.955
	FIN_PERF2	0.858		
	FIN_PERF3	0.896		
	FIN_PERF4	0.923		
	FIN_PERF5	0.910		

Table 3. First-order constructs: Heterotrait-Monotrait Ratio (HTMT)

	ERPUSAGE	FP	GFS	STR_ALIGN
Cloud ERP usage				
Financial performance	0.401			
Government financial performance	0.335	0.249		
Strategic alignment of cloud ERP	0.793	0.478	0.441	

Table 4. Second- order Measurement Model: Factor Loadings, AVE and CR

Construct	Indicator	Loadings	AVE	CR
Cloud ERP Implementation	ERP_USAGE	0.906	0.857	0.923
	STR_ALIGN	0.945		

Table 5. All constructs: Heterotrait-Monotrait Ratio (HTMT)

	CERPIMPL	FP	GFS
Cloud ERP implementation			
Financial performance	0.496		
Government financial performance	0.437	0.249	

4.2 Structural model and testing of hypotheses

Prior to evaluating the structural model, we assessed the multicollinearity of the constructs based on the variance inflation factor (VIF). The VIF values ranged between 1.000 and 1.192. The values are lower than the 3.3 threshold, indicating the absence of multicollinearity among the constructs (Hair et al., 2014). The standard criteria to assess the structural model followed include the path coefficient, coefficient of determination R^2, effect size f^2, and Q^2 (Hair et al., 2014).

4.2.1 Path coefficient assessment

The path coefficients were used to determine the significance of the hypothesised direct and indirect relationships between the constructs. A comprehensive bootstrapping technique was used in SMARTPLS with 5000 subsamples, and t-statistics were generated to examine the significance of all paths coefficients. Therefore, t-statistics ≥ 1.96 indicates 0.05 level of significance according to Hair et al. (2014). As shown in Table 6, government financial support ($\beta = 0.401$, $t = 6.093$, $p < 0.001$) had a positive effect on cloud ERP implementation, thus supporting H1. Cloud ERP implementation ($\beta = 0.448$, $t = 5.766$, $p < 0.001$) positively influenced financial performance, hence H2 is supported. For the control variable, firm size had no effect on financial performance. That is, either a firm was micro, small or medium sized, there was no differential impact on their financial outcome.

Table 6. Hypothesis Testing

No	Hypothesis	β	SD	t-value	Result
H1	GFS → CERPIMPL	0.401***	0.066	6.093	Supported
H2	CERPIMPL → FP	0.448***	0.078	5.766	Supported
Control variable	FS → FP	0.108^{ns}	0.062	1.479	No effect

Note: ^{ns} = non-significant, ***p < 0.001, **p < 0.01, *p < 0.05, β = Standard Beta, SD = Standard Deviation

4.2.2 Assessment of R^2, f^2, Q^2

The determination coefficient (R^2) quantifies the amount of variance in an endogenous variable that can be explained by its exogenous variables (Hair et al., 2014). The effect size f^2 enables one to determine the contribution of an exogenous construct to the R^2 value of an endogenous latent variable. Predictive relevance (Q^2) utilises the blindfolding procedure to determine the predictive power of exogenous constructs over endogenous constructs (Geisser, 1974; Stone, 1974). As indicated in Table 7, the R^2 value of cloud ERP implementation was 0.161, while that of financial performance was 0.206. This results indicated that 16% of variance in cloud ERP implementation can be explained by government financial support. Additionally, cloud ERP implementation and government financial support accounted for 21% variation in financial performance. According to Cohen (1988), R^2 value of 0.26, 0.13, 0.02 suggests substantial, moderate and weak explanatory power.

Hence, cloud ERP implementation had a moderate explanatory power, while financial performance had substantial explanatory power. The f^2 for GFS→ cloud ERP implementation relationship was 0.192; and cloud ERP implementation→ FP relationship equalled 0.251, see Table 7. According to Cohen (1988), f^2 value of 0.35, 0.15, 0.02, <0.02 suggests large, medium, small and trivial effect sizes. Thus, government financial support had medium effect on cloud ERP implementation, also cloud ERP implementation had medium effect on financial performance. Hair et al. (2014), suggested that when a Q^2 value is higher than 0, it indicates that the endogenous constructs have predictive relevance in the model. The statistical analysis revealed that the Q^2 values for endogenous constructs are greater than zero (0.128; 0.156) as shown in Table 7 for cloud ERP implementation and financial performance, implying the sufficient predictive relevance of this study's model.

Table 7. R^2, f^2 and Q^2 Values

Relationship	R^2	f^2	Q^2
GFS → CERPIMPL	0.161	0.192	0.128
CERPIMPL→ FP	0.206	0.251	0.156

5. Discussion and conclusion

5.1 Discussion

This study contributed to the body of knowledge by constructing a conceptual model that analysed the influence of GFS on cloud ERP implementation and financial performance in a developing country context using a sample of 204 manufacturing SMEs in Malaysia. Since the Malaysian government has provided several financial incentives for SMEs to implement IT (Alam and Noor, 2009) including CC, GFS was hypothesised to have a causal relationship with cloud ERP implementation in H1. GFS was found to have a significant positive influence on cloud ERP implementation. This finding is backed up by Doh and Kim (2014), who claimed that the government's technology development assistance grants are crucial for regional SMEs in South Korea to innovate successfully. Similarly, Wang et al. (2019a) confirmed that government supportive roles such as financial assistance had more influence on CC assimilation than government regulations. Our finding indicates that GFS such as

matching grant, subscription fees refund and income tax deduction are effective in motivating SMEs to use cloud ERP.

As posited by (Cai et al., 2010; Li and Zhang, 2007), government support is more critical in developing countries since strategic resources are often controlled by the government and involvement in company operations is achieved through approving initiatives and allocating money. This study suggests that various financial assistance provided by Malaysian government can optimize the interest of the decision-makers of SMEs that get the assistance to use cloud ERP compared to those that do not get it.

Additionally, this study investigated the impact of cloud ERP implementation on FP in H2. In line with previous research by Garrison et al. (2015), Gangwar (2017), Sallehudin (2017), and Khayer et al. (2020), this study discovered cloud ERP implementation influenced the financial performance of manufacturing SMEs. The outcome is predictable, given that the primary goal of cloud ERP implementation is to minimise overhead expenses and improve performance (Garrison et al., 2015). This finding implies that SMEs manufacturers that leverage cloud ERP effectively and align it with their business strategies improve cross-departmental business process collaboration to increase flexibility (Wang et al., 2020), owing to improved information, materials, and product flow in the supply chain (Morell and Ezingeard, 2002). As a result, greater financial performance is realised, including increased revenue, market share, profitability, and return on investment.

5.2 Theoretical implication

This study demonstrates the relevance of a specific dimension of government support, namely GFS, in the implementation of cloud ERP. Prior CC implementation studies (e.g., AL-Shboul, 2018; Asiaie et al., 2019; Hsu and Lin, 2016) examined government support as a unidimensional construct, where they mixed up GFS and NFGS items or only items measuring NFGS. As a result, the unique influence of GFS on CC implementation is unclear. In light of Malaysia's notable GFS for cloud computing implementation (Hassan, 2017), this study investigated and identified GFS as a significant predictor of successful cloud ERP implementation. This research adds to our limited understanding of how GFS has aided in the success of cloud ERP implementation in developing economies, and most specifically Malaysia. Additionally, this study enhances future theorization of government support in IT implementation studies by emphasising the significance of conducting a distinct empirical assessment of its bidimensionality to enable managers and policymakers to evaluate and prioritise.

Besides prior research (e.g., Amini and Bakri, 2015; Haji Salum and Abd Rozan, 2016; Usman et al., 2019) in the CC research stream not examining GFS, they also failed to extend their model to include performance metrics. The majority of earlier research has paid scant attention to the holistic relationship between the antecedents of CC/cloud ERP implementation and its associated outcomes, such as business performance (Khayer et al., 2020; Novais et al, 2019). Therefore, this study provides a better insight by assessing a specific antecedent of cloud ERP implementation (GFS) and its consequence (financial performance). This holistic analysis provides a better theorization of not only the cause but also the consequence of information systems.

In assessing the benefit of CC such as superior performance, prior studies have applied the concept of usage (Gangwar, 2017), adoption (Khayer et al., 2020; Munene, 2017), which may inadequately represent the VRIN qualities of resources and capabilities that give firms competitive advantage and superior performance according to Barney (1991). Thus, in this study, cloud ERP software and GFS were attributed to resources, whereas usage and strategic

alignment constituted capabilities. The conceptualisation lends credence to Barney's resource-based view (RBV) theory of 1991 by providing deeper mechanisms on how firms can realise benefits from IT implementation.

5.3 Practical implication

The finding of the critical role of GFS in the success of cloud ERP implementations in this research demonstrates indisputably that businesses do not operate in a vacuum, but rather as part of a larger ecosystem, with the government playing a critical role in shaping SMEs' technological evolution. Government grants, subscription fee refunds, and tax incentives all have a substantial impact on the success of cloud ERP implementations by SMEs.
As small businesses are fiscally challenged, its decision makers should take advantage of the different GFS available for cloud ERP implementation. SMEs should be aware that GFS is a good predictor of cloud ERP implementation success, thus, their scepticism should be allayed. They must seek reliable information, for example, from online sources and peers, on how to obtain financial support from the government and apply it to efficiently and successfully implementing cloud ERP in order to achieve improved financial performance. On average, SMEs that received government assistance are 8% more likely to raise their digitalization level than SMEs that did not receive assistance (OECD, 2021). This study presented proof to the Malaysian government regarding the efficacy of GFS in successfully implementing cloud ERP and improving the financial performance of SMEs. Government should improve the financial assistance by increasing awareness, enhancing existing financial aid programmes, and most crucially, ensuring that SMEs use the funds for the intended purpose of improving performance through cloud ERP deployment. With this in place, there is a guarantee that there will be significant contribution of SMEs to economic sustainability and growth.

5.4 Limitation and future research

Despite criticism that past studies in the field of CC research failed to discriminate between different types of government support (GFS and NFGS), this study focused entirely on GFS. Examining both GFS and NFGS would provide a deeper insight on how these composite measures of government support influence cloud ERP implementation and financial performance of SMEs in distinct ways. Furthermore, the data for this study was gathered exclusively from the perspective of owners/top managers. While these respondents are in a better position to provide enough knowledge about cloud ERP implementation and performance, their opinions may contain some bias due to their tendency to overrate their responses. Future research should incorporate employee and cloud service provider perspectives to further improve the data. The dataset for this study was cross-sectional, which indicates it was gathered at a certain point in time. Cloud technology is still in its infancy, and the data was collected during the covid-19 pandemic, during which over 70% of additional SMEs globally adopted digital technologies (OECD, 2021). As the cloud matures and more SMEs adopt cloud ERP, a longitudinal study may discover emerging and changing issues in this research context.

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An overview of using image processing and hyperspectral Remote Sensing applications in Agriculture

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Abstract
One of the crucial factors for improving agricultural productivity is using image processing techniques and hyperspectral Remote Sensing applications. It is presented a short inquiry on usage of image processing techniques and hyperspectral sensors for helping researchers and farmers to precise agricultural practices including weed and herbicide technologies, monitoring plant growth and plant nutrition management. Hyperspectral sensors are devices that acomplish images over hundreds of spectral bands, thereby enabling the extraction of spectral signatures for objects or materials observed. Hyperspectral remote sensing has been used over a sheer variety of applications, such as agriculture, forestry, geology, ecological monitoring and disaster monitoring. Observations is used to optimize the utilization of resources and management of farming practices such as usage of hyperspectral image processing in the monitoring of plant diseases, insect pests and invasive plant species; the estimation of crop yield; and the fine classification of crop distributions. This paper presents an in-depth overview of hyperspectral data processing techniques and suggestions for making progress in the agricultural applications of hyperspectral technologies.

Key words: precision agriculture, hyperspectral Remote Sensing, image processing, farming practices

COMPARISON OF HOLLOW CORE REINFORCED CONCRETE SLABS TYPES

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Abstract
A hollow core slab is a concrete member with continuous voids provided to reduce weight and cost. Therefore, hollow core slab systems are lighter than solid concrete slabs while maintaining the ability to have large spans. This study deals with the nonlinear numerical design of two types of reinforced concrete hollow core slabs, which are the voided and the waffle slabs. Also, the parametric effects of the slab span and the beamwidth are investigated. Firstly, 8 slab models are designed via SAFE software. Where these 8 samples are divided into voided and waffle slabs with two different lengths of the span and two different widths of the beam for each span. After the design stage, the models are subjected to a uniform distributed load (live and dead loads), then these slabs are analyzed by the nonlinear fınıte element modellıng via the same software. The numerical results showed that the long-term deflection, reinforced steel area, and concrete consumption for the voided slab and the waffle slab are affected by the slab span, thickness, and width of the beam. Also, the results showed that the required amount of concrete in the hollow slabs is reduced by 30% (or more) than that of the traditional slabs. Finite element mdelling

Keywords: Hollow core slab, two ways slab, nonlinear analysis, voided, and waffle slab.

INTRODUCTION

The hollow core slabs can be utilized in the service ducts, with reduction in the self-weight of the slabs, and enhancing structural efficiency. The discovered of strengthened cement during the second half of the 19th Century was due to needing for fireproof buildings and industrial materials (Brown, 1966). In the post-World War II, an entirely new suburban infrastructure requires. It would likewise need to include shopping centres, supermarkets, buildings, and office industrial plants. The engineers and specialists needed to efficient, speed, and economic development construction instead of basic styles that had been well known in the past to meet the demands. Engineers tackled the issue by obtaining another real innovation: precast pre-stressing it to make the elements needed for long-span panels such as roofs, floors, and bridges (Moussard et al.,2018).

Many previous investigations of analytical and experimental studies carried out on solids slabs and hollow-core slabs, and these investigations used numerical techniques with utilizing the nonlinear limited component methods and experimental strategies to predict the behavior of reinforcement concrete members. (Broo and Lundgren, 2002) investigated the count strategy for torsion and shear in slabs with the rounded hollow-core includes stresses from different impacts without thinking about compatibility and deformations, restraint at the boundaries, the smoothing of concrete crack, for this reason, seemed most likely conservative. The FEA was utilized in this study be carrying out the individual hollow-core units exposed to various combinations of shear and torsion. Generally, the overall behavior of the maximum obtained load, failure mode, and crack pattern controlled by FEA of the slabs. Furthermore, however, though a very coarse mesh use in the analyses, the excellent agreement has been the approach for the centrally loaded specimens. The overestimate of eccentrically loaded in hollow-core units was appeared because of using too high torsional stiffness of the beam-element. (Saleh and Shahatha, 2013) suggested the visual basic language programmed mathematical techniques to analysis, and design calculating of panels represented by precast hollow core slab through supposing (modified Hooke-Jeevs) process, which is given as a very suitable process especially issues have numerous constraints. it investigated that the average void percentage ratio is

around 50%, the voids in a form become fewer than thickness, and width taken into consideration that the section was subject to all the constraints voids ratio tends to be more than the regular case. Also, it discovered that the average void ratio concerning the typical cost was about 40%. (Amer et al., 2013) considered the using of the spherical voids when exposed to a five-point load according to numerical analysis by FE done by software ANSYS v.12 program to simulate the RC slabs. The six specimens of the simply supported slabs modelled with a length of 1000 mm, and a depth of 100 mm, 125 mm. The results introduced that the general behavior for the FINITE ELEMENT MODELLING models represents using the peak load, load-deflection plots on mid-span, load-maximum compressive strain curve for reinforced concrete. The crack patterns showed an excellent agreement through the test data in the experimental work. (Al-Azzawi and Al-Aziz, 2018) tested and analyzed one-way slabs specimens different in core shape, having dimensions which nominally 1100 mm × 600 mm × 120 mm for length, width, and depth respectively, and the ratio of length shear to depth (a/d), by utilizing the FEA ANSYS Software. The results showed that the concrete of lightweight aggregate with a constant a/d ratio reduces the weight of the slab by 32.9% in hollow circular core slabs and also decreasing the cracking load and ultimate load by 12% and 5.1% respectively. In this study, the slab models are designed via SAFE Software then the nonnumerical analyses are utilized to find via the same software by the FINITE ELEMENT MODELLING techniques to find out the effective parameters on these slabs.

MODELLIGN

The modelling, analysis, and the design of slabs in this software employ a variety of advanced tools and applications. The properties of concrete and steel reinforcement are presented in the Table 1.

Table 1. Properties of Materials

Property	**Concrete**	**Steel**
Density (kg/m3) ρ	2356	77000
Modulus of Elasticity(E)	25742.9602	200000
Poisson's ratio (ν)	0.20	0.30
compressive strength (MPa) fc`	30	
Yield stress (N/mm2) F_y		420

In this investigation, a full bond is expected between the steel bar reinforcement and concrete. The element types used for displaying reinforced concrete slabs are concrete and steel reinforcement. The slabs are classified into voided slabs and waffle slabs. Voided slab, as shown as in Figure 1 and Table 2, is recycled polypropylene (PP) formwork for the construction of light bi-directional slabs with large spans. Where the beam width is represented by the Symbol (N). This section voıded slab 280, as shown in Figure 1 (C).

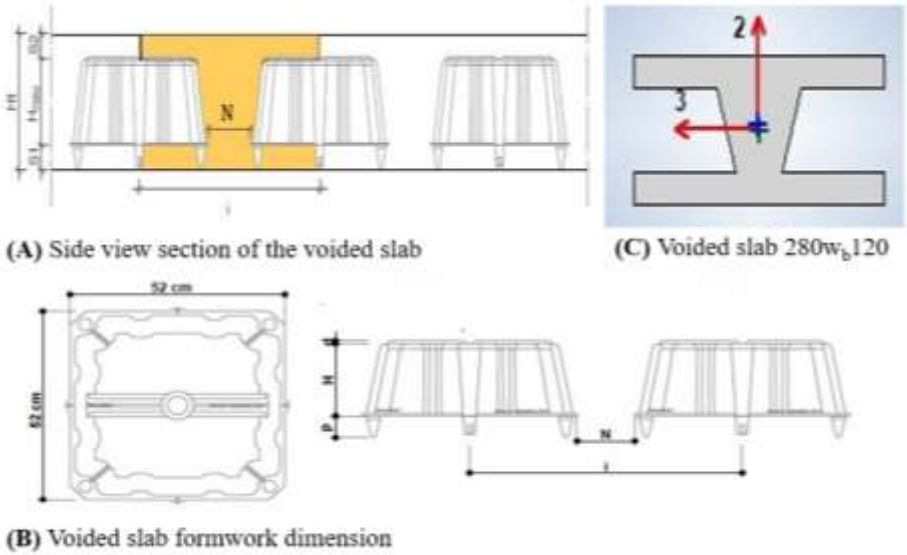
Waffle slab is a reusable plastic formwork usually used to construct bidirectional waffle slabs. These slabs are poured directly on-site to construct two-way ribbed slabs. Designing by waffle slabs depends on the span length, as shown in Figure 2 and Table 3. Where the width of the beam is represented by the symbol (T). This section waffle slab 300, as shown in Figure 3 (B).

Table 2. Property of The Section of the voıded slab

Slab span (m)	**The thickness of slab mm**					**N + 520 = (i) mm**	
	Name	**Total**	**S2**	**H_{nau}**	**S1**	**120**	**200**
7	Voided slab 280	280	60	160	60	640	720
10	Voided slab 440	440	80	280	80		

Table 3. Property of The Section of the waffle slab

Slab span (m)	Items	Thickness mm			T +700 mm = (i)	
	Name	Total	H1	H	120	200
7	waffle 300	300	50	250	820	900
10	waffle 450	450	50	400		

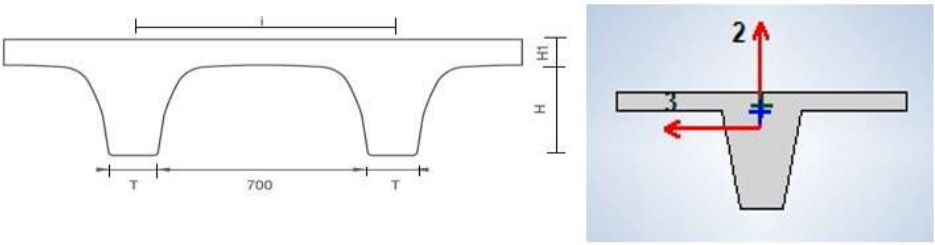


(A) Side view section of the voided slab

(C) Voided slab 280w$_b$120

(B) Voided slab formwork dimension

Figure 1 Details of the voided slab



(A) Side view section of the waffle slab

(B) Waffle slab 300w$_b$120

Figure 2. Side view section of the waffle slab

LOAD DEFINITION

The load is usually applied to the analysis model. The loading has two uniform load types, dead or self-weight and live load (4 KN/m2) as shown in Figure 3.

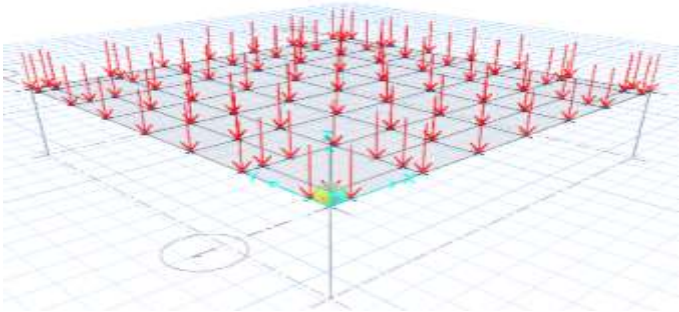


Figure 3. Uniform distribution load on models

GEOMETRIC MODELS GENERATION

After the models are generated by the definition of the slabs (defining the columns at each corner), the following results are obtained: (area of the steel, long-term deflection) for each model, as shown in Table 4 and and Figure 4.

Table 4. Modelling of the punching shear

Span slabs (m)	Column's size (mm)	Punching shear distance (m) > L/6	Slabs type	
			Voided	Waffle
7	500×500	1.75	voided 280	waffle 300
10		2.25	voided 440	waffle 450

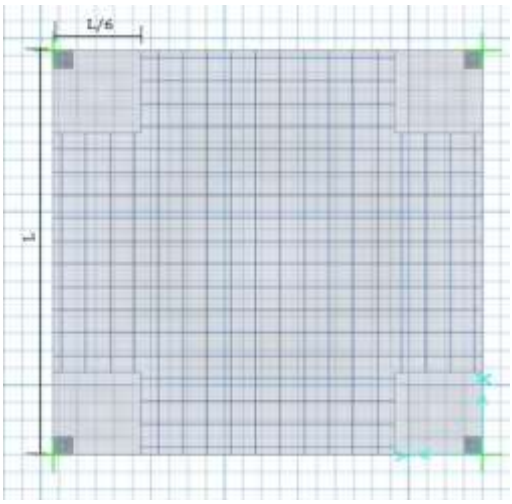


Figure 4. Finite element model

RESULTS AND DISCUSSIONS

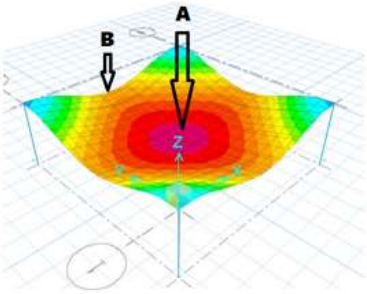
The results are classified into two groups which are the long term deflectionand and the area of the reinforced steel, as follows.

Long term deflection

The long-term deflection values of the slabs are obtained by the SAFE software., as shown in Figure 5. Where the deflection is found at two points (A and B). Where the point A represents the long-term deflection diagonally, while the point B refers to the long-term deflection horizontally. Figure 5 presents the results of the long term deflection for both of the voided and the waffle slabs. Figure 6 describes the comparison of long term deflection between the voided and waffle slabs. Table 5 describes the limited long term deflection according to the ACI code.

Table 5. The limited long term deflection

Slab span m	The span between support horizontally		The span between support diagonally	
	L/240	Value mm	L/240	Value mm
7	7500/240	31.2500	10607/240	44.1958
10	10500/240	43.7500	14850/240	61.8750



Long term deflection at point A (mm)

Item	w_b120	w_b200
Voided 280	21.076043	22.239916
Voided 440	54.321722	56.914896

Item	w_b120	w_b200
Waffle 300	16.132566	16.25443
Waffle 450	33.474803	36.479705

Long term deflection at point B (mm)

Item	w_b120	w_b200
Voided 280	13.606877	13.85212
Voided 440	27.679604	28.43659

Item	w_b120	w_b200
WFS 300	11.157421	10.716423
WFS 450	24.251111	23.453884

Figure 5. Long term deflection details for both voided and waffle slabs

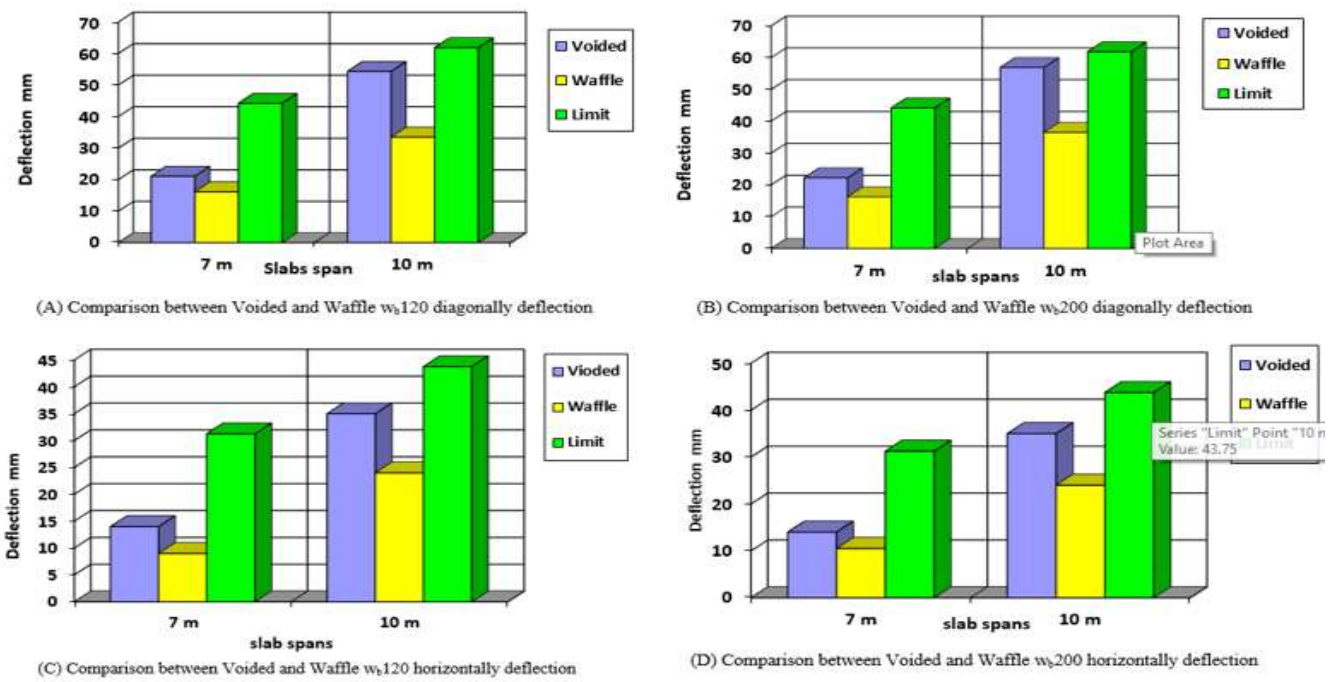


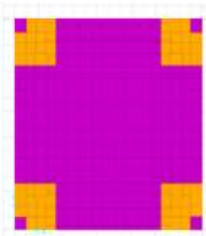
Figure 6. Comparison between voided slab and waffle slab deflection

According to the ACI code, the maximum limit of the long term deflection is calculated theoretically. The long term deflection at the waffle slab is smaller than that of the voided slab when the thickness of the waffle slab is greater than the thickness of the voided slab as in the models 7 and 10 meters span.

Reinforced steel Bar

There two layers of the reinforcement (at the top and the bottom layers) with two directions (X and Y). In this study, the obtained results are in one direction due to the shape of slab models which is square shape. After the designing of the slabs, it was found that some areas requires addetional

reinforcement for both layers. The values of the total reinforcement (one direction) area steel in the slabs (voided and waffle) are described in Figures 7(A) and 7(B) respectively. The additional reinforced steel area of the slabs of the two slabs (voided and waffle) at the top layer can be seen at the corner of each model of these slabs, as shown in Figures 7(C) and 7(D) respectively and the comparison between them is described in Figure 8. The reinforcement steel area of the voided slab (at the internal beam) is distributed throughout the slab area (except the corners), because these corners represent the solid slabs area, as shown Figure 7(G).The reinforcement steel area of the waffle slab (at the beam) can be seen approximately throughout the slab area (except the corners), as shown Figure 7(F). The comparison of the beam reinforcement steel area is between the voided and waffle slabs is described in Figure 9. Through the designing stage, it is found that the voided slab has bottom layer can be seen at the corner of the model, as shown in Figures 7(E). From the results it is found that the concrete consumption of the voided slab is greater than the waffle slab at two spans (7 and 10 meters) and two different values of the width of the beam (120 and 200 mm).



(H) The additional reinforced steel area of the slab

(A) Voided slab reinforced steel bar meshing

Item	Voided slab280	Voided slab440
Top and bottom layers	10@200	12@250
Area of bars (mm^2)	78.5	113
Number of bars	5	4
Area	392.5	452

(B) Waffle slab reinforcement steel bars meshing

Item	Waffle 300	Waffle 450
Top layer	10@200	12@250
Area of bars mm2	78.5	113
Number of bars	5	4
Area	392.5	452

(C) Top layer additional reinforced steel area for voided slab (mm^2/m)

Section	w_b120	w_b200
Voided slab 280	2066	2081
Voided slab 440	2638	2755

(D) Top layer additional reinforced steel area for Waffle slab (mm2/m)

Item	w_b120	w_b200
Waffle slab 300	1190	1166
Waffle slab 450	2015	1939

G) Reinforced area steel for internal beam for voided slab (mm2)

Item	w_b120	w_b200
Voided slab 280	225	317
Voided slab 440	959	1123

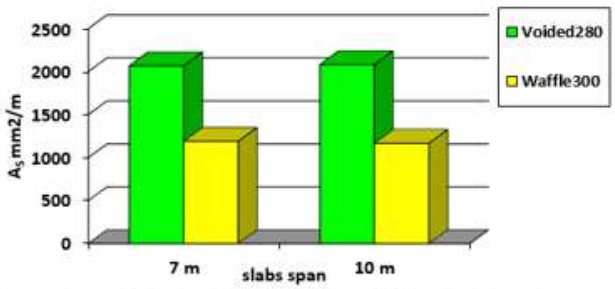
(E) Bottom layer additional reinforced steel area (mm^2/m)

Section	w_b120	w_b200
Voided slab 280	331	289
Voided slab 440	1202	1902

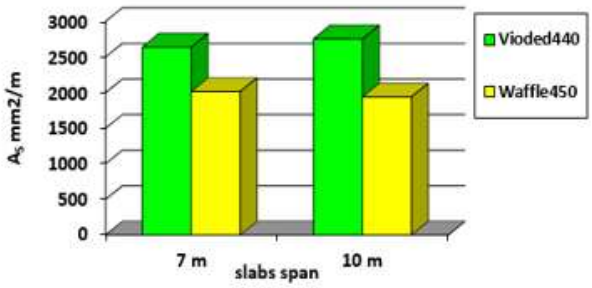
(F) Bottom layer of the reinforced steel area of waffle beams (mm^2/m)

Item	w_b120	w_b200
Waffle slab 300	532	532
Waffle slab 450	839	960

Figure 7. Details of the steel reinforcement area

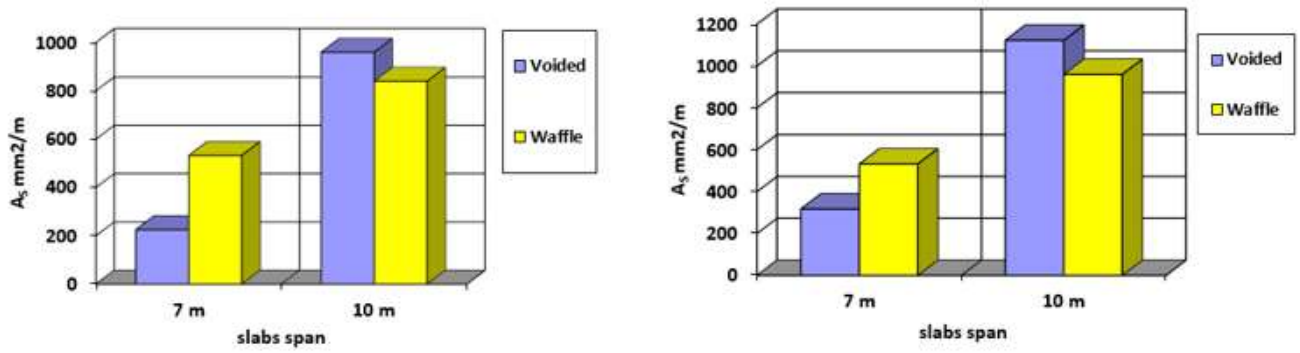


(A) Comparison Voided and Waffle w_b120 for a top additinal reinforced steel area



(B) Comparison Voided and Waffle w_b200 for for a top additinal reinforced steel area

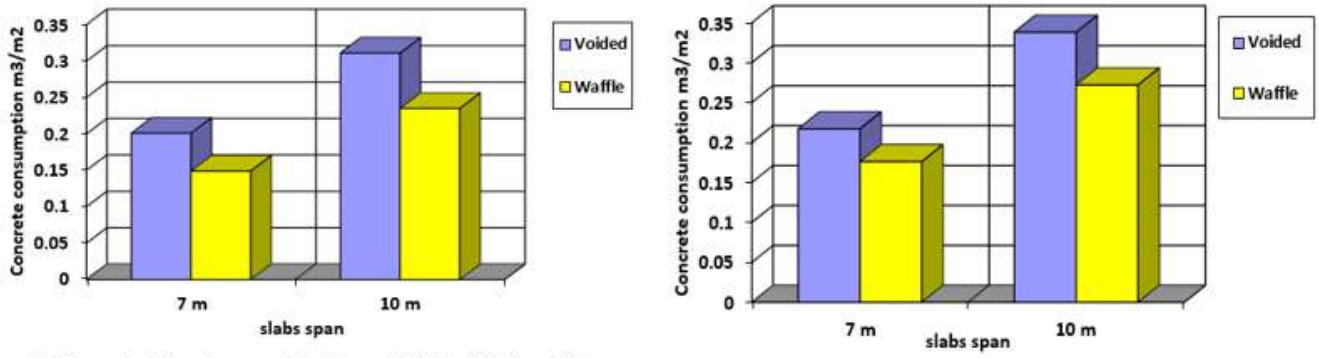
Figure 8. Comparison of the addetional steel reinforcment area between voided and waffle slab



(A)Comparison between Voided and Waffle w_b120 beam reinforced steel area

(B) Comparison between Voided and Waffle w_b200 beam reinforced steel area

Figure 9. Comparison of the beam steel reinforcment area between voided and waffle slab



(A) Comparison Concrete consumption between Voided and Waffle w_b120

(B) Comparison Concrete consumption between Voided and Waffle w_b200

Concrete consumption of the Voided and Waffle 7 m span (m^3/m^2)

w_b	Voided slabs	Waffle slabs	Percentage of decrement
120	0.201	0.149	74%
200	0.219	0.176	81%

Concrete consumption of the Voided and Waffle slab 10m span (m^3/m^2)

w_b	Voided slabs	Waffle slabs	Percentage of decrement
120	0.311	0.235	76%
200	0.338	0.272	80%

Figure 10. Comparison of the concrete consumption between voided and waffle slab

CONCLUSION

The following conclusions are drawn from the finite element modelling analysis:

For the span of 7 m, the consumption of the concrete for the waffle slab is reduced by 23% than that of the voided slab models. While the addetional reinforcemnt steel area. at the top layer of the waffle slab is decreased by 42% in comparison with voided slab, and the beam reinforcemnt steel area increased by 100%.

The span of 10 m, the consumption of the concrete for the waffle slab is reduced by 22% than that of the voıded slab models. While the addetional reinforcemnt steel area at the top layer of the waffle slab is reduced by 27% in comparison with voided slab, and the beam reinforcemnt steel area decreased by 14%.

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MULTIUSE TROLLEY FOR A CONVENIENT AND SAFE AUTOMOTIVE WORKSPACE

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Abstract
This project intends to develop a specifically modified trolley to fulfil various functions, namely extracting car components particularly gearbox and transferring these components to a specific workspace. It also aims to examine its efficiency when utilized to perform these two tasks. It was found that many car mechanics and students of automotive courses found these tasks to be physical demanding and exhausting and sometimes put them at risk of undesirable incidents. Thus, this trolley was designed to minimize physical workload, reduce time taken to perform tasks related to removing gearbox and transferring car components as well as mitigate health and safety risks. There will be 20 respondents involved in this study and they are required to test the project before completing observation checklists and questionnaires developed to elicit their feedback on the trolley. The findings from this research might be useful to study how this project can be improved to be safer and more efficient.

Keywords: Trolley, gearbox, automotive

RECYCLING OF DRINKING WATER TREATMENT SLUDGE AND OPTIMIZATION OF THE AMOUNT OF COAGULANT USED

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Abstract
The production of drinking water generates by-products, which are often grouped under the name of hydroxide sludge or clarification sludge, the latter comes from the extraction or purging carried out at the stage of decantation. The sludge of the drinking water production station of AL Hoceima does not undergo any treatment and is directly rejected to the natural environment with important quantities. For the reuse or the valorization of this sludge, the physic-chemical characterization is the most important step. Our characterization is made on the sludge of the decanters of the drinking water treatment plant of Al Hoceima, we analyzed the physical-chemical parameters: pH, TSS, Aluminum ... Thereafter we proceeded to the jar-test with the supernatant and the whole sludge; to determine the optimal dose of coagulation while decreasing the amount of alumina sulfate used. This dose is validated by the repeatability method. After the validation of the necessary sludge volume, we performed other jar-tests to determine the life span of the reused sludge. The study of the characteristics of our sludge reveals that it can be used as a coagulant in the same water treatment process while optimizing the quantity of coagulant and decreasing the quantity of sludge rejected

Keywords: Drinking water; production plant; sludge; recovery

ACCELERATE DATA SCIENCE AND DATA ANALYTICS OPTIMIZATION WITH EDGE COMPUTING

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Abstract

Data Science and Data analytics are two interrelated fields in computing that do much with data. Data Science, Data Analytics and Cloud Computing essentially go hand in hand because Data Science, and Data Analytics usually and at all times analyze different types of data that are stored in the cloud. With the increase rate of Big Data, several domains like in organizations, institutions and businesses are storing large sets of data online and there is a need for data scientists and data analysts to be less stressed in getting data used to solve problems better than ever before. The study looks at how one can accelerate data science and data analytics optimization with edge computing. In this study, we compared data in cloud computing with that of edge computing by identifying features, benefits, and advantages of each. The comparisons show that edge computing is a plus to enhance work of both 'Data' expertise in this technological era. In sum, edge computing is an answer to processing of data with special consideration to speed and latency, proximity, security, cost savings, reliability and scalability and it is a powerful resource and strategy in the modern data center.

Keywords: Edge computing; Cloud computing, Data science, Data analytics

Introduction

Edge computing is a group of local micro data centers that takes some of the burden off the cloud, a sort of a regional office that handles local computing tasks instead of sending it to a central data center which is a thousand miles away. It is not something that will replace cloud services, but rather a complement to it. As Jeutic, (2019) put edge computing bring data storage and compute power closer to device or data source where it is most needed. Edge computing optimizes internet devices and used applications by bringing computing closer to the source of the data. As a result of this, it reduces the need for long distance communication gap between client and server which eventually minimizes latency and bandwidth usage. Carr, (2020) said that anything which requires real time performance are going to be done at the edge. This implies that real time performance has greater connection with time and high speed of connectivity. Sidorov and Cruciani (2021) Commented that "at the rate which enterprise data volume is increasing replicating data to a central repository for analysis purposes is slow and expensive"

Benefit of Edge Computing over Cloud Computing

- ✓ **Better Data Management**: It brings data closer to the user.
- ✓ **Lower Connectivity Cost**: Edge computing allows one to filter sensitive data at the sources rather than sending it to the central data.
- ✓ **Better Security Practices**: Less transfer of sensitive data or information between devices and the devices bring better security to everyone.
- ✓ **Reliability**: Since data transfer is secured then the data is more reliable.
- ✓ **Uninterrupted Connection**: The connectivity is not interrupted as compared with cloud computing.

Table 6: Compared Benefits of Edge and Cloud Computing

Benefits	Edge	Cloud
Cost	Lower	Slightly Higher
Mechanism	Decentralized	Centralized
Latency	Minimum	Slightly Higher
Big Data Transfer	Lower	Higher
Security Risk	Higher	Lower

Table 7: Comparison between Edge Computing and Cloud Computing

Cloud computing	Edge computing
The act of running workloads within clouds.	*The act of running workloads on edges services.*
Clouds are places where data can be stored or applications can run.	*Edges are places where data is collected.*
Clouds are software defined environments created by data centers or server forms.	*Edges are physical environments made up of hardware outside a data center.*
Clouds can exist without edge devices.	*Edge can exist without clouds.*
A cloud conducting is more suitable for projects and organizations which deal with massive data storage.	*Edge computing is ideal for operations with extreme latency concerned and organization that have budget limitations.*
It requires a robust security plan.	*IT requires less security plan.*
Cloud computing helps process data not time driven.	*Edge computing works on a time _driven mechanism.*

Related Literatures

Bednarz (2020) observed that placing processing power and storage at the edge of enterprise networks takes many forms but deliver faster response times and can reduce the need for WAN bandwidth. With the rise of edge computing to process a surge in data produced by the internet of things, the function of enterprise data centers will shift to handling long term data aggregation and analysis (Patrizio, 2018). Edge computing is decentralized data processing specifically designed to handle data generated by the internet of things. Edge computing has mostly been ingested, process, store and sends data to cloud systems, it is the edge where the wheat is separated from the chaff and only relevant data is sent up the network. According to Oksen (2018) if the data can be processed at the edge of the network rather than a central data center, it reduces bandwidth needs and allows for faster response than sending it up to the central server for processing.

The edge can be performed as processing discard the unneeded data. Poule (2021) opined that edge data centers tend to aggregate data, and perform actuation functions to give an answer in low latency. What most companies are still doing is aggregating metadata from all this edge locations at a central location to do machine learning and analytics. Shenoy, (2021) put that computer as gotten cheaper and faster than the network which suggest that computer should

now be at the edge. Louks (2021) in his study said that another important element for reducing the data load will be the use of artificial intelligence in edge networks. Gartner, (2021) defines edge computing as a part of a distributed Computing topology in which information processing is located close to the edge where things and people produce or consume that information.

So, edge computing brings computation and data storage closer to the devices where it is being gathered rather than relying in a central location that can be thousands of miles away. This is done so that data especially real time data, does not surfer latency issues that can affect an applications performance. The term edge is described as literal geographic distribution. Hence, edge computing is the type of computing that is done at or near the source of the data, Instead of relying on the cloud at one of a dozen data centers to do all the work. It does not mean that cloud will disappear; it just means that the cloud is coming to you (Miller, 2018). Edge computing enables greater mining equipment to react to unexpected conditions a mile blow the surface even when disconnected from the network (Gold & Shaw, 2021)

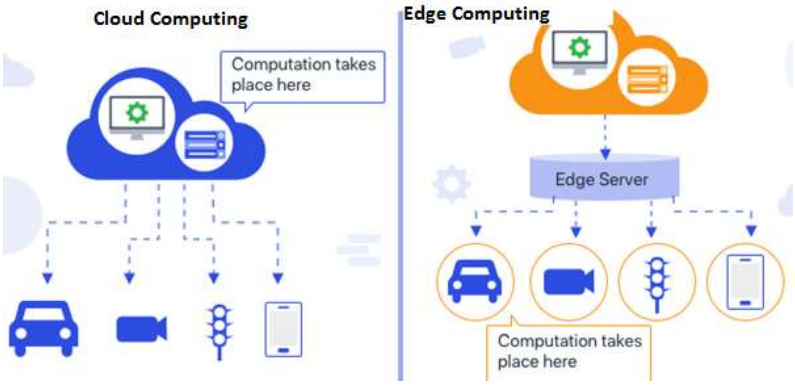

Figure 1: *Comparison of cloud computing and edge computing*

The figure 1 explains the computational based different between cloud computing and edge computing. As it can be seen clearly, computation takes place at cloud in cloud computing which is far from the data scientist and data analyst which increase latency rate of getting data used. In contrast, the computation is done at edge where the data scientist and data analyst are located. So, the proximity enables the data scientist and data analyst gets data at their convenient time and as well pushes their efficiency

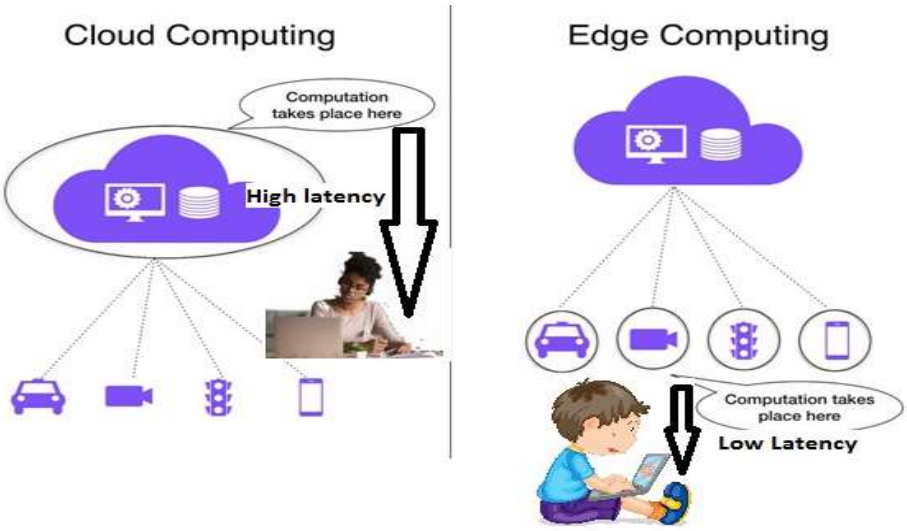

Figure 2: *Latency rate between data scientist/data analyst and where computation takes place in both cloud and edge computing*

Figure 2 complements the earlier explanation between cloud computing and edge computing. Though, cloud computing has higher security measure than edge computing yet edge computing is lower in cost and mostly useful for an individuals rather than big organizations that need big data transfer

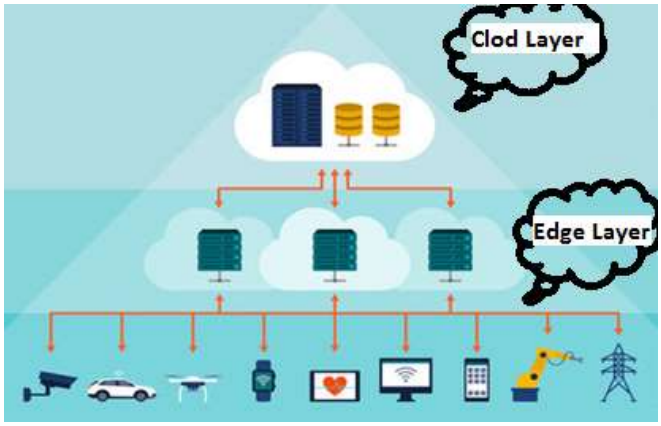

Figure 3: *Showing layers of computing*

Conclusion

In summary, it is deduced from this study that data scientist and analyst are now have direct access to data at a very close range of distance for easy computations rather than carrying out computation at a far distance via cloud computing. This does not mean that edge computing has come to replace the cloud computing but as a plus to complement cloud computing by making the data available to ease computations.

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TOWARDS A BETTER FUTURE – A SNIPPET VIEW OF INDIA'S RESPONSE TOWARDS CLIMATE CHANGE

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Abstract
Climate change is characterised as one of the biggest threats to the environment and all the living organisms including human beings. The effect of climate is devastating. The most important symptom of climate change is increase in temperature, i.e. global warming. The earth become hotter and hotter thereby it will pose a threat to several life forms in many ways. As a direct consequence of global warming the earth become wetter. Due to increase in earth's temperature ice sheets and glaciers melt, and thereby sea water increases. This rise in sea level will cause damage to marine ecosystem. Other important symptoms of climate change include unprecedented storms, hurricanes, rain, earthquake, Tsunami, drought, deforestation, extinction of various species, land slide and wild fire etc. Thus, the effect of climate change to living beings are both direct and indirect. Therefore, any change in climate and its negative effects are of common concern of mankind. This aspect was highlighted by the Intergovernmental Panel on Climate Change in its 5th Assessment Report in 2014. The Report identified that the increasing frequency of extreme weather patterns and natural disasters, the rising sea-levels, floods, heat waves, droughts, desertification, water shortages, and the spread of tropical and vector-borne diseases are some of the adverse impacts of climate change. Thus, it is imperative to take adequate measures for the mitigation and adaptation of climate change. India being one of the largest contributors of greenhouse gas, is the world's most vulnerable countries to suffer the adverse impacts of climate change. In this context, this paper examines current obligations under international framework and the response of India towards it.

Keywords: Climate, Global Warming, Climate Chnage, Prevention, Combating, IPCC, Policy

Introduction

India has been one of the fastest growing and most dynamic major economies in the world [(1,2)] and has been noted as a leader among emerging markets in the world. Climate change in developing countries like India is highly vulnerable and it affects social, agricultural, economical and environmental status of the country. Geographically, India is one of the countries that is most vulnerable to the impacts of climate change[3]. Indian terrain contains varies ecosystems such as Hindu Kush Himalayan ranges, Western Ghats, 7000 km coastline, deserts and Sundarbans. Any severe climatic change in the country drastically destroys the economy of the country, besides this it leads to water and food scarcity, de-promotion of health condition and standard of livelihood. There were debates regarding the impact of climate change in different part of the world, but finally it is confirmed that climate change leads to serious threats to the environment, human health.

Climate change is caused by both natural as well as anthropogenic activities, but the major reason for the global warming is the emission of Green House Gases. In a developing country like India the major anthropogenic activities lead to global warming is burning of fossil fuels. The harms caused to environmental, ecological, economic, and social scenario due to several factors have inflated the warming of the globe, and is getting worse by the year[4]. India's economy is closely associated with natural recourses, hence any change in climate will directly affect agriculture, water and forestry and ordinary life of common man. Providing a high standard of living for the majority of the population without affecting the Mother Nature or compromising to the environment. India is planning to attain national growth objectives through rigorous master plan without increasing the emission of greenhouse gas emissions.

It is disclosed in the sixth assessment report of the UN's climate science organization is that; some of the major climate system in the planet has already changed irreversibly due to severe global warming. A new report by Intergovernmental Panel on Climate Change (IPCC) has strongly warned that the climate change has already happened and it may not get reversed in the immediate future, unless or until a perfect control machinery is get operated. India is the one country that most significantly affected, which may lead to high level of inequality and poverty among the people. Recognizing that climate change is a global challenge, India will engage actively in multilateral negotiations in the UN Framework Convention on Climate Change, in a positive, constructive and for- ward-looking manner. In dealing with the challenge of climate change the country must act on several fronts in a focused manner simultaneously. In order to maintain a stable environment with least possibilities of climate change, especially global warming, India has taken many steps to decrease the emission of Green House Gases.

National Action Plan on Climate Change

India's economy is tightly linked with natural resource and climate-sensitive sectors such as agriculture, water and forestry, so India may face a major threat because of the projected changes in climate. The major objective of the National Action Plan on Climate Change is to find the key areas and design specific objectives to control the climate change efficiently. There are Eight National Missions which form the core of the National Action Plan, representing multi-pronged, long-term and integrated strategies for achieving key goals in the context of climate change. The major goals of action plan includes, National Solar Mission, National Mission on Sustainable Habitat, National Mission for Enhanced Energy Efficiency, National Water Mission, National Mission for sustaining the Himalayan Ecosystem, National Mission for a Green India, National Mission for sustainable agriculture and National Mission on Strategic Knowledge for Climate Change. Through these steps India is planning to maintain a stable environment with sustainable development.

It was noted that especially in rural areas fossil fuels has been using for cooking and other domestic purposes, these activities emits large quintiles of green house gases into the environment. To check this high rate of emission India has initiated different policies and different programmes for green energy use and to decrease the possibilities of global warming. These move have has been backed by legislation, regulation and tariffs arrangements. Electricity Act 2005, New and Renewable Energy Policy, 2005, Rural Electrification Policy, 2006, Energy Conservation Act, 2001 and 50,000 MW Hydroelectric

Initiative are the few steps taken by the country to control the emission of green house gases. While carrying out these activities, India has shown a path to control global warming.

Even though the CO2 emission from the food sector is low, India prefers to produce and use fresh agriculture, fruits and other food products instead of stored one. Hence packaging, processing and clod storing of products are less and releases of Green House Gasses into the environment also get decreased. While taking necessary steps to improve this condition, India has taken a significant move to regulate the emission of Green House Gas into the environment. India has been performing a long tradition of waste disposal procedures, because majority of the municipal garbage include Kitchen waste and it is easy to convert this waste into compost. This is an important move done by India to control the emission of green house gases. Another important source of green house gas emission is motor vehicles. India already strengthen the public transport system instead of private vehicle, besides this the country has taken strong steps to promote the use of fuel efficient and electrically driven vehicles. This move has resulted to India's emissions per passenger-kilometer are less than one-seventh of developed countries. India has taken steps to initiate rainwater harvesting, soil conservation, land shaping, and prevent soil erosion to minimize the impact due to global climate change. Drip irrigation and water sprinkler approach, mulching and bed plantation, construction of tanks and check-dams are the other methods promoted by government of India to face the impact of climate change and variation in rate and quantity of precipitation.

Forest is a natural carbon sink. India has initiated a massive tree plantation and control on open grazing which will help in the regeneration of forests and slow down the process of desertification. Besides this India has build administrative capacities for designing climate proof investments, such as conservation of wetlands, wastewater reclamation, equitable access and regulatory structures for basin level management. Women and children are the main victims of climate change, as they are the most vulnerable group in the society. In order to cope up with this situation, India has initiated gender equity programmes to give more care to weaker section of the society. Strategies have evolved for long-, medium- and short-term policies needed for substantial involvement of women not only in terms of beneficiaries but also in their say in decision making.

In connection with global climate change Prime Minister's Climate Change Council has proposed eight missions that cover areas such as agriculture, water, forests, sustainable habitat, solar energy and energy efficiency and strategic knowledge. Only through integrating these missions, India can minimize the green house gas emission and global warming.

Corporate Disclosure as Mean to Control Climate Change

G20 nations are an international association of nations, all the decisions taken by G20 nations are bound to India also. Corporate climate change disclosure forms part of the infrastructure for providing decision makers with information that will enable them to integrate climate considerations into their analyses, and to help better align business practice with climate change mitigation and adaptation plans and sustainable development goals [5]. Since the late 1990s a large number of mandatory and voluntary government schemes have emerged which, together with non-governmental initiatives, require or encourage enterprises to measure and report their green house gas (GHG) emission and disclose other climate-related information [6]. Recently India has initiated corporate reporting schemes, which leads to the disclosure of climate change information related with each industry. India is planning to have a corporate disclosure schemes in every major industries, this will enable the factories to decrease the emission of green house gases.

Corporate disclosure and Corporate Social Responsibilities

India has had a significant role in the expanding global commitment to CSR and has been noted as a leader among emerging markets in adoption of CSR at a national scale[7]. In order to decrease the emission of green house gases, India become very strict in implementing CSR. In some Indian companies, elements of environmental disclosure have been incorporated traditionally as part of their financial disclosure [8,9]. In India and other developing countries, CSR may be driven by more philanthropic motives than would be the case for companies in developing countries [10,11]. In 1991, India has initiated its first publics statement about the environmental disclosure in companies annual report. Initially India has not made environment disclosure compulsory for all the major companies; gradually it was mandatory when the companies submit their report to pollution Control Board. After a long gap a set of National Voluntary Guidelines were introduced by Ministry of Corporate Affairs. These guidelines provided the principles and the format for responsibility disclosures by businesses[12]; they were made mandatory for the largest 100 companies. To incorporate a strict implementation of CSR activities, India has revised Companies Act in 2013, this revision made mandatory to large companies whose annual revenue exceeds 10 billion rupees. It is mandatory for them to implement CSR policy and has to use 2% of the net profit for CSR activities. The Act requires publication of details regarding a CSR committee and its responsibilities, a CSR board statement, and a CSR policy—failure to do is punishable by fines[13]. India is also established an external auditing process to evaluated the CSR activities of major corporate. Singh *et al.*[14] identify a need for further legislative change requiring more prescriptive policies, particularly in monitoring and evaluation. There have been regulatory changes associated with the Companies Act 2013, which encourage improvement in CED Foreign subsidiary companies operating in India as domestic companies respond fairly with respect to CED because they experience a high levels of external pressure on their legitimacy.

Indian Constitutional Challenges of Climate Change

In 2002, India becomes part of Kyoto Protocol, in connection with this India has initiated several measures to decrease the emission of green house gases. The major steps taken are to give priority to renewable energy and implement clean technologies. Indian judiciary is addressing the climate change through public interest litigation. The Supreme Court has waived "ripeness" requirements for bringing an action, rights violations should be addressed before the actual violation occurs. Thus, the presence of a substantial threat of climate-related violations should be sufficient to invoke the Courts' writ jurisdiction under Article 32. As per Indian constitution Supreme Court has the authority to check, whether any injury has happened or not. The Supreme Court of India is authorized to provide broad remedies, by issuing a writ of mandamus not only ordering the government to perform non discretionary functions, or enjoining it from performing a statutorily prohibited action, but also requiring it to perform discretionary functions. Indian judiciary has given a privilege to any person to apply for judicial review on behalf of a poor person, whose fundamental right has violated. The High Courts and Supreme Court of India can assume suo-motto jurisdiction by treating letters or newspaper reports as writ petitions. Government of India has implemented National Action Plan on Climate Change (NAPCC), the main objective is to take necessary steps to minimize the emission of green house gas and control Climate Change. The Establishment of NAPCC led to the emergence of national climate policy making and institution building in India [15]. Several Indian laws address different aspects of climate change such as causes and impacts and thus provide potential opportunity for climate litigation. As part of Indian judiciary, Supreme Court, High Court and National Green Tribunal has significant role in

maintaining a stable environmental conditions. It has nurtured public interest litigation as an instrument to increase access to the judicial system.

Application of Indian Constitution and Climate Change

Part III of the Constitution of India guarantees the protection of certain fundamental rights. The Indian judiciary, proactive as it is, has extended these rights (especially Article 21) to include several unarticulated rights such as 'right to a pollution-free and clean environment, 'fresh air, and clean water, 'right to livelihood,'[16] 'right to live with human dignity,[17] etc. The constitutional interpretation of environmental rights by judiciary has also been extended to a 'healthy environment with minimal disturbance of ecological balance'[18] and a 'living atmosphere
congenial to human existence'.[19]

Climate Change Concerns before Indian Courts

Indian judiciary was one of the first in the world to acknowledge an environmental right and create an extensive environmental jurisprudence by incorporating principles of international environment law such as the polluter pays principle,[20] the precautionary principle,[21] the principle of inter- generational equity,[22] the principle of sustainable development[23] and the public trust doctrine.[24] Indian judiciary acknowledge that these principles are essential to maintain a safe environment and preserve the ecosystem intact. It is clear that rhetorical references to global warming and climate change were being made by the Indian Courts even before climate concerns gained the prominence in national as well as international discussions[25] .

In Indian Judiciary litigation related with climate change are in the beginning stage, and number of cases pertaining to climate change was less. The principal way through which Indian Judiciary entertains cases related to climate change is though 'suo-moto' category. In all the cases pertaining to climate change the Supreme court has a view of sustainable development, hence all the decision are made based on sustainable development and climate change. The court is by making climate concerns a significant part of the judgment's rationale and the decision are mainly focused on climate change as one of the many environmental threats looming over the planet. The Supreme Court Indian in famous Kudankulam power plant case referred all the conventions relating to global warming and climate change, and placed reliance on a report by International Atomic Energy Agency. The report highlighted the catastrophic results of change in the climate which is caused due to burning of fossil fuels and that nuclear energy is a low carbon base load power source and will help in meeting future energy needs and reduction of GHG emissions[26]. The Supreme Court in Narmada Bachao Andolan Case, observed that Global warming due to greenhouse effect has become a major cause of concern. Supreme Court is having the opinion that the major reason for global climate change is the burning of fossil fuels. Perhaps the setting up of a thermal power plant may not displace as many families as hydel project may but at the same time the pollution caused by the thermal plant and the adverse effect on the neighborhood could be far greater than the inconvenience caused in shifting and rehabilitating the ousters of a reservoir[27]. In many cases the Supreme Court observed the importance of stable climate and necessity to prevent global warming.

India has established a new and specific tribunal called National Green Tribunal (NGT) with the aim to provide more concern to global warming and climate change. This tribunal is the creation of the National Green Tribunal Act, 2010 and is limited by the extent of its provisions.[28] Ridhima Pandey case[29] the Hon'ble NGT in January 2019, disposed of the

matter by directing the authorities to prepare targets or a carbon budget for total amount of CO2 emissions that can be released up to 2050 ensuring that India shares its responsibility as a member of the global community.

Judicial Review and Climate Change

Any wrong decision taken by any court can be revived by judicial review and it is an integral part of Indian Judiciary. These cases have disposed that challenges to such decisions can be raised before the Courts by seeking judicial review[30]. Government bodies while giving approvals and permissions take decisions that may have a direct or indirect impact on climate change. The decisions given by the Government bodies can be challenged on the grounds illegality; irrationality; proportionality; and procedural impropriety[31]. Judicial review process can be carried out through different tools such as writs, appeals, references, injunctions, declarations, suits for damages for tortuous actions against government bodies/employees, etc.[32] Writs are the most commonly used technique to bring review proceedings under Article 32 and 226 of Indian Constitution.

Environmental Impact Assessment

India being one of the largest democratic and mega bio-diversity regions of the world necessitates a comprehensive EIA law and policy to meet the basic precepts of sustainable development. After Stockholm convention in 1972, India seriously started to think about proper environmental action. But in international level establishment of Environmental Impact Assessment (EIA) is used as a most sophisticated to tool to manage environment. A National Committee on Environmental Planning & Coordination (NCEPC) was set up the union government to discuss with EIA. On 27 January 1994, the Union Ministry of Environment and Forests (MEF), Government of India, under the Environmental (Protection) Act 1986, initiated the formulation of EIA.

Conclusion

It is a proved fact that global warming and climate change is not a myth, rather it is a reality. All the developed nations already started activity for a stable environment. UN has different agreements aimed to control the emission of green house gas and global warming. Even though India is the fourth biggest emitter of green house gas, significant activities to control the production and emission have started recently. But during last two decades India has taken plethora of steps to decrease the emission of green house gases. National action plan on climate change is a new venture in this field. Another important step taken by India is Corporate Disclosure as mean to control climate change. India judiciary also have a significant role in maintaining stable environment. Judicial review and part III of the Indian constitution provides sufficient measures to climate change. India has initialed EIA plan to decrease the emission of green house gases. It can be concluded that India has been taking different types of control the emission of green house gases.

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ASSESSMENT OF POTENTIAL LARVICIDAL ACTIVITY OF CERTAIN PLANT EXTRACTS AGAINST MOSQUITO LARVAE

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Abstract
Mosquitoes are considered as the dominant hematophagous insect which are responsible for transmitting various vector bone diseases such as Japanese encephalitis, Dengue fever, Malaria, Yellow fever, Chikungunya, Zika etc and majority of these frightful diseases will adversely work on the peoples inhabiting in tropical and subtropical areas. The existence of co-evolution between plants and insects influences the production of secondary plant compounds or extracts which retard the growth of these dreadful vectors. Such green insecticides are very effective and an important ecofriendly tool for eradicating mosquitoes. These larvicidal activities are more feasible for vector control strategy as compared to artificial insecticides. The present study aimed to investigate the larvicidal activity of plant extract from the leaves of *Catharanthus roseus*, *Lantana camara* and *Carica papaya* against third and fourth instar stages of mosquito larvae. The healthy larvae were collected and tested with the mashed leaf extracts of different concentrations (1 mg/ml, 2 mg/ml and 3 mg/ml) for different exposure time such as 12, 24, 36, 48, 60, and 72 hours after which the mortality rate (%) of larvae were analysed. The percentages of larval mortality and standard deviations were calculated for each concentration of the leaf extracts. The results clearly indicated that the extract concentrations of both *Catharanthus roseus* and *Lantana camara* showed highest mortality rate (100%) than *Carica papaya* at the end of 72 hour of exposure. The variations exhibited in the mortality rates of *Carica papaya* were 43.33%, 63.33% and 86.66% in 1mg/ml, 2mg/ml and 3 mg/ml of leaf extracts respectively. Leaf extracts from *Catharanthus roseus* and *Lantana camara* indicated its potential larvicidal efficacy against mosquito larvae. The outcome of the study stipulated that the leaf extracts have a significant role for monitoring and regulating the vector bone mosquito larvae with an eco-friendly and effectively manner.

Key words: Larvicidal activity, *Catharanthus roseus, Lantana camara, Carica papaya.*

REMOVAL OF RHODAMINE B BY LOCAL BIOMASS

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Abstract
The adsorption of Rhodamine B as model organic pollutant is studied using a local biomass which is the wild reeds as adsorbent in a first step the pollutant is present alone in the suspension then in a second step in the presence of a salt which is NaCl.
The biosorbent was characterized by measurements of the point of zero charge (pHpzc), FTIR analysis, the pore structure was studied by the determination of the iodine index and the index of metylene blue.
A comparative study of linear and nonlinear Langmuir model of BM and RHB adsorption was done by comparing the R^2 correlation coefficient and Chi Square x^2 and APE error calculations.
The effect of the ionic strength depends on the nature of the adsorbate, adsorbent and the agents used to control the ionic strength possibly their concentration.

Keywords: Adsorption, methylene blue, Rhodamine B, ionic strength.

CAN TECHNOLOGY (ESPECIALLY ARTIFICIAL INTELLIGENCE) SERVE THE AGRI-FOOD SECTOR TO IMPROVE PERFORMANCE?

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Abstract
Agri-food (agriculture and agri-food industry) is one of the engines of the Moroccan economy. It represents about 20% of GDP and 20% of the Kingdom's exports. Its potential is far from being fully exploited. The sector suffers from a lack of international competitiveness, exacerbating the country's trade deficit. After the implementation of the Green Morocco Plan, how does Morocco intend to revive the dynamics of this sector in the coming years?
The agri-food sector is one of the flagships of the national economy in Morocco. The activity indicators are very revealing. It is a sector with high potential, offering interesting opportunities in terms of equipment, research development towards innovation, access to quality raw materials, as well as in terms of training a skilled workforce. The sector is dominated by large structured and multidisciplinary actors and by a multitude of small actors specialized in a type of production.
Our study seeks to assess the perception of professionals on the evolution of the sector through the introduction of new technologies, namely artificial intelligence, and its direct impact on performance improvement.

Key words: Agri-food, innovation, artificial intelligence, performance

Introduction
The agri-food sector comprises approximately 20505 industrial units, including small and medium-sized enterprises, and 143,000 employees, or 25% of industrial jobs. Much of the activity is based on the simple added value of traditional products, including cereals and milling oils, canned fruit and vegetables, canned fish and animal feed, and 26% of the Kingdom's industrial investments.

In a study on "Prospects for the Development of Africa's Agri-Food Industries", the African Development Bank noted that between 2008 and 2018, 104 billion dirhams of investments were made thanks in part to these reforms, 40% of which is public investment and 60% private investment.

The main challenges of the sector are to modernize the production and distribution methods of the various sectors and to make greater use of agricultural resources. France, with 15.7% market share, is the third largest supplier in the Moroccan market.

Literature Review

The world's population is expected to reach more than nine billion by 2050, which will require a 70% increase in agricultural production to meet demand. Only about 10% of this increase in production can come from the availability of unused land and the remaining 90% is expected to be achieved through the intensification of current production.

In this context, the use of the latest technological solutions to make agriculture more efficient remains one of the greatest needs. Current strategies to scale up agricultural production require high energy inputs and the market demands high-quality food.

Scarcity and rising labour costs, increased cropping costs and crop failures associated with unpredictable yields due to disease, poor rainfall, climatic variations and loss of soil fertility, the fluctuation in market prices for agricultural products, etc., has had a significant negative impact on the socio-economic situation of this basic population. On the other hand, population growth has created an increased demand for food grains, which has led to inflation in commodity prices.

With artificial intelligence, we can develop smart farming practices to minimize the loss of farmers and provide them with a high return. Using artificial intelligence platforms, it is also possible to collect a large amount of data from government and public websites or to monitor various data in real time using the IoT (Internet of Things), and can then be analyzed with precision to enable farmers to address all the uncertain issues facing farmers in the agricultural sector.

By 2050, the UN predicts that two-thirds of the world's population will live in urban areas, reducing the rural workforce. New technologies will be needed to reduce the workload of farmers: operations will be carried out remotely, processes will be automated, risks will be identified and problems solved. In the future, a farmer's skills will increasingly be a mixture of technology and biology rather than pure agriculture.

Artificial intelligence (AI) can be applied in a multidisciplinary way and bring about a paradigm shift in the way we see agriculture today. Solutions based on artificial intelligence will not only allow farmers to do more with less, but also improve quality and accelerate the marketing of crops.

Today's technological advances in Artificial Intelligence, Big Data and IoT are becoming the main drivers of digital IT solution delivery in almost every field and business. Therefore, it is proposed to use the AI-assisted digital solution to raise the habitat of the trampled peasant community while still offering a new opportunity for businesses and entrepreneurs by allowing the farm smart as a service.

AI-based technologies contribute to improved efficiency in all areas and challenges facing various industries, including various areas of the agricultural sector such as crop yield, irrigation, soil content detection, crop monitoring, weed control, crop establishment.

Agricultural robots are built to provide a highly valued application of AI in the mentioned sector.

With the global population soaring, the agricultural sector is facing a crisis, but AI has the potential to provide an indispensable solution. Technology solutions based on artificial intelligence have enabled farmers to produce more with fewer inputs and even improve the quality of production, which has also helped to accelerate the marketing of the crops produced. By 2020, farmers will use 75 million connected devices. By 2050, the average farm is expected to generate an average of 4.1 million data per day.
Admittedly, these new technologies have considerable limitations, namely: response time and accuracy, need for huge information (Big Data), methods of implementation, the high investment cost and the flexibility required to adapt to different contexts.

Materials and methods

A survey was conducted via LinkedIn, the main question asked is: "Can technology (especially artificial intelligence) serve the agri-food sector to improve performance?"

Survey participation was to select one of the predefined responses:

- Totally agree;
- Neutral;
- Not agree.

This survey is followed by a questionnaire sent to those who participated in the survey; we selected people on two criteria: (i) People who responded with "Totally agree", (ii) Employees and entrepreneur.

Questionnaire for professionals
1- Are you?
• Employee
• Entrepreneur

2- According to you, new technologies will improve the performance of the agri-food sector in terms of ...
• Quantitative
• Qualitative
• Organizational

Results

<u>Survey's results:</u>

The survey was launched on LinkedIn in April 2021, it lasted 15 days, it was viewed by 7551 people.

"The LinkedIn Surveys feature helps to interact with other members by asking them for their views on various topics. Surveys help to understand trends and opinions and can be a great conversation starter.

The survey author can select the visibility of the survey. The default visibility option is set to Anyone. The duration of the vote can be one day, three days, one week or two weeks. The survey author will be able to see who voted and how each person voted. In addition, the author will be able to display the aggregate results displayed in a percentage format and the number of votes per option. When a survey is created by a LinkedIn Page, all administrators on that page will be able to see who voted and how each person voted."
Source: https://www.linkedin.com/help/linkedin/answer/119601
For the total responses, we received 163 responses from: 129 professionals (manager, engineer, etc.) (i.e. 79%) against 34 students (i.e. 21%) in engineering and management schools and training institutes.

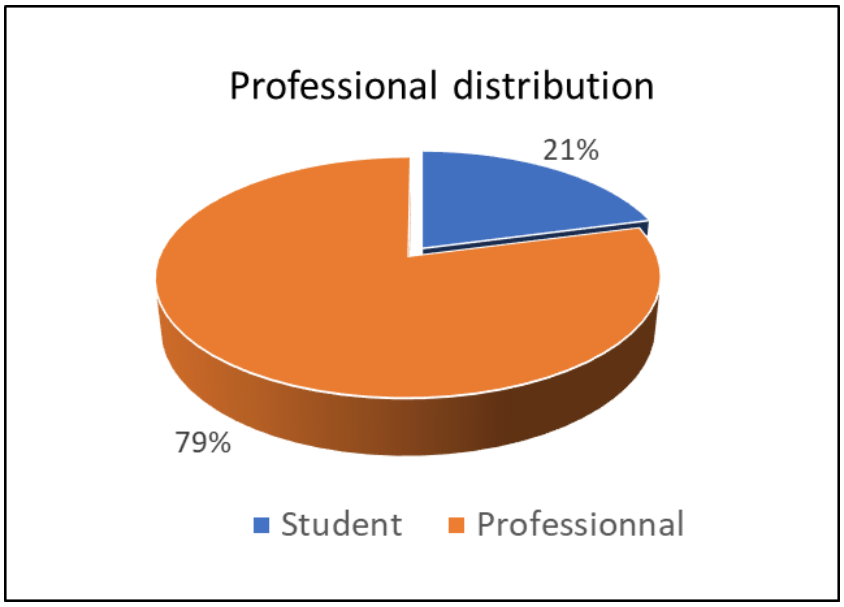

Figure 1. Professional distribution

The response to the survey were broken down as follows: Totally agree: 140 (i.e. 86%), Neutral: 13 (i.e. 8%) and Not agree: 10 (i.e. 6%).

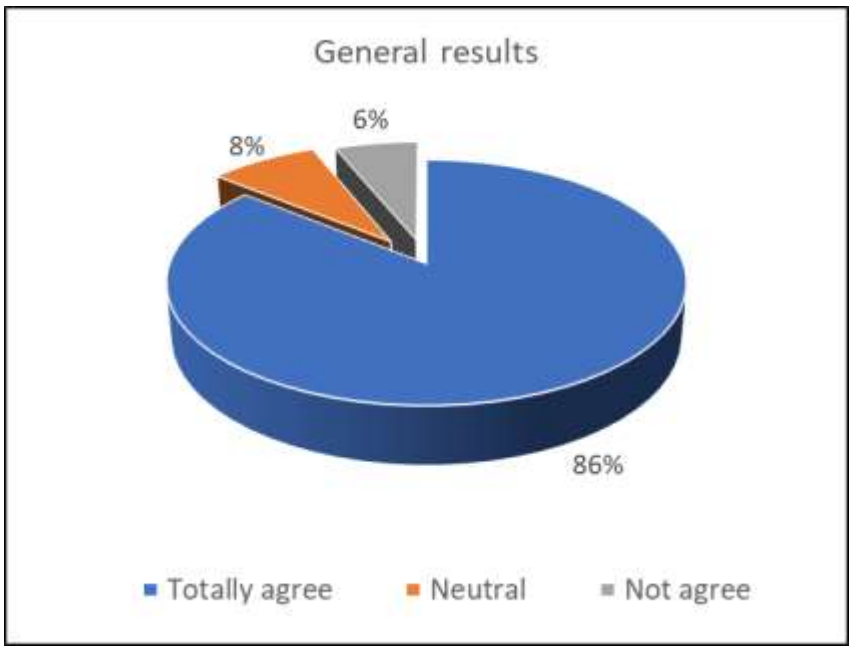

Figure 2. General results

Questionnaire's results:

The questionnaire was created and sent from Google Drive with Google forms that allows to create forms, questionnaires, invitations, etc. and share and track responses.

Int total, we received 11 responses: 1 participant (i.e. 9%) is an entrepreneur and 10 (i.e. 91%) persons are employees. For employees, the 10 (i.e. 100%) are managers.

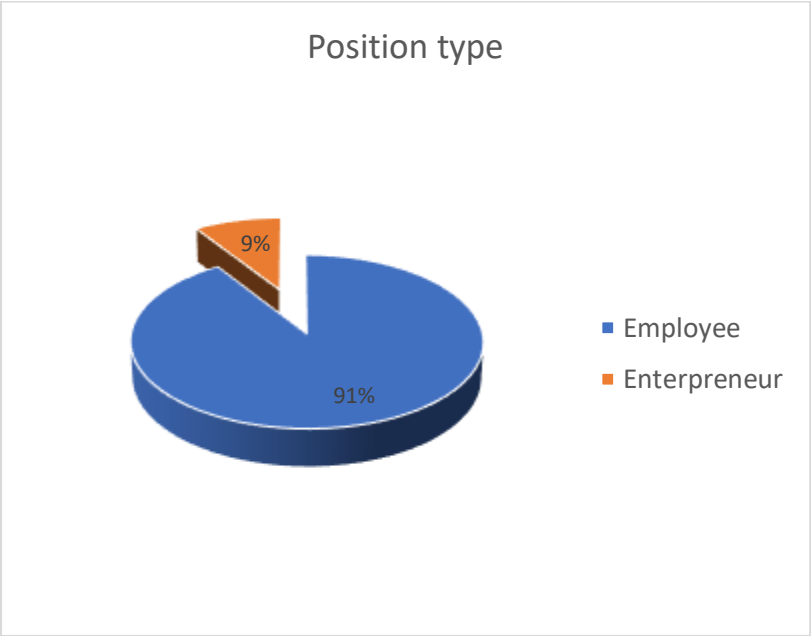

Figure 3. General results

6 participants (i.e. 55%) confirm that the new technologies improve the quantity, while 3 participants (i.e. 27%) see that the improvement impacts the quality of products, and 2 participants (i.e. 18%) sees that new technologies impact the organizational side (management).

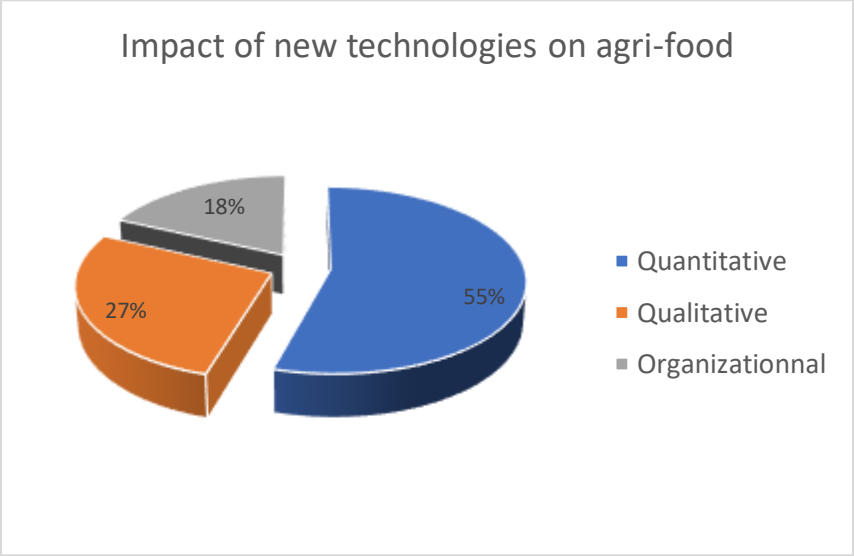

Figure 3. Impact of new technologies on agri-food

Discussion

More than 80% of the participants are convinced that the technology can help in agri-food's improvement, this improvement has the big impact on the quantity of the products seen the availability of these products on the market during almost all the year with reasonable price.

Conclusion

In conclusion, Technology is becoming a key factor in improving performance. Professionals clearly recognize this impact, and its repercussions on the various aspects on quantity, quality and also on the management of companies. However, there are some professionals who doubt the effectiveness of the technology in improving the agri-food sector.

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QUALITATIVE STUDY OF SUSTAINABLE BUSINESS PERFORMANCE MODEL BASED ON FINANCIAL TECHNOLOGY FOR INDONESIAN BANKING INSTITUTIONS

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Abstract
Banking institutions play a crucial role in the market economy of a country. The financial and banking industry sector has been heavily influenced by financing digitalization in recent years, as reflected by the emergence of Financial Technology (FinTech). The emergence of FinTech will affect directly or indirectly for banking sector institutions on sustainable banking performance. Technology, organization and money flow are important business drivers to consider, especially in adopting FinTech. Banking sustainability performance is the result of managing sustainable aspects in the banking sector business. The emergence of Fintech will be a problem in the performance of the banking business, whether to disrupt or collaborate with the banking sector. The need for a study to reveal the problems of the emergence of FinTech that affect the business performance of the banking sector, especially in Indonesia. This paper aims to provide an overview of a qualitative study for a Financial Technology-Based Sustainable Business Performance Model for Indonesian Banking Institutions. This qualitative study approach is by building grounded theory to form a conceptual framework for the model. Next, conduct in-depth interviews to examine in detail the model. Conducting Focus Group Discussions to strengthen the development of hypotheses and finally using confirmability tests to validate the research model. The research results represent a valid research model that is ready to be tested empirically in a quantitative study in the future. This qualitative study has a significant contribution for academics and practitioners in understanding more deeply related sustainable business performance models based on Financial Technology for Indonesian Banking Institutions.

Keywords: banking institutions, financial technology, sustainable business performaance, business drivers

Introduction
The Indonesian banking sector is a sector that has a significant role in the economy and continues to develop according to the needs of the people in Indonesia. Today, new business models and new concepts in financial technology provide the basis for innovative solutions for business performance in the banking and financial sector(Gomber et al., 2017). The banking industry heavily influenced by digitalization in recent years, which had reflected by the emergence of the combination of "Financial" and "Information Technology" terms, where the financial technology industry is known as FinTech(Wulan, 2017). FinTech services are businesses that develop financial services and solutions with a greater emphasis on information technology(Varga, 2017). One of their FinTech-enabled offerings is mobile payments(Wulan, 2017). The development of Fintech makes many Start-Ups look at this field. Mechanism of a FinTech is indicated by the way to create/change/improve a business model(Zavolokina et al., 2016). Furthermore, FinTech has a mechanism for disruption or

collaboration(Prawirasasra, 2018). These activities are supported by the use of technological advances; This is reflected in the aspect of "implementing IT for financing". FinTech can disrupt existing structuresthe financial industry by blurring its boundaries and encouraging strategic disintermediation(Dermine, 2017).

In Indonesia, the development of FinTech seems very rapid. FinTech products in Indonesia usually refer to FinTech m-payment products, which refer to an online shopping/e-commerce system platform that has many unique development versions of this product(Teja, 2017). According to (OJK, 2017), Financial Technology products that accept mobile payments have 42.22 % of all the available products of FinTech. The industry of FinTech in Indonesia shows the potential for rapid growth (Iman, 2018). Many practitioners and researchers believe that FinTech is disrupting the financial and banking services sectors (Dermine,2017; Oshoddin, 2018). However, in the form of policy, laws, and regulations from BI (the Indonesia Central Bank) and OJK (the Indonesian Financial Services Authority) have anticipated the adverse influence of the emergence of FinTech in the financing and banking site. Bank of Indonesia, as the country's central bank, has devised a strategy for navigating the Indonesian Payment System(IPS) in the Digital Era (Bank Indonesia, 2019). As a result, OJK(2017), set goals in its Master Plan for FinTech collaboration with the banking and financial industry sectors. Fintech: disruption or collaboration has become a cause for concern to the Indonesian banking and financial. Furthermore, FinTech expected to be able to improve its performance sustainably in the financial and banking sectors.

Several previous studies discuss the relationship between FinTech and the sustainable business performance in banking sectors. The study from Schaltegger et al.(2012) revealed a business case ofsustainability is often described as a situation where economic success is increased while performing in environmental and social issues. Moreover, they concIudeed that the drivers of business for sustainability are variables that directly influence economic success and, therefore, are related to a conventional business. In his study, Rabhi (2016) and also Zavolokina et al.(2016) stated that the adoption of infrastructure technology in financial services institutions influenced by business drivers. In other study, Financial Technology adoption has a positive effect on banking and financial performance(Haddad & Hornuf, 2021).

The problems raised in this study include investigating the emergence of FinTech that affects the business performance of the banking sector, especially in Indonesia. The emergence of Fintech will be a problem in the performance of the banking business, whether to disrupt or collaborate with the banking sector(Dermine, 2017; Oshodin & Karanasios, 2017; Prawirasasra, 2018). However, the Financial Services Authority in Indonesia, as a financial regulatory institution stated that the emergence of FinTech is a Disruptive Innovation and has the potential to collaborate with the banking sector(OJK, 2017). The phenomenon of this problem investigating by using a qualitative study approach. In this qualitative study, gradually examine the theoretical framework, conduct in-depth interviews, develop research models and hypotheses strengthened by focus group discussions, and finally test the validity of the research model.

This paper aims to provide an overview of a qualitative study for a Financial Technology-Based Sustainable Business Performance Model for Indonesian Banking Institutions. The model related sustainable business performance based on FinTech in Indonesian Banking Institutions, and developed using a quaalitaative method is a novelty of this study. This qualitative study has a significant contribution for academics and practitioners in

understanding more deeply related sustainable business performance models based on Financial Technology for Indonesian Banking Institutions

Method

Data Collection

In the qualitative method, research data is gradually collected through:

(1) Literature Review. Literature review as a methodology for conducting research and offering an overview of various types of research review, as well as some guidance on how to evaluate literature review papers(Snyder, 2019). In this study, the literature review had used in developing Grounded Theory, or Theoretical Framework. Then, for developing research hypotheses.

(2) Grounded Theory. A grounded theory that is technically inductive developed scientifically. According to Budiasih (2014). the Grounded Theory approach is a general methodology of analysis related to systematic data collection that is applied and uses a series of methods to produce an inductive theory about the substantive area. In this study, the results from the development of grounded theory become the basis for developing the proposed research model.

(3) In-depth interviews. Brounéus (2011) states that the in-depth interview method used to study individual perspectives related to specifically defined research themes.Conducting in depth interview with one of the Board of Commissioners of the Financial Services Authority (OJK) in Indonesia (OJK, abbreviated in Indonesia).

(4) Focus Group Discussion. Paramita & Kristiana (2013) stated that Focus Group Discussion (FGD) is one of the methods used by researchers in qualitative research to explore data about perceptions, opinions, beliefs, and attitudes towards a product, service, concept, or idea. Focus Group Discussions, with parties related to this matter. The parties are between Other: Bank Indonesia as the maker policy, the Indonesia Financial Services Authority as the regulator and two representatives of the National Bank and one from a FinTech company representative. Focus Group Discussions to strengthen the development of hypotheses in research.

Data Analysis

In a qualitative study, this research uses grounded theory to develop a conceptual model based on the analysis of the theoretical framework. The results of the analysis in this method validated by the Confirm-ability Test. Yin (2014) identified three activities to analyze qualitative data, namely data reduction, data presentation, and drawing conclusions. Data reduction includes procedures for selecting, summarizing, and simplifying qualitative data written. In addition, data reduction should occur when the researcher determines which conceptual framework and data collection methods had used. The results of the analysis in this method were validated by the Confirm-ability Test.

Literature Review

Business Drivers

Zavolokina et al. (2016) stated that technology, or commonly said as IT, is the main driving force of business in various business sectors. Meanwhile, the organizations included in the FinTech ecosystem will also become good business drivers. Now, newly established FinTech organizations or established IT companies collectively enter the financial business domain, referred to as FinTech Companies(Gomber et al., 2017). FinTech companies set a new culture in the financial industry, which is completely different than the prevailing culture

in traditional financial institutions. The definition of "Money Flow" is the same as investing, and also, an important thing is used as a business driver(Zavolokina et al., 2016; Erosa, 2018).

Financial Technology (FinTech)

The financial and banking industry has been strongly influenced by digitalization in the past few years, reflected by the emergence of "FinTech," which represents the marriage or combination of Financial and Information Technology(Minerva, 2016; Kim et al., 2016; Prawirasasra, 2018). According to Zavolokina et al., (2016) stated that the mechanism of a FinTech is indicated by the way to create/change/improve a business model. Furthermore, FinTech has a mechanism for disruption or collaboration(Prawirasasra, 2018). Finally, a real indication of FinTech is the application of IT to Finance(Wulan, 2017).

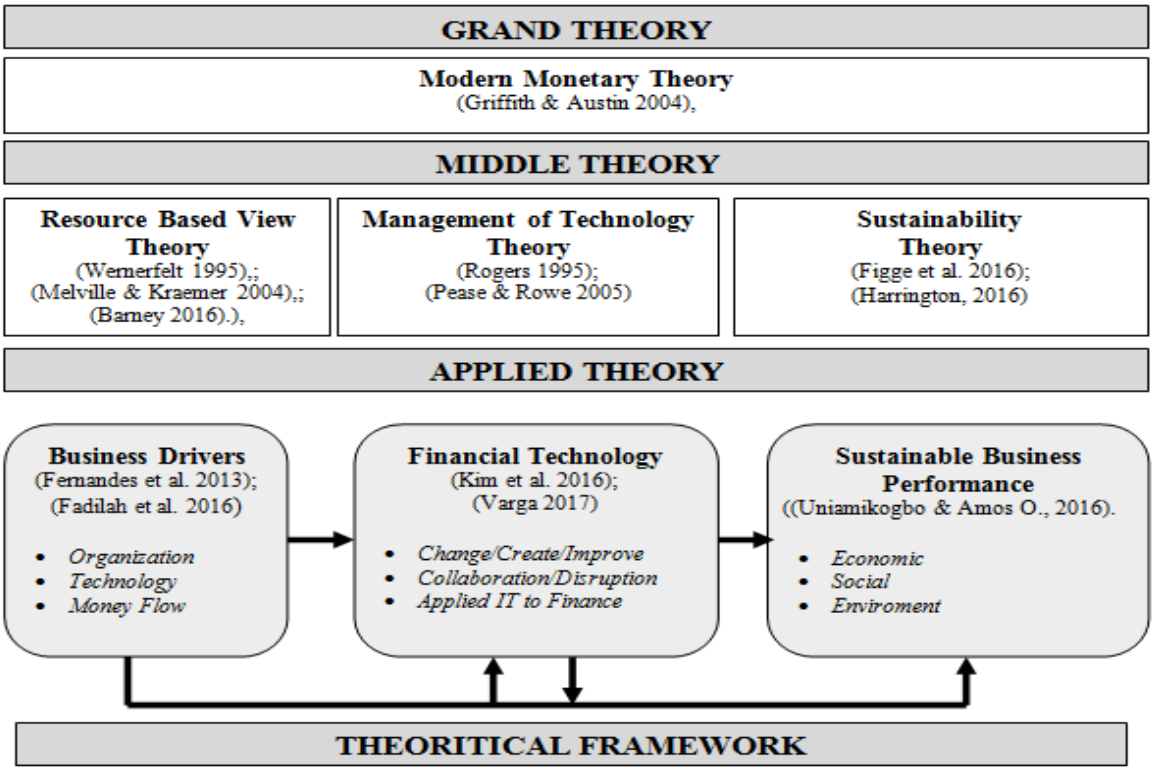
Sustainability Business Performance

Sustainable performance has been receiving growing attention from academics, industry representatives, and policy-makers. Sustainable development was initially referring to environmental concerns and compassing social and economic issues (Law, 2010). There is a shift in interest from the interpretation and determination of sustainable development to the company's sustainable performance. In sustainable development or sustainable performance revealed that sustainability is known as the Triple Bottom Line, as a tool to measure the effects of business performance activities on the economy, social justice, and the environment(Uniamikogbo & Amos O., 2016).

Results of Qualitative Study

The results of the analysis of the model developed using the Grounded Theory method:

Based on the literature study developed as a theoretical framework using Grounded Theory method. Grounded Theory is a qualitative research method that uses a set of systematic procedures to develop an inductive theory about a phenomenon(Budiasih, 2014). The theoretical framework developed using Grounded Theory is shown in Figure 1.



Gambar 1. Theoritical Framework Based on Grounded Theory

This Grounded Theory will be a practical guide infield practice and a theoretical resource for this study based on the elaboration of Grand Theory, Middle Theory, and Applied Theory to form the construction of the model in this research. Modern Monetary Theory is a theory used as a Grand Theory to underlie FinTech problems in the banking sector. According to Griffith & Austin, (2004), stated that Modern Monetary Theory teaches matters relating to Electronic Money and Monetary Policy then the money supply and the speed of money flow. The first Middle Theory used is the Resource-Based View Theory (Wernerfelt, 1995; Melville & Kraemer, 2004; (Barney, 2016). Theory of Management and Technology includes the Theory of Diffusion of Innovation (Rogers, 1995). Organizational speed in adopting an innovation is needed (Pease & Rowe, 2005).. Sedangkan *Sustainability Performance* didasari dengan teori manajemen keberlanjutan(Figge et al, 2016) and Sustainability Theory, connected to desirable long-term conditions(Harrington, 2016). The first construct of various Applied Theory is Business Drivers. Business drivers in the financial industry sector include technology, organization, and cash flow(Fernandes et al., 2013; Fadilah et al., 2016). A FinTech is a form of financial service innovation that has recently become a way to facilitate business, especially financial services. (Kim et al., 2016; Varga, 2017). Finally, as the third construct, the existence of Sustainability Performance(Khazanchi et al., 2007; Saksonova & Kuzmina-Merlino, 2017; Radu, 2015), which has a market development dimension due to new products or services due to new processes and new business models as well as the existence of CSR in the business. Schaltegger et al.(2012) stated that the main business drivers in the banking sector have a positive effect on the sustainability of the company's performance.

Results of In-Depth Interview:

The results of an in-depth interview with one of the Board of Commissioners of the Financial Services Authority (OJK) in Indonesia, that the Key:

"*Bank Performance in the Financial Services Industry must optimize business driving factors and the role of FinTech mechanisms in Indonesia. Thus, collaboration is needed to develop technological innovations by building FinTech business synergies with the Incumbent Industry (Banks and Non-Bank Financial Institutions). Several banks in Indonesia have collaborated with FinTech. The emergence of FinTech is an innovation that successfully transforms an existing system or market, by introducing practicality, ease of access, convenience, and cost economical, known as Disruptive Innovation.".*

Results of the Focus Group Discussion:

Focus Group Discussions to strengthen the development of hypotheses. Focus Group Discussions carried out with related parties. These parties include: Bank Indonesia as a policymaker, the Financial Services Authority (OJK) as a regulator and two representatives of the National Bank, and one representative of a FinTech company. The results of this FGD:

Bank of Indonesia Group Representatives:

"*Banks and the financial services industry support the Sustainable Performance program through technological innovations to improve people's welfare and contribute to driving the real sector through economic development and the function of FinTech as a banking intermediary. They agreed that technological innovation must be developed continuously through FinTech mechanisms by way of collaboration with FinTech companies."*

Representatives of the Indonesian Financial Services Authority Group:

"Utilization of the FinTech function expects to improve the bank's business performance sustainably. FinTech is an innovation that successfully transforms an existing system, or market, by introducing practicality, ease of access, convenience, and economic cost, known as Disruptive Innovation".

Group Representative from Banking Sector:
"*Fintech has the potential to be invited to collaborate or work together. Through the development of FinTech cooperation, business drivers will affect the business performance of banking institutions in a sustainable manner. Several banks in Indonesia are currently collaborating with FinTech.*
Group Representatives of FinTech Companies:
"*This disruption or collaboration of the Fintech Industry has become the concern and attention of the financial and banking services industry in Indonesia. However, FinTech is expected to have the potential to improve sustainability performance in the banking sector*".

Proposed Research Model

By referring to the previous Theoretical Framework developed in this study and the results of the Focus Group Discussion. Furthermore, the proposed research model had developed. It shown in Figure 3.
Based on the Proposed Research Model, as shown in Figure 2, in this qualitative study, a hypothesis can be proposed (P = proposed hypothesis). The results of the analysis of hypothesis development in this qualitative study are as follows:
Business drivers influence the adoption of IT services, in this case, the adoption of Financial technology (Rabhi,2016). According to Zavolokina et al. (2016), this technology is a business driver that underlies and influences the existence of financial services. So, based on this, the proposed hypothesis is made:
P_1: *Business Drivers have a positive effect on FinTech.*

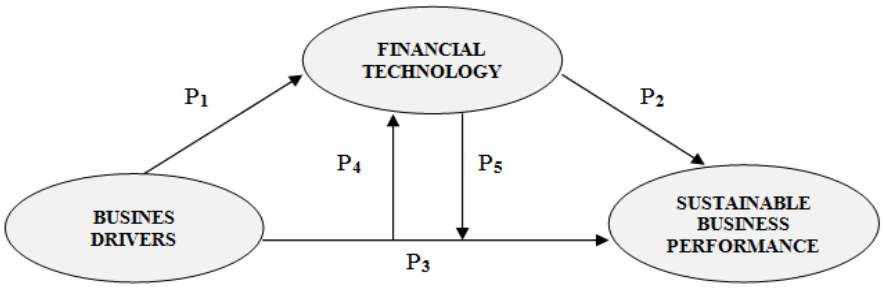


Figure 2. Proposed Research Model

The Indonesian Financial Services Authority (2017) states that the use of the FinTech function is expected to improve the bank's business performance in a sustainable manner. Financial Technology adoption has a positive effect on banking and financial performance (Haddad and Harnuf,2021). So, based on this, the proposed hypothesis is made:
P_2: *FinTech will have a positive effect on Sustainable Business Performance.*
Schaltegger et al. (2012) stated that the main drivers in business are influential positive on the sustainability of the company's performance. Then the proposed hypothesis:
P_3: *Business Drivers have a positive effect on Sustainable Business Performance.*
The results of the FGD from Bank representatives stated that through the development of FinTech cooperation, business drivers affect the business performance of banking and financial institutions. This study will be a novelty in this research. So based on this hypothesis is proposed:
P_4: *FinTech mediates the influence of business drivers on Sustainable Business Performance.*
The results of the FGD from the Indonesian Financial Services Authority revealed that FinTech strengthens or weakens the influence of business driving factors on sustainable business performance. Another opinion FGD from Fintech companies stated that FinTech expected to have the potential to improve sustainability performance in the banking sector. This study also will be a novelty in this research. So based on this hypothesis is proposed:

P₅: *FinTech moderates the influence of business drivers on Sustainable Business Performance.*

Model Validity Test Results:

Validity Test is a confirmability test which is also a test in qualitative methods conducted by Academics, Banking practitioners, and FinTech practitioners, wherein they test their position as verifiers. The results of this confirmability test had tabulated as in Table 1.

Table 1. Confirmability Test Results

No	Statement Proposed	Verification Results								
		Expert 1			Expert 2			Expert 3		
		C	NC	Note	C	NC	Note	C	NC	Note
1	Business Drivers have a positive effect on FinTech	√			√			√		
2	FinTech will have a positive effect on Sustainable Business Performance.	√			√			√		
3	FinTech will have a positive effect on Sustainable Business Performance	√			√			√		
4	FinTech mediates the influence of business drivers on Sustainable Business Performance.	√		√	√			√		
5	FinTech moderates the influence of business drivers on Sustainable Business Performance	√		√	√		√	√		
	Confirm [C]	**3**		**2**	**4**		**1**	**5**		**0**
	Not Confirm [NC]		**0**			**0**			**0**	

Based on the results of this test, it had found that:

Verifiers declare "confirm" (without notes) on the developed model = [(3 +4 +5) / 15] x 100% = **80 %**

The Verifiers stated "confirm" (with notes) of the developed model = [(2 +1 +0) / 15] x 100% = **20 %**

Based on the results of this test, it had found that 80% of verifiers stated "confirm" the model developed based on this Conceptual Framework, and 20% of verifiers provided notes

Discussion

The selection of qualitative methods in this study is to gain an in-depth understanding of the impact of FinTech influenced by the driving factors on sustainable business performance in banking institutions. This qualitative method had chosen to be associated with the interpretive paradigm, and it fits the concept of the qualitative study of Yin (2014). Agree with the study of Kaczynski et al.(2014) to obtain high quality, and credible results in qualitative research, then researchers must adopt a completely different way of thinking.

The results of the development of the Grand Theory produce a theoretical framework of research as the basis for the proposed research model. These results are under Budiasih's (2014) statement that the Grounded Theory approach is a general methodology of analysis related to systematic data collection that is applied and uses a series of methods to produce an inductive theory about the substantive area.

This study emphasizes whether there is a disruption or collaboration between banking and FinTech.

This statement is under a study from Brounéus (2011), which states that the in-depth interview method had used to study individual perspectives related to specifically defined research themes. The results of an in-depth interview with one of the Board of Commissioners of the Financial Services Authority (OJK) in Indonesia clarify that the emergence of FinTech is a disruption of innovation, and the banking sector has the potential to collaborate with FinTech. Focus Group Discussions are often used as a qualitative approach to gain an in-depth understanding of social issues, in this case, the issue of the emergence of FinTech in the banking sector. In this study, the Confirmability test is to test the results of research associated with the process carried out in research using a qualitative approach. This test is verified by an expert/expert.

The results of this study have practical and theoretical implications that to improve business performance sustainably. This qualitative study have several limitations**.** There are some limitations of time and questions in an in-depth interview, so the results cannot be generalized. In focus groups discussion can be hard to control and manage and it can be difficult to encourage people to participate and, therefore, they may not be representative of non-users.

Conclusion

In summary, this study is a new paradigm in qualitative study to build a proposed research model with the primary purpose for developed a model of sustainable business performance based on Financal Technology for Banking Institutions in Indonesia.

This study results from many works of literature, and the model concept had strengthened by the results of in-depth interviews. The next stage is the development of the proposed proposal based on the results of the literature review and strengthened by the results of the Focus Group Discussion. The results of the model validation test stated that 80% of the experts confirmed with the developed research model, and 20% agreed with the notes. Quantitative studies conducted for future research empirically measure the impact of more specific outcomes.

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OPTIMIZATION OF FRICTION STIR WELDING PARAMETERS FOR AA5451 TO IMPROVE HARDNESS AND PERCENTAGE ELONGATION

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Abstract
Friction stir welding (FSW) is extensively applied for welding the aluminium alloys. The quality of welding mainly depends upon the FSW process parameters that include the feed rate (mm/min), tool speed (rpm) and tool pin profile. In present study these parameters are used as input parameters while hardness and percentage elongation of weld zone are used as output responses. Friction stir welding was done on AA 5451 plate. Taguchi L9 orthogonal array technique is adopted to conduct experiments. Hardness and percentage elongation are measured at each level of friction stir welded joint. Improvement in hardness is observed as compared to the base metal AA5451 and it is attributed to grain size modification at welded joint. The optimum parameters which gave best hardness and percentage elongation are 1200 rpm tool speed, 18 mm/min feed rate, and threaded pin profile of tool. ANOVA is applied to results, and it is revealed that tool pin profile contributes more as compared to other parameters in improving hardness and percentage elongation of friction stir welded joint.

Keywords: AA 5451, ANOVA, Friction stir welding, Process parameters optimization, Taguchi technique

I. INTRODUCTION

Aluminium Alloys are of much importance as they are extensively used in aerospace, shipping, frames, storage tanks and pipelines industry due to their high strength to weight ratio [1, 2]. The aluminium alloys of 5xxx series are commonly used in shipping and aerospace industry due to its resistance towards corrosion. The aluminium alloys are broadly welded by FSW technique. In FSW a rotating non-consumable welding tool is used for joining materials and gives a higher quality of welds that have nearly the same properties as of base metal. FSW joints are also less expensive [3] and much stronger [4, 5] than fusion welds. Tool pin profile, tool speed and feed rate are some of important parameters that can affect the properties of weld zone [6]. Joining of aluminium alloys by

FSW is currently a great emerging research topic as it improves mechanical properties of material due to grain size modification [7].

Heat input is major factor for domination of weld properties instead of the mechanical deformation by a tool [8]. Many researchers in recent years [9-11] found that the FSW process factors like rpm of tool, traverse speed and pin profile of tool significantly affect the properties of welded joint and plays a vital role in improving the weld quality.

Many researchers have contributed to the field of friction stir welding and its parameters. Still there is need of more investigations for some alloys and optimization of process parameters for better mechanical properties of weldment. In the present study AA 5451 is friction stir welded and the process parameters are optimized using Taguchi technique. It is provided with the optimum parameters that gave best results for hardness and percentage elongation. ANOVA is applied to find percentage contribution of parameters in improving mechanical properties.

II. MATERIALS AND METHOD

A. Selection of material

Substrate in current study is AA5451. The density of aluminium alloy 5451 is 0.097 lbs/$in.^3$ [12], and tensile strength is 195–290 MPa. The chemical composition of AA5451 is given in Table 1.

Table 1 Chemical composition of AA5451

Al	Cu	Cr	Fe	Mg	Mn	Si	Ti	Zn	V	P
97.19%	0.004%	0.2%	0.17%	2.23%	0.08%	0.07%	0.02%	0.01%	0.02%	0.002%

B. Fabrication of Tool pin profiles

The tool material selected for FSW of AA5451 is HSS (H13) with three different pin profiles of tool i.e., taper pin profile tool, cylindrical pin profile tool and threaded pin profile tool as shown in Fig. 1.

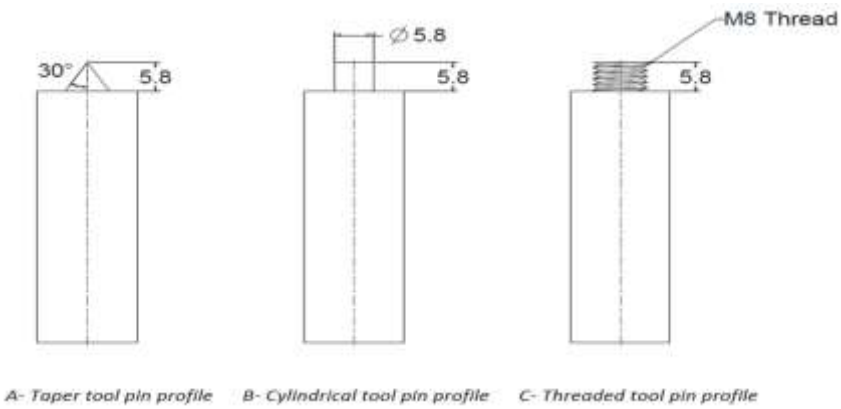


Fig. 1 Tools used in FSW process

C. Determining welding parameters along with their levels

AA 5451 is welded by Friction Stir Welding technique. The process parameters considered are speed of tool, tool feed rate and pin profile of tool with three levels each as given in Table 2.

Table 2 Factors and levels considered for FSW process

Parameters	Level 1	Level 2	Level 3
RPM	1000	1200	1400
Feed Rate (mm/min)	16	18	20
Pin Profile of Tool	Taper	Threaded	Cylindrical

D. Experimental Procedure

FSW of AA5451 was performed on vertical head CNC milling machine as shown in Fig. 2. The work-piece is located on a backup plate, clamped by using fixtures to avoid lateral motion. Mild steel of 10 mm thickness was used as a base plate for holding of these specimens.

Fig. 2 FSW experimental setup

E. Testing

The Vickers micro hardness of the weld samples were done on low load Vickers tester with dwelling time of 10 to 15 seconds. The micro hardness values were taken at two regions of the welded sample i.e., bead and HAZ. Welded samples prepared according to ASTM E8 standard are subjected to tensile testing to evaluate percentage elongation. Hardness (HV) and percentage elongation values of samples welded at each set of parameters are listed in Table 3.

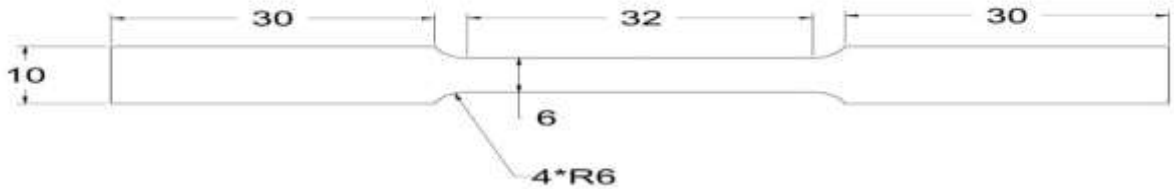


Fig. 3 Shape and dimensions of tensile specimen for finding percentage elongation

Table 3 Hardness and percentage elongation results at different input parameters

RPM	Feed rate (mm/min)	Tool Pin Profile	Hardness (Weld zone)	Hardness (HAZ)	% Elongation
1000	16	Taper	69.5	68.3	9.2
1000	18	Threaded	79.6	75.7	14.4
1000	20	Cylindrical	72.1	70.5	13.1
1200	16	Threaded	78.2	76.6	13.6
1200	18	Cylindrical	77.3	74.9	13.5
1200	20	Taper	70.7	69.6	11.3
1400	16	Cylindrical	73.5	71.2	10.4
1400	18	Taper	73.7	70.3	10.8
1400	20	Threaded	74.9	72.1	11.2

III. Results and Discussion

Hardness at weld zone

Resistance to plastic deformation is called hardness. Larger-the-better S/N ratio is used in order to maximize response. Table of ANOVA for hardness (weld zone) is shown in Table 4.

Table 4 ANOVA table for Hardness (Weld zone)

Source	DOF	Seq SS	Contribution	Adj SS	Adj MS	F-Value	P-Value
R.P.M	2	4.736	5.01%	4.736	2.3678	4.38	0.186
Feed Rate (mm/min)	2	29.669	31.42%	29.669	14.8344	27.41	0.035
Tool Pin Profile	2	58.942	62.42%	58.942	29.4711	54.46	0.018
Error	2	1.082	1.15%	1.082	0.5411		
Total	8	94.429	100.00%				

Analysis of variance is computed by using MINITAB software to evaluate the percentage contribution of each factor in improving hardness of friction stir welded joint. The confidence level percentage of RPM is 5%, Feed rate of 31% and tool pin profile contribution is 62%. The above table clearly revealed that pin profile of tool contributes with maximum percentage than RPM and feed rate. These results are in good agreement with previous studies [13] that shows the least effect of tool rotational speed on hardness of weld zone.

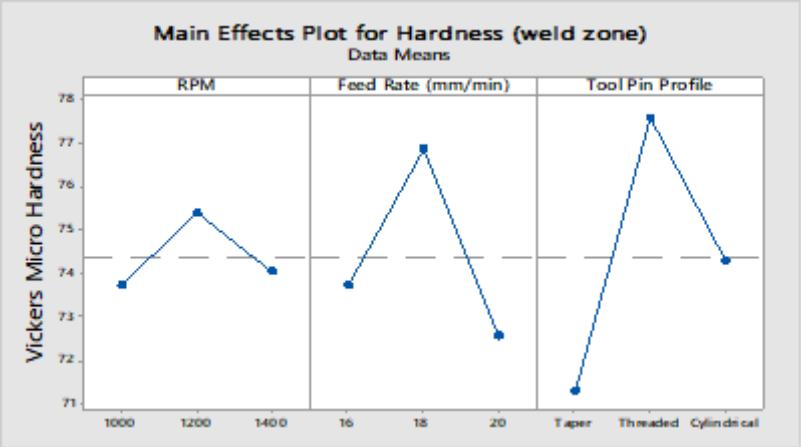


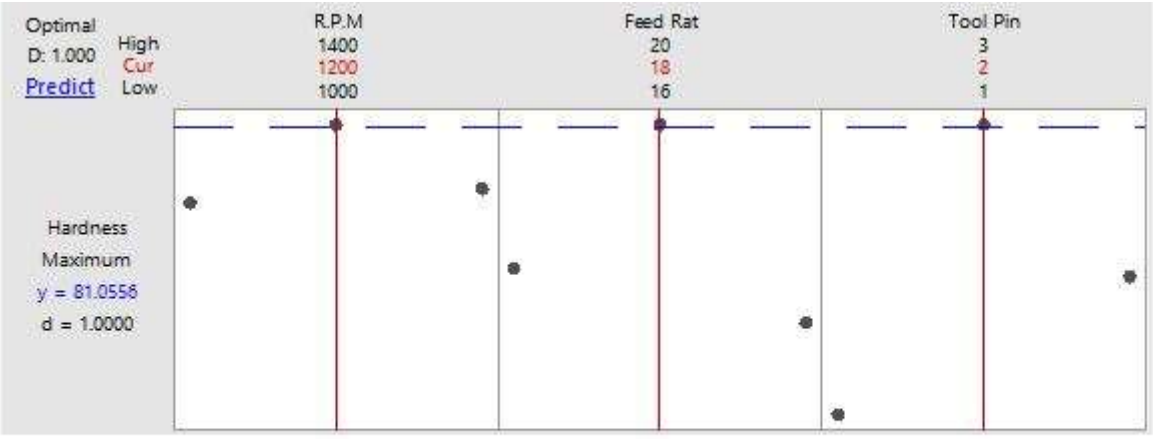
Fig. 4 Main Effect plot for hardness (Weld zone)

Table 5 Table of Response for Hardness (weld zone)

Level	RPM	Feed Rate (mm/min)	Pin Profile of Tool
1	73.73	73.73	71.30
2	**75.40**	**76.87**	**77.57**
3	74.03	72.57	74.30
Delta	1.67	4.30	6.27
Rank	3	2	1

By looking at Table 5 and Fig. 4 the optimum conditions for obtaining good hardness value are 18 mm/min feed rate, 1200 rpm of tool and when threaded pin profile of tool is used. Rank of each factor is assigned by delta values. Tool pin profile is ranked 1 mean pin profile of tool is dominant factor for improving hardness of friction stir welded joint. Rpm of tool has least contribution.

Response optimizer plot shows how predicted responses are affected for a stored model with different experimental settings. Response optimizer plot shows y value is 81.056 HV where feed rate is 18 mm/min, RPM of tool is 1200 and threaded tool pin profile are considered as input parameters. Response optimizer plot shown in Fig. 5 displays the maximum hardness value of 81.056 HV at optimum level.



1= taper pin profile of tool
2= threaded pin profile of tool
3= cylindrical pin profile of tool

Fig. 5 Response Optimizer plot for hardness (weld zone)

Percentage Elongation

In a tensile test percentage elongation is maximum gauge length elongation divided by original gauge length. Larger percentage elongation is needed so that material can withstand while stretching. Thus, larger the better S/N ratio is used to maximize response.

Table 6 ANOVA Table for % Elongation

Source	DOF	Seq SS	Contribution	Adj SS	Adj MS	F-Value	P-Value
R.P.M	2	6.376	25.79%	6.376	3.188	2.90	0.256
Feed Rate (mm/min)	2	5.069	20.50%	5.069	2.534	2.31	0.302
Tool Pin Profile	2	11.082	44.83%	11.082	5.541	5.05	0.165
Error	2	2.196	8.88%	2.196	1.098		
Total	8	24.722	100.00%				

Analysis of variance is computed by using MINITAB software to evaluate the percentage contribution of each factor in improving percentage elongation of friction stir welded sample. The confidence level percentage of RPM is 25.7%, Feed rate of 20.5% and tool pin profile contribution is 44.8%. The above table clearly revealed that pin profile of tool contributes with maximum percentage than RPM and feed rate.

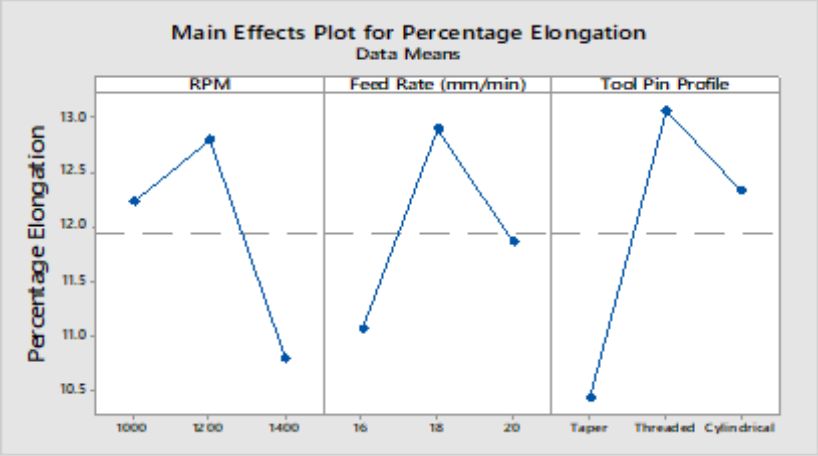


Fig. 6 Main Effect plot for % Elongation

Table 7 Table of Response for percentage elongation

Level	RPM	Feed Rate (mm/min)	Pin Profile of Tool
1	12.23	11.07	10.43
2	**12.80**	**12.90**	**13.07**
3	10.80	11.87	12.33
Delta	2.00	1.83	2.63
Rank	2	3	1

By looking at Table 7 and Fig. 6 the optimum conditions to obtain good % elongation are 18 mm/min feed rate, 1200 rpm of tool and threaded pin profile of tool. Rank of each factor is assigned by delta values. Tool pin profile is ranked 1 mean tool pin profile is dominant factor and feed rate has least contribution in improving percentage elongation.

Response optimizer plot shows how predicted responses are affected for a stored model with different experimental settings. Response optimizer plot shows y value is 14.8778% where feed rate is 18 mm/min, RPM of tool is 1200 and threaded tool pin profile are considered as input parameters. Response optimizer plot shown in Fig. 7 exhibits the maximum % elongation of 14.8778% at optimum level.

1= taper pin profile of tool
2= threaded pin profile of tool
3= cylindrical pin profile of tool

Fig. 7 Response Optimizer plot for Percentage Elongation

IV. CONCLUSIONS

Conclusions obtained are as follows:

- Friction stir welded joints made with different sets of process parameters were tested and it was found that 1200 rpm of tool, 18 mm/min feed rate and threaded pin profile of tool provided the best value of welded joint hardness i.e., 81.0556 HV.
- The optimum value of percentage elongation i.e., 14.8778% was obtained at 1200 rpm of tool, 18 mm/min feed rate and when threaded pin profile of tool is used.
- It was also concluded after analysis of variance that tool pin profile contributes the most i.e., 62.4% in improving hardness of weldment and contributes with 44.8% in improving the percentage elongation.
- It is recommended to put more focus while designing tool pin profile as it contributes with maximum percentage in improving percentage elongation and hardness of friction stir welded joint.

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SOME RESULTS ON DEGREE-SUM, DEGREE SQUARE SUM, FIRST ZAGREB AND SECOND ZAGREB ENERGIES OF THE FIBONACCI SUM GRAPH

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Introduction

Let G be a graph on n vertices with vertex set $V(G)$ and edge set $E(G)$. In a graph, if any vertices u and v forms an edge, then u is adjacent to v, and shown as u ~ v. The number of edges connected to the vertex u is called the degree of u, and shown as d(u) [1].

The adjacency matrix of G, denoted by $A(G)$, is a square matrix $[a_{ij}]$ such that eigenvalues of the adjacency matrix $A(G)$ are known as the eigenvalues of the graph G. Collection of eigenvalues of the graph G together with their multiplicities is called spectrum of the graph G [1].

The energy of a graph G is defined in [2] as follows:

$$E(G) = \sum_{i=1}^{n} |\lambda_i|$$

,where $\lambda_1, \lambda_2, \ldots, \lambda_n$ are the eigenvalues of G.

We now give definitions of the various matrices and energies of the graphs that will be required in the following sections.

Definition 1. [3] Let G be a simple connected graph. $DS(G) = [ds_{ij}]$ is the degree sum matrix of G, where

$$ds_{ij} = \begin{cases} d(i) + d(j), & if\ i \neq j \\ 0, & otherwise \end{cases}$$

The degree sum energy E_{DS} of G is the sum of the absolute values of the eigenvalues of $DS(G)$.

Definition 2. [4] Let G be a simple connected graph. $DSS(G) = [dss_{ij}]$ is the degree square sum matrix of G, where

$$ds_{ij} = \begin{cases} d(i)^2 + d(j)^2, & if\ i \neq j \\ 0, & otherwise \end{cases}$$

The degree sum energy E_{DSS} of G is the sum of the absolute values of the eigenvalues of $DSS(G)$.

Definition 3. [5] Let G be a simple connected graph. $Z^{(1)}(G) = [z_{ij}{}^{(1)}]$ is the first zagreb matrix of G, where

$$z_{ij}{}^{(1)} = \begin{cases} d(i) + d(j), & if\ i{\sim}j \\ 0, & otherwise \end{cases}$$

The first zagreb energy $E_{Z^{(1)}}$ of G is the sum of the absolute values of the eigenvalues of $Z^{(1)}(G)$.

Definition 4. [5] Let G be a simple connected graph. $Z^{(2)}(G) = [z_{ij}{}^{(2)}]$ is the second zagreb matrix of G, where

$$z_{ij}{}^{(2)} = \begin{cases} d(i)d(j), & if\ i{\sim}j \\ 0, & otherwise \end{cases}$$

The second zagreb energy $E_{Z^{(2)}}$ of G is the sum of the absolute values of the eigenvalues of $Z^{(2)}(G)$.

Lemma 1 [6]. Let A be a $n \times n$ square matrix, then

$$R_{min} \leq \rho(A) \leq R_{max}$$

where $R_{min} = min_{1\leq i\leq n} R_i(A)$, $R_{max} = max_{1\leq i\leq n} R_i(A)$ and $R_i(A) = \sum_{i=1}^{n} |a_{ij}|$.

For $n \geq 2$, the Fibonacci sequence $\{F_n\}$ is defined by the recurrence relation $F_n = F_{n-1} + F_{n-2}$ with the initial values $F_0 = 0$ and $F_1 = 1$ [7].

Let $G_n = (V, E)$ be a Fibonacci-sum graph, where

$$E = \{\{\mathrm{i,j}\}: \mathrm{i,j} \in \mathrm{V}, \mathrm{i} \neq \mathrm{j}, \mathrm{i}+\mathrm{j} \text{ is a Fibonacci number}\}.$$

For any $n \geq 2$; vertex 2 has maximum degree in the Fibonacci-sum graph G_n and $d(2) = l - 3$, where $F_l \leq n + 2 \leq F_{l+1}$ [8].

BOUNDS FOR SPECTRAL RADIUS OF SOME MATRICES AND FOR ENERGIES OF FIBONACCI-SUM GRAPH

Theorem 1: Let G_n be a Fibonacci-sum graph with n vertices and m edges, where $F_k \leq n \leq F_{k+1}$ and $d(2) \geq \cdots \geq d(F_k)$, then

$$(n-2)d(F_k) + 2m \leq \rho\big(ds(G_n)\big) \leq (n-2)d(2) + 2m$$

and

$$E_{ds}(G_n) \leq n((n-2)d(2) + 2m).$$

Proof Since $d(F_k)$ is the minimum degree in G_n,

$$R_{min}\big(DS(G_n)\big) = \sum_{i=1}^{n-1} d(F_k) + d(i).$$

Since

$$\sum_{i=1}^{n-1} d(i) = 2m$$

in G_n, we have

$$R_{min}\big(DS(G_n)\big) = (n-1)d(F_k) + 2m - d(F_k)$$
$$= (n-2)d(F_k) + 2m.$$

Since $d(2)$ is the maximum degree in G_n,

$$R_{max}\big(DS(G_n)\big) = \sum_{i=1}^{n-1} d(2) + d(i).$$

So, we get

$$R_{max}\big(DS(G_n)\big) = (n-1)d(2) + 2m - d(2)$$
$$= (n-2)d(2) + 2m.$$

Hence, by using Lemma 1, we obtain

$$(n-2)d(F_k) + 2m \leq \rho\big(ds(G_n)\big) \leq (n-2)d(2) + 2m.$$

We see that the upper bound for all eigenvalues is $(n-2)d(2) + 2m$. So, we get

$$E_{ds}(G_n) \leq n((n-2)d(2) + 2m).$$

Theorem 2: Let G_n be a Fibonacci-sum graph with n vertices and m edges, where $F_k \leq n \leq F_{k+1}$ and $d(2) \geq \cdots \geq d(F_k)$, then

$$(n-1)d(F_k)^2 + \sum_{i=1}^{n-1} d(i)^2 \leq \rho\big(dss(G_n)\big) \leq (n-1)d(2)^2 + \sum_{i=1}^{n-1} d(i)^2$$

and

$$E_{dss}(G_n) \leq n\left((n-2)d(2)^2 + \sum_{i=1}^{n-1} d(i)^2\right).$$

Proof Since $d(F_k)$ is the minimum degree in G_n, we have

$$R_{min}\big(DSS(G_n)\big) = \sum_{i=1}^{n-1} d(F_k)^2 + d(i)^2$$
$$= (n-1)d(F_k)^2 + \textstyle\sum_{i=1}^{n-1} d(i)^2.$$

Since $d(2)$ is the maximum degree in G_n,

$$R_{max}\big(DSS(G_n)\big) = \sum_{i=1}^{n-1} d(2)^2 + d(i)^2.$$

So, we get

$$R_{max}\big(DSS(G_n)\big) = (n-1)d(2)^2 + \sum_{i=1}^{n-1} d(i)^2.$$

Hence, by using Lemma 1, we obtain

$$(n-1)d(F_k)^2 + \sum_{i=1}^{n-1} d(i)^2 \leq \rho\big(dss(G_n)\big) \leq (n-1)d(2)^2 + \sum_{i=1}^{n-1} d(i)^2$$

We see that the upper bound for all eigenvalues is $(n-1)d(2)^2 + \sum_{i=1}^{n-1} d(i)^2$. Hence, we get

$$E_{dss}(G_n) \leq n\left((n-1)d(2)^2 + \sum_{i=1}^{n-1} d(i)^2\right).$$

Theorem 3: Let G_n be a Fibonacci-sum graph with n vertices and m edges, where $F_k \leq n \leq F_{k+1}$ and $d(2) \geq \cdots \geq d(F_k)$, then

$$d(F_k) + d(F_{k-1}) \leq \rho\left(z^{(1)}(G_n)\right) \leq d(2)^2 + \sum_{2\sim j} d(j)$$

and

$$E_{z^{(1)}}(G_n) \leq n(d(2)^2 + \sum_{2\sim j} d(j)).$$

Proof Since $d(F_k)$ is the minimum degree and just $F_k \sim F_{k-1}$ in G_n, we have

$$R_{min}\left(Z^{(1)}(G_n)\right) = d(F_k) + d(F_{k-1}).$$

Since $d(2)$ is the maximum degree in G_n,

$$R_{max}\left(Z^{(1)}(G_n)\right) = \sum_{2\sim j} d(2) + d(j)$$

Since the number of the adjacent vertices of n is $d(2)$, we get

$$R_{max}\left(Z^{(1)}(G_n)\right) = d(2)^2 + \sum_{2\sim j} d(j).$$

Hence, by using Lemma 1, we obtain

$$d(F_k) + d(F_{k-1}) \leq \rho\left(z^{(1)}(G_n)\right) \leq d(2)^2 + \sum_{2\sim j} d(j).$$

We see that the upper bound for all eigenvalues is $d(2)^2 + \sum_{2\sim j} d(j)$. Hence, we get

$$E_{z^{(1)}}(G_n) \leq n(d(2)^2 + \sum_{2\sim j} d(j)).$$

Theorem 4: Let G_n be a Fibonacci-sum graph with n vertices and m edges, where

$F_k \leq n \leq F_{k+1}$ and $d(2) \geq \cdots \geq d(F_k)$, then

$$d(F_k)d(F_{k-1}) \leq \rho\left(z^{(2)}(G_n)\right) \leq d(2)\sum_{2\sim j} d(j)$$

and

$$E_{z^{(2)}}(G_n) \leq n(d(2)\sum_{2\sim j} d(j)).$$

Proof Since $d(F_k)$ is the minimum degree and just $F_k \sim F_{k-1}$ in G_n, we have

$$R_{min}\left(Z^{(2)}(G_n)\right) = d(F_k)d(F_{k-1}).$$

Since $d(2)$ is the maximum degree in G_n,

$$R_{max}\left(Z^{(2)}(G_n)\right) = \sum_{2\sim j} d(2)d(j)$$

$$= d(2)\sum_{2\sim j} d(j) \quad .$$

Hence, by using Lemma 1, we obtain

$$d(F_k)d(F_{k-1}) \leq \rho\left(z^{(2)}(G_n)\right) \leq d(2)\sum_{2\sim j} d(j).$$

We see that the upper bound for all eigenvalues is $d(2)\sum_{2\sim j} d(j)$. Hence, we get

$$E_{z^{(2)}}(G_n) \leq n(d(2)\sum_{2\sim j} d(j)).$$

Conclusion

In this study, we first obtained lower and upper bounds for spectral radius of Degree-Sum, Degree Square Sum, First Zagreb and Second Zagreb matrices of Fibonacci-sum graphs. Then we found upper bounds using energy definitions.

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INVESTIGATION OF THE EFFECTS OF LYCOPENE ON THROMBOCYTOPENIA INDUCED BY CISPLATIN AND CARBOPLATIN IN RATS

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Abstract
Cancer is one of the major causes of death today. Although antineoplastic drugs used in the treatment of cancer offer important opportunities, these drugs have very serious side effects. Antineoplastic drugs, which act by suppressing the bone marrow, can cause thrombocytopenia, especially in the blood.
Thrombocytopenia is a very important syndrome that limits treatment in patients receiving chemotherapy. Although there is no approved treatment for thrombocytopenia today, routine treatment protocols such as external thrombocyte applications and glucocorticoid applications are performed. The condition that causes thrombocytopenia are non-immune causes such as oxidative stress, suppression of the immune system and apoptosis. Lycopene is a powerful antioxidant substance that can activate platelet formation and reduce its destruction. Therefore, it may exhibit protective or therapeutic properties against thrombocytopenia induced by platinum-derived antineoplastics such as cisplatin and carboplatin.
In this study, possible thrombocytopenia was created by giving cisplatin and carboplatin to rats in the experimental model, and the protective/therapeutic effects of dexamethasone and antioxidant lycopene, which are routinely used in the treatment of this thrombocytopenia, were investigated by comparing them. Thrombocytopenia was analyzed by blood count, oxidative stress parameters, histopathological examination of bone marrow and spleen, and determination of DNA damage in platelets.
In the presented study, it was found that MDA levels were high, GSH-Px, CAT and GSH levels were low after cisplatin and carboplatin treatment. In conclusion; It was concluded that cisplatn and carboplatin treatment may have an effect by reducing the oxidant level, stimulating the antioxidant system and changing the peroxidation reactions. On pathological examinations, bone marrow hypoplasia was the main change noticed in all experimental groups. Bone marrow hypoplasia due to reduction in myelopoiesis and megakaryocytes was noted in the groups treated only with cisplatin and carboplatin. In addition to the changes mentioned above, it was found that dexamethasone applications caused a decrease in erythropoiesis and further increased the severity of hypoplasia ($P<0.001$). It was determined that lycopene applications had no effect on hypoplastic changes.
Differences between groups were calculated using one-way analysis of variance in SPSS package program after Dunnet test. Results were considered statistically significant when $p<0.05$.

Keywords: : Cisplatin, carboplatin lycopene, thrombocytopenia, rat

INVESTIGATION OF IMMUNMODULATOR EFFECTS OF INACTIVE PARAPOXVIRUS

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Introduction

İnactivated P. ovis shows strong immunomodulatory activity in several species and is used in immunostimulatory biological agent for the prevention and/or treatment of infectious diseases (1). Parapoxvirus ovis activity is based on the activation of innate cells and consequent cytokine production, stimulates and regulates the secretion of cytokines by leukocytes (2).

Materials And Methods

In this study, 12 calves older than 6 months of age were used to measure specific immune factor. These calves were divided into 3 groups wıth each containing 4 calves . The first group assigned as the control group, inactivated Parapoxvirus and IBR vaccine were applied to the 2nd group, and only the IBR vaccine was applied to the 3rd group. After administration, blood samples were collected using heparinized vacuum tubes on the day of vaccination and on the 21th and 36th days of vaccination. Total leukocyte count in collected blood samples, Isolation of polymorph nuclear leukocytes, Serum Neutralization tests for leukocytes were conducted.

Results

According to the evaluation of the Serum Neutralization Test, the titers of the control group were found 0 on the vaccination day, the 21st day and the 36th day. Average of titers of IBR vaccinated group were measured 0 on the vaccination day, 5.29 on the 21st day, 6.10 the 36th day. Finally in IBR Vaccine + Parapoxvirus immunomodulator applied group, the average titers were measured 0 on the vaccination day, 5.98 on the 21st day, and 6.72 on the 36th day. According to the test results, the antibody titers of the animals in the group with immunmodulator and IBR vaccine were found to be 12% higher than the other 2 groups. Meanwhile in a healthy cattle the leukocyte count is between 6,000-10,000 µ / l. As a result of our Total leukocyte counts, it was seen that the leukocyte count was the highest in the immunostimulant group.

Conclusions

Based on our study results, we concluded that immunmodulators play a key role in supporting immunity system. Therefore, we aim to test the inactive parapoxvirus immunomodulator on different animal species and to look at different immunity elements.

Acknowledgements

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İNAKTİF PARAPOXVİRUSLERİN İMMUNMODULATÖR ETKİLERİNİN ARAŞTIRILMASI

Giriş

İnaktive edilmiş P. ovis, birçok türde güçlü immünomodülatör aktivite gösterir ve enfeksiyöz hastalıkların önlenmesi ve/veya tedavisi için immünostimülatör biyolojik ajan olarak kullanılır (1). Aktiviteleri, doğuştan gelen hücrelerin aktivasyonuna ve bunun sonucunda sitokin üretimine dayanır. İnaktive edilmiş Parapoxvirus ovis (iPPVO), lökositler tarafından sitokinlerin salgılanmasını uyarır ve düzenler (2)

Materiyal ve Metod

Bu çalışmada, spesifik immün faktörü ölçmek için 6 aylıktan büyük 12 buzağı kullanıldı. Bu buzağılar, her birinde 4 buzağı bulunan 3 gruba ayrıldı. Kontrol grubu olarak belirlenen birinci grup, 2. gruba inaktive Parapoxvirus ve IBR aşısı, 3. gruba ise sadece IBR aşısı uygulandı. Uygulamadan sonra, aşılama gününde ve aşılamanın 21. ve 36. günlerinde heparinize vakumlu tüpler kullanılarak kan örnekleri alındı. Alınan kan örneklerinde toplam lökosit sayısı, Polimorf nükleer lökositlerin izolasyonu, lökositler için Serum Nötralizasyon testleri yapılmıştır.

Sonuç

Serum Nötralizasyon Testi değerlendirmesine göre kontrol grubunun titreleri aşılama günü, 21. gün ve 36. gün 0 olarak bulundu. IBR ile aşılanmış grubun titrelerinin ortalaması aşılama gününde 0, 21. gün 5.29, 36. gün 6.10 olarak ölçülmüştür. Son olarak IBR Aşısı + Parapoxvirus immünomodülatör uygulanan grupta ortalama titreler aşılama gününde 0, 21. günde 5.98 ve 36. günde 6.72 olarak ölçüldü. Test sonuçlarına göre immünmodülatör ve IBR aşısı yapılan gruptaki hayvanların antikor titreleri diğer 2 gruba göre %12 daha yüksek bulundu. Bu arada sağlıklı bir sığırda lökosit sayısı 6.000-10.000 µ/l arasındadır. Total lökosit sayımız sonucunda lökosit sayımızın immunostimulant grubunda en yüksek olduğu görüldü.

Karar

Çalışma sonuçlarımıza dayanarak, immünmodülatörlerin bağışıklık sistemini desteklemede anahtar rol oynadığı sonucuna vardık. Bu nedenle inaktif parapoxvirus immünomodülatörünü farklı hayvan türleri üzerinde test etmeyi ve farklı bağışıklık elemanlarına bakmayı hedefliyoruz.

Teşekkür

Bu çalışma Dollvet A.Ş. tarafından sağlanan bir hibe ile desteklenmiştir.

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ASSESSMENT OF VARIETY RELEASING PERFORMANCE FROM WINTER WHEAT GERMPLASM AT DIYARBAKIR CONDITION

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Abstract
Spring wheat genotypes have been successfully grown with global climate change in the Diyarbakır wheat growing zones, where a continental climate dominates. In the cold winter season, however, yield losses in spring wheat genotypes are occasionally reported. In order to solve this problem, wheat genotypes that are resistant to winter damage and suited for spring growing type must be identified. The focus of this research was to determine how winter wheat varieties could be adapted to the Diyarbakır region. The grain yield, protein ratio starch ratio, plant height, spike length, spikelet number, spike grain number and grain weight variability of 50 wheat genotypes were ranged between 157.2- 494.7 kg da-1, 9.33-14.57 %, 82.7-88.9 %, 56-102.3 cm, 6.3-12.5 cm, 13.8-23.6, 30.6-64.4 and 28.2-56.6 g, respectively. The findings suggest that there is a large genetic variation in the traits studied, and that suitable wheat genotypes can be discovered either directly or through breeding research. According to the cluster analysis, clustering the genotypes by cutting the dendogram into 6 groups will improve genotype selection for hybridization and allow for more genotypic variation to be benefited from. The significant association between protein content and grain yield suggests that high-yielding and high-quality cultivars can be identified. The parameters controlling the grain number have a favorable impact on grain yield, while grain weight has a negative impact, according to the component analyses. The findings suggest that winter wheat trial sets can be used to identify genotypes suitable for spring type conditions.

Keywords: protein content, dendogram, correlation, wheat.

Özet
Karasal iklimin hakim olduğu Diyarbakır buğday yetiştirme bölgesinde, küresel iklim değişikliği ile birlikte yazlık buğday genotipleri başarıyla yetiştirilebilmektedir. Ancak soğuk kış mevsiminde yazlık buğday genotiplerinde zaman zaman verim kayıpları rapor edilmektedir. Bu sorunu çözmek için kış zararlarına dayanıklı ve ilkbahar yetiştirme tipine uygun buğday genotiplerinin belirlenmesi gerekmektedir. Bu araştırmanın odak noktası, kışlık buğday çeşitlerinin Diyarbakır bölgesine nasıl adapte edilebileceğini belirlemektir. Bu araştırmada 50 ekmeklik buğday genotipine ait tane verimi, protein oranı, nişasta oranı, bitki boyu, başak uzunluğu, başakçık sayısı, başak tane sayısı ve tane ağırlığı değerleri sırasıyla 157.2-494,7 kg da-1, %9.33-14.57, %82.7-88.9, 56-102.3 cm, 6.3-12.5 cm, 13.8-23.6, 30.6-64.4 ve 28.2-56.6 gr bulunmuştur. Bulgular, incelenen özelliklerde büyük bir genetik çeşitlilik olduğunu ve uygun buğday genotiplerinin ya doğrudan ya da ıslah araştırmaları yoluyla keşfedilebileceğini göstermektedir. Küme analizine göre, dendogramın 6 gruba ayrılarak

genotiplerin kümelenmesi, hibridizasyon için genotip seçimini iyileştirecek ve daha fazla genotipik varyasyondan yararlanılmasına olanak sağlayacaktır. Protein içeriği ve tane verimi arasındaki önemli ilişki, yüksek verimli ve kaliteli çeşitlerin tanımlanabileceğini göstermektedir. Bileşen analizlerine göre, tane sayısını kontrol eden parametreler tane verimi üzerinde olumlu bir etkiye sahipken, tane ağırlığı olumsuz bir etkiye sahip olmuştur. Sonuç olarak kışlık ekmeklik buğday deneme setlerinin yazlık koşullara uygun genotipleri belirlemek için kullanılabileceğini göstermektedir.

Anahtar Kelimeler: protein içeriği, dendogram, korelasyon, buğday.

GİRİŞ

Buğday insan beslenmesinde kullanılan kültür bitkileri arasında dünyada ekiliş ve üretim bakımından ilk sırada yer alan bir bitkidir. Buğday kültürünün tüm dünyada yaygın oluşunun başlıca nedenleri; geniş çeşit zenginliği, hayvan beslenmesi ve endüstride yaygın olarak kullanılması ve geniş ekolojilere adapte olabilmesidir. Bu nedenle, buğday diğer kültür bitkilerine oranla daha geniş adaptasyon alanları bulabilmiş, ekvatordan kutuplara ve alçak ovalardan yüksek yaylalara kadar geniş alanlara yayılabilmiştir. Yüksek nem, verimli toprak isteyen buğday çeşitlerinin yanında, verimliliği düşük topraklarda yetişebilen buğday çeşitleri de vardır. Dünya nüfusunun yaklaşık % 35'inin temel besini olan buğday, tüm dünyada besinlerden alınan kalorinin % 20'sini sağlamaktadır (Kizilgeci ve ark., 2021). Buğdayın kalitesin belirleyen fiziksel, kimyasal ve teknolojik özellikler üzerinde iklim ve toprak gibi çevresel koşullar önemli etkiye sahiptir (Peterson ve ark., 1992). Buğdayda kalite birçok kritere bağlı olarak değişmekle birlikte sanayide kullanım amacına bağlı olarak çok geniş bir önem taşımaktadır. Kullanım amacını etkileyen en önemli özellikler tanenin protein oranı ve protein kalitesidir (Kimber ve Sears, 1987). Kaliteyi önemli ölçüde etkileyen dane protein miktarı ve protein fraksiyonlarının dağılımı, genotipten ve çeşitli çevre faktörlerinden kaynaklanan özelliklere göre değişim göstermektedir (Erekul ve ark., 2005).

Bu çalışmada CIMMYT Türkiye branşı tarafından koordine edilen ve dağıtımı yapılan altarnatif ve kışlık tabiatlı ekmeklik buğdayların verim, kalite ve verim unsurları yönünden değerlendirilerek Diyarbakır koşullarına uygun ekmeklik buğday genotiplerinin belirlenmesi amaçlanmıştır.

MATERYAL VE YÖNTEM

Bu çalışma, Diyarbakır koşullarında 2019–2020 yetiştirme sezonunda yürütülmüştür. Çalışmada, CIMMYT den temin edilen 50 ekmeklik buğday hattı yanı sıra kontrol olarak dört adet tescilli çeşit kullanılmıştır. Araştırma, Augmented deneme deseninde her birinde 25 parsel bulunan iki bloktan oluşturulmuştur. Ekimle birlikte 7 kg saf P_2O_5 ve 7 kg saf N gübre uygulanmıştır. Sapa kalkma döneminde ise 5 kg saf N uygulanmıştır. Çalışmada tane verimi ve bin tane ağırlığı, protein içeriği, nişasta oranı, bitki boyu, başak uzunluğu, başakçık sayısı ve başakta tane sayısı özellikleri incelenmiştir.

Verilerin Analizi

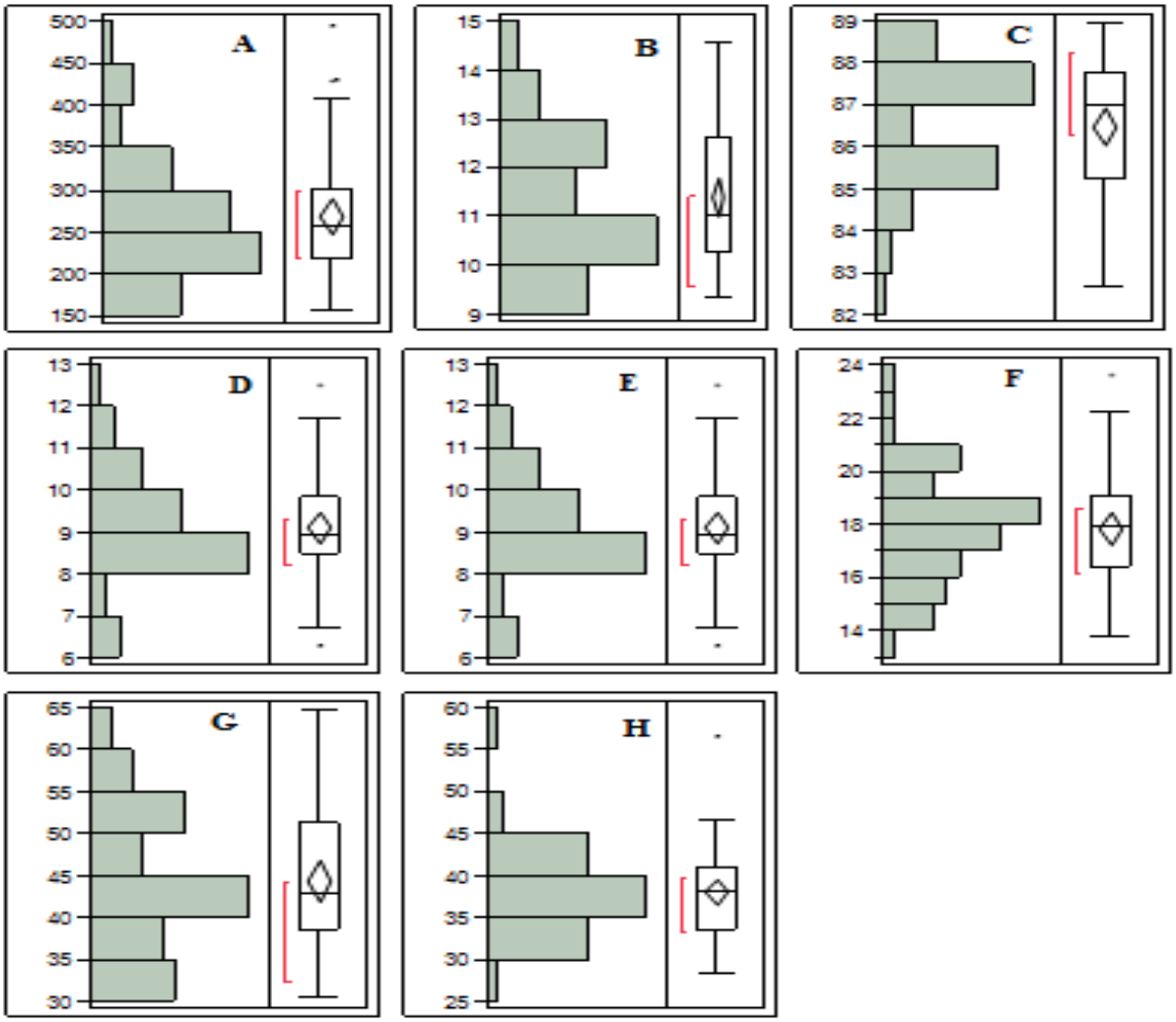
Varyans analizi R studio istatistik analiz programı ile biplot analizi, Pearson’s korelasyon katsayısı ve dendogram grafiği için JMP 10 istatistik analiz programı kullanılmıştır.

BULGULAR VE TARTIŞMA

Çalışmada incelenen tüm özellikler yönünden genotipler arasında önemli farklılıklar bulunmuştur (Tablo 1). genotiplerin en düşük ve en yüksek değerleri tane verimi için 157.25-494.68 kg da^{-1}; bin dane ağırlığı için 28.2-56.6 g; protein oranı için % 9.33-14.57; nişasta içeriği için % 82.67-88.93, bitki boyu için 56.4-102.3 cm; başak uzunluğu için 6.3-12.5 cm; başakçık sayısı için 13.8-23.6 ve başakta tane sayısı için 30.6-64.6arasında değişim göstermiştir. Çalışmadan elde edilen sonuçlara göre incelenen tüm özellikler için genotipler arasında çok geniş varyasyon bulunduğunu ve bunlar arasında seleksiyon ıslahı yapıldığında bölge koşullarına uygun ve standart çeşitleri geçen yeni çeşit adaylarının seçilebileceğini göstermektedir. Bunun dışında verim unsurları ve kalite özelliği yönünden çok iyi hatlar melezleme ıslahında özellikle geri melez yapılarak mevcut çeşitlerin özelliklerinin iyileştirilmesinde kullanılma potansiyeline sahiptir.

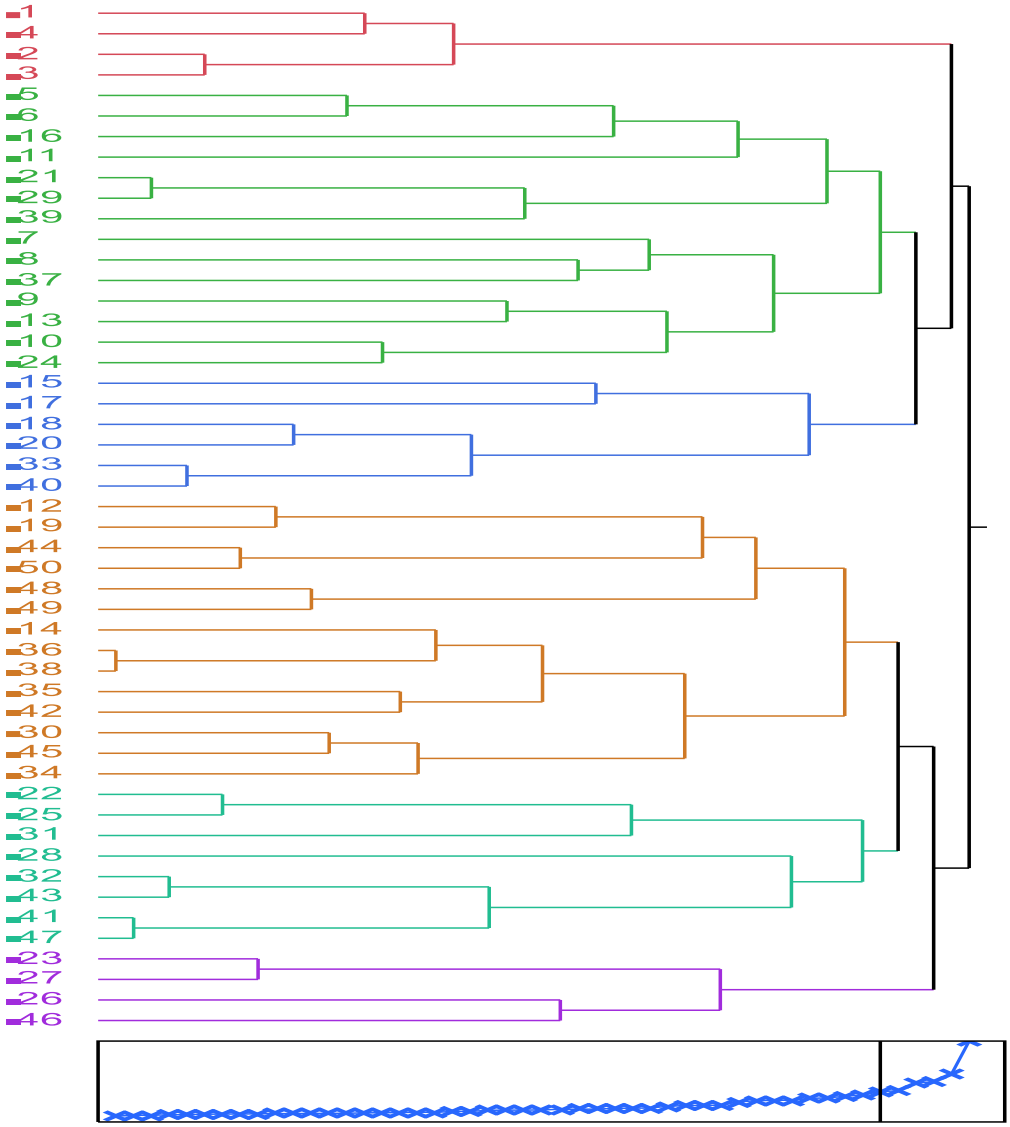
Tablo 1. İncelenen özelliklerin Augmented düzende elde edilen sonuçlar ile özelliklerin değişim sınırları

	Tane Verimi	Protein Oranı	Nişasta İçeriği	Bitki Boyu	Başak Uzunluğu	Başakçık Sayısı	Başakta Tane Sayısı	Bin Tane Ağırlığı
En yüksek değer	494.68	14.57	88.93	102.3	12.5	23.6	64.6	28.2
En düşük değer	157.25	9.33	82.67	56.4	6.3	13.8	30.6	56.6
Ortalama	268.77	11.40	86.49	83.10	9.12	17.83	44.3	38.1
Std Dev	73.81	1.38	1.54	8.70	1.30	2.17	8.71	5.16
Std Err Mean	10.44	0.19	0.21	1.23	0.18	0.30	1.23	0.73



Şekil 1. A) tane verimi B) protein oranı C) nişasta içeriği D) bitki boyu E) başak uzunluğu F) başakçık sayısı G) başakta tane sayısı H) bin tane ağırlığına ait genotip frekans dağılımları

İncelenen genotiplerin ortalama tane verimi 268.77 kg da^{-1} dır. 250 kg da^{-1}'dan fazla verim veren genotip sayısı 20'den fazla bulunmuştur (Şekil 1). Bu araştırmada elde ettiğimiz sonuçlara benzer olarak, tane veriminin genotiplere göre değiştiğini farklı çalışmalarda ortaya konulmuştur. Protein içeriği ortalama 11.4 olarak belirlenmiş ve %11'ten fazla protein içeriğine sahip genotip sayısı populasyonun %50'sini temsil etmiştir. Bu durum ilgili özellikler yönünden ekstrem değerlere sahip genotip sayısının fazla olduğunu göstermektedir. Buğdayda protein oranının tür, çeşit çevre koşulları ve üretim tekniğine bağlı olarak değişebildiği, yurdumuzda protein oranının topbaşlarda % 9-13, ekmeklik buğdaylarda % 10-15, makarnalık buğdaylarda % 11-17 arasında olduğu bildirilmiştir (Işık, 2011; Aydoğan ve Soylu, 2016). Benzer şekilde başak uzunluğu, başakçık sayısı ve başakta tane sayısı bakımından extrem değerlere sahip olan genotip sayısının fazla olması çok sayıda üstün özelliği bir arada bulunan çok sayıda genotip belirlenebileceğini göstermektedir (Şekil 1). Daha önce bu konuda yapılan araştırmalarda buğday da verim ve kalitenin kullanılan çeşide, bölgenin ekolojik yapısına ve uygulanan kültürel işlemlere göre değiştiğini göstermektedir (Kendal ve ark., 2012; Kılıç ve ark., 2014; Kızılgeçi ve ark., 2015; Aydoğan ve Soylu, 2017; Güngör ve Dumlupınar, 2019; Albayrak ve ark., 2020).



Şekil 2. Genotipler arası yakınlık ilişkisini gösteren dendogram

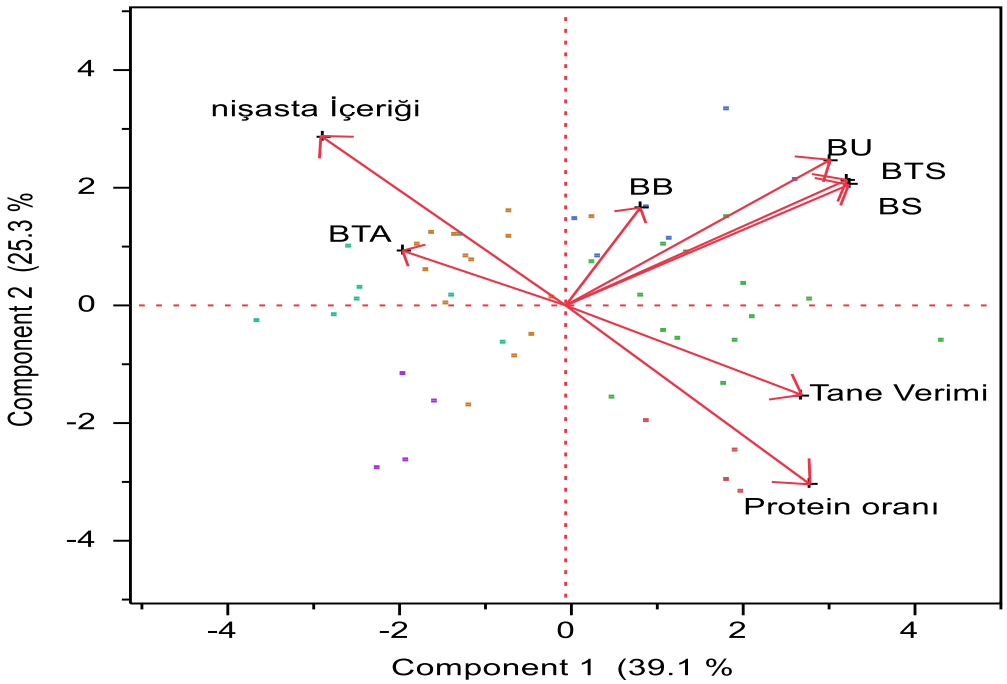
Şekil 2'de verilen dendogramdan elde edile aile ağacında ele alınan genotiplerin geniş varyasyona ve farklı genetik menşei'ye sahip olduklarını göstermektedir. Bu analiz sonucuna göre G36 ve G38 nolu genotiplerin genetik olarak birbirine en yakın, G1 ve G46 genotiplerinin ise genetik olarak birbirinden en farklı genotipik yapıya sahip olduğu ortaya çıkmaktadır. Tüm genotipler 6 farklı gruba ayrılmıştır.

Pearson's korelasyon analiz Tablo 2'de verilmiştir. İncelene özellikler yönünden tane verimi ile protein içeriği arasında olumlu ve önemli ilişki belirlenirken nişasta içeriği ile olumsuz ilişki belirlenmiştir.

Tablo 2. İncelenen özelliklerin korelasyon analizi

	Tane Verimi	Protein oranı	Nişasta içeriği	BB	BU	BS	BTS	BTA
Tane Verimi	1							
Protein oranı	0.54***	1						
Nişasta içeriği	-0.51***	-0.96***	1					
BB	0.094436	-0.04003	0.001846	1				
BU	0.239581	0.084598	-0.10768	0.31*	1			
BS	0.195561	0.179603	-0.19105	0.145432	0.754669	1		
BTS	0.293898	0.121158	-0.14948	0.209853	0.71***	0.75***	1	
BTA	-0.20833	-0.31*	0.247565	0.220089	-0.12856	-0.25018	-0.25938	1

Özellikler arası ilişkiyi gösteren biplot grafiği incelendiğinde iki bileşenden oluşan biplot analizinin toplam varyasyonun %64.4'ünü temsil ettiği görülmektedir (Şekil 3). Grafiğe göre başakta tane sayısı, başakçık sayısı ve başak uzunluğu özellikleri yaklaşık olarak eşit seviyede tane verimiyle ilişkili bulunmuştur. Dolayısıyla başak özellikleri yönünden yapılacak seleksiyonun verimi artırmada başarılı olacağı görülmektedir. Başak uzunluğu ve başakta başakçık sayısının ölçüm gerektirmeden görsel seleksiyona izin vermesi ıslah etkinliğinin artmasına ve daha fazla sayıda bitkinin kesilmeden değerlendirilmesine imkân sağlayacaktır. Protein içeriği ile bin tane ağırlığı ve nişasta özelliği ile ilişkili olmadığı görülmüştür. Ancak Tane verimi ile protein içeriği arasında olumlu ilişki belirlenmiştir. Yüksek verimin yanı sıra protein içeriğinin yüksek olması buğdayda çok arzu edilen bir özellik olmasının yanı sıra çeşidin çiftçiler tarafından Kabul görmesinde çok etkilidir. Son yıllarda buğday alımlarında fiyatlandırmanın kalite özelliklerine göre yapılması nedeniyle protein içeriği yüksek çeşitler tercih edilmektedir. Bu nedenle yüksek verimli olarak seçilen genotiplerin mutlaka kalite analizinden geçirilmesi gerekmektedir. Verim ve verim unsurları yönünden yapılan seleksiyonda seçilen genotiplerin populasyon orta seviyelerinde olmasına dikkat edilmelidir. Bu çalışmada 87-107 cm arasındaki genotiplerin seçilmesi uygun aralığa girmektedir (Şekil 1). Daha kısa boylu çeşitlerin kurak yıllarda dezavantaj sağlayacağı düşünülerek tercih edilmemesi uygun olacaktır.



Şekil 3. İncelenen özellikler arası ilişkiyi gösteren biplot grafiği

SONUÇ

Çalışma sonucunda elde edilen veriler değerlendirilerek 20 adet genotip bir sonraki yılda değerlendirilmek üzere seçilmiştir.

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DENEYSEL ÇALIŞMALARDA ELEKTRO-AKUPUNKTUR VE DİYABET

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Özet
Diabetes Mellitus, son yıllarda dünya çapında önemli ölçüde artmış kronik bir metabolik bozukluktur. Kardiyovasküler hastalık, diyabetik retinopati, nöropati ve nefropati dahil olmak üzere çeşitli ciddi komplikasyonlara neden olabilmektedir. Önemli finansal etkilerine ek olarak, dünya çapında önde gelen ölüm nedenlerinden biri haline gelebilmektedir. Önlemeye ve tedaviye yönelik birçok araştırmalar yapılmaktadır. Önlemeye ve tedaviye yönelik birçok çalışma yapılmaktadır. Daha düşük maliyet ve daha az yan etki nedeniyle, birçok hastalığı tedavi etmek için alternatif tıbba doğru son zamanlarda bir eğilim olmuştur. Akupunktur, Çin'de çeşitli hastalıkları tedavi etmek için kullanılan alternatif tıp yöntemlerinden biridir. Vücutta dolaşan "Çİ" adı verilen hayati enerji veya yaşam gücü akışındaki tıkanıklıkları gidermek için deri, deri altı doku veya kaslar gibi yüzeysel yapılara ince metal iğneler sokularak vücuttaki belirli noktaların (akupunktur noktaları) uyarılmasından oluşur. Çi enerjisi vücutta "kanallar" adı verilen bir yol sistemi aracılığıyla dolaşır. Günümüzde genellikle çelik, gümüş ve altından yapılmış iğnelerin akupunktur noktalarına sokulmasıyla uygulanmaktadır. Kulak akupunkturu, lazer akupunktur ve elektro-akupunktur gibi çeşitli akupunktur yöntemleri vardır. Elektro-akupunktur baş ağrısı, migren, bel ağrısı ve diz ağrısı gibi çeşitli ağrıları tedavi etmek için kullanılır. Tiroid bozukluğu, polikistik over sendromu, inme, obezite ve diyabet gibi akupunktur ile ilgili çeşitli hastalıklar üzerinde farklı çalışmalar bulunmaktadır. Deneysel diyabette hem akupunktur hemde elektro-akupunktur kullanılmaktadır. Diyabette en çok tercih edilen akupunktur noktaları karın bölgesindeki Zongwan(CV 12) ve bacaktaki Zusanli akupunktur (ST36) noktaları görülmektedir. Elektro-akupunktur uygulaması, plazmadaki beta-endorfin seviyesinde bir artışa yol açar ve bu beta-endorfin artışı, diyabetik sıçanların plazmasındaki insülin seviyesinde bir artışın nedeni olarak kabul edilmektedir. Ayrıca bazı deneysel çalışmalar insülin direncinde iyileşme göstermekte ve elektro-akpanktür kullanıldığında antioksidan etki gözlemlenmiştir.

Anahtar Kelimeler: Elektro-Akpanktür, Diyabet, Deneysel Çalışmaları

ELECTRO-ACUPUNCTURE AND DIABETES IN EXPERMENTAL STUDIES

Abstract
Diabetes Mellitus is a chronic metabolic disorder that has significantly increased worldwide in recent years. Can cause a variety of serious complication, including cardiovascular disease, diabetic retinopathy, neuropathy, and nephropathy. In addition to its significant financial implications, it could become one of the leading causes of death worldwide. Many studies are being conducted aimed at prevention and treatment. Due to the lower cost and fewer side

effects, there has been a recent trend towards alternative medicine to treat many diseases. Acupuncture is one of the methods of alternative medicine used in China to treat various diseases. It consists of stimulating certain points (acupuncture points) in the body by inserting thin metal needles into superficial structures such as the skin, subcutaneous tissue or muscles in order to remove the blockages in the flow of vital energy or life force, called “Qi” circulating in the body. Qi energy circulates in the body through a system of pathways called "channels". Today, it is generally applied by inserting needles made of steel, silver and gold into acupuncture points. There are several acupuncture methods such as ear acupuncture, laser acupuncture and electro-acupuncture. Electro-acupuncture is used to treat various pains such as headache, migraine, low back pain and knee pain. There are different studies on various diseases related to acupuncture such as thyroid disorder, polycystic ovary syndrome, stroke, obesity, and diabetes. In experimental diabetes, both acupuncture and electro acupuncture are used. The most preferred acupuncture points in diabetes are Zongwan(CV 12) in the abdomen and Zusanli(ST36) acupuncture in the leg. The application of electro-acupuncture was leads to an increase in the level of beta-endorphins in the plasma and this increase of beta-endorphin is considered to be the cause of an increase in the level of insulin in the plasma of diabetic rats. Also some expermental studies show improving in insulin resistance and was observed an antioxidant effect when electro-acpancture used.

Keywords: Electro-acupancture, Diabetes, Expermentel Studies

GİRİŞ

Diyabetes Mellitus (DM) : İnsülin salgılanmasının veya insülin aktivitesinin ya da her ikisinin beraber ortaya çıkması durum sonucu, protein ve yağ metabolizmalarında bozukluklara neden olan ve hiperglisemi ile karakterizedir (1,2). DM kronik bir hastalık olup, tüm organ ve sistemleri etkilemektedir. DM iki tipe ayrılmaktadır. Tip 1 diyabet, insülin sekresyonunun mutlak bir eksikliğe bağlı Tip 2 ise, insülin etkisine direnç ve yetersiz telafi edici insülin salgı tepkisinin bir kombinasyonu ile kaynaklamaktadır(3). Tip 2 DM , kanser ve kardiyovasküler hastalıklardan sonra en sık görülen kronik hastalıklardan biridir. Bu hastalığın son yıllarda tüm dünyada görülme sıklığının önemli ölçüde artması sonucunda yirmi birinci yüzyılın önemli toplumsal ve sosyal sorunlarından biri haline gelmiştir (4). Uluslararası Diyabet Federasyonun altıncı atlasına göre; dünya çapında 2013 yılında 382 milyon insanın diyabetten muzdarip olduğu ve bu sayının 2035 yıllı itibariyle 592 milyon insana ulaşacağı tahmin edilmektedir(5). Dünya Sağlık Örgütü 2003 yılı raporunda bir çok hastalığın akupunkturla tedavi edilebileceğini belirtmiştir(6). Akupunktur vücudun belirli bölgelerine iğne ile batırılarak çeşitli hastalıkların tedavisinde kullanan eski bir Çin tedavi yöntemidir. Uzak Doğuda taşların sivriltilerek derinin belirli yerlerine batırılması, birtakım hastalıkların tedavisinde kullanılmaktaydı(7). Günümüzde Genel olarak çelik, gümüş ve altından yapılmış iğnelerin akupunktur noktalarına batırılması ile uygulanmaktadır. Kulak , lazer ve elektro-akupunktur gibi akupunktur ile ilgili çeşitli yöntemleri bulunmaktadır. Elektro-akupunktur(EA) Vücudun belirli noktalara iğneler takıldıktan sonra bu iğnelerin ucuna elektrik akımı verilerek uygulanmaktadır(8 ,9). EA ağrı hafifletilmesinin etkinliği, Amerika Birleşik Devletleri ve diğer Batı ülkeleri tarafından geleneksel Çin tıbbının bir biçimi olarak kabul edilmektedir. Geçtiğimiz yıllarda, çok sayıda çalışmalarda, EA bacakta zusanli akuoanktur (ST36) noktası üzerine yugulanarak,kusma, bulantı, karın şişkinliği ve karın ağrısı gibi semptomları olan diyabetik hastaları tedavi etmek için yaygın olarak kabul edildiğini göstermiştir. ST36 noktası tibianın ön tüberkülünün yaklaşık 5 mm yanında dizin

lateralinde yer almaktadır. EA, diyabetle ilgili deneysel çalışmalarda, kan şekeri ve insülin direnci gibi durumlarda pozitif etkilerde gösterilmiştir.

Elektro-akupanktur (EA) Diyabet Üzerine Etkileri

EA, uygulaması plazmada beta endorfin düzeyinin yükselmesine yol açmaktadır (10,11 ,12). Plazmadaki beta endorfin artışı, diyabetik sıçanlarda plazmada insülin düzeyinin yükselmesinin nedeni olarak görülmektedir(10,13). Diyabetik sıçanlarda(Psammomys obesus) EA spesifik abdominal noktalar üzerinde kullanılarak spesifik olmayan noktalarda EA ile karşılaştırıldığında sürekli bir hipoglisemik etkiye neden olmuştur(14).
15 Hz EA st36 akupunktur noktası üzerine iki tarafa uygulandığında Tip 1 diyabetik sıçanlara enjekte edilen streptozotosin kaynaklı insülinin hipoglisemik etkisini arttırmıştır(15). EA başlıca hipoglisemik etkisi tip 2 diyabete odaklanmaktadır. Örneğin, Zhongwan akupunkturunda (CV12) 30 dakika boyunca EA (15 Hz, 10 mA) kullanıldıktan sonra hem normal sıçanlarda hem de tip 2 DM sıçanlarda plazma glikozunu azaltığnı gözlenmiştir. Buna karşılık, Tip 1 DM modelinde plazma glukozu üzerinde anlamlı bir etki gözlenmemiştir(16). Ayrıca EA, tip 1 DM sıçanlarda farklı akupunktur noktalarına uygulanması, Zusanli akupunkturunun (ST36) Zhongwan akupunkturununkine (CV-12) kıyasla daha güçlü bir hipoglisemik etki göstermiştir(17). Zhongwan akupunktur (CV-12)noktası (göbek merkezinin 4 cun üstünde) yer almaktadır. İnsülin direnci(İR), obezite, tip 2 DM ve metabolik sendrom gibi insülin direncine bağlı durumların neden olduğu hiperglisemi ve hiperinsülinemi gibi metabolik bozukluklarda en sık görülen faktördür. İnsülin direnci ile ilişkili hastalıkların insidansı dünya çapında artmaktadır ve önümüzdeki yıllarda artmaya devam etmesi muhtemeldir ve bu da insan sağlığı için önemli bir tehdit oluşturmaktadır. İnsülin direnci, insülinin hepatik glikoz çıkışını inhibe etme ve kas ve yağa glikoz alımını uyarma yeteneğinin bozulmasını içermektedir. Bu nedenle, insülin direncinin azaltılması kritik öneme sahiptir(18). Bilindiği gibi, tek bir büyük doz veya uzun süreli klinik steroid dozları, insülin sinyal iletimini engelleyebilecek iç plazma serbest yağ asidi (FFA) seviyelerini artırarak insülin direncine neden olabilir. EA ile insülin duyarlılığının arttırılması üzerine yapılan önceki araştırmalara göre, insülin duyarlılığını arttırmak için plazmadaki serbest yağ asidi seviyeleri azaltılabilir(19,20). Bu nedenle, bu çalışmalar, steroid kaynaklı insüline dirençli (SIIR) durumu iyileştirme potansiyeline sahip EA bildirmiştir.Yüksek yağlı diyetle ile beslenen ve insüline dirençli oluşturulmuş sıçanlarda 8 hafta boyunca haftada 5 kez 2 Hz olarak EA kullandığnda bacak (Quadrix Femoris) kas'ta SRT1 ve GLUT 4'ü aktive ederek insülin duyarlılığını İyileştirmiştir(21). Zusanli akupanktur noktası (ST36) kullanarak EA, steroid kökenli erkek sıçanlarda plazma serbest yağ asidi seviyelerini düşürerek insülin direncini azaltma üzerindeki Akut etki yaptığnı 2009 da rapor edilmiştir(22).

Oksidatif stres reaktif oksijen türlerinin üretimi ile endojen antioksidanlar tarafından parçalanması arasında bir dengesizlik olarak tanımlanmaktadır. Diabetes Mellitus ile yakından ilişkilidir. Diyabet, glikozun biyokimyasal değişiklikleri ve lipid peroksidasyonu ile birlikte hiperglisemi ile karakterizedir. Oksidatif stres, diabetes Mellitus patogenezinde ve komplikasyonlarında rol oynamıştır (23,24,25). Bazı araştırmalar elektro-akupunktura antioksidan özellikler göstermiştir, ve iskemik hasarda oksidatif stresi inhibe etmiştir. Ayrıca başka bir çalışmada, elektro-akupunktur ön tedavisinin, serebral iskemili diyabetik farelerde NADPH oksidaz aracılı oksidatif stresi inhibe ettiği gösterilmiştir.

Sonuç

Elektro-akupanktur deneysel diyabet üzerine farkli etkileri gösterilmiştir. Birçok çalışma plazma glikozunda bir azalmaya neden olduğunu bildirmiştir, ancak diğer çalışmalarda akupunkturun plazma glukoz seviyelerini etkilemese de insülin direncini azaltmda önemli rolü olduğunu göstermiştir. Bununla birlikte bazı leteratürlerde (yukarıda belirtildiği gibi) EA uygulandığında antioksidan etkilerini gözlenmiştir.

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ON HARMONIC UNIVALENT FUNCTIONS AND SPECIALIZED PASCAL DISTRIBUTION SERIES

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Abstract
Harmonic functions are a classic title in the class of geometric functions. Many researchers have studied these function classes from past to present, and since it has a wide range of applications, it is still a popular class. In this study, we will examine harmonic univalent functions, a subclass of harmonic functions. In general, harmonic univalent functions; The functions h and g are functions that can be written in $f = h + \bar{g}$ type, including the subclass of harmonic functions containing analytic functions. Where h is known as the analytical part, g is known as the co-analytical part. In this study, a subclass of harmonic univalent functions will be examined. The coefficient relations, distortion theorems, convex combinations and extreme points of this subclass will be examined.
A necessary and sufficient condition for f to be locally univalent and sense-preserving in $\mathbb{D}$ is that $|h'(z)| > |g'(z)|$. This shows in particular that $h'(z) \neq 0$ so there is no loss of generality in supposing that $h(0) = 0$ and $h'(0) = 1$. To this end, without loss of generality, we may write

$$h(z) = z + \sum_{k=2}^{\infty} a_k z^k \quad \text{and} \quad g(z) = \sum_{k=1}^{\infty} b_k z^k.$$

Let SH denote the family of functions $f = h + \bar{g}$ which are harmonic, univalent, and sense-preserving in $\mathbb{D}$ for which $f(0) = f_z(0) - 1 = 0$. Thus, SH contains the standard class S of analytic univalent functions. Although the analytic part h of a function $f \in SH$ is locally univalent, it will become apparent that it need not be univalent. One shows easily that the sense-preserving property implies that $|b_1| < 1$. The subclass SH^0 of SH consists of all functions in SH which have the additional property $f_{\bar{z}}(0) = 0$.
The aim of the present study is to find the essential properties for some subclasses of harmonic univalent functions which are related to Pascal distribution that are member of the subclasses of convex univalent functions.

1. Introduction

Let H denote the family of continuous complex valued harmonic functions of the from $f = h + \overline{g}$ defined in the open unit disk $\mathfrak{D} = \{z \in \mathbb{C} : |z| < 1\}$, where

$$h(z) = z + \sum_{n=2}^{\infty} a_n z^n \text{ and } g(z) = \sum_{n=2}^{\infty} b_n z^n \tag{1}$$

are analytic in $\mathfrak{D}$.

A necessary and sufficient condition for f to be locally ünivalent and sense-preserving in $\mathfrak{D}$ is that $|f_z(z)| > |f_{\overline{z}}(z)|$ in $\mathfrak{D}$ (see Clunie, 1984 et. al.).

Denote by SH the subclass of H consisting of functions $f = h + \overline{g}$ which are harmonic, univalent and sense-preserving in $\mathfrak{D}$ and normalized by $f(0) = 0$, $f_z(0) = 1$. One can easily Show that the sense-preserving property implies that $|b_1| < 1$. The subclass SH^0 of SH consist of all functions in SH which have the additional property $b_1 = 0$. Note that SH reduces to the class S of normalized analytic univalent functions in $\mathfrak{D}$, if the co-analytic part of f is identically zero.

We say that a function $f: \mathfrak{D} \to \mathbb{C}$, and write $f(z) \prec F(z)$ (or simply $f \prec F$) if there exists a complex-valued function ω which maps $\mathfrak{D}$ into oneself with $\omega(0) = 0$ such that $f(z) = F(\omega(z))$ $(z \in \mathfrak{D})$.

In particular, if F is univalent in $\mathfrak{D}$, we have the following equivalence:

$$f(z) \prec F(z) \Leftrightarrow f(0) = F(0) \quad \text{and} \quad f(\mathfrak{D}) \subset F(\mathfrak{D}).$$

Let $SH^{c,0}(A, B)$ denote the class of functions $f \in SH^0$ such that

$$\frac{z^2 f_{zz}(z) + z f_z(z) + \overline{z}^2 f_{\overline{z}\overline{z}}(z) + \overline{z} f_{\overline{z}}(z)}{z f_z(z) - \overline{z} f_{\overline{z}}(z)} \prec \frac{1 + Az}{1 + Bz} \quad , (z \in \mathfrak{D}) \tag{2}$$

where $-B \leq A < B \leq 1$. The class was extensively studied by Dziok, 2015. The class $KH(a) = SH^c(2a - 1,1)$ was investigated by Jahangiri, 1998 (see also Ahuja 2005 and Jahangiri 1999). Finally, the class $SH^c(-1,1) = KH(0) = KH$ is the class of functions $f \in SH$ which is convex in $D(r)$, for all $r \in (0,1]$. Moreover, we have $SH^c(A, B) \subset KH$.

Also, we let KH^0 and $SH^{*,0}$ denote the subclasses SH^0 of harmonic functions which are, respectively, convex and starlike in $\mathfrak{D}$. For definitions and properties of these classes, one may refer to Ahuja 2005, Clunie 1984, Duren 2004, Silverman 1998, Silverman 1999.

The elementary distributions such as the Poisson, the Pascal, the Logarithmic, the Binomial have been partially studied in the Geometric Function Theory from a theoretical point of view (see Cakmak et. al. 2019, El-Deeb et. al. 2019, Porwal et. al. 2016, Nazeer et. al. 2019).

Let us consider a non-negative discrete random variable $\mathcal{X}$ with a Pascal probability generating function

$$P(\mathcal{X} = n) = \binom{n + r - 1}{r - 1} p^n (1 - p)^r, \quad n \in \{0,1,2,3, \dots\}$$

Where p, r are called the parameters.

Now we introduce a power series whose coefficients are probabilities of the Pascal distribution, that is

$$P_p^r(z) = z + \sum_{n=2}^{\infty} \binom{n + r - 2}{r - 1} p^{n-1} (1 - p)^r z^n \quad (r \geq 1, 0 \leq p \leq 1, z \in \mathfrak{D}) \tag{3}$$

Note that, by using ratio test we conclude that the Radius of convergence of the above power series is infinity. Now, for $r, s \geq 1$ and $0 \leq p, q \leq 1$, we introduce the special operator

$$P_{p,q}^r(f)(z) = P_p^r(z) * h(z) + \overline{P_q(z) * g(z)} = H(z) + \overline{G(z)}$$

$$H(z) = z + \sum_{n=2}^{\infty} \binom{n+r-2}{r-1} p^{n-1}(1-p)^r a_n z^n \tag{4}$$

$$G(z) = b_1 z + \sum_{n=2}^{\infty} q^{n-1}(1-q) \quad b_n z^n$$

and " $*$ " denotes the convolution (or Hadamard product) of power series.

2. Preliminary Lemmas

To prove our theorems we will use the following lemmas.

Lemma 1. (Clunei 1984) If $f = h + \overline{g} \in KH^0$ where h and g are given by (1) with $b_1 = 0$, then

$$|a_n| \leq \frac{n+1}{2}, \quad |b_n| \leq \frac{n-1}{2}.$$

Lemma 2. (Diziok 2015(1)) If $f = h + \overline{g} \in SH$ be given by (1). If $-B \leq A < B \leq 1$ and

$$\sum_{n=1}^{\infty} n[n(1+B) - (1+A)]|a_n| + [n(1+B) - (1+A)]|b_n| \leq 2(B-A) \tag{5}$$

then $f \in SH^c(A,B)$.

Define $TSH^c(A,B) = SH^c(A,B) \cap T$ where T consisting of the functions $f = h + \overline{g}$ in SH so that $h(z)$ and $g(z)$ are of the form

$$h(z) = z - \sum_{n=2}^{\infty} |a_n| z^n, \quad g(z) = -\sum_{n=1}^{\infty} |b_n| z^n, \quad |b_1| < 1. \tag{6}$$

Remark 3. In (Diziok 2015(1)), it is also shown that $f = h + \overline{g} \in SH$ given by (6) is in the class $TSH^c(A,B)$, if and only if the coefficient condition (5) holds. Moreover, if $f \in TSH^c(A,B)$, then

$$|a_n| \leq \frac{B-A}{n[n(1+B) - (1+A)]}, \quad n \geq 2,$$

$$|b_n| \leq \frac{B-A}{n[n(1+B) + (1+A)]}, \quad n \geq 1.$$

3. Main Results

Theorem 4. If $r \geq 1, 0 \leq p, q < 1, -B \leq A \leq 1$ and the inequality

$$\frac{(1+B)r(r+1)(r+2)p^3}{2(1-p)^3} + \frac{(6+7B-A)r(r+1)p^2}{2(1-p)^2} + \frac{(3+5B-2A)rp}{1-p}$$

$$+ \frac{3(1+B)q^3}{(1-q)^3} + \frac{(6+5B+A)q^2}{(1-q)^2} + \frac{(3+2B+A)q}{1-q}$$

$$\leq (B-A)(1-p)^r$$

is satisfied then $P_{p,q}^r(KH^0) \subset SH^{c,0}(A,B)$.

Proof. Let $f = h + \bar{g} \in KH^0$ where h and g are given by (1) with $b_1 = 0$. It suffices to show that $P_{p,q}^r(f) = H + \bar{G} \in SH^c(A,B)$ where H and G are given by (4) with $b_1 = 0$. Refferring Lemma 2,we need to prove that $\Psi \leq B - A$, where

$$\Psi = \sum_{n=2}^{\infty} n[n(1+B) - (1+A)]\binom{n+r-2}{r-1} p^{n-1}(1-p)^r |a_n| \tag{7}$$

$$+ \sum_{n=2}^{\infty} n[n(1+B) + (1+A)] q^{n-1}(1-q)|b_n|.$$

Using Lemma 1, we have

$$\Psi \leq \frac{1}{2}\sum_{n=2}^{\infty} n[n(1+B) - (1+A)]\,(n+1)\binom{n+r-2}{r-1} p^{n-1}(1-p)^r$$

$$+ \frac{1}{2}\sum_{n=2}^{\infty} n[n(1+B) + (1+A)]\,(n-1) q^{n-1}(1-q)$$

$$= \frac{1}{2}\sum_{n=2}^{\infty} (1+B)(n-1)(n-2)(n-3)\binom{n+r-2}{r-1} p^{n-1}(1-p)^r$$

$$+ \frac{1}{2}\sum_{n=2}^{\infty} (6+7B-A)\,(n-1)(n-2)\binom{n+r-2}{r-1} p^{n-1}(1-p)^r$$

$$+ \frac{1}{2}\sum_{n=2}^{\infty} (6+10B-4A)\,(n-1)\binom{n+r-2}{r-1} p^{n-1}(1-p)^r$$

$$+ \sum_{n=2}^{\infty} (B-A)\binom{n+r-2}{r-1} p^{n-1}(1-p)^r$$

$$+ \frac{1}{2}\sum_{n=2}^{\infty} (1+B)(n-1)(n-2)(n-3)\, q^{n-1}(1-q)$$

$$+ \frac{1}{2}\sum_{n=2}^{\infty} (6+5B+A)\,(n-1)(n-2) q^{n-1}(1-q)$$

$$+ \frac{1}{2}\sum_{n=2}^{\infty} (6+4B+2A)\,(n-1) q^{n-1}(1-q)$$

$$= \frac{1}{2}(1+B) r(r+1)(r+2) p^3 (1-p)^r \sum_{n=4}^{\infty} \binom{n+r-2}{r+2} p^{n-4}$$

$$+ \frac{1}{2}(6+7B-A) r(r+1) p^2 (1-p)^r \sum_{n=3}^{\infty} \binom{n+r-2}{r+1} p^{n-3}$$

$$+\frac{1}{2}(6+10B-4A)rp(1-p)^r\sum_{n=2}^{\infty}\binom{n+r-2}{r}p^{n-2}$$

$$+(B-A)(1-p)^r\sum_{n=2}^{\infty}\binom{n+r-2}{r}p^{n-1}$$

$$+3(1+B)q^3(1-q)\sum_{n=4}^{\infty}\binom{n-1}{3}q^{n-4}$$

$$+(6+5B+A)q^2(1-q)\sum_{n=3}^{\infty}\binom{n-1}{2}q^{n-1}$$

$$+\frac{1}{2}(6+4B+2A)q(1-q)\sum_{n=2}^{\infty}(n-1)\,q^{n-1}$$

$$=\frac{(1+B)r(r+1)(r+2)p^3}{2(1-p)^3}+\frac{(6+7B-A)r(r+1)p^2}{2(1-p)^2}$$

$$+\frac{(6+10-4A)rp}{2(1-p)}+B-A-(B-A)(1-p)^r$$

$$+\frac{3(1+B)q^3}{(1-q)^3}+\frac{(6+5B+A)q^2}{(1-q)^2}+\frac{(6+4B+2A)q}{2(1-q)}$$

$$\leq B-A$$

by the given condition.

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A SPECIAL SOLUTION FOR A SUBCLASS OF MULTIVALENT HARMONIC FUNCTIONS

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Abstract
Harmonic functions are a classic title in the class of geometric functions. Many researchers have studied these function classes from past to present, and since it has a wide range of applications, it is still a popular class. In this study, we will examine harmonic multivalent functions, a subclass of harmonic functions. In general, harmonic multivalent functions; The functions h and g are functions that can be written in $f = h + \bar{g}$ type, including the subclass of harmonic functions containing analytic functions. A continuous complex-valued function $f = u + iv$ defined in a simply connected complex domain $D \subset \mathbb{C}$ is said to be harmonic in D if both u and v are real harmonic in D. Consider the function U and V analytic in D so that $u = \mathrm{Re}U$ and $v = \mathrm{Im}V$. Then the harmonic function f can be expresses by

$$f(z) = h(z) + \overline{g(z)}, \qquad z \in D,$$

where $h = (U + V)/2$ and $g = (U - V)/2$. We call h the analytic part and g co-analytic part of f. If g is identically zero then f reduces to the analytic case.

For a fixed positive integer $p \geq 1$, let $H(p)$ denote the class of all multivalent harmonic functions $f = h + \bar{g}$ which are sense-preserving in the open unit dist $\mathbb{D} = \{z: z \in \mathbb{C} \text{ and } |z| < 1\}$ and are of the form

$$f(z) = z^p + \sum_{n=p+1}^{\infty} a_n z^n + \sum_{n=p}^{\infty} \overline{b_n z^n}, \qquad |b_p| < 1. \tag{1}$$

The aim of the present study is to find the essential properties for some subclasses of multivalent harmonic functions.

1. Introduction

In the light of the information in the summary, we know that; For a fixed positive integer $p \geq 1$, let $H(p)$ denote the class of all multivalent harmonic functions $f = h + \bar{g}$ which are sense-preserving in the open unit dist $\mathbb{D} = \{z: z \in \mathbb{C} \text{ and } |z| < 1\}$ and are of the form

$$f(z) = z^p + \sum_{n=p+1}^{\infty} a_n z^n + \sum_{n=p}^{\infty} \overline{b_n z^n}, \qquad |b_p| < 1. \tag{1}$$

Recent interest in the study of multivalent harmonic function urged the publication of several papers similar as Ahuja et. al. 2001, Ahuja et. al. 2002 and Jahangiri et. al. 2016.

It is known, (see Clunie and Sheil-Small 1984), that harmonic function is sense-preserving in $\mathbb{D}$ is that $|g'(z)| < |h'(z)|$, $z \in \mathbb{D}$. Note that the class $H(p)$ for $p = 1$ was

defined and studied by Clunie and Sheil-Small 1984. We say that $f \in H(p)$ ia a multivalent harmonic convex of order α, $0 \leq \alpha < p$ if f satisfies the condition

$$Re\left\{\frac{z^2 f_{zz}(z) + z f_z(z) + \bar{z} f_{\bar{z}}(z) + \overline{z^2} f_{\overline{zz}}(z)}{z f_z(z) - \bar{z} f_{\bar{z}}(z)}\right\} > p\alpha,$$

for each $z \in \mathbb{D}$. Denote this class of multivalent harmonic convex functions of order α by $C_H(p,\alpha)$. The classes $C_H(p,\alpha)$ and $C_H(1,\alpha)$ were studied in Ahuja et. al. 2001 and Jahangiri et. al. 1999.

We say that $f \in H(p)$ is subordinate to a function $F \in H(p)$, and write $f(z) \prec F(z)$ if there exists a complex-valued function w which maps $\mathbb{D}$ into oneself with $w(0) = 0$, such that $f(z) = F(w(z))$, $(z \in \mathbb{D})$.

Denote by $C_H(p,\alpha,A,B)$ the subclass of $H(p)$ consisting of functions f of the form (1) that satisfy the condition

$$\frac{z^2 h''(z) + z h'(z) + \overline{z^2 g''(z) + z g'(z)}}{z h'(z) - \overline{z g'(z)}} \prec \beta + (p-\beta)\frac{1+\gamma z}{1+\delta z}, \qquad (2)$$

Where $-1 \leq B \leq -B < A \leq 1$ and $0 \leq \alpha < p$. And $TH(p)$, $p \geq 1$ denote the class of functions $f = h + \bar{g}$ in $H(p)$ so that h and g are the form

$$h(z) = z^p - \sum_{n=p+1}^{\infty} |a_n| z^n \quad and \quad g(z) = -\sum_{n=p}^{\infty} |b_n| z^n, \ |b_p| < 1. \qquad (3)$$

Making use of the techniques and methodology used by Dziok (see Diziok et. al. 2016 and 2019), in this paper, we find necessary and sufficient conditions, for the above defined class $C_H(p,\beta,\gamma,\delta)$.

2. Main Results

For functions f_1 and $f_2 \in H(p)$ of the form

$$f_k(z) = z^p + \sum_{n=p+1}^{\infty} a_{k,n} z^n + \sum_{n=p}^{\infty} \overline{b_{k,n} z^n}, \quad (k = 1,2),$$

we define the Hadamard product of f_1 and f_2 by

$$(f_1 * f_2)(z) = z^p + \sum_{n=p+1}^{\infty} a_{1,n} a_{2,n} z^n + \sum_{n=p}^{\infty} \overline{b_{1,n} b_{2,n} z^n}.$$

First we state and prove the necessary and sufficient conditions for harmonic functions in $C_H(p,\beta,\gamma,\delta)$.

Theorem 1. Let $f \in H(p)$. Then $f \in C_H(p,\beta,\gamma,\delta)$ if and only if

$$f(z) * \varphi(z;\zeta) \neq 0, \quad (\zeta \in \mathbb{C}, |\zeta| = 1, z \in \mathbb{D}\backslash\{1\}),$$

where

$$\varphi(z;\zeta) = z^p\left\{\frac{p(p-\beta)(\delta-\gamma)\zeta + [(1+\delta\zeta)(1+p)+(1-2p)(p-\beta)(\delta-\gamma)\zeta]z}{(1-z)^3}\right.$$

$$\left.+\frac{(1-p)[1+\delta\zeta+(p-\beta)(\gamma-\delta)\zeta]}{(1-z)^3}z^2\right\} + \overline{z^p}\left\{\frac{p^2(2+(\gamma+\delta)\zeta)+\beta(\delta-\gamma)p\zeta}{(1-\bar{z})^3}\right.$$

$$+\frac{(3p-4p^2+1)(1+\delta\zeta)+(p-\beta)(1-2p)(\gamma-\delta)\zeta}{(1-\bar{z})^3}\bar{z}$$

$$\left.+\frac{(p-1)[(2p-1)(1+\delta\zeta)+(p-\beta)(\gamma-\delta)\zeta]}{(1-\bar{z})^3}\bar{z}^2\right\}$$

Proof. Let $f \in H(p)$ be of the form (1). Then $f \in C_H(p,\beta,\gamma,\delta)$ if and only if it satisfies (2) or equivalently

$$\frac{z^2h''(z)+zh'(z)+\overline{z^2g''(z)+zg'(z)}}{zh'(z)-\overline{zg'(z)}} \neq \frac{p+[p\delta+(p-\beta)(\gamma-\delta)\zeta]}{1+\delta\zeta}, \qquad (4)$$

where $\zeta \in \mathbb{C}, |\zeta| = 1, z \in \mathbb{D}\backslash\{1\}$. Since

$$zh'(z) = h(z) * \frac{z^p[p+(1-p)z]}{(1-z)^2}, \qquad zg'(z) = g(z) * \frac{z^p[p+(1-p)z]}{(1-z)^2}$$

and

$$z^2h''(z) = h(z) * \frac{z^p[p(p-1)+2p(2-p)z+(2-3p+p^2)z^2]}{(1-z)^3},$$

$$z^2g''(z) = g(z) * \frac{z^p[p(p-1)+2p(2-p)z+(2-3p+p^2)z^2]}{(1-z)^3},$$

the inequality (4) yields

$$(1+\delta\zeta)\left[z^2h''(z)+zh'(z)+\overline{z^2g''(z)+zg'(z)}\right] - \left[p+[p\delta+(p-\beta)(\gamma-\delta)\zeta]\right]\left(zh'(z)-\overline{zg'(z)}\right)$$

$$= h(z) * \left\{(1+\delta\zeta)\frac{z^p[p^2+(2p-2p^2+1)z+(p-1)^2z^2]}{(1-z)^3}\right.$$

$$\left.-(p+[p\delta+(p-\beta)(\gamma-\delta)]\zeta)\frac{z^p[p+(1-p)z]}{(1-z)^2}\right\} + \overline{g(z)}$$

$$* \left\{(1+\delta\zeta)\frac{\overline{z^p}[p^2+(2p-2p^2+1)\bar{z}+(p-1)^2\overline{z^2}]}{(1-\bar{z})^3}\right.$$

$$\left.+(p+[p\delta+(p-\beta)(\gamma-\delta)]\zeta)\frac{\overline{z^p}[p+(1-p)\bar{z}]}{(1-\bar{z})^2}\right\}$$

$$= h(z) * z^p \left\{ \frac{p(p-\beta)(\delta-\gamma)\zeta}{(1-z)^3} + \frac{(1+\delta\zeta)(1+p)+(1-2p)(p-\beta)(\delta-\gamma)\zeta}{(1-z)^3} z \right.$$
$$\left. + \frac{(1-p)[1+\delta\zeta+(p-\beta)(\gamma-\delta)\zeta]}{(1-z)^3} z^2 \right\} + \overline{g(z)}$$
$$* \overline{z^p} \left\{ \frac{p^2(2+(\gamma+\delta)\zeta)+\beta(\delta-\gamma)p\zeta}{(1-\bar{z})^3} \right.$$
$$+ \frac{(3p-4p^2+1)(1+\delta\zeta)+(p-\beta)(1-2p)(\gamma-\delta)\zeta}{(1-\bar{z})^3} \bar{z}$$
$$\left. + \frac{(p-1)[(2p-1)(1+\delta\zeta)+(p-\beta)(\gamma-\delta)\zeta]}{(1-\bar{z})^3} \overline{z^2} \right\}$$

$$= f(z) * \varphi(z;\zeta) \neq 0.$$

Next we give the sufficient coefficient bound for functions in $C_H(p,\beta,\gamma,\delta)$.

Theorem 2. Let f be of the form (1). If $-1 \leq \delta \leq -\delta < \gamma \leq 1$, $0 \leq \beta < p$, $p \geq 1$ and

$$\sum_{n=p}^{\infty} n[(1-\delta)(n-p)+(p-\beta)(\gamma-\delta)]|a_n| + n[(1-\delta)(n-p)+(p-\beta)(\gamma-\delta)]|b_n|$$
$$\leq 2p(p-\beta)(\gamma-\delta) \tag{5}$$

then $f \in C_H(p,\beta,\gamma,\delta)$.

Proof. We need to show that if (2) holds then $f \in C_H(p,\beta,\gamma,\delta)$. By definition of subordination, $f \in C_H(p,\beta,\gamma,\delta)$ if and only if there exists a complex valued function w; $w(0)=0$, $|w(z)|<1 (z \in \mathbb{D})$ such that

$$\frac{z^2h''(z)+zh'(z)+\overline{z^2g''(z)+zg'(z)}}{zh'(z)-\overline{zg'(z)}} = \frac{p+[p\delta+(p-\beta)(\gamma-\delta)]w(z)}{1+\delta w(z)}$$

or equivalently

$$\left| \frac{z^2h''(z)+\overline{z^2g''(z)}+(1-p)zh'(z)+(1+p)\overline{zg'(z)}}{\delta\left(z^2h''(z)+\overline{z^2g''(z)}\right)+[(1-\beta)\delta-(p-\beta)\gamma]zh'(z)+[(1+\beta)\delta+(p-\beta)\gamma]\overline{zg'(z)}} \right|$$
$$< 1. \tag{6}$$

Substituting for $z^2h''(z)$, $z^2g''(z)$, $zh'(z)$ and $zg'(z)$ in (6), we obtain

$$\left|\delta\left(z^2h''(z)+\overline{z^2g''(z)}\right)+[(1-\beta)\delta-(p-\beta)\gamma]zh'(z)+[(1+\beta)\delta+(p-\beta)\gamma]\overline{zg'(z)}\right|$$
$$-\left|z^2h''(z)+\overline{z^2g''(z)}+(1-p)zh'(z)+(1+p)\overline{zg'(z)}\right|$$

$$= \left| p(p-\beta)(\gamma-\delta)z^p + \sum_{n=p+1}^{\infty} n[-\delta(n-\beta)+\gamma(p-\beta)]a_n z^n + \sum_{n=p}^{\infty} n[-\delta(n+\beta)-\gamma(p-\beta)]\overline{b_n z^n} \right| - \left| \sum_{n=p+1}^{\infty} n(n-p)a_n z^n - \sum_{n=p}^{\infty} n(n+p)\overline{b_n z^n} \right|$$

$$> |z|^p \left\{ p(p-\beta)(\delta-\gamma) - \sum_{n=p+1}^{\infty} n[(1-\delta)(n-p)+(p-\beta)(\gamma-\delta)]|a_n| - \sum_{n=p}^{\infty} n[(1-\delta)(n+p)-(p-\beta)(\gamma-\delta)]|b_n| \right\} \geq 0,$$

by (5). The hormonic functions

$$f(z) = z + \sum_{n=p+1}^{\infty} \frac{p(p-\beta)(\gamma-\delta)}{n[(1-\delta)(n-p)+(p-\beta)(\gamma-\delta)]} x_n z^n + \sum_{n=p}^{\infty} \frac{p(p-\beta)(\gamma-\delta)}{n[(1-\delta)(n-p)+(p-\beta)(\gamma-\delta)]} y_n \overline{z^n}, \tag{7}$$

where $\sum_{n=p+1}^{\infty}|x_n| + \sum_{n=p}^{\infty}|y_n| = 1$, show that the coefficient bound given by in Theorem 2 is sharp. Since

$$\sum_{n=p+1}^{\infty} n[(1-\delta)(n-p)+(p-\beta)(\gamma-\delta)]|a_n| + \sum_{n=p}^{\infty} n[(1-\delta)(n-p)+(p-\beta)(\gamma-\delta)]|b_n|$$

$$= p(p-\beta)(\gamma-\delta) \sum_{n=p+1}^{\infty} |x_n| + p(p-\beta)(\gamma-\delta) \sum_{n=p}^{\infty} |y_n| = p(p-\beta)(\gamma-\delta),$$

the functions of the form (7) are in $C_H(p,\beta,\gamma,\delta)$.

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MEME KANSERİ İLE İLİŞKİLİ LENFÖDEM HASTALARINDA YAŞAM KALİTESİ, FİZİKSEL AKTİVİTE VE BESLENME İLİŞKİSİ- LİTERATÜR TARAMASI

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Özet
Meme kanseri, meme hücrelerinde baş gösteren oluşumlarla karakterize bir kanser türüdür. Özellikle kadın popülasyonunda cilt kanserinden sonra en yaygın görülen kanserdir. Bununla birlikte gelir düzeyi yüksek ülkelerde erken teşhis ve gelişmiş tedaviler ile ölüm oranları azalmıştır. Meme kanserinden kurtulanların artan yaşam beklentisi, daha yüksek tedavi komplikasyon sıklığına neden olabilir. Meme kanseri tedavisine bağlı aksiller lenf nodu diseksiyonu ve çıkarılan lenf nodu sayısı, cerrahi alan genişliği, uygulanan cerrahi teknik radyoterapi ve kemoterapi gibi diğer tedavilerin birlikte uygulanması meme kanserine bağlı lenfödem hastalığının gelişme riskini artırmaktadır. Lenfödem; şişlik, sıcaklık, karıncalanma, fiziksel aktivite zorluğu, cilt değişiklikleri, ağırlık ve rahatsızlık hissi gibi duyu değişiklikleri; psikolojik stres ve artmış enfeksiyon riski gibi komplikasyonları beraberinde getiren kronik bir hastalıktır. Lenfödem, meme kanserinin cerrahi tedavisinden sonra, hastaların yaşam kalitelerini etkileyen en önemli unsurlardan biridir. Meme kanseri tedavisi sonrası kadınların büyük çoğunluğunda 6 ile 23 kg arasında kilo alımı meydana gelmektedir. Ayrıca meme kanserinde uygulanan cerrahi tedaviyi takip eden akut dönemde ortaya çıkan bulantı, bitkinlik, ağrı gibi etkiler nedeniyle hastalar fiziksel aktiviteden kaçınabilmektedirler. Fazla kilolu veya obez olma meme kanseri tedavisi sonrası nüksü, lenfödem gelişim, ilerlemesi ve şiddetini, tedaviye yanıt ve sağ kalım ile bağlantılıdır. Bu popülasyonda uygulanacak diyet ve fiziksel aktivite uygulamaları kilo kaybı sağlar ve yaşam kalitesini arttırır. Ayrıca lenfödem oluşumunda etkili olası yollardan biri olan inflamasyonla mücadelede uygulanan diyet kısıtlaması ve sinbiyotik müdahalesinin fazla kilolu ve obez lenfödemli hastalarda yaşam kalitesi, ödem hacmi ve beden kitle indeksinin iyileştirmesinde etkili olduğu ifade edilmiştir. Bu kapsamda meme kanserine bağlı olarak gelişen lenfödem hastalarında multidisipliner tedavi yaklaşımları konusunda literatür bilgilerine dikkat çekmek amaçlanmıştır.

Anahtar Kelimeler: meme kanseri, lenfödem, diyet, egzersiz tedavisi, yaşam kalitesi

THE RELATIONSHIP WITH QUALITY OF LIFE, PHYSICAL ACTIVITY AND NUTRITION IN PATIENTS WITH BREAST CANCER-RELATED LYMPHEDEMA-LITERATURE REVIEW

Abstract

Breast cancer is a type of cancer characterized by formations in breast cells. It is the most common cancer after skin cancer, especially in the female population. However, mortality rates have decreased with early diagnosis and improved treatments in high-income countries. The increased life expectancy of breast cancer survivors may result in a higher frequency of treatment complications. Axillary lymph node dissection due to breast cancer treatment and the combined application of other treatments such as the number of lymph nodes removed, the width of the surgical field, the surgical technique applied, radiotherapy and chemotherapy increase the risk of developing lymphedema due to breast cancer. Lymphedema; sensation changes such as swelling, warmth, tingling, difficulty in physical activity, skin changes, heaviness and discomfort; It is a chronic disease that brings with it complications such as psychological stress and increased risk of infection. Lymphedema is one of the most important factors affecting the quality of life of patients after surgical treatment of breast cancer. After breast cancer treatment, the majority of women gain weight between 6 and 23 kg. In addition, patients may avoid physical activity due to effects such as nausea, fatigue and pain that occur in the acute period following surgical treatment in breast cancer. Being overweight or obese is associated with recurrence, development, progression and severity of lymphedema, response to treatment, and survival after breast cancer treatment. Diet and physical activity practices to be applied in this population provide weight loss and increase the quality of life. In addition, it has been stated that dietary restriction and synbiotic intervention in the fight against inflammation, which is one of the possible ways effective in the formation of lymphedema, are effective in improving the quality of life, edema volume and body mass index in overweight and obese lymphedema patients. In this context, it is aimed to draw attention to the literature information on multidisciplinary treatment approaches in lymphedema patients developing due to breast cancer.

Keywords: breast cancer lymphedema, diet, exercise theraphy, quality of life

GİRİŞ

Meme kanseri, meme hücrelerinde baş gösteren oluşumlarla karakterize bir kanser türüdür. Özellikle kadın popülasyonunda cilt kanserinden sonra en yaygın görülen kanserdir (Litin, 2018). 2008 yılı verilerine göre Amerika Birleşik Devletleri'nde 200.000`den fazla kadına meme kanseri tanısı konmuştur (Jemal vd., 2003). Bu sayı 2020 yılına gelindiğinde Dünya genelinde 2,3 milyon kadın ve 685 000 ölüm şeklinde güncellenmiştir. 2020 yılı sonu itibariyle, son 5 yılda meme kanseri teşhisi konan 7,8 milyon kadın var olduğu ortaya konmuş ve bu durum da meme kanserini dünyanın en yaygın kanser türü haline getirmiştir (WHO, 2021). Ancak yine geçmişle kıyaslayarak bakacak olursak yüksek gelirli ülkelerde yaşa göre standardize edilmiş meme kanseri ölüm oranı 1980'ler ile 2020 arasında %40 düşmüştür. Meme kanseri ölümlerini azaltmayı başaran ülkeler, meme kanseri ölümlerinde yılda %2-4'lük bir azalma elde etmeyi başarmışlardır. Dünya çapında yıllık ölümlerde yıllık %2,5'lik bir azalma gerçekleşirse, 2020 ile 2040 yılları arasında 2,5 milyon meme kanseri ölümü önlenmiş olacaktır. Tanıdan sonra en az 5 yıl meme kanseri sağ kalımı, yüksek gelirli ülkelerde %90'dan fazla, Hindistan'da %66 ve Güney Afrika'da %40 arasında değişmektedir. Erken

teşhis ve tedavinin yüksek gelirli ülkelerde başarılı olduğu kanıtlanmıştır ve bazı standart araçların kullanımı sınırlı kaynaklara sahip ülkelerde de uygulanmalıdır (DeSantis vd., 2015; Stoltenberg, 2020).

Meme kanseri tedavisi sonrası kadınların büyük çoğunluğunda 6 ile 23 kg arasında kilo alımı meydana gelmektedir. Kilo alma olasılığı, menopoz öncesinde hastalığı geçiren, hastalığı ileri evrede olan, kemoterapi, radyoterapi veya hormon tedavisi, uzun süreli ve yüksek dozda tedavi gören kadınlarda daha yüksektir. Obez veya aşırı kilolu olma, meme kanserine ve tüm nedenlere bağlı mortalite riskini artırır (Beckenstein vd., 2021). Hemşirelerin Sağlık Çalışması, kilo alımının artmış nüks riski ile ilişkili olduğunu öne sürdü (Kronke vd., 2005), ancak LACE kohortu ilişki bulamadı (Caan vd., 2006). Diyet ve fiziksel aktivite uygulamaları meme kanseri sonrası lenfödem gelişen kadınlarda kilo kaybı sağlayabilir. Yapılan çalışmalar, meme kanserinden kurtulanlarda kilo kaybının yaşam kalitesini arttırdığını onayladı (Arikawa vd., 2017; Demark-Wahnefried vd., 2015). Yağ oranı düşük, meyve ve sebze miktarı yüksek bir diyet, tüm nedenlere ve meme kanserine bağlı ölümlerde azalma ile ilişkilidir (Chlebowski vd., 2017; Hou vd., 2019). Özellikle egzersizle birlikte günde en az beş porsiyon meyve ve sebze tüketimi, daha yüksek hayatta kalma oranları ile ilişkilidir (Rock vd., 2012). Bununla birlikte lenfödemli hastaların yalnızca %18'i günde beş veya daha fazla porsiyon meyve ve sebze tükettiğini ve yalnızca %16 ila %37'si haftada en az 150 dakika orta yoğunlukta fiziksel aktivite yaptığını bildirmiştir (Blanchard vd., 2008; Smith ve Chagpar, 2010).

Lenfödem

Lenfödem, lenfatik drenaj ile kapiller filtrasyon arasında meydana gelen bir dengesizlik sonucu proteince zengin sıvının interstisyel alanda birikmesi ile oluşan şişlik olarak tanımlanmaktadır (Ramos vd., 2009). Lenfödem; şişlik, sıcaklık, karıncalanma, fiziksel aktivite zorluğu, cilt değişiklikleri, ağırlık ve rahatsızlık hissi gibi duyu değişiklikleri; psikolojik stres ve artmış enfeksiyon riski gibi komplikasyonları beraberinde getiren kronik bir hastalıktır (Gürsoy vd., 2006; Turna, 2020). Lenfödem hastalığı; alt ve üst ekstremitelerde, genital bölgede, baş ve boyunda görülebilir (Temur vd., 2018). Günümüzde venöz sistem yetmezliğinin de eşlik ettiği yaklaşık 140-300 milyon lenfödem hastası olduğu tahmin edilmekle birlikte, tanı almamış, tedavisi gecikmiş veya tedaviye hiç ulaşamamış hastaların varlığı, bu sayının tahminlerin çok üstünde olabileceğini düşündürmektedir (Turna, 2020; Karaçavuş vd., 2014). Literatür incelendiğinde, lenfödem prevelansı 1/2500'dir ve insidansı %2.7 ile %70 gibi geniş bir yelpazede dağılım göstermekle birlikte, meme kanseri sonrası lenfödem gelişme oranı ortalama %25-30 olarak belirtilmiştir (Temur vd., 2018; Dönmez vd., 2017; Karaçavuş vd., 2014; Evsine, 2010).

Lenfödemin Sınıflandırılması

Lenfödem, konjenital (primer) ya da edinsel (sekonder) sebeplerle oluşabilmektedir. Primer lenfödem, lenf damarları veya lenf nodüllerinin embriyolojik gelişim bozukluğu (aplazi, hipoplazi, hiperplazi, lenfanjiyektazi gibi) ya da bazı genetik hastalıklar sonucu oluşur. Primer lenfödem ortaya çıktığı yaşa göre konjenital lenfödem (doğuştan), lenfödem prekoks (1-35 yaş arası) ve lenfödem tarda (35 yaş sonrası) olarak sınıflandırılmaktadır. Konjenital lenf ödem tüm primer lenfödemlerin %2'sini ve lenfödem prekoks tüm primer lenf ödemlerin % 65-80'ini oluşturmaktadır. Sekonder lenfödem, lenfatik akışı bozan kanser, cerrahi, travma, radyoterapi ve enfeksiyon gibi sebeplerle meydana gelmektedir ve primer lenfödemden daha sık görülmektedir (Karaçavuş vd., 2014; Evsine, 2010).

Meme Kanseri ile İlişkili Lenfödem Hastalığının Patofizyolojisi

Meme kanseri tedavisinde aksiller bölgeye radyoterapi uygulanması ve aksiller lenf nodüllerinin çıkarılması gibi tedaviler lenf drenajının bozulmasına neden olmaktadır. Lenfatik drenajın bozulması proteinlerin ve sıvının interstisyel alanda birikimine neden olmaktadır. Lenfatik sistemde meydana gelen bu bozukluk nedeniyle interstisyel alandaki sıvı dolaşıma tekrar katılamadığından lenfödem oluşmaktadır (Evsine, 2010).

Meme Kanseri ile İlişkili Lenfödem Hastalığında Risk Faktörleri

Meme kanseri tedavisinde, mastektomi ve aksiller lenf nodu diseksiyonu gibi cerrahi yöntemler ile bu yöntemler sonrasında uygulanan kemoterapi ve radyoterapi tedavileri uygulanmaktadır. Bu tedaviler meme kanserine sahip bireylerde sağ kalım süresini uzatmakla birlikte omuz disfonksiyonu, üst ekstremite kas gücü zayıflığı, kol hareketlerinde limitasyon ve lenfödem gibi komplikasyonlara neden olmaktadır (Temur vd., 2018; Akyüz, 2020). Aksiller lenf nodu diseksiyonu ve çıkarılan lenf nodu sayısı, cerrahi alan genişliği, uygulanan cerrahi teknik radyoterapi ve kemoterapi gibi diğer tedavilerin birlikte uygulanması meme kanserine bağlı lenfödem hastalığının gelişme riskini artırmaktadır (Dönmez vd., 2017). Literatür incelendiğinde bir çalışmada, aksiller lenf nodu diseksiyonu ve radyasyon uygulanan hastalarda lenfödem görülme oranı %68 olarak bulunmuştur (Türk vd.,2007; Temur vd., 2018) Lenfödemin hasta ile ilişkili risk faktörleri ileri yaş, obezite, hastalığın dominant kolla aynı tarafta olması, tedavi öncesi lenfödem gelişme riski ile ilgili hastaya bilgi verilmemesi, lenfödem önleyici aktivitelerin yapılmaması, kolda enfeksiyon öyküsünün olması, hipertansiyon ve ağır çalışma koşullarıdır. Hastalık ile ilişkili risk faktörleri ise aksiller bölgeye metastaz olması, tümör çapının artması ve kanserin ileri evrede olmasıdır (Evsine, 2010).

Meme Kanseri İle İlişkili Lenfödem Hastalığında Yaşam Kalitesi

Lenfödem, meme kanserinin cerrahi tedavisinden sonra, hastaların yaşam kalitelerini etkileyen en önemli unsurlardan biridir (Evsine) Meme kanseriyle ilişkili lenfödem hastalığına sahip bireylerde görülen, günlük yaşam aktivitelerindeki kısıtlanmalar, bozulmuş vücut imajı algısı, hastalığın tekrarlanma korkusu, ağrı, iğne batması hissi, karıncalanma gibi nörolojik semptomlar, kıyafet bulamamak, lenfödemin net bir tedavisinin olmaması, sosyal rolleri yerine getirmekte zorluk ve psikososyal etkilenimler gibi birçok faktörün yaşam kalitesini olumsuz etkilediği ortaya konulmuştur. (Ridner, 2005; Taghian vd., 2014)

Meme Kanseri İle İlişkili Lenfödem Hastalığında Fiziksel Aktivite

Yukarıda da bahsedildiği gibi meme kanseri tedavisinde en yaygın görülen komplikasyonlardan biri lenfödem tablosudur. Bu gibi durumlarla karşılaşıldığında ağrı ve etkilenen ekstremitenin eklem hareket açıklığı kapasitesinin azalması fiziksel aktivite kapasitesini ve buna paralel olarak fiziksel aktiviteye katılımı agresif bir şekilde azaltmaktadır. Olayın psikososyal boyutu egzersize katılımı sınırlarken aslında hastayı bir kısır döngü içerisine sürüklemektedir. Fiziksel aktivite kapasitesinin azalması hastanın engellilik durumuna yaklaşmasına, engellilik durumuna yaklaşarak fiziksel kapasitesinin azalması da fiziksel aktivite düzeyinin daha da azalmasına neden olmaktadır. Bunun yanında meme kanserinde uygulanan cerrahi tedaviyi takip eden akut dönemde ortaya çıkan bulantı, bitkinlik, ağrı gibi etkiler nedenler hastaların fiziksel aktiviteden kaçınma tutumu göstermelerine neden olmaktadır (Akyüz, 2020).

Literatür tarandığında 6 ay ve daha uzun süren egzersizin kanser vakaları üzerinde vücut kompozisyonu, kemik sağlığı, kas gücü ve fiziksel işlevi durumlarını iyileştirmesine bağlı olarak kanser tedavisini destekleyici etkileri olduğu öne sürülmektedir (Simonavice vd.,

2014). Halk arasında meme kanseri ve sonrasında gelişen lenfödem tablolarında hastaların psikolojik limitler ve klinik olarak yeterince kanıtın bulunmayışından dolayı özellikle üst ekstremite egzersizlerinden kaçındıkları raporlanmıştır (Lee vd., 2009). Ancak ironik olarak kanıt düzeyi yüksek araştırmalar meme kanseri sonrası sedanter bir yaşam sürmenin lenfödem ve hatta ölüm riskini arttırdığını ortaya koymaktadır (Lee vd., 2009; Holmes vd., 2005; Patterson vd., 2010).

Temelde egzersiz bilimi çerçevesinde lenfödem tablolarında egzersizi irdeleyecek olursak özellikle üst ekstremite iskelet kasının fiziksel kasılması teorik olarak lenfatik sıvı drenajını artırabilen ve potansiyel olarak lenfödem gelişme riskini azaltabilen veya var olan durumu iyileştirebilen bir mekanizma oluşturarak basit bir pompa görevi görmektedir (Smith vd., 2010). Bunun yanında aerobik egzersizler bireyin büyük kas gruplarını çalıştırarak kalp ve akciğer kapasitesini arttırmaktadır. Kardiyovasküler kapasitenin artışı hem hastanın genel iyilik halinin artmasına yardımcı olmakta hem de lenfatik sistem üzerinde çeşitli major etkiler oluşturmaktadır. Aerobik egzersizler kardiyovasküler efor sarf edilmesini gerektiren egzersizler olup sempatik tonusta artışa neden olmaktadır. Bunun sonucunda lenfatik damarlardaki düz kas kontraksiyonlarında artış meydana gelirken kaslar pozitif yönde bir basınç oluştururlar. Bu da distalden proksimale doğru güçlü bir pompalama fonksiyonu oluşturarak lenf sıvısı drenajında artış meydana getirmektedir (Chang vd., 2013).

Bu doğrultuda meme kanseri sonrasında çeşitli prensipler ile rehabilitasyonun gerçekleştirilmesi, hastanın yukarıda açıklanan mekanizmalar ile iyilik haline katkıda bulunacak ve iyileşme sürecini destekleyecektir. Multidisipliner yaklaşıma egzersizin de eklenmesi bu noktada bir gereklilik olarak öne çıkmaktadır.

Meme Kanseri İle İlişkili Lenfödem Hastalığında Beslenme

Fazla kilolu veya obez olma meme kanseri tedavisi sonrası nüks, lenfödem gelişimi, ilerlemesi ve şiddeti, tedaviye yanıt ve sağkalım ile bağlantılıdır. (Saneei Totmaj vd., 2021; Vafa vd., 2020(b); Winkels vd., 2017). Dahası, obezite ve lenfödem, yaşam kalitesini bozmak için sinerjik olarak hareket edebilir (Winkels vd., 2017). Obezite postmenopozal lenfödem gelişimi için bir risk faktörüdür ve bu hastalık grubunda büyük oranda mevcuttur. Obezitenin lenfödem gelişimini nasıl etkilediği açık değildir. Ama obezitenin lenfödem gelişimine etki mekanizması enfeksiyon, yumuşak dokuda kas pompasının etkinliğinin azalması, kol hacmini arttıracak yağ birikimi ve derin lenfatik kanalların subkutan yağ doku ile ayrılmasını içerir (Shaw vd., 2007).

Bugüne kadar meme kanseri ve lenfödemli kadınlarda diyet müdahalesi hakkında çok az yayınlanmış literatür vardır ve sonuçları çelişkilidir, yine de bazı klinik uygulama kılavuzları ve çalışmalar lenfödemde tedavi seçeneği olarak ideal vücut ağırlığının korunmasını önermektedir (Harris vd., 2001). Yayınlanan metaanaliz sonucuna göre, kilo kaybı hem etkilenen hem de etkilenmeyen kolların uzuv hacmini etkili bir şekilde azaltmış, ancak kol hacimleri arasındaki fark ölçüldüğünde lenfödemi iyileştirmede etkisiz olduğu bulunmuştur (Tsai vd.,2020). Bununla birlikte 64 meme kanseri sonrası lenfödemli kadına uygulanan 24 haftalık kalori kısıtlaması, düşük yağlı diyet ve kontrol gruplarını içeren çalışmada, diyet müdahalesi sonrası kilo kaybı, vücut kitle indekslerinde ve deri kıvrım kalınlıklarında önemli azalma gerçekleşmiş ve buna bağlı lenfödemli kol hacminde azalma meydana gelmiştir. Meme kanseri tedavisi sonucu oluşan lenfödem hastalarında diyet uygulaması, vücut ağırlığının azaltılması yoluyla lenfödemli kol hacminin azalmasında etkili bir yol olabilir (Shaw vd.,2007). Ek olarak, subkutan yağ depoları küçüldükçe kompresyon giysileri daha iyi çalışabilir. Dahası, obezite bir enflamasyon durumu olarak kabul edildiğinden, kilo kaybı,

lenfatik sistemin enflamatuar durumunu azaltabilir ve bu da daha iyi lenfödem sonuçlarıyla ilişkilendirilebilir (Winkels vd., 2017).

Lenfödemde İnflamasyon ve Sinbiyotik Tedavi

Meme kanseri sonrası gelişen lenfödemin oluşumunda, kronik inflamasyon, inflamatuar sitokinler ve büyüme faktörleri tarafından düzenlenen kollateral lenfatik damarların oluşumu katkıda bulunabilir. Bu nedenle inflamasyonu hedef alan adjuvan tedavilerin kullanılması iyi bir yaklaşım olabilir. Yapılan çalışmalar, lenfödem tedavisinde önemli bir bileşen olarak kilo verme/optimal vücut ağırlığını korumaya odaklanan diyet değişikliklerinin rolünü etkili bir şekilde ortaya koymuştur. Ayrıca literatürde son zamanlarda vurgulanan bir diğer olası faktör de sinbiyotiklerdir (Vafa vd., 2020a). Sinbiyotikler, pro- ve prebiyotiklerin kombinasyonudur (Markowiak ve Slizewska, 2017). Probiyotikler, yeterli dozda uygulandığında konakçıya sağlık yararları sağlayabilen belirli canlı mikroorganizmalar olarak tanımlanır (Ganguly vd., 2011). Prebiyotikler ise barsak mikrobiyotasının bileşimini modüle edebilen ve konakçının refahına yol açan cansız gıda bileşenleridir(Pineiro vd., 2008). Sinbiyotikler anti-inflamatuar etki uygulayarak inflamasyonu azaltabilir ve ardından ödem hacmini azaltabilir (Vafa vd., 2020a). Sinbiyotiklerin kanser hastalarında yaşam kalitesi üzerindeki olumlu etkilerinin altında yatan olası mekanizmalar henüz tam olarak anlaşılamamıştır. Sinbiyotikler, bağırsak mikrobiyotasını modüle edebilir, proinflamatuar sitokinlerin üretimini ve hücre çoğalmasını engelleyebilir. Ayrıca kanser hücrelerine karşı sitotoksik etki göstererek lenfödeme bağlı fiziksel ve fonksiyonel bozuklukların düzelmesine yardımcı olabilir. Ayrıca, sinbiyotiklerin, nöroaktif özelliklere sahip moleküllerin üretimini uyarabileceği gösterilmiştir. Nörogenez, serotonin biyosentezi ve nöronal hayatta kalma ve farklılaşma üzerindeki uyarıcı etki yoluyla davranış, duygu ve bilişi etkileyebilirler; nöroinflamasyonu baskılayabilirler. Bu tür nöroprotektif özellikleri nedeniyle lenfödeme bağlı psikolojik semptomları hafifletebilir ve lenfödem hastalarında yaşam kalitesinin artmasına katkıda bulunabilirler (Vafa vd., 2020a).

Fazla kilolu ve obez lenfödemli hastalarda yapılan randomize kontrollü çalışmada düşük kalorili diyetle birlikte sinbiyotik takviyesi uygulaması yaşam kalitesi, ödem hacmi ve BKİ iyileştirmesinde etkiliydi; plasebo grubuyla arasında önemli fark bulunmaması bu etkinin çoğunlukla düşük kalorili diyete dayandığını gösterebilir. (Vafa vd., 2020a) 10 haftalık düşük kalorili diyet ve sinbiyotik takviyesi müdahalesi meme kanseri sonrası lenfödemli kadınlarda kol ödem hacmini, vücut ağırlığı, BKİ, yağ yüzdesi ve bel çevresini azalttı ve serum TGF-β, IL-10 ve adiponektin düzeylerini arttırmada faydalı etkilere sahipti. Bu nedenle, diyet ve sinbiyotik takviyesi, BCRL hastalarında sağlık durumunu iyileştirmede etkili olabilir (Saneei Totmaj vd., 2021). Randomize, çift kör kontrollü bir klinik çalışmada, 88 meme kanseri sonrası lenfödem gelişen hastaya, 10 hafta boyunca düşük kalorili diyet verilmiş, sinbiyotik ve plasebo uygulanmıştır. Çalışmanın sonunda, sinbiyotik takviyesi alan grupta, leptin, TNF-a ve ödem hacminde önemli bir azalma gerçekleşmiştir. Sonuç olarak, meme kanseri sonrası lenfödemli hastalarda bir LCD programı ile birlikte sinbiyotik takviyesi, serum inflamatuar belirteçlerinin konsantrasyonu ve ödem hacmi üzerinde faydalı etkilere sahipti. (Vafa vd., 2020b)

Sonuç

Meme kanseri sonrası lenfödem gelişen kadınlarda kilo verme müdahaleleri grup egzersizleri, kişiye özel oluşturulmuş diyet ve egzersiz programları, yemek hazırlama ve yemek tarifleri eğitimlerini içermelidir. Lenfödem tedavisinin en kritik amacı hastaların yaşam kalitesi bozukluklarını azaltmak olduğundan, ödem azaltma protokolüne bir diyet danışmanı dahil etmek sonucu iyileştirebilir. Lenfödem yönetimi stratejisine diyetisyen konsültasyonu eklenmesi, lenfödem kontrolünde daha iyi bir sonuç sağlayabilir. Lenfödem hastalarının

günlük diyetlerinde kilo verme ve sinbiyotik ürün tüketimi, lenfödem yönetiminde etkili ve güvenli müdahaleler olarak önerilebilir. Sosyal destek, diyet ve egzersiz müdahaleleri için iyi bilinen bir kolaylaştırıcıdır ve eksik olduğunda, müdahaleye uyumun önünde büyük bir engeldir.

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DETERMINATION OF SOME LIPID PROFILE CONCENTRATIONS AFTER CIDR USE IN AWASSI SHEEP

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Abstract
Apparatuses used intravaginally for synchronization cause inflammation, tissue damage and infection problems during or outside the breeding season and cause changes in oxidative stress parameters. The present study was conducted to determine the effect of intravaginal CIDR administration on some lipid profile concentrations and pregnancy. A total of 100 Awassi sheep were used in the study. Sheep were divided into 4 groups according to whether estrus synchronization was applied or not, and whether they were pregnant or not from the applied estrus synchronization. The first group of the study (Group 1, n=80); estrus synchronization applied sheep. the second group (Group 2, n=20); sheep without oestrus synchronization. The third group (Group 3, n=64); estrus synchronization was applied and they became pregnant. The fourth group (Group 4, n=16); estrus synchronization was applied and they did not become pregnant. Sponges containing progesterone were administered intravaginally to the sheep in the estrus synchronization group. For biochemical analysis, blood samples were taken from 3 times, on the 0th and 12th days of synchronization, and at the time of mating. Triglyceride, TC (total cholesterol), HDL (high-density lipoprotein), LDL (low-density lipoprotein), VLDL (very low-density lipoproteins), PL (phospholipid) and TL (total fat) values were measured from the blood samples taken. Statistically significant difference was observed in TC, TG, HDL, VLDL, PL and TL concentrations in groups with and without estrus synchronization ($p<0.05$). A statistically significant difference was determined in the mating time TC, LDL, PL and TL concentrations in pregnant and non-pregnant sheep ($p<0.001$). As a result, while the use of intravaginal CIDR used for synchronization caused significant changes in lipid profile concentrations, pregnancy rates were not affected.

Keywords: CIDR, lipid profile, synchronization, sheep

İvesi Irkı Koyunlarda CIDR Kullanımı Sonrası Bazı Lipid Profili Konsantrasyonlarının Belirlenmesi

Özet

Senkronizasyon amacıyla intravaginal kullanılan aparatlar üreme mevsimi veya dışında yangı, doku hasarı ve enfeksiyon sorunlarına yol açarak oksidatif stres parametrelerinde değişikliklere neden olmaktadır. Sunulan bu çalışma intravaginal CIDR uygulamasının bazı lipid profili konsantrasyonlarına ile gebelik üzerine etkisinin belirlenmesi amacıyla yapıldı. Çalışmada toplam 100 adet İvesi ırkı koyun kullanıldı. Koyunlar östrus senkronizasyonu uygulanıp uygulanmama durumuna ve uygulanan östrus senkronizasyonundan gebe kalıp kalmama durumlarına göre 4 gruba ayrıldı. Çalışmanın birinci grubunu (Grup 1, n=80); östrus senkronizasyonu uygulanan koyunlar, çalışmanın ikinci grubunu (Grup 2, n=20); östrus senkronizasyonu uygulanmayan koyunlar, çalışmamızın üçüncü grubunu (Grup 3, n=64); östrus senkronizasyonu uygulanıp gebe kalanlar, dördüncü grubunu ise (Grup 4, n=16); östrus senkronizasyonu uygulanıp gebe kalmayanlar oluşturdu. Östrus senkronizasyonu uygulanan gruptaki koyunlara progesteron içeren süngerler intravaginal yolla uygulandı. Koyunlardan biyokimyasal analizler için senkronizasyonun 0 ve 12. günü ile çiftleşme zamanı olmak üzere 3 defa kan örneği alındı. Alınan kan örneklerinde trigliserid, TC (total kolestrol), HDL (yüksek yoğunluklu lipoprotein), LDL (düşük yoğunluklu lipoprotein), VLDL (çok düşük yoğunluklu lipoproteinler), PL (fosfolipit) ve TL (total yağ) değerleri ölçüldü. Östrus senkronizasyonu yapılan ve yapılmayan gruplar TC, TG, HDL, VLDL, PL ve TL konsantrasyonlarında istatistiksel olarak anlamlı fark gözlendi ($p<0.05$). Gebe ve gebe olmayan koyunlarda çiftleşme zamanı TC, LDL, PL ve TL konsantrasyonlarında istatistiksel olarak anlamlı fark belirlendi ($p<0.001$). Sonuç olarak senkronizasyon amacıyla kullanılan intravaginal CIDR kullanımı lipid profili konsantrasyonlarında önemli değişiklikler meydana getirirken gebelik oranları etkilenmemiştir.

Anahtar kelimeler: CIDR, lipid profili, senkronizasyon, koyun

ANXIOLYTIC ACTIVITY OF METHANOLIC EXTRACT OF *TEPHROSIA PURPUREA* LINN USING EXPERIMENTAL ANXIETY MODELS

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Abstract

Objective: To study the anxiolytic activity of methanol extract of *Tephrosia purpurea* Linn (Fabaceae) in experimental animals.

Materials and Methods: Extract of aerial parts of *Tephrosia Purpurea* (METP) was prepared by maceration with methanol. Phytoconstituents of METP were determined by qualitative phytochemical analysis. Male albino mice (20-25gms) and rats (150-200gms) were used. METP at doses 100, 200, and 400 mg/kg p.o. and diazepam 1 mg/kg i.p. were administered 30 min. before the test. Elevated plus maze (EPM), Vogel's conflict test (VCT), hole board (HB), and Marble burying test (MBT) were used to the evaluated anxiolytic activity of METP.

Results: Methanolic extract of *Tephrosia purpurea* significantly ($P<0.05$) increased time spent and number of entries in open arm in EPM. METP showed a significant ($P<0.05$) increase in the number of shocks accepted in VCT in rats. Mice-treated METP tested in HB and MBT showed a significant ($P<0.05$) increase in head poking and decreased burying behavior respectively. 200 and 400 mg/kg of METP showed significant ($P<0.05$) anxiolytic activity as compared to 1 mg/kg diazepam.

Conclusion: In the present study, METP exhibited significant anxiolytic activity at doses of 200 and 400 mg/kg which might be attributed to the diverse phytoconstituents.

Keywords: Anxiety, *Tephrosia purpurea*, Vogel's conflict test, Anti-anxiety.

SPOR BİLİMLERİNDE OKUYAN ÖĞRENCİLERİN EGO DURUMLARI

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Özet
Bu çalışmanın amacı spor bilimlerinde okuyan öğrencilerin ego durumlarını incelemektir. Bu amaçla, çalışmanın evrenini Türkiye'de devlet ve vakıf üniversitelerinin spor bilimleri ile ilgili bölümlerinde öğrenim görmekte olan öğrenciler oluşturmakta olup, örneklem grubunu tesadüfi örnekleme yöntemi ile seçilmiş 321 öğrenci oluşturmaktadır.
Araştırmada veri toplama aracı olarak Arı (1989) tarafından geliştirilen, 95 sıfattan oluşan ego durumları ölçeği kullanılmıştır. Çalışmada, ölçek toplam puanların ve alt boyut toplam puanlarının cinsiyet, okunulan üniversite türü vb. değişkenlere göre farklılık gösterip göstermediği Mann Whitney U testi ile, gelir düzeyi, bölüm gibi değişkenlere göre farklılık gösterip göstermediği ise Kruskal Wallis H testi ve Dunn çoklu karşılaştırma testi ile belirlenmiştir.

Araştırmada katılımcıların cinsiyeti, eğitim durumu ve okudukları bölüm açısından bazı ego durumları açısından anlamlı farklılık bulunurken, okudukları üniversite türü ve gelir düzeyleri açısından anlamlı farklılık tespit edilememiştir. Kadın öğrencilerin UÇ ego durumları yüksek, lisansüstü öğrencilerin Y ego düzeyleri düşük, BSÖ bölümünde okuyan öğrencilerin koruyucu ebeveyn, eleştirel, yetişkin ego durumu yüksek, uygulu çocuk doğal çocuk ego durumları ise düşük tespit edilmiştir. SYB, ANT ve SY bölümünde okuyan öğrencilerin eleştirel, yetişkin ve doğal çocuk ego durumu yüksek, koruyucu ebeveyn ego durumları ise düşük tespit edilmiştir. REK bölümünde okuyan öğrencilerin koruyucu ebeveyn ve uygulu çocuk ego durumu yüksek, yetişkin ve eleştirel ebeveyn ego durumları ise düşük tespit edilmiştir. Ego durumları yüksek çıkan bireyler, hocaları tarafından farklı aktivitelere yönlendirilip kendi yeteneklerini keşfetmelerini sağlayarak benlik duyguları düşürülebilir.

Anahtar kelimeler: Ego, Spor, Spor Bilimleri

EGO STATUS OF STUDENTS STUDYING IN SPORTS SCIENCE

Abstract
The aim of this study is to examine the ego levels of students studying in departments of sports sciences. For this purpose, the universe of the study consists of students studying in sports science departments of state and private universities in Turkey, and the sample group consists of 321 students selected by random sampling method.

The ego states scale consisting of 95 adjectives, developed by Arı (1989), was used as a data collection tool in the research. In the study, the scale total scores and sub-dimension total scores were determined by whether they differed according to variables such as gender, university type by Mann Whitney U test, and whether they differed according to variables such as income level and department was determined with Kruskal Wallis H test and Dunn's multiple comparison tests.

While there was a significant difference on ego levels of students in terms of their gender, education status and department, there was no significant difference according university type and income level. It has been determined that female students' peak ego states are high, graduate students' Y ego levels are low, students studying in the 'physical education and sports teacher' department have high nurturing parental, critical parental, adult ego states, and compliant child nature and child ego states are low. The critical parental, adult and natural child ego states of the students studying in the SMD, CD and SM departments were found to be high, and their nurturing parental ego states were low. The students studying in the REC department were found to have high nurturing parental and adaptive child ego status, while their adult and critical parental ego status was low. Individuals whose ego states are high can be directed to different activities by their teachers, and their sense of self can be lowered by enabling them to discover their own abilities.

Keywords: Ego, Sports, Sports Sciences

Giriş

Spor, bireylerin yeteneklerini geliştirirken, belirli kurallarla, ister araçlı ister araçsız ,ferdi veya kollektif olarak boş zamanlarında veya tam zamanlı olarak mesleki anlamda yaptığı fiziksel, zihinsel ve ruhsal gelişiminin yanında sosyalleştirici ve aynı zamanda rekabeti içerisinde barındıran dayanışmacı ve kültürel bir olgudur (Koçtürk 1969; akt: Akkoyunlu 1996 s:81).

İletişim ise insanların birbirleriyle ilişki kurma ve karşılıklı hedeflere ulaşma amacıyla ortaya çıkar. Daha güçlü anlama kapasitesi olan, daha sağlıklı düşünebilen ve daha iyi yorum yapabilen bireyler daha etkili iletişim kurabilir. Bireylerin daha iyi iletişim kurmaları temel iletişim, çevreleriyle etkili iletişime geçebilmeleri temel iletişim becerilerinin güçlü olmasına bağlıdır (Dalkılıç 2011 s:1). Bu durumda sosyalleşmekten geçmektedir. Sosyalleşme ve kişilik arasındaki bağlantı önemlidir.

Sosyalleşmenin en önemli araçlarından birisi de spor faaliyetleridir. Spor ile kişilik arasında etkişileşimin olduğu araştırmacıların ortaya koyduğu şüphe duyulmaz bir gerçektir (Allen vd., 2013; akt: Atasoy 2019 s:2). Dünyanın önde gelen kulüpleri başta olmak üzere, kulüplerin çoğu oyuncunun yeteneklerinin yanı sıra kişilik özelliklerine de büyük önem vermektedir (Atasoy 2019 s:2).

Benlik duygusu kişinin kendisi hakkında sahip olduğu duyumların tamamı olarak tanımlanmıştır (Dusek,1987; Akt: Togo 2016 s:75). Daha detaylı açıklamak gerekirse kişinin davranış biçimini tespit edebilen, kavramlarının, değerlerinin, amaçlarının ve ideallerinin dinamik organizasyonu olarak açıklanabilir. Bu duyumlar, kişinin sosyal ortamda diğer bireylerle etkileşimi sonucu gelişmekte ve güçlenmektedir (Togo 2016 s:75).

Benlik duygusu sporcu ferformanslarına etki etmesinin yanında, takımdaki huzuru sağlamak adına da çok önemlidir. Benlik duygusunun düşürülebilmesi sosyalleşmeden geçmektedir. Sosyalleşmenin en iyi yolu ise spor aktivitelerine katılmaktır. Çalışmada spor bilimleri bölümlerinde eğitim gören öğrencilerin ego durumları tespit edilerek, bazı öneriler getirilmiştir.

YÖNTEM

Araştırmanın yürütülmesi hususunda Ondokuz Mayıs Üniversitesi Sosyal ve Beşeri Bilimler Etik Kurul Kararı (karar no: 2021/542) ile onay alınmıştır.Çalışmanın evrenini Türkiye'de devlet ve vakıf üniversitelerinin spor bilimleri ile ilgili bölümlerinde öğrenim görmekte olan öğrenciler oluşturmakta olup, örneklem grubunu tesadüfi örnekleme yöntemi ile seçilmiş 321 öğrenci oluşturmaktadır. Araştırmada veri toplama aracı olarak Arı (1989) tarafından geliştirilen, 95 sıfattan oluşan ego durumları ölçeği kullanılmıştır. Çalışmada, ölçek toplam puanların ve alt boyut toplam puanlarının cinsiyet, okunulan üniversite türü vb. değişkenlere göre farklılık gösterip göstermediği Mann Whitney U testi ile, gelir düzeyi, bölüm gibi değişkenlere göre farklılık gösterip göstermediği ise Kruskal Wallis H testi ve Dunn çoklu karşılaştırma testi ile belirlenmiştir.

BULGULAR

Tablo 1. Katılımcıların Cinsiyetine Göre Ego Durumları

Cinsiyet	n	Ortalama	Std. Sapma	Medyan	IQR	P-değeri
Koruyucu Ebeveyn Ego Alt Boyut Toplam Puanı						
Kadın	99	0,2084	0,0922	0,1841	0,07	0,420
Erkek	221	0,2139	0,0933	0,1860	0,07	
Eleştirel Ego Alt Boyut Toplam Puanı						
Kadın	99	0,1909	0,0574	0,2068	0,05	0,066
Erkek	221	0,2009	0,0566	0,2137	0,04	
Yetişkin Ego Alt Boyut Toplam Puanı						
Kadın	99	0,2069	0,0387	0,2107	0,03	0,769
Erkek	221	0,2040	0,0369	0,2115	0,02	
Uygulu Çocuk Ego Alt Boyut Toplam Puanı						
Kadın	99	0,1963	0,0498	0,1992	0,04	0,026
Erkek	221	0,1895	0,0308	0,1922	0,03	
Doğal Çocuk Ego Alt Boyut Toplam Puanı						
Kadın	99	0,1975	0,0580	0,1930	0,05	0,649
Erkek	221	0,1916	0,0544	0,1968	0,05	

Araştırmada, kadın ve erkek öğrencilerin korutucu ebeveyn ego, eleştirel ebeveyn ego, yetişkin ego ve doğal çocuk ego durumları arasında istatistiki olarak anlamlı bir farklılık tespit edilememiştir (P>0,05). Çalışmada, kadın öğrencilerin uygulu çocuk EGO durumlarının erkek öğrencilerden daha yüksek olduğu belirlenmiştir (P=0,026; Tablo 1).

Tablo 2. Katılımcıların Eğitim Durumuna Göre Ego Durumları

Eğitim Durumu	n	Ortalama	Std. Sapma	Medyan	IQR	P-değeri
Koruyucu Ebeveyn Ego Alt Boyut Toplam Puanı						
Önlisans	64	0,2148	0,0969	0,1825	0,07	0,323
Lisans	249	0,2126	0,0930	0,1872	0,07	
Lisansüstü	7	0,2323	0,0572	0,2257	0,08	
Eleştirel Ego Alt Boyut Toplam Puanı						
Önlisans	64	0,1877	0,0600	0,2069	0,06	0,146
Lisans	249	0,1998	0,0565	0,2125	0,04	
Lisansüstü	7	0,1920	0,0274	0,2000	0,07	
Yetişkin Ego Alt Boyut Toplam Puanı						
Önlisans	64	0,2023	0,0374	0,2044 a	0,03	0,001
Lisans	249	0,2067	0,0388	0,2123 a	0,03	

Lisansüstü	7	0,1898	0,0125	0,1924 b	0,03	
Uygulu Çocuk Ego Alt Boyut Toplam Puanı						
Önlisans	64	0,1926	0,0523	0,1970	0,04	0,093
Lisans	249	0,1881	0,0327	0,1910	0,03	
Lisansüstü	7	0,2058	0,0197	0,2105	0,02	
Doğal Çocuk Ego Alt Boyut Toplam Puanı						
Önlisans	64	0,2025	0,0593	0,2022	0,04	0,218
Lisans	249	0,1927	0,0552	0,1968	0,05	
Lisansüstü	7	0,1801	0,0292	0,1802	0,05	

Araştırmada, eğitim durumuna göre öğrencilerin koruyucu ebeveyn ego, eleştirel ebeveyn ego, uygulu çocuk ve doğal çocuk ego durumları arasında istatistiki olarak anlamlı bir farklılık tespit edilememiştir (P>0,05). Çalışmada, önlisans ve lisans okuyan öğrencilerin yetişkin ego durumlarının lisansüstü eğitim alan öğrencilerden daha yüksek olduğu belirlenmiştir (P=0,001; Tablo 2).

Tablo 3. Katılımcıların Okudukları Bölüme Göre Ego Durumları

Bölüm	n	Ortalama	Std. Sapma	Medyan	IQR	P-değeri
Koruyucu Ebeveyn Ego Alt Boyut Toplam Puanı						
BSÖ	32	0,2430	0,1034	0,2039 ab	0,08	<0,001
SYB	140	0,2103	0,0890	0,1901 b	0,07	
ANT	24	0,2001	0,1070	0,1802 b	0,05	
REK	69	0,2575	0,1068	0,2365 a	0,10	
SY	55	0,2117	0,0861	0,1875 b	0,04	
Eleştirel Ego Alt Boyut Toplam Puanı						
BSÖ	32	0,1854	0,0638	0,2065 ab	0,07	0,005
SYB	140	0,1977	0,0521	0,2111 a	0,04	
ANT	24	0,2033	0,0735	0,2156 a	0,04	
REK	69	0,1771	0,0643	0,1945 b	0,05	
SY	55	0,2048	0,0378	0,2110 a	0,03	
Yetişkin Ego Alt Boyut Toplam Puanı						
BSÖ	32	0,2196	0,0472	0,2168 a	0,04	<0,001
SYB	140	0,2062	0,0350	0,2121 a	0,03	
ANT	24	0,1998	0,0421	0,2110 ab	0,03	
REK	69	0,1841	0,0358	0,1941 b	0,05	
SY	55	0,2087	0,0366	0,2121 a	0,02	
Uygulu Çocuk Ego Alt Boyut Toplam Puanı						
BSÖ	32	0,1784	0,0518	0,1906 b	0,05	0,004
SYB	140	0,1940	0,0375	0,1936 ab	0,03	
ANT	24	0,2051	0,0448	0,2050 a	0,04	
REK	69	0,1977	0,0260	0,2007 a	0,03	
SY	55	0,1835	0,0333	0,1901 b	0,03	
Doğal Çocuk Ego Alt Boyut Toplam Puanı						
BSÖ	32	0,1737	0,0592	0,1657 b	0,04	0,030
SYB	140	0,1918	0,0474	0,1953 a	0,05	
ANT	24	0,1917	0,0588	0,1905 a	0,06	
REK	69	0,1836	0,0520	0,1873 ab	0,05	
SY	55	0,1913	0,0693	0,1974 a	0,04	

Araştırmada, okudukları bölümlere göre öğrencilerin koruyucu ebeveyn ego, eleştirel ebeveyn ego, yetişkin ego, uygulu çocuk ve doğal çocuk ego durumları arasında istatistiki olarak anlamlı bir farklılık tespit edilmiştir (P<0,01). Çalışmada, BSÖ bölümünde okuyan

öğrencilerin koruyucu ebeveyn, eleştirel ebeveyn, yetişkin ego durumu yüksek, uygulu çocuk doğal çocuk ego durumları ise düşük tespit edilmiştir. SYB, ANT ve SY bölümünde okuyan öğrencilerin eleştirel ebeveyn ego, yetişkin ve doğal çocuk ego durumu yüksek, koruyucu ebeveyn ego durumlarının ise düşük olduğu tespit edilmiştir. REK bölümünde okuyan öğrencilerin koruyucu ebeveyn ve uygulu çocuk ego durumu yüksek, yetişkin ve eleştirel ebeveyn ego durumları ise düşük tespit edilmiştir (Tablo 3).

Tablo 4. Katılımcıların Okudukları Üniversite Türüne Göre EGO Durumları

Üniversite	n	Ortalama	Std. Sapma	Medyan	IQR	P-değeri
Koruyucu Ebeveyn Ego Alt Boyut Toplam Puanı						
Devlet	247	0,2150	0,0948	0,1929	0,07	0,916
Vakıf	73	0,2181	0,0903	0,1875	0,05	
Eleştirel Ego Alt Boyut Toplam Puanı						
Devlet	247	0,1952	0,0584	0,2096	0,04	0,760
Vakıf	73	0,1981	0,0501	0,2088	0,04	
Yetişkin Ego Alt Boyut Toplam Puanı						
Devlet	247	0,2050	0,0372	0,2070	0,03	0,926
Vakıf	73	0,2036	0,0387	0,2100	0,02	
Uygulu Çocuk Ego Alt Boyut Toplam Puanı						
Devlet	247	0,1930	0,0394	0,1955	0,03	0,087
Vakıf	73	0,1867	0,0302	0,1929	0,02	
Doğal Çocuk Ego Alt Boyut Toplam Puanı						
Devlet	247	0,1918	0,0534	0,1917	0,05	0,221
Vakıf	73	0,1935	0,0619	0,2012	0,04	

Araştırmada, Devlet ve Vakıf üniversitelerinde okuyan öğrencilerin EGO durumları arasında istatistiki olarak anlamlı bir farklılık tespit edilememiştir (P>0,05; Tablo 4).

Tablo 5. Katılımcıların Gelir Düzeyine Göre EGO Durumları

Gelir Düzeyi	n	Ortalama	Std. Sapma	Medyan	IQR	P-değeri
Koruyucu Ebeveyn Ego Alt Boyut Toplam Puanı						
Yüksek (Gelir>Gider)	40	0,2211	0,1019	0,1813	0,07	0,523
Orta (Gelir=Gider)	129	0,2094	0,0875	0,1928	0,07	
Düşük(Gelir<Gider)	151	0,2206	0,0971	0,1907	0,07	
Eleştirel Ego Alt Boyut Toplam Puanı						
Yüksek (Gelir>Gider)	40	0,1827	0,0632	0,2069	0,07	0,392
Orta (Gelir=Gider)	129	0,1985	0,0515	0,2111	0,04	
Düşük(Gelir<Gider)	151	0,1981	0,0589	0,2104	0,04	
Yetişkin Ego Alt Boyut Toplam Puanı						
Yüksek (Gelir>Gider)	40	0,2066	0,0428	0,2044	0,04	0,200
Orta (Gelir=Gider)	129	0,2067	0,0356	0,2133	0,03	
Düşük(Gelir<Gider)	151	0,2009	0,0374	0,2090	0,03	
Uygulu Çocuk Ego Alt Boyut Toplam Puanı						
Yüksek (Gelir>Gider)	40	0,1908	0,0640	0,1937	0,06	0,477
Orta (Gelir=Gider)	129	0,1921	0,0321	0,1929	0,03	
Düşük(Gelir<Gider)	151	0,1887	0,0317	0,1915	0,03	
Doğal Çocuk Ego Alt Boyut Toplam Puanı						
Yüksek (Gelir>Gider)	40	0,1988	0,0686	0,1959	0,03	0,778
Orta (Gelir=Gider)	129	0,1933	0,0461	0,1977	0,05	
Düşük(Gelir<Gider)	151	0,1918	0,0596	0,1962	0,05	

Araştırmada, farklı gelir düzeylerine sahip öğrencilerin EGO durumları arasında istatistiki olarak anlamlı bir farklılık tespit edilememiştir (P>0,05; Tablo 5).

TARTIŞMA ve SONUÇ

Araştırmada katılımcıların cinsiyeti, eğitim durumu ve okudukları bölüm açısından bazı ego durumları açısından anlamlı farklılık bulunurken, okudukları üniversite türü ve gelir düzeyleri açısından anlamlı farklılık tespit edilememiştir. Kadın öğrencilerin UÇ ego durumları yüksek, lisansüstü öğrencilerin Y ego düzeyleri düşük, BSÖ bölümünde okuyan öğrencilerin koruyucu ebeveyn, eleştirel ebeveyn, yetişkin ego durumu yüksek, uygulu çocuk ve doğal çocuk ego durumlarının ise düşük olduğu tespit edilmiştir. SYB, ANT ve SY bölümünde okuyan öğrencilerin eleştirel, yetişkin ve doğal çocuk ego durumu yüksek, koruyucu ebeveyn ego durumlarının ise düşük olduğu sonucuna varılmıştır. REK bölümünde okuyan öğrencilerin koruyucu ebeveyn ve uygulu çocuk ego durumu yüksek, yetişkin ve eleştirel ebeveyn ego durumlarının ise düşük olduğu tespit edilmiştir. Ego durumları yüksek çıkan bireyler, hocaları tarafından farklı aktivitelere yönlendirilip kendi yeteneklerini keşfetmelerini sağlayarak benlik duyguları düşürülebilir. Spor kavramı insanın bedensel ve zihinsel gelişiminin yanında sosyal gelişimine de katkı sağlayan en önemli araçlardan bir tanesidir. Bireyin sosyalleşmesi onun empati duygusunun da gelişmesini sağlayacaktır. Empati duygusu geliştikçe birey, daha sosyal ve paylaşımcı davranışlar sergileyecektir. Bununla beraber duygu ve davranışlarını anlamamıza yardımcı olacaktır. Birey karşısındakini daha iyi anladıkça benlik duygusu düşecektir. Ego durumları yüksek çıkan bireyler, hocaları tarafından farklı aktivitelere yönlendirilip kendi yeteneklerini keşfetmelerini sağlayarak benlik duyguları düşürülebilir. Bireylerin benlik duyguları kendisini gerçekleştirdikçe düşüş gösterebilir. Bu bakımdan hocaların öğrencileri doğru aktivitelere yönlendirerek başarılı oldukları sporlarda kendilerini gerçekleştirmeleri faydalı olacaktır.

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FUTBOL TARAFTAR KİTLESİNİN SPOR KULÜPLERİNE YÖNELİK GÜVEN DÜZEYLERİNİN İNCELENMESİ

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Özet
Bu çalışma futbol taraftar kitlesinin spor kulüplerine yönelik güven düzeylerinin incelenmesi amacını taşımaktadır. Çalışmanın evrenini futbol taraftar kitlesi oluşturmakta olup, örneklem grubu 129 katılımcı kapsamındadır. Çalışmada veri toplama aracı olarak Açak ve Karademir (2019) tarafından geliştirilen Spor Kulübüne Güven Ölçeği kullanılmıştır.
Çalışmada, ölçek toplam puanlarının ve alt boyut toplam puanlarının cinsiyet, medeni durum vb. değişkenlere göre farklılık gösterip göstermediği Student testi ile gelir, eğitim düzeyi, meslek grubu vb. değişkenlere göre farklılık gösterip göstermediği ise Tek Yönlü Varyans Analizi ve Tukey çoklu karşılaştırma testi ile belirlenmiştir.

Elde edilen bulgulara göre katılımcıların yaşı, cinsiyeti, gelir düzeyi, meslek durumu, tuttuğu takıma yönlendirilme, kendini tanımlama değişkenleri ile spor kulübüne güven düzeyleri arasında anlamlı bir ilişki tespit edilememiştir. Diğer taraftan katılımcıların eğitim durumuna göre spor kulübüne güven düzeyleri arasında anlamlı bir ilişki saptanmıştır. Çalışmada lisansüstü katılımcıların ölçeğin alt boyutlarından olan başkana güven alt boyut toplam puanlarının diğer katılımcılara göre daha yüksek olduğu belirlenmiştir. Bu süreçte taraftar kitlesinin tuttuğu takım ile özdeşleşmesi durumu, bağlılık ile ilgili bir husustur. Taraftarların kulüplere olan bağlılık durumunu; kulüp başkanları, antrenörler ve sporcuların tutumları etkilemektedir. Diğer yandan taraftar grubunun takımlarını destekleme durumu kulüpler tarafından oldukça önem taşımaktadır. Dolayısıyla taraftarların kulübe olan güvenlerini sağlamak amacıyla; kulüplerin karar alma sürecinde tutarlı olması, alt yapıya gerekli önemin verilmesi, kulüp menfaatlerinin kişisel beklentilerle karıştırılmaması, taraftarların beklentilerinin karşılanması için önerilerin dikkate alınması, takımda yer alan sporcuların kazanmak için gerekli mücadeleyi göstermesi gerekmektedir.

Anahtar kelimeler: Futbol, Güven, Spor, Spor kulübü, Taraftar

EXAMINATION OF TRUST LEVELS OF FOOTBALL FANS IN SPORTS CLUBS

Abstract

This study aims to examine trust levels of football fans in sports clubs. The population of the study consists of football fans, while the sample consists of 129 participants. "Trust Scale for the Sport Club" developed by Açak and Karademir (2019) was used in the study as data collection instrument.

Student t test was used to find out whether scale total scores and subscale total scores differed in terms of variables such as gender, marital status, etc., while One way ANOVA and Tukey multiple comparison test were used to find out whether they differed in terms of variables such as income, educational level, occupation, etc.

No statistically significant relationship was found between participants' age, gender, income level, occupation, state of being directed to the team supported, self-definition variables and levels of trust in the sports club. On the other hand, significant correlation was found between participants' levels of trust in the sports club in terms of educational level. Participants with graduate degree were found to have higher trust to president scores than the other participants. Identification of fans with the team supported is an issue related with loyalty. Fans' loyalty to sport clubs is affected by the attitudes of club presidents, coaches and players. On the other hand, fans' support for their team is very important in terms of clubs. Therefore, in order to ensure the trust of fans in the club, clubs should be consistent in the decision-making process, they should allocate the required importance to infrastructure, personal expectations should not be mixed with the clubs' interests, suggestions should be taken into consideration to meet fans' needs and the players in teams should show the required efforts to win.

Keywords: Football, Trust, Sport, Sport club, Fan

Giriş

Futbol olgusu geçmişten günümüze hızla gelişim gösteren, toplulukları oluşturan insan grupları arasında eğlence olarak addedilen aynı zamanda eğitim, siyaset, ekonomi ve medya ile iç içe olan bir yapı olarak karşımıza çıkmaktadır (Vojinovic, 2016). Diğer yandan futbol, çoğu insan için heyecan verici bir oyun olarak kabul edilse de bazıları için oyun ve hobi dışında farklı anlamlar da taşımaktadır (Durgutluoğlu, 2020).

Süreç içerisinde futbolun yarattığı coşku ve heyecan kişilerin takımlarına aidiyet duyması durumunu tetiklemiş ve çeşitli grupların oluşumuna sebebiyet vermiştir (Kalkan 2016). Başka bir ifade ile taraftarlık, bir takımı destekleme, yönelme, taraf olma durumu ortaya çıkmıştır (Hünerli, 1997). Dolayısıyla taraftarlık olgusu spor dünyasında bir öneme sahip olmakla birlikte; taraftarların spora, spor kulüplerine olan bağlılıkları ciddi boyuta ulaşmış ve spor olaylarında yeri küçümsenmeyecek bir düzeye ulaşmıştır (Salam, 2015).

Taraftarların kulüp ile ilişkileri ve duydukları güven kulüplerin itibarı açısından önem taşımaktadır. Aynı zamanda taraftar grubunun takımlarına olan güven duygularıyla birlikte destek düzeyleri de artacaktır. Aksi takdirde taraftarın takıma olan güven duygusunun azalması desteğin de azalmasına neden olacak çeşitli sorunların oluşumunu da sebebiyet verecektir (Yıldırım, 2018). Tüm bu bilgiler ışığında bu çalışma futbol taraftar kitlesinin spor kulüplerine yönelik güven düzeylerinin incelenmesi amacını taşımaktadır.

YÖNTEM

Araştırmanın yürütülmesi hususunda Ondokuz Mayıs Üniversitesi Sosyal ve Beşeri Bilimler Etik Kurul Kararı (karar no: 2021/611) ile onay alınmıştır. Araştırma betimsel araştırma deseninin bir çeşidi olan tarama araştırma modelindedir. Çalışmanın evrenini futbol taraftar kitlesi oluşturmakta olup, örneklem grubu 129 katılımcı kapsamındadır.

Çalışmada veri toplama aracı olarak Açak ve Karademir (2019) tarafından geliştirilen Spor Kulübüne Güven Ölçeği kullanılmıştır. İlgili ölçek 5'li likert tipinde olup 22 madde ve 3 alt boyuttan (Antrenöre güven, başkana güven, sporcuya güven) oluşmaktadır. İlgili ölçekte 1-9 Antrenör, 10-16 kulüp başkanı, 17-22 ise sporcuya güven ile ilgili ilişkili soruları kapsamaktadır. Ölçekte tersten puanlanacak 2 madde (1 ve 5. maddeler) bulunmaktadır. Ayrıca ölçek maddelerinde puanlama; Kesinlikle Katılıyorum (5), Katılıyorum (4), Kararsızım (3), Katılmıyorum (2) ile Kesinlikle Katılmıyorum (1) şeklinde yapılmıştır.

Tablo 1. Katılımcıların ölçek maddelerine verdikleri cevaplara ait iç tutarlılık katsayıları

Ölçek	İç Tutarlılık Katsayısı	Değerlendirme
SKGÖ	0,957	Yüksek Düzeyde Güvenilir
AG	0,866	Yüksek Düzeyde Güvenilir
BG	0,964	Yüksek Düzeyde Güvenilir
SG	0,920	Yüksek Düzeyde Güvenilir

SKGÖ: Spor kulübüne güven ölçeği, AG: Antrenöre güven, BG: Başkana güven, SG: Sporcuya güven

Katılımcıların ölçek maddelerine verdikleri cevapların iç tutarlılığı yüksek düzeyde yeterli bulunmuş olması nedeni ile herhangi bir maddenin çıkarılmasına gerek kalmamıştır (Tablo 1).

Katılımcıların ölçek maddelerine verdiği cevaplardan elde edilen toplam puanların kişisel bilgi formundaki değişkenlere göre normal dağılım gösterip göstermediği Kolmogorov-Smirnov ($n \geq 50$) ve Shapiro-Wilk ($n<50$) testi ile belirlenmiştir ($P>0,05$). Çalışmada, katılımcıların yaşı ile ölçek toplam puanları ve alt boyut toplam puanları arasındaki ilişki düzeyi pearson korelasyon katsayısı ile belirlenmiştir. Çalışmada, ölçek toplam puanlarının ve alt boyut toplam puanlarının cinsiyet, medeni durum vb. değişkenlere göre farklılık gösterip göstermediği Student testi ile gelir, eğitim düzeyi, meslek grubu vb. gibi değişkenlere göre farklılık gösterip göstermediği ise Tek Yönlü Varyans Analizi (One-way ANOVA) ve Tukey çoklu karşılaştırma testi ile belirlenmiştir. Araştırma bulgularının ortalama ve standart sapma değerleri gösterilmiş olup, sonuçlar $p<0,05$ önem seviyesinde anlamlı kabul edilmiştir. Tüm istatistiksel hesaplamalar SPSS 22.0 V istatistik paket programında yapılmıştır.

Bulgular

Tablo 2: Katılımcıların demografik özelliklerine ilişkin frekans ve yüzde dağılımları

Takım	n	%	Medeni Durum	n	%
Aile	69	53,5	Evli	46	35,7
Akraba	15	11,6	Bekar	83	64,3
Arkadaş	23	17,8	Toplam	129	100,0
Memleket	8	6,2			
Kendi Tercihi	14	10,9	Cinsiyet	n	%
Toplam	129	100,0	Kadın	54	41,9

Meslek	n	%
İşsiz	9	7,0
Öğrenci	41	31,8
Memur	38	29,5
İşçi	25	19,4
Özel Sektör	16	12,4
Toplam	129	100,0

Kendini Tanımlama	n	%
Fanatik	33	25,6
Taraftar	42	32,6
Seyirci	28	21,7
TV İzleyicisi	26	20,2
Toplam	129	100,0

Erkek	75	58,1
Toplam	129	100,0

Eğitim Durumu	n	%
Lise	12	9,3
Ön Lisans ve Lisans	101	78,3
Lisansüstü	16	12,4
Toplam	129	100,0

Gelir Düzeyi	n	%
Düşük(Gelir<Gider)	15	11,6
Orta (Gelir=Gider)	109	84,5
Yüksek (Gelir>Gider)	5	3,9
Toplam	129	100,0

Çalışma 54 kadın, 75 erkek olmak üzere toplam 129 katılımcıyla yürütülmüştür. Araştırmada katılımcıların çoğunluğunun bekar ve öğrenci olduğu, genellikle tuttuğu takımlara aileleri tarafından yönlendirildikleri, kendilerini taraftar olarak adlandırdıkları, gelir düzeyinin çoğunlukla orta seviyede olduğu, eğitim durumlarının ise ön lisans ve lisans düzeyinde olduğu tespit edilmiştir.

Tablo 3: Katılımcıların demografik özelliklerine ilişkin frekans ve yüzde dağılımları

		SKGÖ	AG	BG	SG
Y	r-değeri	0,020	0,020	0,055	-0,029
	p-değeri	0,819	0,821	0,533	0,741

SKGÖ: Spor kulübüne güven ölçeği, AG: Antrenöre güven, BG: Başkana güven, SG: Sporcuya güven

Çalışmada katılımcıların yaşı ile spor kulübüne güven düzeyleri arasında, ölçek toplam ve alt boyutları toplam puanları arasında istatistiksel olarak anlamlı bir ilişki tespit edilememiştir (Tablo 3).

Tablo 4: Katılımcıların cinsiyetine göre kulübe güven düzeyleri

Ölçek ve alt boyutları	Kadın (n= 54)		Erkek (n= 75)		P-değeri
	Ortalama	Std. Sapma	Ortalama	Std. Sapma	
SKGÖ	72,78	17,81	71,39	18,96	0,674
AG	29,89	7,08	28,84	7,11	0,409
BG	22,80	6,82	23,01	7,73	0,869
SG	20,09	5,58	19,53	6,24	0,601

SKGÖ: Spor kulübüne güven ölçeği, AG: Antrenöre güven, BG: Başkana güven, SG: Sporcuya güven

Çalışmada katılımcıların cinsiyetine göre spor kulübüne güven düzeyleri arasında istatistiksel olarak anlamlı bir ilişki tespit edilememiştir (Tablo 4).

Tablo 5: Katılımcıların medeni durumuna göre kulübe güven düzeyleri

Ölçek ve alt boyutları	Evli (n= 46)		Bekar (n= 83)		P-değeri
	Ortalama	Std. Sapma	Ortalama	Std. Sapma	
SKGÖ	71,50	17,29	72,23	19,13	0,831
AG	28,91	6,30	29,48	7,52	0,661
BG	23,17	6,98	22,78	7,56	0,773
SG	19,41	5,92	19,96	6,00	0,617

SKGÖ: Spor kulübüne güven ölçeği, AG: Antrenöre güven, BG: Başkana güven, SG: Sporcuya güven

Çalışmada katılımcıların medeni durumuna göre spor kulübüne güven düzeyleri arasında istatistiksel olarak anlamlı bir ilişki tespit edilememiştir (Tablo 5).

Tablo 6: Katılımcıların eğitim durumuna göre kulübe güven düzeyleri

Eğitim Durumu	n	Ortalama	Std. Sapma	P-değeri
Spor Kulübüne Güven Ölçeği				
Lise	12	64,75 b	24,49	0,061
Ön Lisans-Lisans	101	71,44 ab	18,06	
Lisansüstü	16	80,75 a	12,52	
Antrenöre Güven				
Lise	12	26,92	8,07	0,334
Ön Lisans-Lisans	101	29,30	6,88	
Lisansüstü	16	30,94	7,59	
Başkana Güven				
Lise	12	19,58 b	9,02	0,009
Ön Lisans-Lisans	101	22,57 ab	7,11	
Lisansüstü	16	27,63 a	5,39	
Sporcuya Güven				
Lise	12	18,25	8,31	0,171
Ön Lisans-Lisans	101	19,56	5,84	
Lisansüstü	16	22,19	4,07	

Yapılan araştırmada katılımcıların eğitim durumuna göre spor kulübüne güven düzeyleri arasında istatistiki olarak anlamlı bir farklılık (P=0,061) olmamasına rağmen yapılan Tukey çoklu karşılaştırma testinde lisansüstü mezunu olan katılımcıların spor kulüplerine olan güveni lise mezunu katılımcılara göre daha yüksek bulunmuştur. Ayrıca katılımcıların kulüp başkanına güven alt boyut toplam puanları arasında da anlamlı farklık tespit edilmiştir (P=0,009). Araştırmada lisansüstü mezunu olan katılımcıların kulüp başkanına olan güveni lise mezunu katılımcılara göre daha yüksek bulunmuştur (Tablo 6).

Tablo 7: Katılımcıların gelir durumuna göre kulübe güven düzeyleri

Gelir Düzeyi	n	Ortalama	Std. Sapma	P-değeri
Spor Kulübüne Güven Ölçeği				
Düşük(Gelir<Gider)	15	71,13	19,60	0,742
Orta (Gelir=Gider)	109	72,36	18,31	
Yüksek (Gelir>Gider)	5	66,00	20,54	
Antrenöre Güven				
Düşük(Gelir<Gider)	15	29,00	9,15	0,877
Orta (Gelir=Gider)	109	29,39	6,85	
Yüksek (Gelir>Gider)	5	27,80	6,69	
Başkana Güven				
Düşük(Gelir<Gider)	15	22,20	8,13	0,560
Orta (Gelir=Gider)	109	23,17	7,23	
Yüksek (Gelir>Gider)	5	19,80	7,92	
Sporcuya Güven				
Düşük(Gelir<Gider)	15	19,93	6,33	0,871
Orta (Gelir=Gider)	109	19,81	5,90	
Yüksek (Gelir>Gider)	5	18,40	7,23	

Çalışmada katılımcıların gelir durumuna göre spor kulübüne güven düzeyleri arasında istatistiksel olarak anlamlı bir ilişki tespit edilememiştir (Tablo 7).

Tablo 8: Katılımcıların meslek türüne göre kulübe güven düzeyleri

Meslek	n	Ortalama	Std. Sapma	P-değeri
Spor Kulübüne Güven Ölçeği				
İşsiz	9	73,11	13,33	0,452
Öğrenci	41	73,93	19,46	
Memur	38	74,29	17,16	
İşçi	25	66,32	19,07	
Özel Sektör	16	69,63	20,03	
Antrenöre Güven				
İşsiz	9	30,22	6,12	0,465
Öğrenci	41	29,88	7,78	
Memur	38	30,11	6,71	
İşçi	25	27,00	6,40	
Özel Sektör	16	28,81	7,68	
Başkana Güven				
İşsiz	9	22,33	5,52	0,562

Öğrenci	41	23,10	7,84	
Memur	38	24,34	6,88	
İşçi	25	21,28	7,70	
Özel Sektör	16	22,00	7,51	
Sporcuya Güven				
İşsiz	9	20,56	4,98	0,371
Öğrenci	41	20,95	6,06	
Memur	38	19,84	5,49	
İşçi	25	18,04	6,35	
Özel Sektör	16	18,81	6,49	

Çalışmada katılımcıların meslek durumuna göre spor kulübüne güven düzeyleri arasında istatistiksel olarak anlamlı bir ilişki tespit edilememiştir (Tablo 8).

Tablo 9: Katılımcıların tuttuğu takıma yönlendirilme durumuna göre kulübe güven düzeyleri

Takım Tutma Etkeni	n	Ortalama	Std. Sapma	P-değeri
Spor Kulübüne Güven Ölçeği				
Aile	69	74,39	18,18	0,241
Akraba	15	70,07	15,54	
Arkadaş	23	64,39	21,37	
Memleket	8	75,13	13,60	
Kendi Tercihim	14	72,71	18,41	
Antrenöre Güven				
Aile	69	29,97	7,21	0,445
Akraba	15	27,93	5,60	
Arkadaş	23	27,17	7,71	
Memleket	8	29,50	6,28	
Kendi Tercihim	14	30,64	7,25	
Başkana Güven				
Aile	69	23,97	7,01	0,124
Akraba	15	22,93	6,88	
Arkadaş	23	19,91	7,77	
Memleket	8	25,63	7,37	
Kendi Tercihim	14	21,14	7,75	
Sporcuya Güven				
Aile	69	20,45	5,88	0,239

Akraba	15	19,20	5,63	
Arkadaş	23	17,30	7,29	
Memleket	8	20,00	2,98	
Kendi Tercihim	14	20,93	4,97	

Çalışmada katılımcıların tuttuğu takıma yönlendirilme durumuna göre spor kulübüne güven düzeyleri arasında istatistiksel olarak anlamlı bir ilişki tespit edilememiştir (Tablo 9).

Tablo 10: Katılımcıların kendini tanımlama durumuna göre kulübe güven düzeyleri

Kendini Tanımlama	n	Ortalama	Std. Sapma	P-değeri
Spor Kulübüne Güven Ölçeği				
Fanatik	33	74,00	20,41	0,154
Taraftar	42	73,71	18,04	
Seyirci	28	73,82	16,40	
TV İzleyici	26	64,58	17,60	
Antrenöre Güven				
Fanatik	33	30,24	8,10	0,202
Taraftar	42	29,62	7,05	
Seyirci	28	30,07	6,19	
TV İzleyici	26	26,65	6,42	
Başkana Güven				
Fanatik	33	24,27	7,76	0,090
Taraftar	42	23,74	7,16	
Seyirci	28	23,04	6,27	
TV İzleyici	26	19,77	7,59	
Sporcuya Güven				
Fanatik	33	19,48	6,50	0,379
Taraftar	42	20,36	6,00	
Seyirci	28	20,71	5,36	
TV İzleyici	26	18,15	5,75	

Çalışmada katılımcıların kendini tanımlama durumuna göre spor kulübüne güven düzeyleri arasında istatistiksel olarak anlamlı bir ilişki tespit edilememiştir (Tablo 10).

Tartışma ve Sonuç

Çalışma bulgularına göre katılımcıların yaşı, cinsiyeti, gelir düzeyi, meslek durumu, tuttuğu takıma yönlendirilme, kendini tanımlama değişkenleri ile spor kulübüne güven düzeyleri arasında anlamlı bir ilişki tespit edilememiştir. Diğer taraftan katılımcıların eğitim durumuna göre spor kulübüne güven düzeyleri arasında anlamlı bir ilişki saptanmıştır. Çalışmada

lisansüstü katılımcıların ölçeğin alt boyutlarından olan başkana güven alt boyut toplam puanlarının diğer katılımcılara göre daha yüksek olduğu belirlenmiştir.

Çalışma sonuçlarıyla örtüşen veya farklılık gösteren diğer araştırmalar incelendiğinde; taraftar grubunun takımlarına olan güven düzeylerinin düşük olduğu, tedbirler alınması, yönetim ve antrenörün değişmesinin gerekli olabileceği (Savaş ve ark., 2021); erkek katılımcıların sadakat düzeylerinin daha yüksek olduğu (Polat ve ark., 2019); katılımcıların yaş değişkenine göre takıma olan psikolojik bağlılık düzeyleri arasında anlamlı bir farklılık olmadığı (Kartal ve İnan, 2018); kadınlara oranla erkeklerin güvenlerini daha çabuk kaybettikleri (Haselhuhn ve ark., 2015); yüksek düzeyde takımıyla özdeşleşen taraftarların yeni ve tecrübesiz antrenöre karşı düşük düzeyde de olsa olumlu tutum sergilediği (Potter ve Keene, 2012); herhangi bir taraftar birliğine üye olan kişilerin, olmayan kişilere oranla takımlarıyla özdeşleşme düzeyleri arasında anlamlı farklılık gözlemlendiği (Demirel, 2007) şeklinde sonuçlara ulaşılmaktadır.

Taraftar kitlesinin tuttuğu takım ile özdeşleşmesi durumu, bağlılık ile ilgili bir husustur. Bu süreçte taraftarların kulüplere olan bağlılık durumunu; kulüp başkanları, antrenörler ve sporcuların tutumları etkilemektedir. Diğer yandan taraftar grubunun takımlarını destekleme durumu kulüpler tarafından oldukça önem taşımaktadır. Dolayısıyla taraftarların kulübe olan güvenlerini sağlamak amacıyla; kulüplerin karar alma sürecinde tutarlı olması, alt yapıya gerekli önemin verilmesi, kulüp menfaatlerinin kişisel beklentilerle karıştırılmaması, taraftarların beklentilerinin karşılanması için önerilerin dikkate alınması, takımda yer alan sporcuların kazanmak için gerekli mücadeleyi göstermesi gerekmektedir.

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MARKETING CONSCIOUSLY: INNOVATIVE BUSINESS AND CUSTOMER CENTRIC SERVICE MARKETING MIX IN NEW NORMAL BASED ON THE LIVES OF CUSTOMERS WITH DISABILITY

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Abstract
Starting point of this research is understanding customers with disability as a human before understanding them as a customer to market consciously. Therefore, firstly, different factors (challenges, emotions and feelings, needs, and opportunities) from lives of persons with disability and their interactions with each other in the new normal (within COVID-19 period) were determined. Secondly, they were integrated into business and customer centric service marketing mix (7Ps and 7Cs) for the hospitality industry. With this aim, a qualitative research method was conducted. Text analysis (categorization, cluster analysis and text search query etc.) was made with 52 different (with excluding resharings) online statements of persons with disability about their lives in the new normal. 6 categories based on 229 codings were revealed via NVivo. Eliminating the effective challenges on emotions and feelings, finding solutions, meeting the needs and benefiting from the opportunities were considered while integrating the results into the service marketing mix. For example, the challenge "inability to keep social distance" causes another challenge "others' negative attitudes and behaviours" to persons with disability. These make persons with autism and post-traumatic stress disorder feel anxious and unsafe. Obstacle detection and warning systems (product and customer solution) can help to increase the possibility of keeping social distance in service areas. Public relation projects about the need for accessible transportation and employment for persons with disability create value for them. These projects help the marketers to communicate with customers with disability and marketing themselves consciously (promotion and communication) by touching their lives directly. Uniqueness of the research is revealing realities of persons with disability thoroughly and integrating them into the innovative service marketing mix tools (7Ps and 7Cs). The findings can be benefited in new normal (within COVID-19 period) and aftermath. Importance of the research was mentioned more comprehensively in the introduction part. Important outputs were explained under the research questions.

Key words: Service marketing mix, text analysis, COVID-19, persons with disability, hospitality industry, new normal.

Introduction

There are more than one billion persons with disabilities in the world. The number of persons with disability is increasing (World Health Organization, 2020a). Between 110 million – 190 million people have significant disability (The World Bank, 2021). According to the research (Poll, 2020), during the two-year period 2018-2019, 27 million travelers with disability made 81 million trips and spent 58,7$ billion. Accessible tourism has a high economic impact but it has been ignored. Including them into the target market seriously helps to make the economy more powerful.

They have more difficulties than customers without a disability. Understanding their lives from different aspects contribute to create a successful marketing strategy and its tools (service marketing mix) for them. Based on this rationale, the need for marketing consciously arises. Because, this understands the customer as a human Relatedly, service marketing mix was handled for both business and customer in this research. It was developed on the realities in lives of persons with disability and interactions between them in the new normal. Because of their special needs, innovations based on technology and improvement of existing service characteristics were considered for the service marketing mix. The world has been in the new normal since the advent of COVID-19, and there is no certain end time for the new normal due to new variants of the virus (e.g. Delta Plus) and inequality of access to vaccines in some regions of the world. For this reason, the current research was conducted considering the new normal.

In this research, first, 52 different online statements were analyzed to understand their lives in the new normal through qualitative research methods. Text analysis was made with NVivo 10 due to density of the data. 229 codings and six categories (challenges, emotions and feelings, needs and opportunities, types of disability and home countries of analyzed statements) were revealed. Each category was explained. The interactions between categories were determined to understand resources of their challenges, needs, emotions and feelings better. Coding, categorization, matrix coding query (at background of the research), and cluster analysis based on Sørensen's Similarity Coefficient, and text search query were made through NVivo. Secondly, the findings of text analysis were used as inputs and were commented on for reshaping innovative customer and business centric service marketing mix (7Ps and 7Cs) for persons with disability.

There have been a lot of researches (Buhalis & Michopoulou, 2011; Darcy, 2010; Vila et al., 2015; Darcy et al., 2020) about customers with disability, hospitality industry, and COVID-19 period (MacInns et al, 2021). A comprehensive business and customer centric service marketing mix (7Ps and 7 Cs) for customers with disability had not been created completely yet. Despite effective micro (e.g. competitors and economic situation of business) and macro (e.g. regional economy and global competitive environment) environmental factors on service marketing mix, this research focuses on realities in customers' lives and evaluates them as inputs. Because understanding customers deeply can generate a basis for creating successful marketing strategy and service marketing mix as well.

Finally, this research is unique and important from different points: (1) Creating innovative business and customer centric service marketing mix for persons with disability via enlightening their lives in new normal; (2) revealing the different aspects (challenges, emotions and feelings, needs and opportunities) of persons with disability and their interactions in accordance with types of disability and home countries in new normal thoroughly; (3) including useful results for new normal (following COVID-19 and its variants) and their adaptability to the time aftermath new normal by excluding precautions for COVID-19; (4) having useful results for another forthcoming (possible) epidemic and pandemic times in the future; (5) including the important results from social and psychological aspects. Important and unique points of this research were discussed in the parts of results and discussion, conclusion, and implications (theoretical, practical and social).

Literature Review and Research Questions

New Normal, Hospitality Industry and Customers with Disability

New normal has begun with the precautions against COVID-19 in our lives with the declaration of pandemic by the World Health Organization on 11th March 2020. In the new normal, the hospitality industry has taken certain precautions. It has had to change the

management and marketing strategies to adapt themselves to the requirements of the new normal. Sub-industries of the hospitality industry (travel, accommodation, food and beverage and recreation) have taken certain precautions and made new regulations in accordance with their service characteristics (Gürsoy & Chi, 2020). Contactless service including robot service (e.g. Hotel Trio a Marriott Hotel in California, Oliver, 2020), contactless check in/out through mobile applications (e.g. Waldorf Astoria Jerusalem) and welcoming limited number of guests per floor with reservation (e.g. Rocco Forte Hotels: European Luxury Hotels, Pitrelli, 2020) have been practiced by businesses in new normal. Even in package service process, safe delivery system has been taken a step further as it was explained by CEO of Domino's Pizza Ritch Allison: "Once a customer's order has arrived, she will be notified, and the pizza delivery person will place the pizza on a 'safe and clean surface' and stand back 'a safe distance' until the order is picked up" (Fantozzi, 2020). Training staff in safety and hygiene, holding some staff/s responsible for hygiene and safety and bringing down the costs have been prioritized when creating marketing strategy (Garrido-Moreno et al., 2021).

Before the pandemic, persons with disability have already had some challenges (Buhalis & Michopoulou, 2010; Pagán, 2012; Baş, 2016; Amucheazi & Nwankwo, 2020). In the new normal, they have faced economic, social and psychological problems. Due to health-related issues, they can be more vulnerable than persons without disability. Isolation, inaccessible information, social distancing and challenges in provision of personal protective equipment (PPE) trigger senses of exclusion from society, inequality and anxiety (Holmes et al. 2020; Jalali et al. 2020). Despite this circumstance, according to research of International Air Transport Association (IATA, 2020) 37% of participants with disability stated that they can travel before vaccination.

Understanding the needs, wants and demands in accordance with customers' types of disability is the basis of creating marketing strategy for them (Kotler & Armstrong, 2018). It allows marketers to create a successful service marketing mix and service providers to serve consciously.

The Need for Marketing Consciously and Innovation for Service Marketing Mix for Customers with Disability

Rationale of marketing consciously is creating customer value with understanding their lives. It is more than creating products and making profit. Creating value for customers with disability needs observing and understanding the realities in their life. This approach is comprehended by the term "conscious marketing" in literature. It has been of interest to marketers in recent years. According to the Conscious Marketing Institute (2021), conscious marketing aims at leaving lasting positive traces behind that result from marketing with awareness, diligence and understanding the needs. This understanding sees beyond the product and needs being active (Joseph, 2020). For example, Hilton Hotel (Hilton İstanbul Bomonti) employs persons with down syndrome (etuder.org.tr) so the hotel proves its diligence for them via touching their lives with creating an employment area. The company is conscious of persons with disability and creates value for their life from socio-economic aspects. Thus, this situation will affect their welfare directly in a positive way and make them more powerful customers economically.

Today, creating customer value and profitable customer relationships are the focal points of the businesses. It needs a customer driven marketing strategy. Service marketing mix takes place in the marketing process as tools of customer driven marketing strategy. To achieve this, marketers should create collaborative customer strategies such as smart dialogue with customers and paying individual attention to them (Peppers & Rogers, 2011). Marketing strategy is a rationale that shows how to use resources to respond to customer value for

profitable long-term relationships with them (Kotler & Armstrong, 2018). Understanding customers, company itself and competitors help marketers to develop customer driven marketing strategy (Wirtz & Lovelock, 2018) and service marketing mix as well.

Service marketing mix was derived from 4 Ps (product, price, place, promotions) of marketing mix, which are for the goods-producing industry, by adding 3Ps (process, physical evidence, people) more (Kushwaha & Agrawal, 2015). The foundation of 3Ps was laid with some research (e.g. Renaghan, 1981; Grönroos, 1984; Parasuraman et al., 1985; 1988 & 1991) through emphasizing the necessity of physical characteristics, reliability, safety and empathy. They became a basis for physical evidence, people and process (3 Ps). 7 Ps is business centric. It evaluates the service marketing mix strategies in terms of business. The form "7Cs" is a customer centric version of 7Ps. It includes reflections (benefits) of 7Ps on the side of customers (Souba et al., 2001) as it was explained in Table 1.

Table 1. Customer and Business Centric Service Marketing Mix (7Ps and 7Cs)

Product and Customer Solution	Service can be considered as a product in the hospitality industry. It is an offer by businesses that respond to customers' demands and needs. It finds a solution to their problems.
Price and (Customer) Cost	Price is the amount of money that customers should pay to acquire the offered services. It is a part of customers' cost. Customers' cost contains other sacrifices (e.g. time, missed opportunities, and purchasing decision making process) as well.
Place and Convenience	Place is about how the service will be delivered to the customers while retaining its value. For the customers, convenience of place includes physical accessibility, appropriateness with service standards, characteristics of target market and customer costs etc.
Promotion and (Customer) Communication	Promotion contains activities (advertisements, informative videos, and brochures etc.) to keep the services on customers' minds and to persuade them to purchase the services. Customers communicate with businesses with promotional activities. They perceive the offered value by marketers.
People and Courtesy and Competence	People refers to service providers and other staff who are effective in the quality of service process. Courtesy and competence are created by them and perceived by customers during the service process.
Physical Evidences and Comfort	Physical evidence includes the physical environment and its characteristics where the service is provided by staff. In the hospitality industry, comfort is expected by customers based on the experiences of physical evidence. Customers' perceived comfort covers decoration, cleanness, innovative applications, ambient temperature and accessible regulations etc.
Process and Consistency	Service process is a design and management of methods and relevant activities. It makes real the promised customer value by businesses to their customers (Wirtz and Lovelock, 2018). In terms of customers, consistency of all the steps in the process increases the quality of service process. For example; accessibility for persons with disability should be provided in not only online reservation systems but also service in the restaurants/hotels.

Resource: Based on the researches of Parasuraman et al., (1985;1998); Souba et al. (2001); Dennis et al. (2005); Baş (2016); Kotler & Armstrong (2018); Wirtz and Lovelock (2018), Health and Safety Executive (hse.gov.uk).

In the new normal, businesses have renewed their service marketing mix according to the necessities of pandemic. When it comes to serving customers with disability, there should be both accessible and innovative service marketing mix tools. The term innovation involves both implementations of new products, and improvement of existing products by the businesses (Schumpeter, 1985). Owing to their special needs, innovative practices (e.g. stabilizing spoon and fork for persons with hand tremor or Parkinson) make services easily accessible for them. In the new normal innovative practices are more needed by businesses to protect themselves and customers against infection. Persons with disability are more vulnerable against infection than persons without disability (British Broadcasting Corporation News, 7th April 2020). The implementation of right practices including precautions should be added into service marketing mix tools. With the aim of creating (accessible) innovative service marketing mix in new normal, the main research question of the research was formulated as follows: *R.Q.1: How to create innovative service marketing mix (7Ps and 7Cs) consciously for consumers with disability in the new normal for the hospitality industry?*

Within the scope of marketing consciously, understanding them as a person and their lives gives important inputs for the accessible and innovative service marketing mix despite other factors effective on service marketing mix as well. In the new normal, there have been situations that revealed challenges. Challenges make them worried, anxious and depressed (Holmes et al. 2020; Lund et al. 2020). Emotions are effective on consumer behaviour (Barrena et al., 2017) so that they should be considered while creating the tools of marketing strategy (service marketing mix). Relatedly, sub-research questions were formulated to understand their challenges and emotions and feelings deeply: R.Q. 1.1: *Which challenges persons with disability have had since the advent of COVID-19?* R.Q. 1.2: *Which emotions and feelings that persons with disability have had since the advent of COVID-19? R.Q. 1.3: How is the interaction between challenges and emotions and feelings for persons with disability since the advent of COVID-19?* Mostly based on the challenges, they may have different needs, such as care service, economic support and accessible conditions. Their needs affect their lives and preferences (Brinkley et al., 2020) including their behaviour as a consumer (Wang & Kim, 2019). As it was mentioned before, understanding the resource of their needs gives important inputs for service marketing mix and influence on the success of service marketing strategy. So, the research question was formulated as: *R.Q. 1.4. How is the interaction between challenges and needs of persons with disability in the new normal?*

The opportunities in COVID-19 period, e.g. spending time with family, may affect lives and preferences of persons with disability. Finding out possible opportunities for them can change the line of marketing strategy and its tools (service marketing mix). So, the last research question was formulated as *R.Q.1.5 Have any opportunities arisen for persons with disabilities in the new normal?*

Methodology

Research Method

Qualitative research method was conducted. Text analysis was made. Document analysis was applied as a data collection technique. At first, 52 different (excluding resharings) online direct statements of persons with disability were collected. Resharings were excluded with the aim of reaching different contents. Text analysis revealed 6 categories and 229 codings. The results were assessed to improve innovative service marketing mix (7Cs and 7Ps). The assessment was strengthened with the research from the literature where necessary. Statements that informed cause - effect relation clearly were included into the sample of the research.

Particularly, sufficiency of the information about types of disability, challenges, emotions and feelings and needs were considered due to analyzing the situation from different points. Self-consistency of the statements at the data collection stage and consistency of inter-statements in terms of their contents at the categorization stage were considered.

Sampling and Data Collection

Persons with disability have insufficient experience as a consumer in the hospitality industry because of difficulties in their lives (Pagán, 2012; Baş & Ulama, 2014; Baş, 2016). So, they may have difficulties in informing their demands and challenges as consumers for the survey. The answer to the situation is behind the challenges in their daily lives that they voice on the related platforms (e.g. disability forums and social media). Being aware of different aspects of their lives helps the marketers while creating marketing mix strategies. In this context, spontaneousness, sincerity and easy-accessibility of online statements were the main reasons to include them into the sample of this research as inputs for the service marketing mix. It also increases validity and reliability of the research. In this context, 52 different online statements

were reached in the period of data collection between June-August 2020 and they were included into the sample of the research. With the aim of reaching online statements in different contents, reshared statements were excluded. In accordance with the aim of the research, a purposive (judgmental) sampling technique, which is a branch of non-probabilistic sampling technique, was applied for the research. Non-probabilistic sampling technique is generally preferred for the studies with limited sample size that probabilistic sampling cannot be applicable (Gürbüz & Şahin, 2018). Online statements were reached through writing key words (e.g. challenges/emotions and feelings /needs, experiences of persons with disability, comments of persons with disability in COVID-19 period) on www.google.com and search engines of disability forums. Finally, the statements could be reached from the websites of forum (engelliler.biz/forum), news (huffingtonpost.co.uk; engellidostu.com.tr), news channels (bbc.com; euronews.com); not-for-profit organizations (vn.undp.org, stgm.org.tr), social media (twitter.com [the statements under hashtag that is related to disability and COVID-19, and other related comments], youtube.com: videos of interview with persons with disability by Voice of America,).

Ethics

In this research, anonymity of the online statements and excluding the exact quotes are considered. Only (direct) statements from the interviews in the online open public documents of large official organizations (United Nations) and popular media sources (BBC: British Broadcasting Company) were the exceptions in accordance with the related information about direct quote by online Library of Manchester Metropolitan University. The statements which are completely open to the public were included into the sample. No personal information (such as name and age) was mentioned. With regards to specified points and the reference of studies (Wilkinson and Thelwall, 2011; Thelwall & Levitt, 2020), no formal ethical approval was needed for the research.

Data analyses

37 statements were originally written in English, other 15 statements were translated directly from Turkish to English out of 52 online different statements. Three statements were based on the interview videos and were converted directly into the written forms. After carefully reading each statement, general categorization was made. According to the contents of the statements, six main categorizations and their subcategories consisted: “challenges” “emotions and feelings”, “needs”, “opportunities”, “(home) countries” and “types of disability” are the main categories.

Due to the information density, a software program (NVivo 10) was utilized to analyze thoroughly. Practices which were made through NVivo are; (1) coding the statements according to closeness of their contents to the specified categories (2) matrix coding query for determination of the statements that are common coded under the same category to reveal interactions between the categories and sub-categories, (3) cluster analysis by word similarity to find out density of interactions among the concepts (based on Sørensen’s Similarity Coefficient [SSC][1]: 0=least similar, 1=most similar, Krebs, 1998), (4) text search query for the key word (need) in the sentences to analyze the resources of the needs. The results of the matrix coding query were not shared to prevent the research from excessive information. Its results were used to determine common coding and measure consistency with the results of cluster analysis by word similarity. In addition to text descriptions, results were presented in the forms of the word tree and horizontal dendrogram.

[1] The reason for considering Sørensen’s Similarity Coefficient (SSC) is revealing more consistent results with the contents of the statements than Pearson’s Correlation Coefficient and Jaccard’s Coefficient.

Results and Responses to Research Questions

In the research, 6 categories were determined: (1) Challenges, (2) emotions and feelings, (3) types of disability, (4) countries, (5) needs, and (6) opportunities. Statements were coded under the specified categories in accordance with the contents. Totally, 52 different statements generated 229 codes under the six categories. They are respectively; challenges (78 codes), countries (52 codes), types of disability (52 codes), emotions and feelings (31 codes), needs (14 codes) and opportunities (2 codes). Some statements, which were related to more than one category or sub-category, were coded under all related categories. These were named as "common coded" in the research. Due to uncertainty of information about socio-demographic characteristics (e.g. gender and level of income) was not informed in the research.

Countries: In this research, countries represent homelands of persons with disability. Contents of the statements were considered during the period of data collection. Diversification of the countries occurred randomly. Countries were divided into five sub-categories: Vietnam, Belgium, Turkey, England and Uzbekistan. The most coded countries are respectively England (59,61%), Turkey (28,84%), Vietnam (5,76%), Uzbekistan (3,84%) and Belgium (%1,92) out of 52 codings.

Types of Disability: Three main categories and 14 sub-categories were determined in addition to "unassigned" (statements which do not include any information about types of disability). The specified main and sub-categories are as follows:

(1) Sensory disability: People with partial visual impairment, deafblind, deaf and blind were included in this category.

(2) Physical disability: This sub-category includes crutch users, wheelchair users, and other symptoms/disorders/syndromes that generate physical disability, e.g. vertigo, motor neuron disease, proprioceptive dysfunction, fetal alcohol syndrome, and chronic fatigue syndrome.

(3) Others: Disorders and chronic illness that cause challenges in the pandemic, such as difficulties in keeping social distance. This category includes; post-traumatic stress disorder, organ transplant patients and autism.

The category of "types of disability" were coded 52 times with the statements. The most coded sub-categories respectively are; physical disability (50%), sensory disability (22%), others (3.84%). Wheelchair users (21,15%) was the most coded sub-category. The least coded sub-categories were proprioceptive dysfunction, vertigo, chronic fatigue syndrome, fetal alcohol syndrome, organ transplant and deafblind with the rate of 2%.

Responses to Research Questions: Sub-research questions have been answered before the main question of the research. Because of the fact that the main question is going to be explained depending on the findings of sub-questions.

Which challenges persons with disability have had since the advent of COVID-19?

Determined challenges were divided into six sub-categories. These are subsequently: (1) Inability to keep social distance (29,48%), (2) inaccessible conditions (23,07%), (3) disturbance of the routine (15,38%), (4) staying at home (14,10%), (5) others' negative attitudes and behaviours to persons with disability (%10, 25), and (6) economic insufficiency (7,69%). Totally, 78 coding were made under the concepts of challenges and some statements were common coded by more than one category. While analyzing the situations causing the challenges, the chaining nature of challenges were noticed that a challenge causes another challenge/s.

Chaining Nature of Challenges: *A Challenge Causes Another Challenge*

Cluster analysis by word similarity was made to clarify the interactions among the challenges. The results were presented with a horizontal dendrogram in Figure 1. In the dendrogram, similar categories were clustered together on the same branch. The less similar or dissimilar categories were placed further.

According to Figure 1, categories of the challenges with the most similarities were; (1) *inability to keep social distance* and *others' negative attitudes and behaviours* (SSC: 0,576), (2) *others' negative attitudes and behaviours* and *disturbance of routine* (SSC: 0,572), (3) *staying at home* and *disturbance of routine* (SSC: 0,464), (4) *staying at home* and *inaccessible conditions* (SSC: 0,427), (5) *inaccessible conditions* and *disturbance of routine* (SSC: 0,409). Categories with the least similarities were; (1) *others' negative attitudes and behaviours* and *economic insufficiency* (SSC: 0,125), and (2) *inability to keep social distance* and *economic insufficiency* (SSC: 0,118).

Figure 1. Cluster Analysis of the Challenges by Word Similarity

The degrees of similarities clearly showed the notable interactions among the categories of the challenges. Others' negative attitudes and behaviours, including unawareness of persons with disability, triggers inability of persons with disability to keep social distance and stay at home. At this point, it can be expected that the more they stay at home, the more negative attitudes and behaviours continue because unawareness of community continues. When they stay at home, their routines are disturbed as it is supported with the moderate degree of similarity between *staying at home* and *disturbance of routine*. Additionally, inaccessible conditions were effective on disturbance of routine and staying at home. Because of inaccessible conditions, they can prefer to stay at home and this situation disturbs their routines. Economic insufficiency has high interaction with the other challenges. This prevents them from continuing their routine activities. Besides, economic insufficiency is affected indirectly by inaccessible conditions, inability to keep social distance and staying at home. Inaccessible conditions and inability to keep social distance cause them to stay at home so that they cannot continue their economy related activities, such as working and receiving disability benefits. Furthermore, others' negative attitudes and behaviours, including prejudices by employers that lead to dismiss persons with disability, give rise to their economic insufficiency as well. Inability to keep social distance is a community-based challenge and depends on the others' attitudes and behaviours. The challenge of inaccessible conditions is mostly sensory and physical based.

Which emotions and feelings that persons with disability have faced since the advent of COVID-19?

At the first step of the research, 24 sub-categories of emotions and feelings have been determined. Some concepts of the "emotions and feelings" had the same or very close meanings. Because of this, the concepts that were inclusive or had the same meanings were combined. This was made considering literal meanings of the words and the meanings of the statements. According to Friedberg and McClure (2020); worry, panic, dread, fear and angriness are the components of anxiety. Regarding all the mentioned factors for the

combination; worried, stress, panic, scared, annoyed and irritated were combined under anxiety. Feelings of imprisoned, isolated, restricted and shielded were combined under the feeling of isolation. Feeling risky has been included in the feeling of "unsafe".

At the end, there have been 14 sub-categories of emotions and feelings to be analyzed. These were respectively; (**1**) discriminated (16,12%), (**2**) anxious (22,58%), (**3**) isolated (12,90%), (**4**) (physical) pained (9,61%), (**5**) unsafe (9,61%), (**6**) useless (3,22%), (**7**) bored (3,22%), (**8**) depressed (3,22%), (**9**) victimized (3,22%), (**10**) unconfident (3,22%), (**11**) shy (3,22%), (**12**) guilty (3,22%), (**13**) confused (3,22%), (**14**) exhausted (3,22%).

There were 25 statements that include an emotion and/or a feeling. Two emotions and/or feelings were determined together in six statements. These are: (1) anxious – isolated; (2) anxious - unsafe; (3) anxious – exhausted; (4) anxious – pained; (5) confused – discriminated; (6) isolated- feeling unsafe. Finally, the category emotions and feelings had 31 codes, and challenges affected their emotions and feelings.

How is the interaction between challenges and emotions and feelings for persons with disability since the advent of COVID-19?

According to the statements, their emotions and feelings were generated with the challenges. So, their emotions and feelings were negative. The effect of each challenge on emotions and feelings of persons with disability were determined as follows:

Inability to Keep Social Distance and Emotions and Feelings of Persons with Disability

The challenge includes difficulties in keeping safe space against people [at least 6 feet between themselves and other people who are not from their household (cdc.gov)] due to the risk of infection. Although persons with disability want to keep social distance, they frequently have difficulties in achieving it. The challenge is resourced from both limitations of physical movement (wheelchair/crutch using and spinal issues etc.) and people's unawareness of persons with disability. They stated that they cannot move quickly because it is painful for them. Inability to move lets them feel guilty. For this reason, people should realize them and move to keep social distance, but it is very difficult because they are generally unaware of persons with disability. The situation causes them to feel unsafe due to the risk of infection. Additionally, they are annoyed with people who hit them while they are looking at their mobile phones and jogging. Persons with disabilities sometimes want people to go ahead to keep social distance, and they can encounter peoples' negative attitudes and behaviors (including insulting) to them.

Because of blindness, it is impossible to keep social distance. This makes blind people to be reliant on others' guidance. They become anxious because they cannot realize whether people nearby exceed the social distance. Additionally, they need to touch the objects to define them, but within the pandemic, it is not safe to touch the objects outside owing to infection. However, a blind person emphasized that a trained guide dog helps his/her to keep social distance successfully.

It is difficult for me to respect social distancing and hygiene rules because people with visual impairments always need a sighted guide when going to a new place and have to touch to identify objects and orient themselves (A statement by a blind person from Vietnam; undp.org)

Persons with autism and post-traumatic stress disorder can be stressed and anxious when other people are close to them. According to the statement of a person with autism and post-traumatic stress disorder, he/she even goes out of the lines of the road to avoid distress and to keep social distance threatening their safety. Similarly, persons with vertigo can feel guilty or

angry because of difficulties in moving to keep social distance. Finally, they prefer to stay at home. Persons with disability can feel guilty, unsafe or angry because of inability to keep social distance. Online statements about inability to keep social distance were densely (44,23%) shared in England. The reasons for the situation could be (1) easy access to the internet, (2) using accessible technologies to write online statements (especially persons with visual impairment) and (3) being able to go out alone. The development levels of their home countries play an active role for the density and content of online statements. For example; in Turkey, there have already been insufficient accessible conditions that restrain them to go out alone and to experience keeping social distance. Relatedly, the number of online statements from Turkey about the issue can be low.

Inaccessible Conditions and Feelings and Emotions of Persons with Disability

Inaccessible conditions differ in association with types of disabilities. Deaf persons have difficulties in understanding people because of the non-transparent face masks. They try to predict what people say to them. This makes them confused, exhausted and anxious. They cannot understand news/statistics without sign language. They need other people's help again to understand new environmental regulations in the new normal. The situation makes them panic and worried. A person with partial visual impairment stated that the attendant had wanted his/her to sit in the numbered area. Nevertheless, he/she was unable to see the numbers and could not understand where he/she should sit.

Persons with physical disabilities need home care services. They are afraid of service disruption in case of infection. Some patients with motor neuron disease from England stated that when they found out that they had not been included in the extremely vulnerable list. They felt victimized and discriminated against. Being included in the extremely vulnerable list makes some special services accessible for them, such as Employment Support Allowance.

> … for the first time in my life, I feel I am a victim of discrimination. I never get angry. I may be wrong, but I feel like I don't count, that I belong to a group that's not worth bothering about because we'll be dead soon anyway. (A statement by the senior with motor neuron disease, Rossal, P.; Haigh, 27th April 2020, BBC News)

All the nonurgent doctor's appointments were cancelled in Turkey. Persons with disabilities cannot access health care services at the hospitals and buy prescription medicines from pharmacies. Similarly, due to the inaccessible conditions at hospitals in Uzbekistan, they cannot access routine healthcare services sufficiently. There are inaccessible virtual education services for persons with learning disabilities in Turkey. Similar to the statements from England, data with graphics cannot be understandable for persons with visual impairment on TV channels because the application (e.g. text to speech) cannot read the visual things. Hence, they feel discriminated against and need others' help again.

Insufficiency of food provision in some groceries due to economic problems restrains their accessibility to the services. There is a general evaluation from Belgium stating that the current condition is not accessible for persons with disabilities. They should be included into the preparation phase of precautions/policies. Thus, misapplications can be prevented before they happen.

Disturbance of the Routine and Emotions and Feelings of Persons with Disability

The challenge refers to the factors that impair their daily routines. According to the statements, these factors are; (1) new inaccessible arrangements, (2) economic constraints, (3) lockdown, (4) inaccessibility of routine health services (including home care services), (5) difficulties in food provision. There are new arrangements to keep social distance, e.g. floor

markers and numbers. These are sometimes complicated and difficult to understand for them. The situation makes them confused, anxious, exhausted and stressed. Persons with autism are stressed due to disruption of their certain routine. These inaccessible conditions disturb their routine activities outside so that they prefer to stay at home.

Economic problems that are due to COVID-19 cause pay cuts or pay freeze them. This situation leads to economic insufficiency. Expectably, they cannot do their routine shopping and make payments and benefit from paid health services because of economic insufficiency.

Lockdown refers to "a temporary condition imposed by governmental authorities (as during the outbreak of an epidemic disease) in which people are required to stay in their homes and refrain from or limit activities outside the home involving public contact" (Merriam-Webster's dictionary). Persons with disabilities could go out and meet their friends before COVID-19. But now, they should stay at home. The situation disturbs their routine activities and causes fear of having health problems and depression.

Due to the cautions against COVID-19, they are unable to access routine health services. According to the statements from Turkey, persons with disability have depression because of the fact that they cannot receive their routine health services (e.g. health control, prescribing medicines and home care services), and continue to daily activities. It is stated by a person with chronic fatigue syndrome from England, he/she used to take a rest but they cannot take in the period of COVID-19 due to the lack of seats in the street. This makes them feel (physical) pain. Persons with physical disabilities worry about disruption of home care service owing to infection of caregivers. Those whose parents stay in the hospital or do not have family have more difficulties in taking care of themselves than those who live with family.

> Every day, I still need a lot of care and support with getting out of bed, getting dressed, having a bath, and daily living tasks around the house. If any of the care team were to fall ill with the virus, particularly my overnight support I do not know what that would mean for me. (A statement by wheelchair user, Sibley, M.; BBC News, 25th March, 2020).

Lockdown and staying at home have caused economic recession. The situation has been reflected negatively on peoples' income. According to the statements, they are primarily affected by the economic recession. Lack of reasonable accommodations caused them to be dismissed at first in some of the businesses. They cannot go to take disability benefits due to lack of transport services. Little government financial support makes healthcare services inaccessible for them. The situation has negatively affected people's routine shopping activities as well.

Staying at Home and Emotions and Feelings of Persons with Disability

Staying at home is an obligation when there is a lockdown. However, it sometimes is a preference by persons with disability due to (1) others' negative behaviors to persons with disabilities, (2) inability to keep social distance, (3) fear of virus contamination and (4) inaccessible conditions.

According to the statement from England by a person with physical disabilities and visual impairment, he/she has a weak immune system. It leads to slow healing so that he/she tries to stay at home as soon as possible.

Statements from England show that persons with disabilities could go out before COVID-19, but new arrangements in the period are not accessible enough. The statements from Turkey emphasize that staying at home caused them to feel isolated, restricted and in prison life. This

situation results from the inaccessible conditions that have already been in Turkey before the period of COVID-19. They have been restricted more and gotten bored with the cautions during the period of COVID - 19. Under these circumstances they are affected emotionally a lot. However, at least, they could go out and meet with friends, but their social life ended with COVID-19.

Others' Negative Attitudes and Behaviors and Emotions and Feelings of Persons with Disability

As stated by a person with disability, there is an accepted understanding that persons with disabilities cannot be used to going out as if they do not have life. Mostly, others' negative attitudes and behaviors develop on the basis of this understanding. A person with a walker stated that he/she wants people to keep social distance despite rude reactions by people. A person with a walker stick stated that he/she encountered extremely rude behaviour due to asking a person to keep social distance. Persons with autism and post-traumatic stress disorder stated that others' unawareness, hitting or closing them so much makes them stressed. They find it annoying, risky for their health. So, they isolated themselves and stayed at home.

Some persons with physical disability stated that they cannot move quickly, and they feel physical pain when they try it. They are at risk of joint dislocation. They sometimes ask people to keep social distance, but their responses to them are so rude that this situation makes them feel ashamed. They lose their self-confidence as a result of others' negative behaviors.

Economic Insufficiency and Emotions and Feelings of Persons with Disability

This challenge is about economic limitations resulting from COVID-19 period. Economic insufficiency is a problem for them regardless of type of disability. Unfair dismissal, pay cuts and pay freezes lead to economic insufficiency in COVID-19 period. Especially statements from Turkey, Uzbekistan and Vietnam emphasized the economic problems. A person with a disability from Uzbekistan stated that he/she cannot buy medicine due to being on unpaid leave and having no income. While they are on unpaid leave they have no right to receive social relief. This is because of having a job officially.

I'm blind since I was born. I have a weak immune system and am in poor health. I have been regularly sick since I was little. I am having unpaid leave during this outbreak, so I have no money for medicine and treatment (A statement by a person with visual impairment from Vietnam; vn.undp.org).

Persons with disability who work in the public sector have benefitted from administrative leave, but those who work in the private sector could not enjoy administrative leave. Instead, they can be dismissed unfairly by their employers. This factor makes them discriminated against. Inaccessible conditions trigger economic insufficiency and their depression and pushes them to stay at home.

How is the interaction between challenges and needs of persons with disability since the advent of COVD-19?

It was determined that their needs have been generated on the basis of the specified challenges. Persons with disability emphasized specifically their needs in 14 statements. Text search query for the word "need" was made to see the contents and stressed points in the statements that include specific information about their needs.

Figure 2: Text Search Query for the "Needs" of persons with disability in new normal, Word Tree

According to the Figure 2, the needs were categorized and explained as follows;

Home Care Services: Home care services were needed by some persons with physical disability to get out of the bed, dress and have a bath. Parents or the eldest sister of the family care for the person with disability in the absence of home care service. It hinders girls' education and social life. This situation was especially emphasized in the statements from Turkey.

Accessible Applications/Services: As a consequence of inaccessible conditions persons with sensory disability need sighted guidance, explanations with sign language and an accessible virtual education system for children; otherwise they need others' help to explain the situation.

Financial Support: They need financial support as a result of economic insufficiencies, e.g. disability allowance and administrative / paid leave and equal treatment in workplaces. This category includes prevention of pay cut / freeze and unfair dismissal.

Others' Awareness of Persons with Disability: They need others' awareness, particularly for keeping social distance, owing to others' negative behaviours and attitudes. They need positive attitudes and behaviours. They expect a polite response at least. Nevertheless, this is impossible if there is no awareness of them. If people have more positive attitudes and behaviours, they can go out more confidently.

Have any opportunities arisen for persons with disabilities in the new normal?

As a result of the challenges (e.g. staying at home), there are specific two opportunities about personal and business life. These are: (1) **Time allocation** for reading, studying and spending time with family at home, (2) **remote working system** for persons with disability. The second opportunity can be evaluated after the period of COVID-19 as well. This opportunity lessened the impossibility of the remote working system for persons with disability.

Disabled people [have been] for years told a remote working system was not possible. COVID-19 showed it was when the majority required it… (Statement from the official

Twitter account of the Centre for Disability Law and Policy at the National University of Ireland, Galway)

They can be included into the workforce more than before the period of COVID-19 with the proven success of remote working system. This situation can directly increase their quality of life.

R.Q.1: How to create innovative service marketing mix (7Ps and 7Cs) consciously for consumers with disability in the new normal for the hospitality industry?

Product (Service) and Customer Solutions: Written and periodical working audio warning systems can increase awareness of customers to keep social distance. It prevents feelings of annoyance and unsafeness. Obstacle detection and warning systems make customers with visual impairment aware of obstacles around them (Hoang et al., 2017). Thus, the system helps them to keep social distance and walk safely while reducing their feeling of anxiety, guilt and stress. The applications can be preferred in the businesses where they spend a lot of time such as hotels and airports. Accessible personnel protective equipment, such as transparent face masks, make communication understandable for persons with hearing impairment through lip reading or cued speech. So, they become less worried and panicked. Visibility of face movements, e.g. smiling, eases perception of sincere behaviours of service providers and increases customer satisfaction (Kılıç and Baş, 2015). A certificate supports reliability of the business against COVID-19, e.g. COVID Ready Package for the Hotels including hygiene and protection standards, self-audit software, an e-learning module (Karlsruhe Institute of Technology). Examining the documents about precautions of COVID-19 by public authorities (Ministry of Health and Tourism), agencies about disability (CDC: Centers for Disease Control and Preventions), and acts [Americans with Disabilities Act (a)] and putting into practice all the crucial matters contribute to accessibility and safety of service in the hospitality industry. Contactless service came into prominence in the COVID-19 period. Hilton uses a data matrix to open the doors of the rooms under the "Clean Stay" program (hilton.com/cleanstay). Package services and disposable materials (forks, plates and knives etc.) are preferred by most of the restaurants (washingtonpost.com). Despite the strong relationship between human interaction service and customer satisfaction and loyalty (Park et al., 2020), robot usage (mostly humanoid) is begun for the service, particularly in the units of reception and concierge in some hotels (e.g. Henna Hotel in Nagasaki, and Hilton), airports, e.g. Munich (munich-airport.com), Frankfurt airport (Davitt, 2019) and travel agencies, such as TUI Nordic, (Rapp, 2018). Establishment of a department or a unit that is responsible for accessible services for consumers with disability, seniors and customers who need accessible services (including their companions or families) is useful for serving professionally. This innovation makes service providers ready to explain the service and new adjustments within COVID-19 period in accessible format. The explanations with sign languages, braille alphabet and written forms in large print help them to realize the environment. It reduces feelings of discriminated against and anxiety. Accessible rooms of the hotel should be tested by persons with different disabilities before putting them up for sale to prevent misapplications. Accessible conditions, hygiene precautions, and facilitating keeping social distance prevent them from staying at home. These practices encourage them to travel safely in the new normal.

Price and Customer Cost: Financial constraints (unfair dismissal and pay cut/freeze etc.) caused customers with disability to have more customer cost than those without disability. Reasonable prices and discounts are supposed to be effective to be chosen by the consumers with disability. Businesses can reduce their cost of investments and, thus, customer cost. For example, web-based communication channels reduce the costs, such as calls by %29 (Kumar & Telang, 2012). Online reservation systems with mobile apps and kiosks provide easy access

and decrease in the customer's acquisition costs. So, they can have less cost and high motivation to pay. Employment of persons with disability can be a good way to understand them and enjoy their experiences while making strategies and service implementation. According to the researches (irs.gov, Cimera & Burgess, 2011; Houtenville & Kalargyrou, 2012; Lindsay et al. 2018), their employment, including persons with autism and cognitive disability, ensures a lot of advantages. This reduces turnover rate, tax deduction and the cost of labor. It should be noted that if they are satisfied with the service quality and reasonable cost with acceptable prices, they become loyal and prefer the business again (McKercher et al, 2003; Yau et al., 2004; Chan, 2010, Baş, 2016). It affects businesses' image positively. Reduced cost encourages them to go out, continue their routines and reduce economic challenges. This situation can remove their feeling of uselessness, discriminated against, and emotion of anxiety.

Place and Convenience: The channels in the place strategy should be accessible, include contactless service and have low cost as much as possible. In the food and beverage industry, working with accessible online food delivery applications that support the accessible applications (screen reader and magnifier etc.) in the mobile phone is an advantage. These applications make the businesses perceivable by the customers with disability. Businesses' websites are important tools for marketing. Additionally, their own websites are commission free channels to sell their services. Accessibility of the businesses' websites (in terms of font size, photos and color contrast etc.) is proof that the business is aware of consumers with disability. Marketers can check accessibility of the website through the test engine. For example, *webaccessibility.com* tests accessibility of the link considering *Web Content Accessibility Guidelines (WCAG) 2.1*. Book engines that do not require the commission improve the functionality of the web-sites for the consumers. Consumers can make reservations and compare the prices easily through the high-quality book engine systems. Accessibility of the websites prevents them from getting confused, stressed, exhausted and anxious. Based on the related findings of the research, consumers with disability may want to have knowledge about the accessibility, protective applications to prevent COVID-19 transmission, price and assisted services and technologies of the businesses. Informing about specified matters with photos on the websites of hotels and airlines can increase their feeling of safety and confidence. Disability access symbols (see Disability Access Symbol, oae.stanford.edu) clarify the services about the specific type of disability. The symbols should be explained in written and visual forms. Quality of the website should be assessed through a reliable instrument (e.g. WebQual by Barnes & Vidgen 2000) periodically, and regulations should be made. Channel manager manages all the distribution channels (online travel agencies, business's own websites and Global Distribution System etc.) correctly from a single center (Hotel Linkage Academy) with saving of time and reducing cost of mistakes. Using mobile applications at which consumers with disability can rate and write comments about accessibility of businesses increase not only placing activities but also promotional activities of the businesses, e.g. iaccess.life.

Promotion and Customer Communication: Using sign language/cued speech, subtitles, understandable speech and clear voice encourage them to understand services well and prefer the business. Promotional activities should emphasize the existing practices that meet the determined needs of persons with disability (care services, economic easements and accessibility etc.). In more detail, emphasizing (1) discounts, (2) physical and sensory accessible conditions with trained service providers, (3) precautions to keep social distance can increase the success of promotional activities. The precautions against infection should be based on reliable sources (e.g. WHO). Certificate (e.g. Safe Hotel COVID Clean) that proves the existing hygiene standards in the business and featuring it at promotional activities can

increase perceived safety for the business. Featuring the related accessible symbol/s (e.g. the symbols in *Lodging Requirements & Diamond Rating Guidelines by AA and CAA*) at the promotional activities helps customers with disability to be aware of the special services according to the types of disability in the business. They have a high propensity on positive word of mouth behaviour when they are satisfied (Baş, 2016). This behaviour supports promotional activities. Specified characteristics in the promotional activities prevent them from having negative feelings and emotions, such as anxiety, guilt, stressfulness, depression, unsafety and painfulness in the purchasing process. Declaration of guidance (e.g. IATA guidance for an accessible air travel in response to COVID-19) for the special services in new normal to encourage their safety and self-confidence during accommodation and travel. As it was stated before in this research, they need education services for learning disabilities, home care and accessible transport. Meeting the needs with public relations projects touches their lives directly and promotes companies. This is also appropriate with the logic of marketing consciously.

Physical Evidence and Comfort-Accessibility: Accessibility and keeping social distance are the important parts of the comfort for persons with disability in the new normal. Explanations with relief about the new regulations allow them keeping social distance and hygiene precautions for those with visual disability. This also prevents them from getting confused and feeling panicked. Enough physical spaces in businesses ensure for them to maneuver (min. 1,5 x 1,5 m. for wheelchair users, World Disability Union, 2011) and move easily. Preference of simple decoration, avoiding a lot of objects in the general areas and providing movement areas for customers with disability could be helpful for their safety. Thus, they can feel safer and more confident. Audio systems that warn about the new regulations and help to understand where to sit or stand increase their awareness of the environment. A service provider who handles serving customers with disability can guide them for the physical environments and new changes. Explanation of physical plans and informing the name of the street, parking area and accessible door/s, related phone numbers on the web sites helps them to access the business. There should be a sufficient number of sitting areas, particularly for those with chronic fatigue syndrome and fetal alcohol syndrome, to rest. Based on the findings, some persons with disability need personal assistance. Assistive technologies (audio and visual systems, wheelchairs etc.) that contribute to physical accessibility of the businesses should be on the websites (see louvre.fr, *museum accessibility for all*). Accessible height of hand sanitizer dispenser, soap and towels in the restaurants, airports, rooms and general areas of the hotels support the hygiene precaution against COVID-19. Hygiene of touchable objects that increase understanding of persons with visual impairments hinders contagiousness of virus through the fomites. Signing with contrast colors and readable large font signages of new regulations are necessary for persons with partly visual impairment. ADA checklists including recreational checklists, for existing facilities are helpful about the mentioned criteria of physical accessibility for the businesses and recreational places (adachecklist.org). Accessible hotel rooms mostly cannot meet the needs of customers with different types of disability (Poria et al., 2010) due to ergonomic and anthropometric failures (Wazzan, 2015). So, testing of the rooms and other areas by persons with different types of disability and making corrections under their feedback increases the accessibility of the businesses and customers' satisfaction. Based on the findings, staying at home, disturbance of the routines and inability of keeping social distance could be mostly removed by physical accessibility. Because, physical accessibility makes them understand the physical environment in the new normal easily. So, this situation prevents negative feelings and emotions such as anxiety, discriminated against, confusion, exhaustion and depression.

People and Courtesy and Competence: Persons with disability hesitate to ask people about new regulations in the new normal owing to others' negative attitudes and behaviours to them. Service sector needs face to face communication. If there is a qualified service provider or a team who are responsible for customers with disability, this may increase the quality of their time in the business. Service providers in charge should be trained about how to communicate with them and to understand disability and disorders including autism. An optional place can be in the reservation form for the information about the disability of customers and their demands during the service time. This helps service providers to understand their needs and be ready for the accessible service. However, businesses should be ready to serve regardless of the foreknowledge about their visit. Attention of service providers is important for realizing the customers with disability and communicating with them. Particularly in the large businesses, a special institutional email address helps to connect them promptly with the team in charge of accessible services (e.g. *handicap@louvre.fr* by Louvre Museum). Training of the service providers and having certificates (e.g. Accessibility Pass) about how to communicate with them could prevent customers with disability feeling unsafe and discriminated against. For example, a service provider should know that he/she should guide persons with disability rather than directing them with physical intervention. Also, they should inform them about where they are and to which direction they are going while they are guiding the persons with visual impairment. Additionally, keeping social distance while communicating with persons with disability prevents them from feeling stress. Waiter paging system allows customers to contact the service providers through pressing a button. It helps them to communicate easily. The system makes customers with disability feel confident and not to feel panicked and anxious. It could be used in restaurants, hotels, flights and during recreational activities. Similarly, emergencies in the accessible rooms of the hotels connect them with the receptionists or service provider in charge. Embossed plans of the rooms, hotels, restaurants, museums, zoo and airports etc. make the environment easy to understand. Customers with disability should be informed about these accessible applications in the businesses by resellers, service providers, and via advertisements. They are less dependent on others and act more confidently with the specified accessible applications. This situation is supposed to reduce the frequency of encountering others' rude behaviours and feeling ashamed. The awareness of customers with disability allows them to go out more, not to stay at home and feeling isolated.

Process and Consistency: Processes in all departments should be accessible consistently in keeping with the new normal. Brochures and/or online guide books help the managers and service providers to take precautions for COVID-19 successfully (e.g. Guidance on Accessible Travel in Response to COVID-19 by IATA). Making researches and following the surveys (e.g. ODO researches), informative videos (e.g. by Queen Elizabeth's Foundation and Civil Aviation Authority) and articles (e.g. Darcy & Buhalis, 2011; Baş, 2016; Tutuncu, 2017) makes possible to know more about the customers with disability. It makes preventive and corrective actions in the service process. Depending on the findings, the precautions for keeping social distance, accessible conditions, right behaviours and attitudes etc. should penetrate into the service process. The offered value by marketers should support safety of customers with disability as well as its integration into the service process. For example, hygiene and accessibility of the tools (e.g. hoists, ambulift, and seats in the aircrafts) can decrease their fear of infection and travelling. There will be no consistency in the service process if service providers on board are not as helpful as service providers in the airport. According to the Lodging Requirements and Guiding Rating Guidelines by AAA and CAA, the icon M1 refers to suitability of the hotel for a person who can ambulate and a crutch, cane or walker. So, explanations of the icons on the websites increase the understandability of the service process according to the types of disability.

As an example, from the recreation industry, Disability Access Service (DAS) Card is offered by Disney Parks to receive a return time for those who cannot wait in line (including persons with invisible disability). San Francisco Zoo receives a limited number of visitors via an online reservation system with obligation in keeping social distance and using face masks. Its website includes precautions in the reservation process. Accessible facilities (online zoo map, wheelchairs and strollers etc.) are placed in the disability access part of the website (sfzoo.org).

Allowing service animals to enter the business eases the service acquisition process. According to the Americans with Disability Act (b), service animals must be allowed by government organizations, businesses and non-profit organizations on condition that they are controlled by their owners. They make the service process accessible by guiding for persons with visual impairment and alerting persons with hearing impairment (ada.gov). They make persons with post traumatic stress disorder calm during an anxiety attack. Consistently, the findings of the current research show that service animals help persons with visual impairments to keep social distance. In this way, service animals make them move more independently so that their exposure to others' negative attitudes and behaviours can decrease. Relatedly, the situation eliminates the determined challenges staying at home, inaccessible conditions and disturbance of routine etc.) as well.

Discussion, Conclusion & Implications (Theoretical, Practical and Social)

At first, uniquely, this research thoroughly examined the lives of persons with disability in the new normal (within COVID-19 period). (6) challenges, (14) emotions and feelings, (4) needs and (2) opportunities and their subcategories were determined. Analyzing the categories were made by considering types of disability and home countries of persons with disability. This research revealed remarkable interactions between the determined categories in the new normal and chaining nature of challenges. How challenges trigger each other (Figure 1) and make their lives more complex and difficult were clarified. Secondly, after understanding their lives from the specified different aspects, the findings were integrated into the service marketing mix (7Ps and 7Cs) to reshape it in accordance with new normal from an innovative perspective. This is because of the need for understanding their challenges, feelings and emotions, needs etc. and, thus, marketing consciously in a successful way.

Determined challenges in the literature were about inaccessibility in transport services, lack of face mask and hand sanitizer (United Nations Development Programme: UNDP, 2020), insufficiency in health care services (Thelwall & Levitt, 2020, McKinney et al., 2020; Sabatello et al., 2020), and economic challenges (Jalali et al., 2020). Similar to this research, it was determined in the literature that they have challenges in the new normal regardless of their home countries and types of disability. For example, a person with visual impairment who lives in Vietnam has economic challenges (UNDP, 2020) as well as a person with disability who lives in England (Women's Budget Group: WPG, 2020). The intensity of the challenges may differ in accordance with the development level of the countries. In some regions of Turkey, inaccessible conditions prevent them from going out (Erkılıç, 2020), let alone travel. To some extent, there are inaccessible conditions in England as well, but the statistics (Department for Transport, 2021) show that persons with disability travel more than those in developing countries (e.g. Turkey). Some researches (e.g. Banda-Chalwe et al., 2014; Silverman et al., 2019; Mao & Chan, 2021) point out that inaccessible conditions decrease their participation in life and create social barriers (Mao & Chan, 2021) as well. Hästbacka et al. (2016) identified the main challenges of persons with disability as economy, attitudes, health and employment before COVID-19 period.

Challenges were effective on not only feelings and emotions, but also needs and opportunities. Others' negative behaviours and attitudes made them shy and exhausted. Inability to keep social distance makes persons with autism feel stressful, and people with physical disability feel guilty, unconfident and ashamed. Some researchers in the literature revealed their emotional situations caused by challenges, but they did not reveal emotions and feelings of customers with disability as detailed as the current research. Regardless of ages and types of disability, they have emotional difficulties in the new normal. Children and young people with neurodevelopmental disorders (e.g. autism spectrum disorder and attention-deficit/hyperactivity disorder) have emotional difficulties in the early period of COVID-19 period (Nonweiler et al., 2020). Emotional distress (Kong, 2021), anxiety and depression of people with aphasia were increased with the lockdown (Pisano et al., 2020).

According to the results, the intensity of the needs was increased due to the risk of infection and its serious outcomes. Those who need home care services are afraid of service disruption. Financial support is more necessary due to their unpaid leave and dismissal in COVID-19 period. Some research revealed inaccessibility of medical services in South Africa (Mckinney et al., 2020). Financial challenges and insufficiency in assistive technologies, livelihood support and health care system in İran were determined by Jalali et al. (2020). Generally, financial problems were determined in developing and undeveloped countries within COVID-19 period for persons with disability.

Eliminating the determined challenges in this research and its negative effects on emotions and feelings, meeting the needs, benefitting from the opportunity of remote working for persons with disability that raises work-life balance (Zwanka and Buff, 2020) are the parts of the inputs for the innovative service marketing mix for the hospitality industry within COVID-19 period and aftermath. Innovation has already been a necessity for the accessible hospitality industry (Tütüncü, 2017). This research proved that this necessity increased within COVID-19 period against infection, e.g. stabilizing spoon and fork and contactless services with data matrix to open the doors of the hotel rooms. This necessity and integration to service marketing mix were emphasized in results under the main research question (R.Q.1) Innovative practices in the hospitality industry depending on the determined results to find solutions for challenges, meet the needs and eliminate negative emotions and feelings, e.g. getting confused, stressed and exhausted. Expectably, this situation can increase their experience in the hospitality industry both in new normal and aftermath.

To some extent, the determined challenges and needs in this research are society based. For example, the challenge of others' negative attitudes and behaviours, staying at home and the need for others' awareness of persons with disability have resulted from people's reactions to them. Therefore, highlighting the effects of behaviors and attitudes on the needs and emotions and feelings for COVID-19 period and aftermath create community's awareness of persons with disability. Relatedly, being sponsor for social projects that raise public awareness of them about their employment, public behaviours and attitudes for them and their legal rights may both contribute to exceeding the specified challenges and marketing consciously for the businesses. Cooperation of public and private sector for the projects that inform practitioners about related legislations and applications that help to design accessible business areas and have knowledge accessible optional and / or mandatory applications for customers with disability. Additionally, community and practitioners should be highlighted about the chaining nature of challenges. It means that they should know how a challenge caused another one for persons with disability in the new normal and aftermath. It can increase their positive behaviours and encouragement for persons with disabilities and prevents emergence of other challenges.

Limitations and Future Researches

This research is based on a limited number of online statements of persons with disability. Results of this research can constitute a basis for quantitative research with larger sample size. Determined categories about lives of persons with disability and their interactions with each other can lay the foundation for a detailed quantitative survey for both COVID-19 period and aftermath. Persons with disability and seniors have some common constraints, for this reason seniors can be included in the extended version of this research as well. This extended survey can be applied in community-based research including social marketing and different fields of social sciences. Additionally, the results can be benefitted to clarify the dimensions about lives of persons with disability and seniors in pandemic times to determined its relationship with the topics related to marketing, management and theory-based researches, e.g., perceived self-efficacy, consumer behavior (traditional and electronic word of mouth, repurchase intention etc.), brand awareness and customer loyalty.

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THE FISCAL INTENSITY BY EXTERNAL FINANCIAL SHOCKS IN OECD COUNTRIES, AND DEVIATIONS FOR FISCAL PROJECTIONS

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Abstract

In this study, we aimed to analyse the structural effects of these deviations and the resultant adverse change effects for the financial expectations of OECD member countries that experienced significant fiscal variations in the face of external financial shocks. In developing OECD countries and especially in emerging economies, financial deviations created by the increasing demand for money also significantly affect the deviations in other macro balances, creating a significant level of change influence. In this respect, it appears that especially the monetary policy circles and the financial impact of the exchange rate regimes of the countries on fiscal deviations reveal a significant sensitivity trend to external financial shocks in terms of market economies, especially in recent years. In addition, It is observed that especially the changes in interest rates and differences in economic growth projections directly related to interest rates in developed OECD countries directly affect emerging economies. In this context, in countries with strong trade connections such as Mexico and Latin American economies, it has gone on that OECD countries experience certain deviations within different benefit scales in the global process as having gone on. This phenomenon, which causes the financial security standards of emerging economies to change significantly during a global growth and target fiscal balances process, is observed to increase the external debt requirement of these countries even more due to the deviations in the current account balances these countries. This financial impact, which also causes a significant global financial credibility problem, also means a cyclical financial phenomenon that further increases the financial vulnerability of developing OECD countries to financial markets. Therefore, the OECD countries that are open to external financial shocks, especially emerging economies have been in the reform evaluation process for preventing probable fiscal deviations throughout fiscal expectations to the future for a long time.

Key Words: Emerging Economies, External Shocks, Fiscal Intensify, Fiscal Projections, OECD.

JEL Codes: F32, F34, H87.

INTRODUCTION

In OECD countries, financial shocks appear as a phenomenon that creates an essential process of fiscal deviations. While external financial shocks create an important source of negative impact, especially in emerging economies, they also cause variations on some significant macro imbalances, especially in developing economies, and take place in the process with substantial adverse effects on issues such as interest rates. Undoubtedly, this structural

location related to fiscal deviations affects the other economic growth projections and causes to search analysing the meaningful different macroeconomic variables. It appears that these financial shock factors create a more effective negative impact measure, especially in Latin American countries and countries that require financial resources with a very high external debt burden (Melo-Velandia and Hernán, 2013: 2; OECD, 2021-a: 38). This process, which means that the long-term effects of the financial expectations process often mean a need for financial reform, expresses an economic interaction chain in which financial fragility increases. On the other hand, as an OECD country, the frequent instability and changes in the monetary policies of developing countries also cause a liquidity process in which these countries become more open to external financial shocks. Incompatibility with market economies, especially in countries with high external financing deficits due to increased vulnerability to external shocks, make these developing countries even more vulnerable to the effects of external financial shocks (United Nations, 2013: 9).

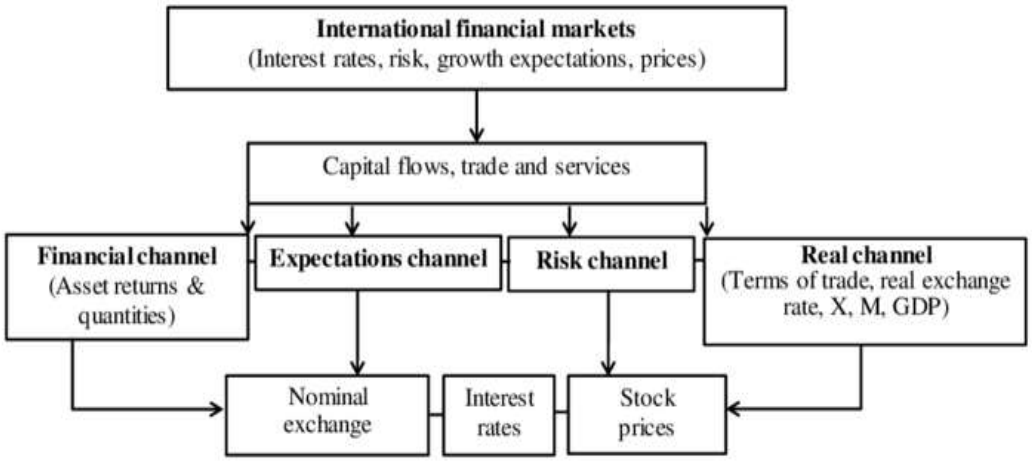
The service and tourism sector-dominated structure of market economies in Turkey, as in Latin American countries, often brings the need for essential the updated projections to overcome financial vulnerabilities in a more vigorous global growth process. In this context, it is observed that any position and approach where financial fragilities are the subject of dollar-based debt policies increases the high demand for dollars and initiates a process of fragility in which access to possible liquidity buffers becomes more difficult. While this means that the possible inflation process starts with the increase in commodity prices and the weakening of possible liquidity control mechanisms, especially in emerging economies, it also causes new structural differences (OICU-IOSCO, 2007: 15). Countries that prioritize different growth processes perceive the process differently. In this respect, this is revealed that the effect of external financial shocks in OECD countries directly overlaps with the targets of tight monetary policies. In brief, the countries' fiscal policies and the harmonization process of these policies with the economic growth targets, which means also directly related to the rationality of the process intended to cope with the external fiscal phenomenon. Countries are trying to overcome this situation where they are open to external financial shocks by putting forward a projection to determine net commodity prices, mainly to ensure export and import balances (OECD, 2021-a: 38). Because increases in commodity prices related to export and import mean a process in which the sensitivity to external financial shocks increases. In this respect, developing OECD countries, which have a low but stable economic growth process, survive this process more slowly due to strong trade links. Therefore, these developing countries shape their fiscal policies through economic growth targets by the fiscal basis, which are directly affected by external financial shocks. Besides, the global financial markets, as the monetary values and their relationship to the other macroeconomic balance formation, are significant for OECD countries, especially emerging economies. Different structural phenomena in the shape of financial markets in OECD countries directly affect the level of relationship of countries representing emerging economies to financial markets at the global level. In this respect, the fact that OECD countries are affected differently by external financial shocks and are subject to different levels of impact also means that each OECD country is in another category with other exchange rate policies and directly related to debt policies (OECD, 2018: 11).

1. DYNAMICS OF EXTERNAL FINANCIAL SHOCKS IN THE PROCESS OF GLOBAL FINANCIAL RELATIONS FOR OECD COUNTRIES

External financial shocks, especially in the last ten years, reveal a risky economic growth and a process in which asset-value pricing policies have changed significantly in OECD countries. In this context, it is understood that external financial shocks are directly related to international capital movements and fluctuations in asset prices in developing OECD countries. It is observed that the effect level of exchange rates and stock prices, and especially the monetary multiplier effect arising from monetary policy, has created a more heterogeneous effect recently (OECD, 2015: 243). This heterogeneous phenomenon, which is directly related to external financial shocks, means a structure that directly impacts global and national asset prices and makes the level of crisis impact and transfers shocks meaningful in international capital markets (Melo-Velandia and Rincon 2013: 1).

In other words, despite it creates a short-term effect level, it appears that external financial shocks are directly effective in the said monetary and fiscal policies within the scope of OECD countries. Still, the level of global financial shock impacts has become more concrete-clearer with the abbreviations in global financial resource values that arise with the increase in the risk of global capital use in, especially in recent years. External financial shocks adversely affected capital transfer in terms of financial resources in OECD countries and especially emerging economies as the primary effect level of external financial shocks and turned into a structure that made the deeper financial impact of external financial effects more expensive (IMF, 2014:115). As a result of the increases in asset prices reflected in foreign markets, this situation has revealed a significant economic recession and a more substantial negative heterogeneous income bias effect with increasing mismatches in foreign trade options based on international markets.

This process, in which international capital markets were adversely affected, also revealed the reason for an economic recession that emerged as a result of global financial shocks with the increase in global financial costs, which increased sharply, especially during the global crisis processes. The expectations in the financial resource limits expected from these markets hindered the global development of emerging economies. OECD countries are considered in a position evaluated based on the compatibility of foreign financial resource policies and supervision with the exchange rate policies in practice. In this context, it appears that the process of structural changes, which is directly affected by global financial debt obligations and affected by different international financial provisions brought about by the debt burden, is meaningful (OECD, 2017: 57). Studies conducted by the OECD on this subject reveal that, especially the external debt limits and the position of the countries' exchange rate policies in combination with the fiscal and monetary policies in practice, foreign debt-oriented policies as directly related to modelling the level of external financial shocks. Figure 1 below shows the interaction dynamics of external financial shocks related to the international financial markets process:



Source: Luis Fernando Melo-Velandia and Hernán Rincon (2013), "External Shocks and Asset Prices in Latin America Before and After The Lehman Brothers Bankruptcy", *Ensayos Sobre Politica Economica*, 31(71), p. 3.

Figure 1. Impact Dynamics and Interactive Structural Impact Locations of External Financial Shocks

As shown in Figure 1 above, the formation process of financial shocks related to international financial markets occurs in the process as a result of the mutual interaction of the infrastructure dynamics of the process. There is a process in which the capital flow related to the quality arising from the transformation and limit values of global financial assets shapes the interaction of foreign trade and service units with expectations and international global demands. In this context, it appears that capital flows act with infrastructure dynamics to create a significant global shock effect through global capital flows and possible risk channels in global trade and services. In other words, it can be said that each structural unit related to the possible occurrence of external shocks, especially changes in the nominal exchange rate and exchange rate, affects global costs via interest rates and stock financial values and then creates cumulative external financial shocks process (OECD, 2020-a: 13).

To OECD countries, the critical structural dynamics regarding the degree of impact of external financial shocks here are also shaped by the fact that member countries have different national sanction powers within different monetary values. In other words, the different global level of foreign monetary purchasing powers of governments transforms into a more substantial external effect dynamic, with a process in which exchange rate policies regarding the vulnerability of these countries to financial shocks are evaluated in terms of national currency (Supriyadi, 2014: 17). In this respect, external financial shocks gain meaning, especially with the extent to which these countries adopt the target values in foreign trade volumes and to what extent they contribute. In this context, nominal exchange rate values express different values for other countries, and the variability of global prices and global financial stock values create a significant external effect gap.

This effect also causes a vital risk channel regarding the import and export-related GDP of the countries. In short, the global impact channels of each country, especially the changes in stock

goods, also affect foreign trade targets that are directly related to international capital flow. In this respect, the structural contradictions of growth expectations, risk projections, and national interest rates with international global borrowing policies take place in the process as an important reason for fiscal risk for OECD countries (OECD, 2016: 67). As a more straightforward situation, there is a situation in international financial markets where the rate of global monetary values towards the relevant countries worldwide and the global transformation levels of financial assets are directly related to actual exchange rate policies. Therefore, as an essential reflection of the financial risk and external financial crises in OECD countries, global financial markets gain different meanings in countries with different impact values. They move the impact channels of countries that are open to external financial shocks to the financial risk positions.

On the other hand, this financial phenomenon directly focuses on global monetary values and exchange rate conversion levels as a reason for external financial shocks. The effects of the global financial crisis in 2009 and after, especially the changes in nominal exchange rates and monetary values in global financial asset prices, created an external financial position in which international stock values were directly affected. This situation, where the deviations in the financial position arising from these changes, especially in emerging economies, directly affect the national interest rates, revealed the most striking structural effect of the 2009 financial crisis based on increasing external financial shocks (Burger et al, 2009: 10). Generally, this situation, where the changes in national interest rates are directly affected by global financial costs, negatively affects foreign trade by increasing global interest rates and creating a meaningful recession based on external financial shocks.

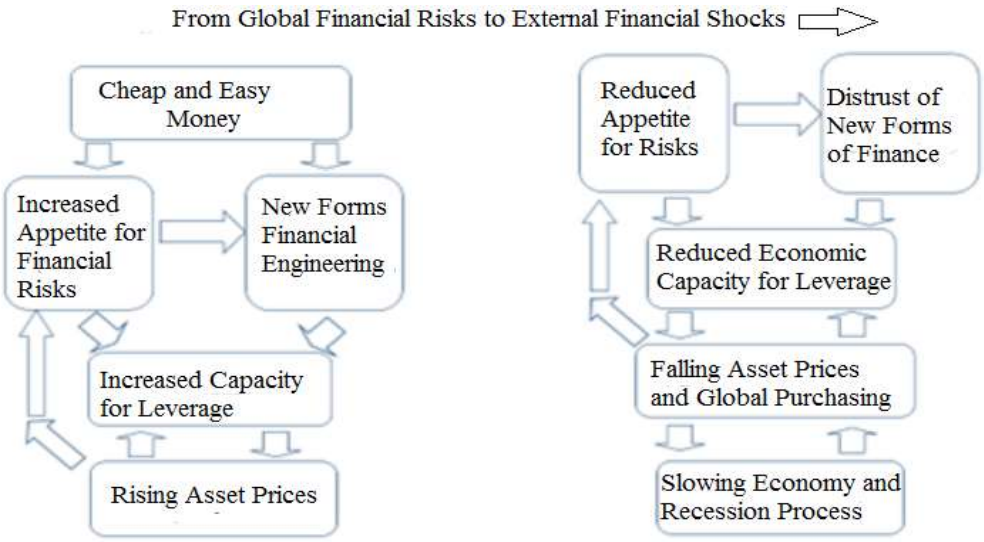
2. DYNAMICS AND LAST PERIOD EFFECT LEVELS OF EXTERNAL FINANCIAL SHOCKS IN OECD COUNTRIES

The impact of external financial shocks on countries in OECD countries shows an important process partnership with global financial crises. In other words, it appears that external financial shocks in OECD countries emerged with a mutual structural interaction, with the effects of the global financial crisis on countries and these effects triggering this crisis in member countries. External financial shocks transform into external financial shocks in the process of financial interaction, where global financial shocks create global financial deviations resulting from mutually possible global variations. This fact constitutes an important reason why external financial shocks occur in the process with different effect levels, and separate fiscal and monetary policies are the subject of other countries (IMF, 2015: 19-20).

2.1. The Interaction of The Global Crisis and External Financial Shocks in The Process from The OECD Perspective

The level of impact of external financial crises and related external financial shocks in OECD countries differs according to the structural policies of the countries. In other words, OECD countries have a structure that considers and evaluates financial crisis structures based on different levels of financial shocks. Because the differences in economic growth in OECD

countries and the formation of structural differences in the effect levels of these differences on the foreign exchange reserves of the countries take a net position, this situation necessitates the investigation of the shock influences through financial effect channels (OECD, 2020-b: 257). Besides, these channels are generally directly related to the structure of exchange rate differences at the global level and to what extent and how effectively countries manage the financial shock process (Singh and LaBrosse, 2011: 18). In Figure 2 below, it is possible to monitor the mutual impact and transformation process of external financial shocks that emerged in the same process as the global financial risks process.



Source: Saul Eslake (2018), "The Global Financial Crisis – A Decade On", https://econvue.com/pulse/global-financial-crisis-%E2%80%93-decade, (Accessed, September 12.2021).

Figure 2. Global Financial Risk Process and Cumulative Interaction of External Financial Shocks

As shown in Figure 2 above, the formation process of external financial shocks, which are directly affected by the interaction process of global financial crises in OECD countries, starts with the formation of a significant price increase with their structural effects on countries. This formation has created a critical devaluation process in the increasing financial risk behaviours by increasing the fragility of the country's economies in terms of OECD. The transformation of monetary values related to the increasing financial cost effects of obtaining cheap and easy money into global financial crises has been accelerated by the deviations in the prices of international financial deals for recent years for OECD countries. In this context, it appears that this ongoing global monetary phenomenon constitutes an essential mechanism of action of external financial shocks to OECD countries. In other words, there is a structure in which the increases in the increasing financial leverage capacity enter into a harmful process in the tolerance of global financial risks (Senior Supervisors Group, 2009: 14).

The direct adverse impact of the increases in global commodity and global financial asset prices on leverage and risk capacity has recently turned into an essential level of financial risk for the OECD as reflected in external economic shock. In brief, this phenomenon turns into a

recessionary process in the economy with the shock effect of the rising costs of direct financial external transfer as a result effect of external financial shocks. This process also negatively affects the effectiveness of the struggle at the risk level and negatively affects the expectation and reliability of the new financial formations of a struggle process. This process, in which possible difficulties in the adaptation process of new financial formations are frequently brought to the fore, is accepted as a reason for a striking economic slowdown because of the effect of deviations in financial purchasing power at the global level (Arghyrou et al, 2009: 6).

Undoubtedly, this means that being more open to external financial shocks for many OECD countries especially in the last period. In the emergence of external financial shocks, global commodity and financial asset prices entering into a contraction process with the decrease in global purchasing power have inevitably been involved in the process as a mutual slowdown in the economy and the beginning of the recession process in OECD. In the emergence of external financial shocks, global commodity and financial asset prices entering into a contraction process with the decrease in global purchasing power have inevitably been involved as a mutual slowdown in the economy and the beginning of the recession process in OECD. There is also a process in which the confidence interval that financial new formations aim to provide is gradually widening, and the desire to fight for reducing global risks has taken a significant deviation. On the other hand, the high costs of unrequited global sanctions in increasing financial demands also mean that the credit system process is in trouble at the same time for OECD countries and the practices related to the confidence interval have problems (OECD, 2019: 8).

In this respect, it is inevitable for the OECD that the process, which is affected by the costs of using financial value at the global level by external financial shocks, has to be created multifaceted and especially within the confidence interval period relative. This phenomenon is necessary for forming new forms of financial engineering and putting forth the new significant dynamics to cope with external financial shocks in the last years. Really, declining economic capacity and countries with low leverage that can carry this capacity at the global level are more affected by external financial shocks, and it is understood that a weakening global struggle against increasing financial risks poses significant problems, especially in directing global money as credit. This process, which causes external financial shocks to be felt more persistently and more negatively, especially in emerging economies, also reveals the responsibility for most countries of OECD to be supported by new formations as a result of low mutual economic developments due to falling global purchasing power. Structural obligations to support OECD countries, which are more affected by external financial shocks, with global supports and to provide a rational trade relationship for the OECD, arise from this point oriented to meeting the demands of countries with high credibility for easy and cheaper financial resources provision. From this point of view, it is important to consider the effect of external financial shocks in OECD countries as a process in which the international purchasing power decreases, and the prices and cost increases in global financial values, and the emerging economies are particularly affected (Dolphin and Chappell, 2010: 5). In short, the existence and impact of financial policies in practice in OECD countries gain significance

with the level of structural mutual openness and openness, which are financial shocks and external financial crises, in a global financial crisis.

2.2. The Recent Outlook of External Financial Shocks in OECD Countries and Deviations in the Structural Dynamics

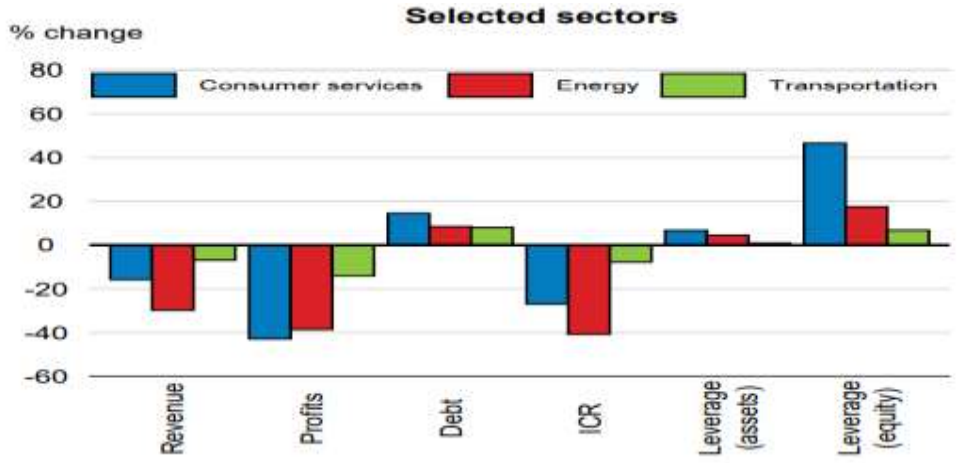
To see the effect levels of external financial shocks as a general average of OECD countries, it is important to emphasize their effects on important sectors within the scope of the OECD. Reaching the target economic growth limits in OECD countries and experiencing a positive growth process in the OECD as an average economic growth value is in question with sectors that create real contribution value on national income. In this respect, the creation of an average economic growth trend of the impact of some sectors selected as the Consumption Services Sector, the Energy Sector and the Transportation Sector on GDP or the variability of the existence of these sectors in the change processes as the value in the last period reveals a critical structure.

This variability reveals financial fragility as the OECD average of OECD countries against external economic shocks. This financial fragility means a significant periodic system related to the extent to which OECD countries are open to external financial shocks and these sectors are affected (OECD, 2021-b: 16-17). In assessments regarding external financial shocks, there is also a common consensus that each OECD countries' contribution to the overall growth trend is significant in these three important sectors. The difference in the financial leverage effect, which is the expression of the power to perceive and meet the financial fragility arising from external financial shocks on OECD countries, is also an important reason for the variability based on these selected sectors. Besides, the openness of OECD countries to external financial shocks also reveals the position of international financial credibility of these countries.

Because this phenomenon shapes the commercial transactions and profit options that OECD countries target at the global level at the sensibility level process of external financial shocks. This structure, in which international borrowing limits are also directly affected after possible financial crises, affects the global financial provision values expected from the commodity and financial asset values that OECD countries considered at the international level (Blundell and Atkinson, 2011: 31). This process, in which the distribution of fair financial values for the development of member countries, which is an important objective of the OECD, is negatively affected, can also be considered a negative effect of external financial shocks on these countries. And also, it can say that the debt interest coverage ratio deviations (ICR) of OECD member countries also means that there is a significant deviation process as the effect of external financial shocks.

Therefore, especially in the process, the increase in borrowing costs related to energy use and put forth that the limits of energy use in emerging economies decreased in 2020 compared to 2019. Again, as seen in Chart 1, this phenomenon, despite the decrease in energy and consumption margins, it means an increase in the tendency of international borrowing in all three sectors (OECD, 2011: 77). As a result of the deviations in consumption margins and energy use after external financial shocks, significant profit reductions were observed in

OECD countries. Chart 1 below shows the effect of change between 2019 and 2020, with the impact of external financial shocks in selected sectors as the OECD average:



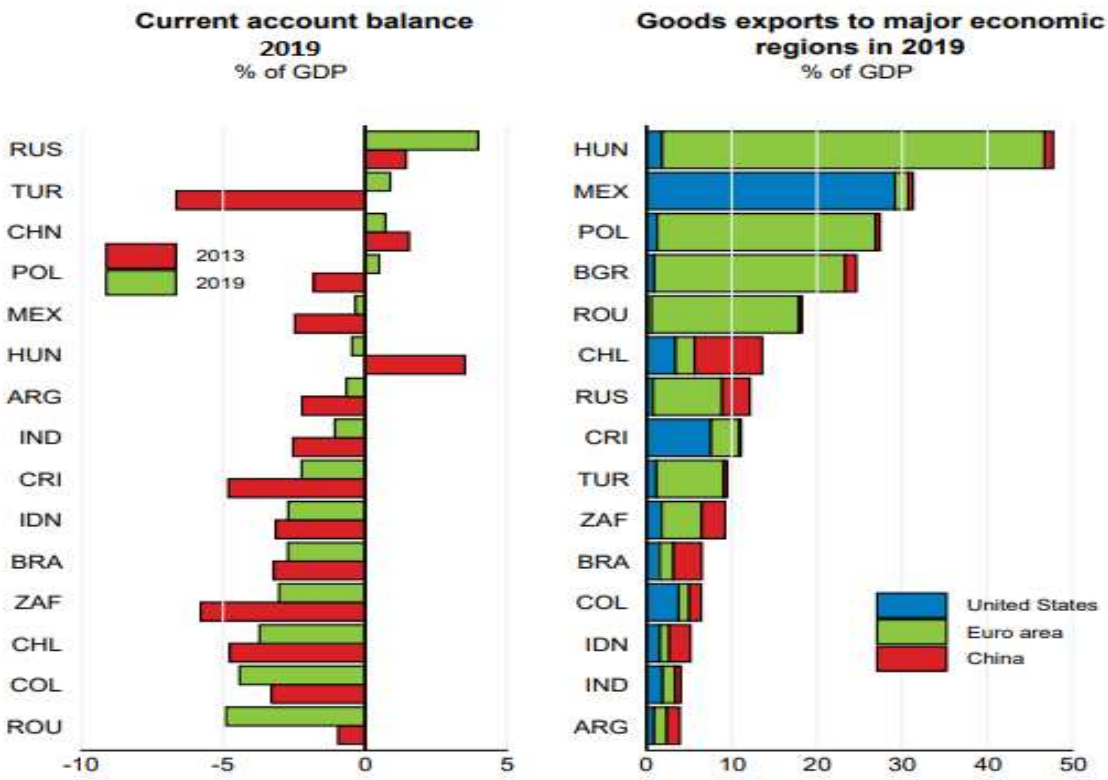
Source: OECD (2021-a), *OECD Economic Outlook*, Vol. 2021, Issue 1, Preliminary Version, Paris: OECD Publishing, 2021, p. 32.

Graphic 1. Change Effect of External Financial Shocks on Sectors Between 2019 and 2020 in OECD

As watched Graphic 1 above, in addition to Consumption Services, Energy and Transportation services, the analysis of income levels and profits in this selected sector and different financial change values, primarily based on these sectors, reveals important impact values related to external financial shocks. From this point of view, it appears that Consumption Services are more affected by external financial shocks. When it is considered in terms of global costs, the Energy sector apparently causes significant financial deviations, especially in emerging economies. It is understood that significant deviations in OECD countries after external financial shocks are in credit utilization costs related to credibility to which interest rates on these sectors correspond (Lequiller and Blades, 2014: 219).

This structure, which also means increasing global borrowing, has increased debt limits, especially to meet consumption limits. It should emphasize that this high level of external financial shocks also means a significant loss of welfare for OECD countries. This decrease in sectoral profit margins has also revealed important problems in meeting global debt interest reserve values. External financial shocks have caused significant unavoidable deviations in the economic targets of especially developing OECD countries. Again, deviations in consumption limits created a significant leverage effect in overcoming financial crises with new current policies and positively affected the risk distribution in the distribution of possible global financial risks in 2020 (FSB, 2020: 18). Along with these recent deviations in the sectors as OECD average, the position of other macroeconomic balance values between 2013 and 2019, where the effect of external financial shocks is in question, is also significant. Especially at this point, the transformation of OECD countries' current account deficits and international trade and financial asset values, evaluated financially, should be emphasized. Comparing the current account balances between 2013 and 2019, which is directly related to the external financial shocks process of OECD countries, reveals strikingly significant values

in understanding the emphasis of external financial shocks. In Chart 2 below, it is possible to monitor the position that external financial shocks directly affect the current account balances of OECD countries and the goods exports of developing economies to developed OECD countries, as the OECD average:



Source: OECD (2021-a), *OECD Economic Outlook*, Vol. 2021, Issue 1, Preliminary Version, Paris: OECD Publishing, 2021, p. 38.

Graphic 2. The Effects of External Shocks Regarding the Selected OECD Countries on Macroeconomic Values

As seen in Chart 2 above, while the current account deficit balance was negative in terms of deficit values in 2013, it is observed that these values reached a positive trend, especially in OECD countries, including Turkey and Russia, in 2019. In terms of real values, it is observed that current account balances based on GDP exhibit a fluctuating process for OECD countries. In brief, there is a current account balance situation in which current account deficits persist between 2013 and 2019 in selected OECD countries. This phenomenon between the years 2013-2019, which can be expressed as negative (minus) current account balance, was described mainly by the negative value of the current account deficit. However, the issue that should emphasize here is that emerging economies within the scope of the OECD are open to external financial shocks and their financial vulnerabilities continue in 2021 (ESMA: 2021: 19).

It is possible that external financial shocks, significantly the increase in US-based bond yields, may turn into economic contraction crises for the OECD and adversely because of the effect of capital inflows and outflows in emerging market economies with the unstable exchange

rate position. The free market can significantly negatively impact this financial position, especially in an inconsistent current account process for OECD countries. Significantly, the current account balance between 2013 and 2019 has taken a different favourable position, especially after 2019, in Turkey, Russia, and Hungary, despite the adverse situation in many OECD countries. Because the economies of all three countries constitute a critical central theme of emerging economies, it is observed that external financial shocks and fragility effects continue for developing OECD countries in tight monetary policy and flexible exchange rate preferences. In other words, it is understood that tight financial policies in accessing monetary liquidity buffers directly related to financial institutions weaken the vulnerability effect against external financial shocks. This effect of the political proposals included in the process on financial fragility has further increased the expectations that a positive trend will continue, different from the situation.

Discussion

This formation may create external negative effects, especially with its stronger economic position in global interest rates and US-dominated large economies (United Nations, 2019: 3). Tourism and Service Exports of countries such as Colombia, Costa Rica, and Turkey are emerging market formations. This has turned into a positive export increase, especially with the positive effect of the struggle in the position of Covid-19 in 2019 2020. On the other hand, this situation has also taken place as an important source of finance for emerging economies that can benefit from the increased imports of developed countries and especially the USA and has resulted in a significant current account deficit shrinkage between 2019 and 2020. As seen in Chart 2 above, it can be said that the demand for especially the USA is high, and the increase in the export level in the Euro Zone has a positive effect that can provide, despite external shocks, a critical financial external Again, in this determination, the fact that the inequality of global financial resource distribution in OECD countries is increasingly taking place in the process is a structural financial-political contradiction within the OECD itself. This discrepancy difference has been reflected in the degree of perception of financial shocks of OECD countries as the considered impact levels, the struggle to overcome a global growth and negative demand process, to the joint venture and development process as the financial and economic targets targeted (OECD, 2012: 17).

3. CONCLUSION

Within the framework of OECD countries, it's understood that some important structural dynamics shape the level of impact of external financial shocks in the process. It appears that at the beginning of these criteria that embody the effectiveness of external financial shocks, the level of development of countries, their global efficiency in foreign trade levels, and the exchange rate system they prefer come to the fore. In this context, it is seen that each of the different effects of OECD countries, which are affected differently by external financial shocks, is more significant throughout the level of financial integration at the global level together with the structural exchange rate policies diversity to the fore. The different structural financial and economic values of each country have revealed a trend in which the effect level of external financial shocks has turned into a positive level in recent years as the

OECD average. This situation has revealed the increase in the demand for imports of goods and services, especially in developed OECD countries with high monetary efficiency at the global level via the contributed financial resources due to provide by the financial resources globally. This structural situation has created a significant contribution surface for the developing OECD countries, especially with the effect levels arising from the global demand for financial assets and commodity values. It has been accepted as an important criterion in the measurement of external shocks on the OECD basis. On the other hand, risk projections regarding global costs for OECD countries appear important for external financial shocks. Developing countries' access to easy and low-cost loans and other financial resources indicates a significant position where sectoral structures are directly affected.

This situation put forth that external financial shocks, especially in these developing OECD countries, have a very close relevance with the cost options for using global debts and money for the Energy Sector. And also, the deviations in the current account deficits of the countries and the process in which these deviations affect the foreign trade limits of the OECD countries negatively affect the economic growth process of the developing economies, especially in the process of external financial shocks. It appears that regardless of the risk level, the existence of the structural relationship between the global structure of increasing global commodity prices and the fight against global financial risks provides a meaningful basis for OECD countries in understanding the effect level of external financial shocks. That means that the rationale of the new financial policies should be together with financial dynamic projections. This phenomenon is put forth to require that emerging economies' financial dynamics globally compatible for the possible recession process intended to external financial shocks. In this context, it is seen that the existence of rational monetary and fiscal policies is inevitable in the process of external financial shocks, where the global purchasing power has decreased for developing OECD countries. Therefore, the frequency of the current evaluations of possible global financial risk projections by the OECD is important for the controllable stabilization of external financial shocks throughout the deal with this adverse process.

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PRECEDENCE OF A LABOR-ORIENTED TAX SYSTEM IN OECD COUNTRIES AND PROSPECTS FOR EMERGING ECONOMIES

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Abstract

In this study, we tried to put forth the structural elements related to the taxation of the labor element in OECD countries and especially in emerging economies and the possible effects of this position. In other words, this approach emphasizes the structural consequences of the differences in the taxation of labor elements within the scope of OECD countries, and which macro factors and what kind of financial imbalance elements these differences create in the economic growth processes of the relevant countries. The labor factor, which takes place in the process as a critical factorial economic contribution value of especially emerging economies, causes significant different results with its significant differences in OECD countries. This factor is directly related to the level of incentives related to labor taxation of these differences, and is directly related to encouraging labor in the economic growth process and supporting the value of contribution to production with structural fiscal policies. Besides, it appears that the labor factor is subject to different taxation and different incentives in emerging economies constitute the main theme. This fact, which is directly related to the productivity level of each structural variability and labor factor, also highlights some of the priority elements in these economies as an important issue in the financial reforms process. At the beginning of these elements, the priorities such as ensuring the harmony of the labor factor with the level of social welfare within the scope of the target policies, and the educational initiative to increase the level of labor quality targeted in social policies as a priority. In OECD countries, this phenomenon has further increased the importance of labor-oriented fiscal policies and has created an important reason for the new financial reforms to take place in the process, especially as a Labor-oriented fiscal infrastructure process.

Key Words: Emerging Economies; Fiscal Infrastructure; Labor-Oriented Priorities; OECD; Tax System;

JEL Codes: H21; H24; H87.

INTRODUCTION

The taxation of the labor factor among the production factors in OECD countries and the establishment of incentive policies based on taxation of labor income in member countries are among the most significant up-to-date policies of the OECD in the recent period. While the creation of labor-weighted tax systems expresses important public financial incentive dynamics in this respect, it also represents a critical fiscal dynamic power and efficiency in countries and especially emerging economies (Griffith-Jones et al, 83). Therefore, taxation of

labor incomes and harmonization of tax rates between countries are evaluated in different categories. This phenomenon, which is also related to the level of development of nations, is an essential financial phenomenon that can be overcome with rational solutions. For the OECD, the main problem here is the formation of a formation that affects the position of global capital movements as a result of the fact that countries are subject to different tax practices arising from other tax systems, and therefore resulting in different taxation of labor income (Meghir and Phillips, 2009: 212). This formation also brings up some socio-political problems that need to be solved as the labor factor directly affects the labor transfiguration and migration between countries.

It makes it necessary to compare the high tax rates on labor in OECD countries with the amount of the country's GDP, and therefore it makes it necessary to discuss what level of rationality it presents in terms of per capita national income. The issue that should emphasize here is the need to understand the impact of social security taxes on the tax burden in countries within the scope of OECD, as in many other countries (OECD, 2019: 622). Indeed, the individual income tax on labor income is deducted from the workers' income depending on the countries' social security systems and tax system. In OECD countries, this situation resulted in a higher perception of the tax revenue base on labor, resulting in a significant increase in the tax burden criteria on labor revenues. In the understanding of the public applications, the fact that social security applications are taken over labor incomes in such a system is reflected in the system as non-wage labor cost required in taxation, except in a situation where labor is overtaxed. Besides, within the scope of the tax system applied in OECD countries, it is seen that social security dues have recently deviated from establishing a certain balance point with the cost of labor. The fact that the labor costs under the name of the insurance premium or social security contributions are based on the compulsory insurance practices of the system has also formed the general framework of the new tax reforms that should be made.

In this context, the taxation of labor incomes as individual income tax is an essential focus in the labor tax resources and fund studies in OECD countries aiming to the tax system revisions (OECD 2011: 13). In addition to consumption taxes, balancing consumption taxes and taxes paid by wage earners with other tax options as marginal benefit-cost stems from meaningful comments that taxes on labor are higher. Especially when OECD countries are considered, the effective tax rates are high, and taxes on labor create different adverse effects on employment instead of encouraging engagement in many other European countries. In other words, OECD countries, which have difficulty finding alternative financing sources, focus on the taxation of marginal costs arising from other production factors, especially labor factors, and especially labor incomes seem to have had a significant negative impact in recent years (Jael, 2019: 11). When the average effective tax rates are high, it is observed that the taxes on labor income increased more in OECD countries, especially in developed European Union countries compared to other OECD countries. Efforts to reduce the tax burden on labor incomes in Finland, Germany, and England and create a balance point with the cut premiums for social security expenditures made an important revision of the document system inevitable. It is understood that the approach regarding the exemption of skilled workers from tax in the post-

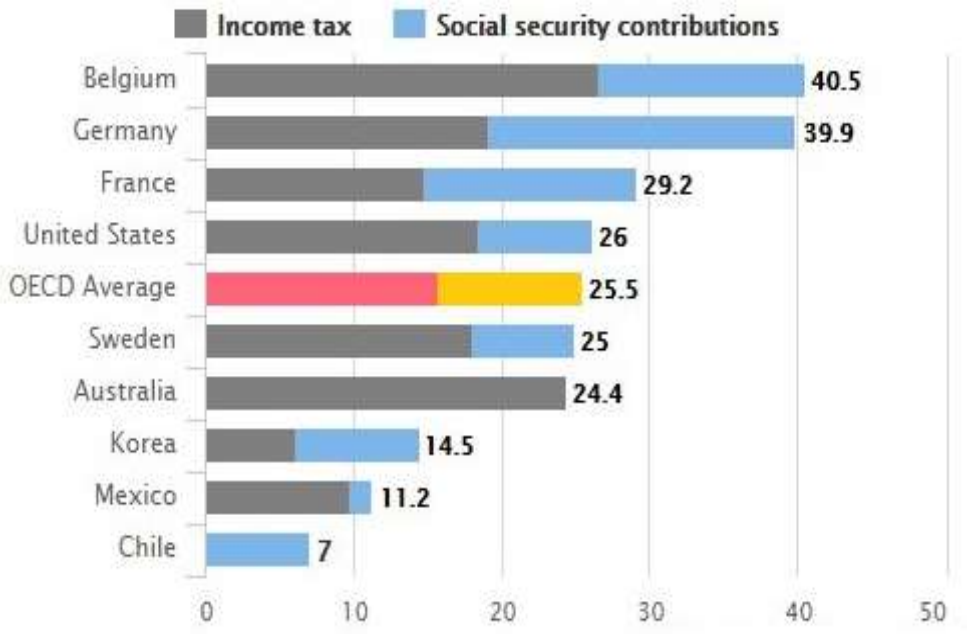
1990 years, especially in Greece and Spain, has not gained much popularity in recent years (International Labor Organization, 2016: 79).

1. POSITION OF LABOR TAXES IN TAX SYSTEMS IN OECD AS RELATED TO INCOME TAX PERCEPTIVENESS DYNAMICS

It should emphasize that objectively measurable values of tax burden are evaluated as numerical values , and subjective tax provisions are expressed at different levels, especially in OECD countries. In other words, apart from the numerical-based proportional effect values as a personal tax burden, the level at which the tax burden is perceived personally is questioned. In this respect, it is necessary to express and clarify the fundamental conceptual approach based on OECD tax burden assessments as the objective tax burden. These values, which take place as a sectoral tax burden, are included in the process as a tax burden, including in the social payments paid based on countries that give more weight to social policies regarding the level of welfare. It should be emphasized that the size of the values revealed by forming a specific tax burden on countries, as the OECD average, is evaluated with a mutual holistic effect, including the employer (OECD, 2020: 2).

In this respect, it is crucial to understand the tax burden within the scope of OECD that the taxes paid on the wage incomes paid for the evaluations and the payments paid to the social security institutions as an additional tax payment should be evaluated together. This phenomenon of this tax burden approaches, which is reflected on the employer as the cost of the employee and the Tax Wedge, actually clarifies the financial obligation of the employer, who both receives wage income and pays this income (Özker, 2020: 44). In general, the tax burden and tax practices on labor are called the cost of the employee who is the subject of labor in the OECD context. This cost represents the tax burden on the labor income under the name of the tax wedge, which is the difference between the employee's net disposable income. In this context, the tax burden on the employee is expressed as the tax burden proportional to the worker's income, which can be called the labor cost. Still, it is also evaluated in a holistic framework as the social security tax reflected the employer during the production process (International Labour Organization, 2013: 44).

In OECD countries, it appears that there is a difference in the evaluation of the effect of personal income tax on the employee and the tax burden paid by the employer during the production process. Therefore, there is a situation where personal characteristics are considered, and tax exemptions are in question due to the personal nature of the personal income tax paid on the labor income obtained under the name of personal income tax. However, there is a labor cost situation on the employer, which is handled not personally but institutionally, where there are no individual exceptions. It is considered a price increase where the labor costs are reflected in the final prices as taxes (Özker, 2021: 297-298). In particular, the constant variability of the tax burden and the extreme variation of the tax burden with the variable amount of income brought up a vital system questioning in OECD countries; OECD countries have brought the search for alternative public finance sources to the forefront in reducing the tax rates of their tax systems on labor income. Figure 1 below shows the tax burden options for 2021 in some selected OECD countries including the effect of the tax burden of Social Security expenditures is also included:



Source: OECD (2018), *Tax Wages 2018: Special Future Differences in The Disposable Incomes of Households with and Without Children 2016-2017*, Paris: OECD Publishing, 2018, pp. 69-70; Travel Impact Newswire (2018), *Workers in 35 OECD Countries Pay 25% of Their Wages in Taxes*, 26 April 2018, https://www.travel-impact-newswire.com/2018/04/workers-in-35-oecd-countries-pay-one-quarter-of-wages-in-taxes/ (Accessed September, 21.2021).

* As % of Gross Wages Earning

Figure 1. Outlook on the Tax Burden on Labor Wages in Some OECD Countries (with Social Contributions)

As seen in Figure 1 above, the tax burden structure under the income tax burden in some selected OECD countries express. Evaluation of labor incomes within the scope of income taxes, which are also directly included, gives important ideas for evaluating labor taxes within the area of income tax. As OECD countries, when the high rates of taxes on income are considered in Belgium, Germany, and France, especially with social security contributions, it is striking that the tax rates paid in these countries are at the highest level.

For example, it is noteworthy that the total tax burden arising from taxes on income and paid social security contributions in Belgium is approximate "six times" the tax burden in Chile. When the subject is evaluated within the scope of taxes levied on labor as income tax, it would not be wrong to say that the tax paid by the working laborers, who pay the most taxes like income tax, is also in these countries.

The point that draws attention in the table here is that the OECD average was around 16% percent at the income tax level, and the social security contributions were around 25.5% with a contribution of about 10%. In addition, Australia has a significant place in taxes on income tax, apart from social security contributions. This approach, which is about 24.4% expresses the position where the taxes on labor as a tax burden are also reflected in a very high-income tax level. The point that should emphasize here is the severe difference between tax burdens within OECD countries (Johansson et al, 2008: 8). Even if this difference is accepted as a

medium level as the OECD average, it also reveals that the tax burden and taxes on labor in developed countries are pretty high. From any angle, tax burden emerges as an essential phenomenon in economic growth, development, and fair income distribution at the macro level. It can be said that the reflexes of the tax burden of the developed OECD countries having high rates based on personal taxes are tried to be balanced with the high level of national income per capita in the countries (United Nations, 2019: xii).

However, for the working laborer sectors, which represent an important part of the society in terms of labor income, this also means that realistic income distribution is far from being rational. Because, apart from the increasing unemployment rates and unemployment rates in most developed countries, the evaluation of labor incomes at the level of competitive low and partial payments causes a significant loss of labor and a decrease in disposable net incomes for OECD countries. This issue, which can also be considered a kind of substitution effect, also shows that increasing unemployment rates correlate with the tax rates on increased labor in developed countries. Deviations in the share of National Income in countries with the highest level of development in OECD countries have led to a further increase in the negative tax perception in taxes on labor income. Regardless of the perspective, the sharing of the tax burden by both the employer and the employee due to the high social security contributions in these countries is above the standards for taxation of labor income that the OECD can accept. The fact that the labor costs under the name of the insurance premium or social security contributions are based on the compulsory insurance practices of the system has also formed the general framework of the new tax reforms that should be made.

This negative phenomenon causes the fair tax targets to deviate and pushes the tax burden distribution of labor incomes within the scope of OECD to an even more negative process (OECD, 2017: 233). For example, the fact that the tax shares from social security taxes are higher than the shares from personal income taxes in Germany resulted in a very high level of reflection on sharing the tax rates from labor income as a cost between the worker the employer. The same can be said for Korea. It is observed that the high social security contributions related to the increasing social security and welfare state approaches in Korea have turned into an income tax practice where labor income is taxed at a higher rate, apart from being taxed as income tax. This process for recent years in which income tax and social security contributions are evaluated together at every stage has been directly taken place in the process as an up-to-date view of the labor income-oriented tax system within the scope of OECD. The predominant point of this approach is that the personal life characteristics of the employee who receives labor income are subject to more financial exceptions and take place in the process. On the other hand, it is aimed to indirectly reduce the tax burden by trying to finance the reductions in social security contributions with the approaches related to public finance cost security measures in Denmark, Germany, Spain, and Greece (Çağdaş, 2020: 91). It copes with this phenomenon; in other words, this means taking measures related to social security contributions and other financial decisions.

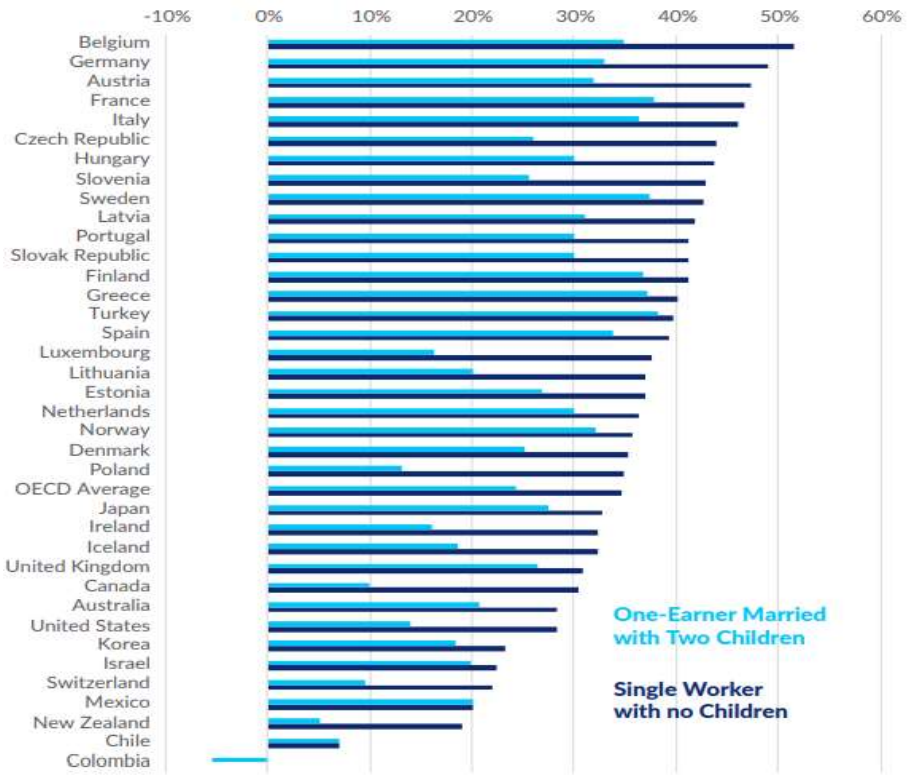
2. EFFECTIVE APPEARANCE OF THE TAX BURDEN ON LABOR IN THE OECD AND DYNAMICS IN THE PROCESS

The outlook of the tax burden on labor in OECD countries reveals an essential and striking variability. This variability is directly related to the level of development in OECD countries, and it appears that the tax burden is relatively high, especially in continental European countries. It should emphasize that the taxes levied on labor, which is considered a personal income tax in these countries, show significant differences with individual characteristics, especially in a different location. However, it is understood that the GDP values of the countries in connection with the level of development create an important impact value in this regard (Meyer, 2017: 182), which means that the linear rated the labor taxes. The top of the countries above the OECD average, especially Belgium and Germany, reveal a remarkable labor tax weight.

2.1. The Tax Burden on Labor Income in the Scope of Personal Characteristics in OECD, and Differences in Terms of OECD

Understanding the tax burden on labor in OECD countries necessitates dealing with the subjective characteristics of the tax on labor income as an income tax. It appears that the taxes collected on labor consider two crucial criteria in which personal factors are considered in practice. The first of these is the person's marital status, and the other is the position of the married person proportional to the number of children or the number of dependents. This measure is generally accepted as generally accepted worldwide within the scope of international personal income tax. It also reveals some significant findings and important information regarding tax burden when comparing different scale effects on taxation on countries (Gale and Samwick, 2014: 7).

This situation put forth a public interventionist structure related to reducing the tax burden on labor incomes or making the current tax burden less palpable. However, this does not change that developed OECD countries with high GDP levels are also the countries with the highest tax burden. In other words, as seen in Figure 1 above, in countries such as Belgium, Germany, Austria, France, and Italy, it is remarkable for these countries that the tax burden of a married taxpayer with children obligations is at a high level. In Figure 2 below, it is possible to see the tax burdens of taxes on labor in OECD countries in a position where personal characteristics are also considered:



Source: Cristina Enache (2021), *A Comparison of the Tax Burden on Labor in the OECD,* Tax Foundation Fiscal Fact, No. 764, May 2021, Washington D.C.: Tax Foundation, 2021, p. 5; OECD (2021), Tax Wages 2021, https://www.oecd.org/tax/taxing-wages-20725124.htm (Accessed September, 20.2021).

.Figure 2. The Appearance of Tax Burden on Labor in OECD for 2020

As seen in Figure 2 above, although the countries with the highest level of taxes on labour are the developed OECD countries, the OECD average tax rates on this labour vary between 24% and 38%, depending on the individual's characteristics. It can be said that the fact that the high level of GDP also increases the share of national income per capita is insufficient to prevent the negative tax effect arising from labour taxes from being felt more severely. Generally, as in developed countries, the tax burden is lower on people whose marital status is dependent on the number of dependent children also expresses some features that take place in the process as a social welfare state principle. It should be emphasized that the same applies to taxes on labor under the OECD (Padovano and Galli, 2001: 46-47).

In this respect, personal taxation with different marital statuses takes place in the process in clear and transparent scales that are subject to different tax magnitudes. Therefore, this phenomenon is able to be financed by supporting the public financial resources in proportion to the level of social welfare, especially according to the level of development of the countries in terms of a lot of OECD countries. It is also a fact that in countries such as Colombia and Chile, where marital status is considered in this way, the tax burden on labour is significantly low and even subject to excessive public support. It is observed that the existence of a tax burden above the OECD average in OECD countries, especially in countries with high GDP, causes a significant tax burden deviation for countries where social expenditures continue to

increase as the tax burden. These deviations in the tax burden assessment within the scope of OECD reveal a structure proportional to the increase in personal characteristics and income level.

The taxes levied on labour in Turkey and Greece show a position that expresses the tax values levied on labour, which is quite close to a tax burden. The function of the taxes on labour that can be considered a negative income tax (Widerquis, 2002: 13 and 18), the position of Colombia as the only country that can be considered a negative personal income tax on wages shows a remarkable feature. The ratio of social expenditures paid to wages earned in low-income countries is higher than in developed countries. In these countries, it is observed that taxpayers have lost their neutrality in paying taxes, especially in terms of labour taxes, and the unregistered worker limits are at high rates in these countries. It can be said that among the important reasons for the increase in informal work in these countries are the high tax rates on labour and the weakly supported position of wage incomes received by low-income groups by social policies (Dabla-Norris et al, 2015: 28). In OECD countries with high-income levels, the structural position of social security supports, despite the high tax values on labour, increased the tolerable tax burden limits and positively also affected the employment volume in response to high labour taxes.

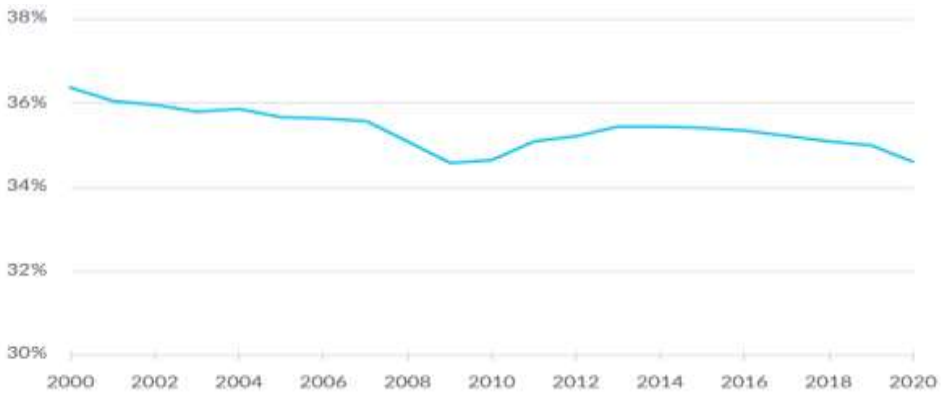
2.2. Periodic Changes in The Taxes on Labour in OECD Countries and The Effects of Its Changes for Countries

We have emphasized that the tax burden of countries in OECD countries differs in the income level of the nations. It is difficult to say that the tax burden in OECD countries after 2000 showed a significant change as the OECD average. However, with the social welfare policies taking place in the process depending on the changing short-term conjuncture, it is possible to say that the labour tax on labour rose, which was around 36%, decreased to approximately 30.5% as the OECD average. This situation can be explained by the fact that the structure of the financial crises experienced at the global level, which is equivalent to the increase in income options, also creates an important effect mechanism and reduces the tax burden on income levels supported by social welfare policies along with the decrease in incomes during the crisis processes (UNICEF, 2019: 56).

This situation created a position that caused the tax burden to be even lower in 2009. But, in any case, it is possible to watch that the deviations in average labour taxes on labour income wages for 2009 are around 32%, as far from the desired. But, again, it can say that the formation intended to wage earners with labour-wage income has a significant positive effect on theirs. In addition to all this, it should emphasize that the differences in current income levels in OECD countries, especially the high tax rates seen in Figure 2 below, do not reduce the average values after 2000. It should mention that the critical factor regarding this situation in this period after 2000 is the continuous nature of taxpayers in countries with high wage income in paying high labour-wage income tax.

This approach also reveals the structural deviations that affect the tax burden phenomenon to the detriment of the taxpayer, where different tax burden understandings and differences in practice arise (AICPA, 2017: 7). Because as of 2020, as a result of the fluctuations on the

basis of taxes collected on labour after 2000 in the last 20 years, as the average of OECD countries, it has not been able to demonstrate a fully stable position as the OECD average. On the other hand, after these fluctuations, it is still possible to say that there was a slight decrease in the taxes on labour. In addition, it should emphasize that fiscal adjustment policies are frequently on the agenda in different approaches in terms of countries and these differences are effective in creating a tax burden below the OECD average on the basis of developing countries. In Figure 3, below, it is possible to see that the deviations of labour tax rates as from the OECD average from 2000 to 2020 due to the considered structural differences as related to every development level and household of OECD countries:



Source: Cristina Enache (2021), *A Comparison of the Tax Burden on Labor in the OECD*, Tax Foundation Fiscal Fact, No. 764, May 2021, Washington D.C.: Tax Foundation, 2021, p. 7. OECD (2021), Tax Wages 2021, https://www.oecd.org/tax/taxing-wages- 20725124.htm. (Accessed September, 20.2021).

* As % of Individual Income

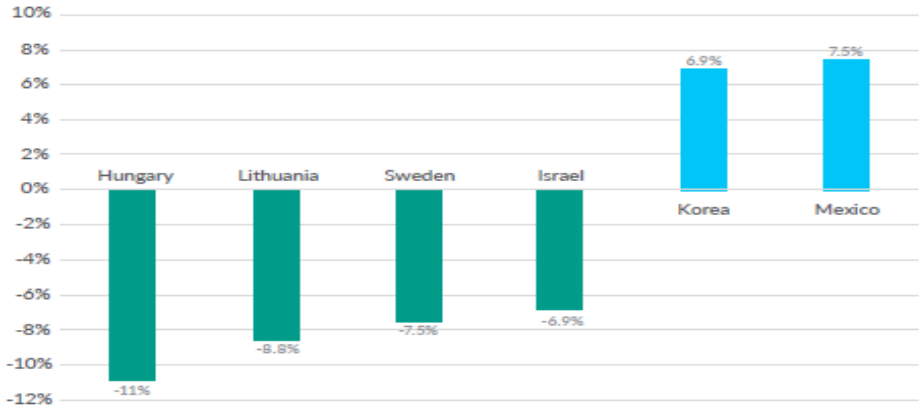
Figure 3. Tax Burden on Labor Income as OECD average after Labor Incentives (2000-2020)

As seen in Figure 3 above, the tax burden on labour incomes did not reveal a significant change, although there were some structural changes after 2000. In other words, the rate of change in the average tax burden in OECD countries did not fall below the rate of 34% as a percentage of the income obtained. This situation reveals a structure compatible with the income tax rates of taxpayers who earn income from other income elements. It can be said that the tax rates of additional income tax elements on average income are equivalent to these values, especially with the European Union and OECD average.

What is striking here in terms of labour-wage revenues is that labour incomes are not subject to a tax separation or that the practices subject to the current labour-wages tax separation are no longer in practice. This situation in recent years, although moving away from the principle of tax separation in terms of tax valuation within the scope of OECD, it also brings up the support of social policies for those who obtain labour-wage tax with different public finance sources. But, it is not possible to say that this approach is very effective in the practice intended to light the labour tax burden on the labour-wages obligators. Accordingly, social security contributions are subject to different perceptions in countries, the social approaches in a tax burden change, and the level of an indirect taxation effect revealed by social security

contributions, OECD countries such as Belgium, Germany, and France, and other emerging economies (OECD, 2014: 23).

After 2000, the different effects of this phenomenon in financial impact and tax burden between countries have further differentiated negatively. In addition, it should emphasize that fiscal adjustment policies are frequently on the agenda in different approaches in terms of countries and these differences are effective in creating a tax burden below the OECD average on the basis of developing countries. It can be said that the differences in policies that come to the fore with this frequency are subject to significant data load differences with the number of dependent children and other household characteristics of individuals subject to labour-wage incomes in OECD countries. These countries have brought to the fore policies supported by social policies on labour taxes to contribute to an effective system that can increase the employment volume and where social tax practices come to the fore. With the decreasing tax burden on declining labour, they have captured the significant importance of employment at a considerable level of emerging economies. These countries' new economic-based financial formations regarding their social policies in practice have also reduced external tax costs as a factor that positively affects and facilitates the acquisition of global financial resources by these countries. In Figure 4 below, it is possible to see that the labour-wages tax burden decreased between 2000 and 2020 due to the financial practices of these countries despite the increased rates in countries such as Mexico in Korea:



Source: OECD (2021), Tax Wages 2020, https://www.oecd.org/tax/taxing-wages-20725124.htm (Accessed September, 20.2021). Cristina Enache (2020), *A Comparison of the Tax Burden on Labor in the OECD*, May 11, 2020, https://taxfoundation.org/tax-burden-on-labor-in-the-oecd-2020/ (Accessed September, 21.2021).

*As a Single Worker with no Children Earning a Nation's Average Wage

Figure 4. The Impact of Changes in the Income Tax System on the Tax Burden in OECD Countries (2000-2020)

As shown in Figure 4 above, significant improvements were made in income tax rates in some OECD countries, with priority being given to taxes on labour, between 2000 and 2020. In contrast, in taxes on labor income, there is an increase in tax burden rates in some OECD countries. However, it should emphasize that practicing's in some OECD countries came to the practicing forefront with the decrease in the tax burden on labour between 2000 and 2020, which means that the practices created a positive income effect on the labour-wage rests.

Hungary, Lithuania, Sweden, and Israel are at the forefront of these countries, which realized a significant reduction in taxes on labour-wage incomes as OECD countries.

In terms of the tax burden, it appears that the most significant positive development on a taxpayer basis was in Hungary years 2000-2020. Between 2000 and 2020, a favourable tax burden effect was created by providing an average of - 11% negative reduction in tax burdens on labour taxes in Hungary. There were also significant decreases in the tax burdens of personal income tax for the years 2000-2020 in Lithuania and Sweden in other countries. In contrast to the -8.8% decrease in Lithuania, significant reductions in income tax burdens around -7.5% in Sweden is striking. Especially in these two countries, the decline of the tax burden based on personal income tax and the recent reforms of social welfare policies in these countries play an important role. Especially after Lithuania acceded to the EU, cohesion policies had a significant impact on the increase in social expenditures; with the effect of increasing National Income, there has been a considerable decrease in the tax burdens related to the taxes levied on the individual income tax. It can be said that important social effects in Israeli-based policies are effective on the basis of taxes on labour.

However, it appears that the tax burden on labour incomes has increased in OECD countries such as Korea and Mexico, unlike these countries. In Korea and Mexico, an increase of about 7% in personal income tax rates, including labour income, between 2000 and 2020 (6.9% in Korea, 7.5% in Mexico). At this point, it should emphasize that the tax burden increases in the personal income tax rates in Korea and Mexico is due to these countries' subjective structure and subjective global relations. After the South Asian crisis, it is observed that the increase in income level, which was increased by the production and employment increase targets in South Korea, resulted in significant increases in tax rates. In all these processes, a possible result of global incompatibilities has emerged as a significant tax increase effect; especially the tax burden effect on individual income has resulted in a considerable tax effect of up to 7.5 percent years 2000-2020.

In addition, the financial resource inadequacies in the country, which has increased significantly in the last period, necessitated the increase of tax revenues as an essential source of financing and resulted in a significant increase in the tax burden on personal income tax on the individual tax burden. These increases were accepted as a critical revision reason for the tax system in this country and created a significant increase effect on the tax burden after 2000. It is observed that especially the increasing export potential of South Korea at the global level has an essential place in increasing the national tax burden in this country. On the other hand, it appears that the increased tax burden in Mexico is a result of increasing production costs and increasing current account deficits. On the other hand, it is understood that increasing global costs are also effective in the increase in the personal income tax burden in Mexico and the negative effects of current account deficit costs in the implementation of exchange rate policies.

Discussion

However, it should not be overlooked that countries that have reduced the tax burden limits as individual income tax, including labour income in some OECD countries, also have significant positive effects, with significant structural change effects in their structural financial change processes. The positivity in the social policies and global financial-commercial relations of countries such as Hungary, Lithuania, and Sweden have created a significant positive level of the social financial impact on the personal income tax of these countries. Certainly, this fiscal phenomenon has created n important adverse effect in the increase of the said tax burden due to the fiscal adjustments as a mismatch worldwide. On the other hand, as to this increasing phenomenon, it can be said that, apart from the incompatibility of structural fiscal policies on the global surface as current policies in Mexico, it can also be communicated to arise from the incompatibility of these practiced fiscal policies.

Actually, in this country, there has been a fiscal structural mismatch as related to the changing production processes, which has been at the forefront line years 2000-2020 to the worldwide. Increasing production process targets and the corresponding lack and incompatibility of fiscal incentive policies have led to significant increases in the direct personal income tax burden in tax practices in Mexico as a national policy. The failure of the studies on reducing the personal tax burden on labour incomes in OECD countries in some countries is a financial phenomenon related to the financial balances of these countries and the provision of these balances with financial practices. In overcoming this phenomenon, it is evident that countries' need for global financial resources and employment level incentives related to a significant increase in the position of international trade level make it inevitable. Especially in developing OECD countries, the necessity of continuing all financial values within the global level harmonization policies with common corporate goals arises. The need to balance the requirements for a worldwide financial balance with these imperative options is one of the main handicaps to be overcome for the developing OECD countries.

3. CONCLUSION

It appears that there are significant differences in the evaluation of tax-oriented labour-oriented tax systems in OECD countries, and it is difficult to talk about the existence of a standard labour-oriented tax burden system within the Union. It is observed that this difficulty arises not only from the differences in the level of development of the countries but also from the differences arising from the level of influence of the countries in question in the implementation of different social policies. In addition to this, it is understood that the employment volume and production level of the countries and the position of the potential on the global scale directly affect the individual tax burden including tax burden on labour tax burden as a financial resource. Besides, it is observed that tax burden increases due to the inadequacy of national resources and other financial resources used in financing the increasing current account deficits. Especially in countries that have different increases in the level of current account deficits, and the tax burden phenomenon has fallen far from encouraging labour supply with the newly introduced taxes in practice. It can be said that the

other reason for the significant fluctuations in the tax burden after 2000 is directly also related to the level of perception of financial crises at the country level.

The shortcomings in promoting increased employment volumes related to economic growth targets appear to be a significant handicap, particularly for emerging economies within the OECD scope. It is very meaningful and remarkable that the support of production and the labour-oriented tax system and the removal of a tax separation from practice in many countries. Regardless of the stage, OECD countries have reached negative results in tax burdens by revising their tax systems and increasing taxes, as a result of the divergence of mutual trade relations on the global surface, which is based on financial resources and can obtain healthy financial resources. The fact that the tax burden in the developed European countries and especially in the Continental Europe-oriented countries is quite high, even if it is tried to be balanced with the financing of the national income per capita within the scope of the developed level of the national income of these countries, it is seen that there are significant problems in considering the personal characteristics of the increasing tax burdens. In this context, the evaluation of the personal tax burden makes it necessary to put forward a more harmonious and rational process, especially in proportion to the personal position of the households earning labour income and the number of their dependents. But, in some the practicing of OECD countries, this process turns into a higher tax burden with higher social contribution shares of those who earn labour incomes and results in a heavy tax burden at different levels despite the high level of development of the countries. However, although the resultant effect of fluctuations in the tax burden in some OECD countries after 2000 until 2020 seems to be a common adverse effect, it is understood that the particular fiscal emphasis of the tax burden phenomenon after the financial crises in less developed OECD countries is higher.

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A STUDY ON THE EVALUATION OF THE SERVICE RECEIVED FROM CITY HOSPITALS DURING THE PANDEMIC PERIOD - BAŞAKŞEHIR ÇAM AND SAKURA CITY HOSPITAL CASE

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Pandemi Döneminde Şehir Hastanelerinden Alınan Hizmetin Ölçülmesi ve Değerlendirilmesine Yönelik Bir Çalışma - Başakşehir Çam ve Sakura Şehir Hastanesi Uygulaması

Özet
Pandemi döneminde sağlık sistemine olan talep büyük ölçüde artmış ve sağlık sisteminin önemi tüm dünyada tekrar fark edilmiştir. Bu süreçte birçok ülkenin sağlık sistemleri çökmüş, yetersiz kalmış veya birçok problem çıkmıştır. Çalışmamızın amacı, Pandemi döneminde hizmete giren Türkiye'nin en büyük şehir hastanesinin topluma yararını ölçmek ve nasıl daha iyi hizmet sunabilir sorusunun cevap aramaktır. Bu çalışma kapsamında; İstanbul İli Başakşehir İlçesinde; Pandemi döneminde hizmete giren Türkiye'nin en büyük şehir hastanesinden alınan hizmetin kalitesini ve hastaların tatmin düzeyinin ölçülmesi amaçlanmıştır. Anketimize verilen cevaplar ışığında Pareto Analizi yapılmış, eksik yönler belirlenmiştir. Türkiye'nin en büyük şehir hastanesine SWOT analizi uygulanarak mevcut durum tespiti yapılmıştır. Araştırmada örnekleme tekniği kullanılmış ve rassal olarak seçilen 45 hastaya anket uygulanmıştır. Elde edilen verilen SPSS 25 programı uygulanarak analiz edilmiştir. Hasta memnuniyeti, SERVQUAL yöntemi kullanılarak ölçülmeye çalışılmıştır. Anket çalışması Başakşehir Çam ve Sakura Şehir Hastanesinde açıldığı günden bu yana hizmet alan 45 hasta üzerinde 19 soru ile ölçüm yapılmıştır. Sorulardan ilk 5 tanesi demografik, kalan 14'er soru ise hastaların tatmin düzeyi ve hastanenin performansını ölçek amacıyla sorulmuştur.
Başakşehir Şehir Hastanesi özelinde, güçlü yanlardan en baskınları: devlet desteğinin yüksek olması, hizmet kalitesinin yüksek olması, çok sayıda teknolojik cihazları bünyesinde bulundurmasıdır. Tehditlerinden bazıları ise: hastanenin şehir merkezine uzaklığı, ekonomik istikrarsızlık hizmet maliyetlerinin yüksek olmasıdır. Fırsatlar konusunda, ülkemizin jeopolitik konumu itibariyle sağlık turizmine çok uygun olması sebebiyle hastanemizin en büyük fırsatlarındandır.
Hasta memnuniyetinin ölçümüne ve kalitenin arttılmasına yönelik yaptığımız araştırmada, Covid-19 hastalığının hayatımıza girmesiyle birlikte hastaların memnuniyet düzeylerinin artmasının en büyük etkilerinden birinin de gerekli önlemlerin alınması ve Covid-19 Pozitif vakalar ile karşılaşma ihtimalinin en az düzeye indirilmesi olmuştur.
Hastaneye başvuracak kişilerin başvurma vaktini ertelemek zorunda kalmaması memnuniyet düzeylerini arttırmıştır.
Doktor iletişiminin, doktorların ilgisi ve hastalara yaklaşımının hasta memnuniyeti ve kalite üzerinde önemli ölçüde etki bıraktığı gözlemlenmiştir. Bununla birlikte; randevu alma

işlemlerinde kolaylık hastaneye ve doktora hemen ulaşılabilmesi durumu hastaları memnuniyet ve tatmini üzerinde çok etkilidir.
Araştırmada ayrıca, hastaların genel olarak Türkiye'nin en büyük hastanesi olan Başakşehir Çam ve Sakura Şehir Hastanesi'nden memnuniyet düzeyleri incelenmiştir. Elde edilen veriler, hastaların Başakşehir Çam ve Sakura Şehir Hastanesi'nden memnun olduğunu ve çevresindeki kişilere, tavsiye edeceği sonucuna varılmıştır.

Anahtar kelimeler: Covid-19; Pandemi; Şehir hastanesi; hasta memnuniyeti; hizmet kalitesi; SWOT analizi

Abstract
During the pandemic period, the demand for the health system has increased greatly and the importance of the health system has been recognized all over the world. During this time, the health systems of many countries have collapsed, become insufficient or many problems have arisen. The aim of our study is to measure the benefit of Turkey's largest city hospital, which came into service during the pandemic period, and to seek an answer to the question of how it can provide better service. This scope of work; In Istanbul Province Başakşehir District; It is aimed to measure the quality of the service and the satisfaction level of the patients received from Turkey's largest city hospital, which was put into service during the pandemic period. In the light of the answers given to our questionnaire, Pareto Analysis was carried out and deficiencies were determined. The current situation was determined by applying SWOT analysis to Turkey's largest city hospital. Sampling technique was used in the study and the obtained was analyzed by applying the SPSS 25 program. Patient satisfaction was tried to be measured using the SERVQUAL method. The survey was measured with 19 questions on 45 patients who have been serving in Başakşehir Çam and Sakura City Hospital since the day it was opened. The first 5 questions were asked about demographics, and the remaining 14 questions were asked to scale the satisfaction level of the patients and the performance of the hospital.
In Başakşehir City Hospital, the most dominant strengths are: high state support, high service quality, and having a large number of technological devices. Some of the threats are: the distance of the hospital to the city center, economic instability, high service costs. In terms of opportunities, it is one of the biggest opportunities of our hospital, as it is very suitable for health tourism due to the geopolitical location of our country.
In our research to measure patient satisfaction and increase quality, one of the biggest effects of the increase in the satisfaction level of patients with the introduction of the Covid-19 disease into our lives has been to take the necessary precautions and to minimize the possibility of encountering Covid-19 positive cases.
The fact that people who will apply to the hospital do not have to postpone their application time increased their satisfaction levels.
It has been observed that doctor communication, doctors' interest and approach to patients have a significant impact on patient satisfaction and quality. With this; The convenience of making an appointment, the fact that the hospital and the doctor can be reached immediately are very effective on the satisfaction and satisfaction of the patients.
In the study, the satisfaction levels of the patients from Başakşehir Çam and Sakura City Hospital, which is the largest hospital in Turkey, were examined. It was concluded that the patients were satisfied with Başakşehir Çam and Sakura City Hospital and would recommend them to the people around them.

Keywords: Covid-19; Pandemic, City hospital;; patient satisfaction; service quality; SWOT analysis

ABD'DE VERGİ BİLEŞENLERİ VE EKONOMİK BÜYÜME ARASINDAKİ İLİŞKİNİN TODA-YAMAMOTO NEDENSELLİK TESTİ İLE İNCELENMESİ

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Özet
Vergi gelirleri, ülke ekonomilerinde maliye politikasının en önemli araçlarından birisini oluşturmaktadır. Piyasaları düzenlemek ve kamu harcamalarını finanse edebilmek adına tercih edilen bu politika aracının kullanımı da oldukça etkin sonuçlar vermektedir. Bu doğrultuda çalışma vergi bileşenleri ile ekonomik büyüme arasındaki nedensellik ilişkisini araştırmaktadır. ABD ekonomisi üzerine yapılan incelemenin dönemi 1972-2020 yılları arasındadır. Seriler arasındaki nedensellik ilişkisini tespit edebilmek için Toda-Yamamoto (1995) nedensellik testi kullanılmıştır. Analizden elde edilen sonuçlar, vergi gelirleri ve uluslararası ticaret vergileri arasında çift yönlü ilişkiyi göstermektedir. Ayrıca vergi gelirlerinden GDP'ye doğru tek yönlü bir nedensellik ilişkisi belirlenmiştir. Aynı şekilde GDP'den de ürün-hizmet vergilerine ve uluslararası ticaret vergilerinden GDP'ye doğru tek yönlü nedensellik ilişkisi bulunmaktadır.

Anahtar Kelimeler: Vergi Gelirleri, Ekonomik Büyüme, Zaman Serisi, Toda-Yamamoto Nedensellik Testi

EXAMINATION OF THE RELATIONSHIP BETWEEN TAX COMPONENTS AND ECONOMIC GROWTH IN THE USA WITH THE TODA-YAMAMOTO CAUSALITY TEST

Abstract
Tax revenues constitute one of the most important instruments of fiscal policy in national economies. The use of this policy tool, which is preferred in order to regulate the markets and finance public expenditures, gives very effective results. In this direction, the study investigates the causality relationship between tax components and economic growth. The period of the study on the US economy is between 1972 and 2020. Toda-Yamamoto (1995) causality test is used to determine the causality relationship between the series. The results obtained from the analysis show the bidirectional relationship between tax revenues and international trade taxes. In addition, a one-way causality relationship from tax revenues to GDP has been determined. Likewise, there is a one-way causality relationship from GDP to product-service taxes and from international trade taxes to GDP.

Keywords: Tax Revenues, Economic Growth, Time Series, Toda-Yamamoto Causality Test

1.Giriş

Vergilerin toplam ekonomik faaliyet üzerindeki etkisi, makroekonomide son dönemde teorik anlamda tartışılan alanlardan birisini oluşturmaktadır. Hem Neoklasik hem de Keynesyen teorik modeller, vergi oranlarındaki artışın ekonomik aktiviteyi azaltıcı yönde bir etkide bulunduğu konusuna dikkat çekmekle birlikte, bu etkinin kesinliği noktasında fikir birliği söz konusu değildir. Bununla birlikte, teorik anlamda Neoklasik ve Keynesyen düşünce arasında aynı görüş söz konusu olsa da ampirik etkiler üzerinde aynı şekilde bir fikir birliği mevcut değildir. Bu anlamda yakın dönemdeki önemli bir istisna, "dışsal" vergi şoklarının yeni bir ölçüsünü oluşturan ve bunun kısa ve uzun vadeli ekonomik etkilerini tahmin eden ilk çalışmalardan birisi Romer ve Romer (2010) tarafından yapılmıştır (Karras ve Furceri, 2009:182). Romer ve Romer (2010), vergi politikaları ya bütçe açığını finanse etmek ya da ekonomideki diğer etkilere karşı koymak için uygulandığına dikkat çekmiştir. Devlet, vergi gelirlerini, kamu mallarının sağlanması, kanun ve düzenin korunması, dış saldırılara karşı savunma, sosyal ve ekonomik destek sağlamak, ticaret ve iş dünyasının düzenlenmesi gibi geleneksel işlevlerini yerine getirmek için kullanmaktadır.

Gerek mutlak tutar gerekse GSYİH'ye oran büyüklüğü olarak Kamu Gelirleri, ekonomik aktiviteden, üretim büyüklüğüne ve toplumun refah düzeyine kadar pek çok unsuru önemli oranda etkilemektedir. Devletler milli gelirin bir bölümünü kamu gelirleri olarak ekonomi içerisinden çekerek, bir yandan kamusal mal ve hizmetlerin finansmanını sağlamakta, diğer bir yandan da kamu gelirlerinden bir maliye politikası aracı olarak yararlanmaktadır (Akıncı, 2019:101). Günümüzde maliye politikası amaçlarına erişmek için kullanılan mali araçların başında vergi gelirleri gelmektedir. Vergi kaleminin kullanılması, ekonomilerin kullanmış olduğu en büyük maliye politikası araçlarından birisini oluşturmaktadır. Gelişmiş ülkeler bu aracı ekonomik istikrarın sağlamasında kullanırken, gelişmekte olan ülkeler ise ekonomik kalkınma için kullanmaktadırlar (Iriqat ve Anabtawi, 2016: 54). Ülkelerin sürdürülebilir kalkınma hedeflerini gerçekleştirebilmeleri için doğrudan yabancı yatırımlar gibi faktörlerin etkisi belirlenebilirken, vergi artışlarının ve vergi yapısındaki değişikliklerin makroekonomik etkilerinin tam olarak belirlenemediği dikkat çekmektedir. Bu durumda şüphesiz veri yetersizliğinin etkili olduğu görülmektedir (Mcnabb, 2018:173). Sağlıklı veriler üzerinden hareketle vergilerin makroekonomik etkilerini belirleyebilmek ekonomilerin uzun dönemli kararları verebilmesinde önemli bir unsur olacaktır.

Amerika Birleşik Devletleri vergi yükü olarak değerlendirildiğinde OECD ortalamasının altında olan gelişmiş ekonomilerden bir tanesidir. Amerika Birleşik Devletleri'nde vergiler federal (merkezi hükümet), eyalet ve yerel bazda (belediye) toplanmaktadır. Her bir birim kendi vergilerini uygulamakta ancak birimler arasında paylaşılan vergi söz konusu olmamaktadır. Federal düzeyde en önemli gelir kaynakları gelir vergisi ve maaş ve ücretlerden yapılan kesintiler iken eyalet düzeyinde satış ve gelir vergileri ve yerel düzeyde ise servet vergileridir (Karyağdı, 2006: 13). Bu çalışmanın amacı ABD ekonomisinde Vergi gelirlerinin ekonomik büyüme üzerindeki etkisini araştırmaktır. Çalışma 1972-2020 dönemleri arası yıllık verilerinden oluşmaktadır. Çalışmanın birinci bölümünü giriş oluştururken, İkinci bölümde teorik çerçeve sunulmakta ve geniş bir literatüre yer verilmektedir. Üçüncü bölümde seriler arasındaki ilişkiyi açıklayan analize yer verilirken, dördüncü bölüm ampirik sonuçlardan hareketle sonuç ve değerlendirmeye ayrılmıştır.

2. Teorik Çerçeve ve Literatür Taraması

Vergi gelirleri, maliye politikası araçlarından bir tanesi olan kamu gelirlerinin en büyük kısmını oluşturmaktadır. Bir ekonomide gerçekleşecek olan büyüme oranları vergi gelirlerini etkileyebilmektedir. Öte yandan vergi yapısında ve politikalarında yaşanan değişikliklerde ekonomik büyüme üzerinde olumlu ya da olumsuz etkiler gösterebilmektedir. Bu durum

şüphesiz vergiler ile ekonomik büyüme arasında sıkı bir ilişki olmasından kaynaklanmaktadır. Keynesyen teoriye göre vergilerde meydana gelen azalış, toplam talebi artırmakta, bu durum ise ekonomik büyümeye yol açmaktadır. Arz yanlı iktisat teorisine göre ise vergilerdeki azalış, toplam arzda artış meydana getirerek ekonomik büyümeyi olumlu yönde etkilemektedir (Songur ve Yüksel, 2018: 48).

Solow geliştirmiş olduğu Neo-klasik büyüme modeli ile vergilerin ekonomik büyüme üzerindeki etkisini inceleyen çalışmalardan ilk örneklerini ortaya koymaktadır. Geliştirmiş olduğu Cobb-Douglas üretim fonksiyonunda uzun dönem veya durağan büyüme oranının sıfır olduğunu göstermektedir. Bu durum üretim büyümesinin vergiden etkilenmeyeceği çıkarımını ortaya koymaktadır. Öte yandan Romer ve Lucas tarafından literatüre kazandırılan içsel büyüme teorilerinde ise vergilerin çıktı düzeyleri üzerindeki etkisi kabul edilmektedir ancak büyüklük noktasında değerlendirmeler farklılaşmaktadır (Mucuk ve Alptekin, 2008: 161). Barro (1990) ise vergilerle aracılığıyla finanse edilmiş olan kamu harcamalarının kişi başına büyüme oranları üzerinde önemli etkilere sahip olduğunu ortaya koymaktadır.

Vergiler, faktör birikimi ve toplam faktör verimliliği üzerindeki etkileri olmak üzere iki kanal aracılığıyla büyümeyi etkileyebilmektedirler. Faktör birikimi kanalıyla vergiler, sermaye maliyetini artırabilirken, aynı zamanda yatırım teşviklerini de azaltmaktadırlar. Bu durum daha yüksek olan vergi oranlarının yatırımları azaltmasına ve aynı ölçüde ekonomik büyümenin olumsuz yönde etkilenmesine yol açmaktadır. Ayrıca, vergiler bazı sektörlere teşvikler sağlayarak sermaye tahsisini bozabilmekte ve bu şekilde toplam yatırımın verimliliğinde azaltıcı etkide bulunabilmektedir. Vergilerin büyümeyi etkilediği bir diğer kanal ise toplam faktör verimliliğidir. Vergiler faktör fiyatlarını bozmakta ve kaynak tahsisinde verimlilik kaybına neden olmaktadır (Feldstein, 2006). Ayrıca vergilerin Girişimci faaliyetler üzerinde de etkisi bulunmaktadır. Girişimcilik faaliyetleri, toplam faktör verimliliğini artırabilecek yeni fikirler üretilmesini teşvik etmektedir. Bu nedenle literatürde yer alan bazı çalışmalar, yüksek vergilerin girişimcilik faaliyetlerini olumsuz etkilediğini ortaya koymaktadır (Ferede ve Dahlby, 2012: 564).

Vergi gelirleri ve ekonomik büyüme ilişkisini inceleyen gerek ulusal literatürde gerekse uluslararası literatürde pek çok çalışma bulunmaktadır. Branson ve Lovell (2001), 1946-1995 döneminde Yeni Zelanda'da EKK yöntemi kullanarak yaptıkları çalışmada, dolaysız vergilerin dolaylı vergilere kıyasla ekonomik büyüme üzerinde olumsuz etkilere neden olduğu sonucuna ulaşmaktadırlar. Lee ve Gordon (2005), 1970–1997 yıllarında seçilmiş ülkelerin verileri kullanılarak vergi politikalarının bir ülkenin büyüme oranını nasıl etkilediğini araştırmaktadırlar. Yapılan analiz sonuçları kurumlar vergisi oranlarındaki artışın, ülkelerin gelecekteki büyüme oranlarının düşmesine neden olduğunu göstermektedir. Arnold (2008), 1971-2004 yılları arasında 21 OECD ülkesinde vergi yapısı ile ekonomik büyüme ilişkisini araştırmaktadır. Kurumlar vergisinin kişi başı GSYH üzerinde olumsuz etkisi olduğu, ayrıca kişisel gelir vergilerinin artışı ile büyüme arasında negatif bir ilişki olduğu sonucuna ulaşmaktadır.

Mucuk ve Alptekin (2008), çalışmalarında 1975-2006 yılları için Türkiye ekonomisinde vergi gelirleri ile ekonomik büyüme ilişkisini Johansen eşbütünleşme ve VAR analizi kullanarak araştırmaktadırlar. Uzun dönemde vergi gelirleri ekonomik büyümeyi etkilemekte olduğu, dolaysız vergilerin ise negatif olarak etkilediği sonuçları elde edilmektedir. Karras ve Furceri (2009), vergideki değişikliklerin ekonomik büyüme üzerindeki etkilerini araştırmaktadırlar. 1965-2003 arası yıllık verileri kullanılarak 19 Avrupa ekonomisinde panel veri analizi gerçekleştirilmiştir. Çalışmada vergilerdeki artışın kişi başı reel GSYİH üzerindeki etkisinin negatif ve kalıcı olduğu sonucuna ulaşılmaktadır. Xing (2011), çalışmasında 1970-2004

dönemi için 17 OECD ülkesinde panel verilerini kullanarak, gelirden bağımsız vergi yapısı değişikliklerinin kişi başına uzun vadeli gelir düzeyindeki etkilerini tahmin etmektedir. Sonuçlar vergi gelirinde emlak vergilerine doğru kaymaların uzun vadede kişi başına daha yüksek gelir düzeyiyle ilişkili olduğu göstermektedir.

Ferede ve Dahlby (2012), Kanada eyalet hükümetlerinde vergi oranlarının ekonomik büyüme üzerindeki etkisi 1977-2006 dönemini kapsayan panel verileri kullanılarak incelenmektedir. Daha yüksek bir kurumsal gelir vergisi oranının daha düşük özel yatırım ve daha yavaş ekonomik büyüme ile ilişkili olduğu sonucuna ulaşmaktadırlar. Szarowska (2013), 24 AB üyesi ülkede 1995-2010 yılları arasını kapsayan dönemde Panel regresyon ve Çift Yönlü Granger Nedensellik Testleri kullanılarak vergi gelirleri ve ekonomik büyüme arasındaki ilişkiyi araştırmaktadır. Sonuçlar, teori doğrultusunda tüketim vergilerinin istatistiksel olarak anlamlı olumlu etkisini ve emek vergilerinin GSYİH büyümesi üzerindeki olumsuz etkisini doğrulamaktadır. Çevik ve Oh (2013),26 OECD ülkesinde 1980-2010 döneminde vergi gelirleri ile ekonomik büyüme ilişkisini araştırmaktadırlar. Panel ARDL yöntemi kullanılan çalışmada, gelir ve servet vergilerinin ekonomik büyüme üzerinde negatif, tüketim ve kurumlar vergilerinin ise pozitif yönde etkili olacağı sonuçlarına ulaşılmaktadır.

Yi ve Suyono (2014), Çin'in Hebei şehrinde vergi gelirleri ile ekonomik büyüme arasındaki ilişkiyi 1978-2011 dönemi için araştırmaktadırlar. Polinom dağıtılmış gecikme (PDL) modelinin kullanıldığı çalışmanın sonuçları, vergi gelirlerindeki artışın ekonomik büyüme üzerindeki olumsuz etkisinin düşündüğünüz kadar ciddi olmayabileceğini ve vergi indirimlerinin Hebei Eyaletinde daha olumlu etkiler yaratacağını göstermektedir. McNabb ve LeMay-Boucher (2014),1980-2010 dönemini kapsayan verileri içeren çalışmalarında, 100'den fazla ülkede Ortak İlişkili Etkiler Ortalama Grubu (CMG) tahmincisi kullanılarak vergi gelirleri ile ekonomik büyüme arasındaki ilişkiyi analiz etmektedirler. Gelir vergilerindeki artışların (özellikle kişisel gelir vergileri) GSYİH büyüme oranlarını olumsuz etkilediği bulunmuştur. Abdiyeva ve Baygonuşova (2016), Kırgızistan'da vergi gelirleri ile ekonomik büyüme ilişkisini araştırmaktadırlar. 1995-2014 yıllarını kapsayan çalışmada Granger Nedensellik ve uzun dönem VAR analizi kullanılmaktadır. Elde edilen sonuçlar, dolaysız vergilerden ekonomik büyümeye ve ekonomik büyümeden dolaylı vergilere doğru tek yönlü bir nedensellik ilişkisi olduğunu tespit etmişlerdir

Stoilova (2016),1996-2013 dönemi için AB-28 ülkelerindeki vergi yapısının ekonomik büyümeye olan etkisine odaklanmıştır. Vergilendirmenin ekonomik büyüme üzerindeki etkisini havuzlanmış panel verileri üzerindeki etkisini incelemiştir. Elde edilen bulgular, tüketim vergileri, kişisel gelir ve mal vergilerinin ekonomik büyümeyi daha fazla desteklediğini göstermektedir. Iriqat ve Anabtawi (2016),1999-2014 yıllarında Filistin'de vergi bileşenleri ile ekonomik büyüme arasındaki ilişkiyi araştırmaktadırlar. Yapılan Granger Nedensellik testleri sonucunda, vergi gelirleri ile ekonomik büyüme arasında herhangi bir nedensellik ilişkisi bulunamamıştır. Demir ve Sever (2017),1980-2014 dönemini kapsayan çalışmalarında 11 OECD ülkesinde panel veri analizi kullanılarak yapmış oldukları çalışmalarında hem kısa dönemde hem de uzun dönemde toplam vergilerin, dolaysız ve dolaylı vergilerin gelir düzeyini negatif olarak etkiledikleri sonucuna ulaşmışlardır.

Dam ve Ertekin (2018), Türkiye'de 2005-2016 yılları arasında üç aylık veriler kullanılarak vergi gelirleri ile ekonomik büyüme ilişkisini araştırmaktadırlar. ARDL Sınır Testi yaklaşımının kullanıldığı çalışmada seriler arasında eş-bütünleşme ilişkisinin olduğu tespit edilmektedir. Kızılkaya ve Dağ (2018), 1976-2016 dönemi verileri kullanılarak Türkiye'de uzun dönemde dolaylı vergiler, dolaysız vergilerin ve toplam vergi gelirlerinin ekonomik büyüme üzerindeki etkileri araştırılmaktadır. Uzun dönemde dolaysız vergilerin büyümeyi

negatif yönde, dolaylı vergilerin pozitif toplam vergi gelirlerinin büyümeyi pozitif yönde etkilediği sonuçlarına ulaşılmıştır. Akıncı (2019), Türkiye'de 2006-2018 döneminde çeyrek yıl verileri kullanılarak toplam vergi gelirleri ile ekonomik büyüme arasındaki ilişkiyi araştırmaktadır. Zaman serisi analiz yöntemlerinden yararlanılan çalışmada elde edilen sonuçlar, vergi gelirleri ile ekonomik büyüme arasında uzun dönemli eşbütünleşme ilişkisinin var olduğunu göstermektedir. Tablo 1'de bu alanda yapılmış olan çalışmaların literatür özetine yer verilmektedir.

Tablo 1. Literatür Özeti

Yazar(lar)	Dönem	Ülke	Yöntem	Sonuç
Branson ve Lovell (2001)	1946-1995	Yeni Zelanda	EKK Yöntemi	Dolaysız vergiler, büyümeyi negatif etkiler.
Lee ve Gordon (2005)	1970–1997	Seçilmiş Ülkeler	Panel Analiz	Kurumlar vergisi, büyümeyi pozitif etkiler.
Arnold (2008)	1971-2004	21 OECD Ülkesi	Panel Analiz	Kurumlar vergisi, büyümeyi negatif etkiler.
Mucuk ve Alptekin (2008)	1975-2006	Türkiye	Johansen eş bütünleşme ve VAR analizi	Dolaysız Vergiler Büyümeyi Negatif Etkiler.
Karras ve Furceri (2009)	1965-2003	19 AB ülkesi	Panel Analiz	Vergilerdeki artış GSYİH'yi negatif etkiler.
Xing (2011)	1970-2004	17 OECD Ülkesi	Panel Analiz	Emlak vergisi artışı büyümeyi etkiler.
Ferede ve Dahlby (2012)	1977-2006	Kanada	Panel Analiz	Kurumlar vergisi, büyümeyi negatif etkiler
Szarowska (2013)	1995-2010	24 AB ülkesi	Panel Regresyon ve Granger Nedensellik	Tüketim vergisi pozitif, emek vergisi negatif etkiler.
Çevik ve Oh (2013)	1980-2010	26 OECD ülkesi	Panel ARDL Testi	Gelir ve servet vergilerinin ekonomik büyüme üzerinde negatif, tüketim ve kurumlar vergilerinin ise pozitif etkisi vardır.
Yi ve Suyono (2014)	1978-2011	Hebei	PDL Modeli	Vergi indirimleri pozitif etkiler.
McNabb ve LeMay-Boucher(2014)	1980-2010	100 ülke	CMG Modeli	Kişisel gelir vergisi artışı büyümeyi negatif etkiler.
Abdiyeva ve Baygonuşova (2016),	1995-2014	Kırgızistan	Granger Nedensellik ve VAR analizi	Dolaysız vergilerden ekonomik büyümeye ve ekonomik büyümeden dolaylı vergilere doğru tek yönlü bir nedensellik ilişkisi vardır.
Stoilova (2016)	1996-2013	AB-28 ülkeleri	Panel Analiz	Tüketim vergileri, kişisel gelir ve mal vergilerinin ekonomik büyümeyi pozitif etkiler.
Iriqat ve Anabtawi (2016)	1999-2014	Filistin	Granger Nedensellik testi	Vergi gelirleri ile ekonomik büyüme arasında herhangi bir nedensellik ilişkisi bulunamamıştır.

Demir ve Sever (2017)	1980-2014	11 OECD ülkesi	Panel Analiz	Toplam vergiler, dolaysız ve dolaylı vergiler, gelir düzeyini negatif olarak etkiler.
Dam ve Ertekin (2018)	2005-2016	Türkiye	ARDL Sınır Testi	Vergi gelirleri ile büyüme arasında eş bütünleşme vardır.
Kızılkaya ve Dağ (2018)	1976-2016	Türkiye	Zaman serisi analizi	Dolaysız vergiler büyümeyi negatif yönde, dolaylı vergiler pozitif, toplam vergi gelirleri büyümeyi pozitif etkiler.
Akıncı (2019)	2006-2018	Türkiye	Zaman serisi analizi	Vergi gelirleri ile ekonomik büyüme arasında uzun dönemli eş bütünleşme ilişkisi vardır.

Kaynak: Yazarlar tarafından hazırlanmıştır.

3. Veri Seti, Model, Ekonometrik Bulgular

Bu çalışmada ABD ekonomisinde 1972-2020 dönemleri için ekonomik büyüme ve vergi bileşenlerinin arasındaki nedensellik ilişkisi araştırılmaktadır. Dünya ekonomisi içinde önemli bir yere sahip olan Amerika'nın vergi gelirleri ile ekonomik büyüme ilişkisi ülke ekonomisi açısından kritik öneme sahip konulardan biridir. Çalışmanın sınırını vergi bileşenlerinin 1972'den başlaması belirlemiştir. Ekonomik büyümeye ek olarak modelde uluslararası ticaret vergileri, vergi gelirleri, ürün ve hizmetlerden alınan vergiler eklenerek genel olarak vergi çeşitlerinin nedenselliği gözlenmeye çalışılmıştır. Tablo 2 çalışmada kullanılan değişkenler, geniş tanımları ve kaynak veri tabanı gösterilmektedir.

Tablo 2. Analiz Kullanılan Veri Seti Tablosu

Değişken Adı	Değişken Tanımı ve Kısaltması	Kaynak
GDP	GDP (constant 2010 US$)	Dünya Bankası (WDI)
Uluslararası Ticaret Vergisi	U.T.V. (Taxes on international trade include import duties, export duties, profits of export or import monopolies, exchange profits, and exchange taxes)	Dünya Bankası (WDI)
Vergi Gelirleri	V.G. (Tax revenue refers to compulsory transfers to the central government for public purposes. Certain compulsory transfers such as fines, penalties, and most social security contributions are excluded. Refunds and corrections of erroneously collected tax revenue are treated as negative revenue)	Dünya Bankası (WDI)
Ürün-Hizmet Vergisi	Ü.H.V(Taxes on goods and services include general sales and turnover or value added taxes, selective excises on goods, selective taxes on services, taxes on the use of goods or property, taxes on extraction and production of minerals, and profits of fiscal monopolies)	Dünya Bankası (WDI)

Ampirik uygulamada, ilk adım olarak serilerin durağanlık düzeyleri belirlenmiştir. Durağanlık seviyelerinin belirlenebilmesi için The Augumented Dickey Fuller (ADF) ve Philips-Perron (PP) birim kök testleri uygulanmıştır. Birim kök test sonuçları Tablo 3'te gösterilmektedir.

Tablo 3. ADF ve PP Birim Kök Testi Sonuçları

Seviye	Değişkenler	ADF		PP	
		Sabit ve Trend		Sabit ve Trend	
		t-statist.	Prob.	t-statist.	Prob.
Düzey Değer	GDP	-3.040	0.1326	-2.513	0.320
	U. Tic. Vergisi	1.490	1.000	-0.532	0.978
	Vergi Gel.	-3.359	0.069	-2.676	0.250
	Ü.H.V.	-2.959	0.151	-3.075	0.123
Birinci Fark	ΔGDP	-3.630	0.003**	-3.515	0.011**
	ΔU. Tic. Vergisi	-7.261	0.000***	-5.891	0.000***
	ΔVergi Gel.	-6.048	0.000***	-7.040	0.000***
	ΔÜ. H. Ver.	-6.329	0.000***	-6.329	0.000***

Not: *, %1 ve **, %5 düzeyinde anlamlılığı ifade etmektedir. Δ ise fark işlemcisini temsil etmektedir.

Birim kök testinin olasılık ve istatistik değerlerine bakıldığında değişkenlerin tamamının her iki test yönteminde de I (1) düzeyinde durağan hale geldiği görülmektedir. Değişkenlerin durağanlık düzeylerinin belirlenmesinin ardından Toda-Yamamoto nedensellik testinin kullanılmasına karar verilmiştir. Bu kararın ardından uygun testin kullanılabilmesi için kurulacak olan Vektör Otoregresyon (VAR) modelinin uygun gecikme uzunluğunun belirlenmesi gerekmektedir. Gecikme uzunluğunun belirlenebilmesi için öncelikle VAR (1) modeli tahmin edilmiştir. Devamında VAR (1) modeline sınama testleri uygulanmıştır. Bu testler kurulan VAR (1) modelinin değişen varyans ve otokorelasyon sorunun olup olmadığını kontrol etmektedir. Sınama testlerinden geçmesinin ardından VAR (1) modeli üzerinden Toda-Yamamoto nedensellik testi uygulanmıştır. Tablo 4 VAR (1) modeli için uygun gecikme uzunluklarını göstermektedir.

Tablo 4: Gecikme Uzunluklarının Belirlenmesi

Gecikme Sayısı	Bilgi Kriterleri					
	LogL	LR	FPE	AIC	SC	HQ
0	-4956.39	NA	5.51e+86	211.08	211.23	211.13
1	-4744.90	377.97	1.35e+83	202.76	203.54	203.05
2	**-4710.94**	**54.924***	**6.38e+82***	**201.99***	**203.41***	**202.53***

Tablo 4, AIC, SC ve HQ bilgi kriterlerine göre en fazla yıldız (*) işaretine sahip olan ikinci satır uygun gecikme uzunluğunu temsil etmektedir. Gecikme uzunluğu belirlendikten sonra bu gecikme uzunluğundan hareketle VAR (1) modeli kurulmuştur. Tablo 5, VAR (1) modeli için otokorelasyon ve değişen varyans test istatistiklerini göstermektedir.

Tablo 5: Otokorelasyon ve White Değişen Varyans Test Sonuçları

Otokorelasyon LM Testi		
Gecikme Sayısı	LM İstatistiği	Olasılık (P)
1	24.544	0.079
2	25.666	0.059
3	13.546	0.634

White Değişen Varyans Testi	
Olasılık (P)	Ki-Kare
0.257	458.889

Öncelikle otokorelesyon LM testi sonuçlarını incelediğimizde bu testin olasılık değerlerinin her üç gecikme içinde %5 anlamlılık düzeyi esas alındığında anlamlı olmadığı görülmektedir. Bu sonuca göre modelimizde otokorelasyon sorunu olmadığı tespit edilmiştir. Değişen varyans test istatistiğinde ise olasılık değerine göre sonucun %5 önem seviyesinde anlamlı olmadığı dikkat çekmektedir. Yani modelimiz değişen varyans testinden de başarı ile geçmektedir. Dolayısı ile Toda-Yamamoto nedensellik testinin yapılabilmesi için modelimiz uygundur. Tablo 6 nedensellik test sonuçlarını göstermektedir.

Toda-Yamamoto (1995) nedensellik testinin önemli bir avantajı bulunmaktadır. Bu test analizde kullanılacak değişkenlerin farklı düzeylerde durağan olmaları durumunda da kullanılmasına olanak tanımaktadır. Toda-Yamamoto nedensellik testinin uygulanabilmesi için ilk olarak VAR modeli aracılığıyla serilerin gecikme uzunluğu sayısı 2 (k=2) olarak belirlenmiştir. Daha sonra birim kök testleri aracılığıyla değişkenlerin en yüksek düzeydeki durağanlık derecesi de 1 (d_{max}=1) olarak belirlenmiştir. Dolayısı ile 2 olarak belirlenen gecikme uzunluğuna serilerin durağanlık derecesi olan d_{max}=1 eklenerek (d_{max}+k=3), serilere VAR modeli yardımıyla Toda-Yamamoto nedensellik testi uygulanmıştır. Tablo 6 nedensellik test sonuçlarını göstermektedir.

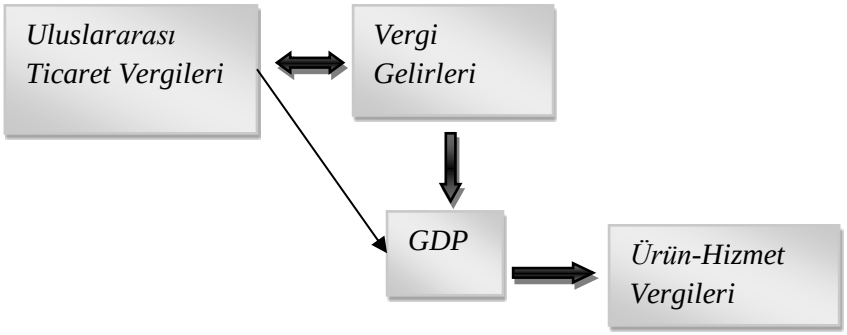
Tablo 6: Toda-Yamamoto Nedensellik Testi Sonuçları

Bağımsız Değişkenler	**Bağımlı Değişken:** Ürün Hizmet Vergileri (Ü.H.V)				
	d_{max}+k=3	**χ^2-değeri**	***P* değeri**	**Karar**	**Sonuç**
GDP	3	1.722	0.632	H_0: Kabul	GDP ≠> Ü.H.V
U.T.V.	3	1.583	0.663	H_0: Kabul	U.T.V ≠> Ü H.V
V.G	3	0.587	0.899	H_0: Kabul	V.G ≠> Ü.H.V
ALL	3	8.997	0.437	H_0: Kabul	ALL ≠>Ü.H.V
Bağımsız Değişkenler	**Bağımlı Değişken:** Reel GSYİH (GDP)				
	d_{max}+k=3	**χ^2-değeri**	***P* değeri**	**Karar**	**Sonuç**
Ü.H.V.	3	11.52	0.009**	H_0: Red	Ü.H.V=>GDP
U.T.V.	3	16.61	0.085**	H_0: Red	U.T.V. =>GDP
V.G	3	10.78	0.013**	H_0: Red	V.G. => GDP
ALL	3	26.51	0.001**	H_0: Red	ALL => GDP

Bağımsız Değişkenler	Bağımlı Değişken: Uluslararası Ticaret Vergileri (U.T.V)				
	d_{max}+k=3	χ^2-değeri	*P* değeri	Karar	Sonuç
Ü.H.V.	3	1.500	0.682	H_0: Kabul	INF ≠> U.T.V
GDP	3	6.301	0.097*	H_0: Red	IMIG =>U.T.V
V.G.	3	7.429	0.059*	H_0: Red	UNEMP =>U.T.V
ALL	3	16.93	0.004**	H_0: Red	ALL => U.T.V
Bağımsız Değişkenler	**Bağımlı Değişken:** Vergi Gelirleri (V.G.)				
	d_{max}+k=3	χ^2-değeri	*P* değeri	Karar	Sonuç
Ü.H.V.	3	3.289	0.349	H_0: Kabul	INF ≠> V.G.
GDP	3	2.970	0.396	H_0: Kabul	IMIG ≠> V.G.
U.T.V	3	6.622	0.085*	H_0: Red	REWAG => V.G.
ALL	3	19.51	0.021**	H_0: Red	ALL => V.G.

Not: =>; Granger nedenidir. ≠> ise Granger nedeni değildir.

Tablo 6'daki sonuçlardan hareketle birinci modelde (bağımlı değişken ürün hizmet vergileri) bağımsız değişkenler ile bağımlı değişken arasında nedensellik ilişkisi bulunmamaktadır. Bağımlı değişkenin GDP olduğu ikinci modelde ise %1 ve %10 anlamlılık düzeyine göre bağımsız değişkenler olan ürün hizmet vergisi, uluslararası ticaret vergisi ve vergi gelirlerinden GDP'ye bir nedensellik bulunmaktadır.
Üçüncü modelde (bağımlı değişken uluslararası ticaret vergisi) GDP ve vergi gelirlerinde boş hipotez reddedilmekte ve bağımlı değişkene doğru nedenselliğin varlığı kabul edilmektedir.
Son modelde sadece uluslararası ticaret vergisinden bağımlı değişken olan vergi gelirlerine doğru kurulan boş hipotez reddedilmekte ve bir nedensellik olduğu tepsi edilmektedir.
Dolayısı ile kurulan dört model için genel olarak bakıldığında uluslararası ticaret vergisi ve vergi gelirleri arasında çift yönlü bir nedensellik bulunmaktadır. Uluslararası ticaret vergisi ve GDP arasında da çift yönlü bir nedensellik tespit edilmiştir. Bu açıklamalar ışığında nedensellik ilişkisinin yönlerinin sözel anlatımı şematik olarak gösterilmiştir. Şekil 1 nedensellik testi sonucunu şematik olarak ifade etmektedir.



Şekil 1. Toda-Yamamoto Nedensellik İlişkisi Şematik Gösterimi

Şekil 1'de resmedildiği üzere vergi gelirleri ve uluslararası ticaret vergileri arasında çift yönlü ilişki bulunmaktadır. Ayrıca vergi gelirlerinden GDP'ye tek yönlü bir nedensellik belirlenmiştir. Aynı şekilde GDP'den de ürün-hizmet vergilerine ve uluslararası ticaret vergilerinden GDP ye tek yönlü nedensellik bulunmaktadır.

4. Sonuç ve Öneriler

Kamu harcamalarının finanse edilebilmesi için devletlerin en çok başvurduğu en önemli kaynak vergi gelirleridir. Vergi gelirlerinin sosyoekonomik, makroekonomik ve kültürel pek çok farklı değişken üzerinde etkileri bulunmaktadır. Temel anlamda dolaylı ve dolaysız olarak ayrılan vergiler, kendi içerisinde farklı kollara ayrılmaktadır. Farklı kanallarla toplanan bu mali araç, ülkelerin en büyük amacı olan ekonomik büyümenin sağlanmasında en hayati unsurların başında gelmektedir (Mucuk ve Alptekin,2008:172). Bu nedenle yüksek ekonomik büyüme oranlarına sahip olmak isteyen devletlerin vergi sistemlerini iyileştirmeleri önemli olmaktadır. Son dönemde literatürde vergi gelirlerinin ekonomik büyüme üzerindeki etkilerini araştıran çalışmalar çoğalmaktadır. Bu çalışma yüksek oranda vergi gelirlerine sahip olan ABD ekonomisini analiz etmeyi amaçlamaktadır. 2021 yılında ABD'de toplam vergi gelirleri miktarının 3,86 trilyon dolar olması beklenmektedir. Bu vergi gelirlerine en büyük katkıyı 1.932 trilyon dolar ile gelir vergisi ve 1.373 trilyon dolar ile bordro vergileri yapmaktadır. 2021 mali yılında gelir vergileri %50, bordro vergileri %36 ve kurumlar vergileri %7 katkı yapmaktadır.

Vergi gelirleri ekonomilerin gelir kaleminde önemli bir yere sahiptir. Vergiler ülke ekonomilerinde kamu harcamalarını finanse edebilmek, piyasaları kontrol edebilmek, piyasa dengesini sağlayabilmek adına birçok farklı amaçla politika aracı olarak kullanmaktadır. Ancak bu politika aracının nasıl kullanıldığı da bir o kadar önemlidir. Literatürdeki ampirik çalışmalar yüksek vergilerin ekonomik büyüme üzerinde negatif yönde etkide bulunduğu konusuna dikkat çekmektedir. Buna karşın düzenli olarak toplanan vergilerin ekonomik büyümeyi olumlu yönde etkilediği de gözlenmiştir. Özellikle ekonomilerin darboğaz yaşadığı dönemlerde harcamaları finanse edebilmek adına yüksek vergilere başvurması, kayıt dışılığına, vergi kaçırmalara neden olabileceğinden beklenen yüksek getiriyi sağlayamayabileceği gibi normal dönemdeki vergi gelirlerini bile azaltarak büyümeyi negatif etkileyebilmektedir. Vergi gelirlerinin ekonomik sistem içinde yeri çok önemlidir ancak bu aracın nasıl ve ne oranda kullanıldığı da oldukça önemlidir.

Ekonomilerin gelir hanesinde oldukça önemli bir yere sahip olan vergiler olmazsa olmaz gelir kalemini ve aynı zamanda önemli bir düzenleyici politika aracıdır. 2008 küresel finansal krizinden sonra ülkeler ekonomilerinde darboğazı giderebilmek için kemer sıkma politikaları uygulamış ve yüksek vergi oranlarına yönelmiştir. Kriz sonrası uzun vadeli etkiler kemer sıkma politikaları kadar yüksek vergilerinde etkinsiz olduğu sonucuna ulaşmıştır. Yüksek oranlı vergilerin düzenli bir şekilde toplanabilmesi oldukça büyük bir sorun teşkil etmektedir. Ayrıca yüksek vergiler ekonomiye dâhil olacak yatırımların maliyetini artırdığından ve vergi gelirlerindeki kısıtlamalardan dolayı toplam talebi daralttığından ekonomik büyümeyi olumsuz etkilemektedir.

Bu çalışma Amerika örneğinde vergi bileşenleri ve ekonomik büyüme arasındaki nedensellik ilişkisini incelemektedir. Elde edilen sonuçlar literatürdeki örneklerle paralel olarak hem büyüme ile hem de vergi bileşenlerinin birbiri arasında bir nedenselliğin var olduğu sonucunu göstermektedir. Dolayısı ile ABD ekonomisi için büyüme ile vergi bileşenleri arasındaki nedenselliğe dikkat çekilmektedir. Politika yapıcılar vergi politikalarını çoğu zaman tercih etmektedir. Bu politika aracının etkin sonuçlar vermesi için oldukça planlı olması gerektiği ve

bu vergi oranlarının ters bir etki doğuracak oranda olmaması gerektiği de dikkat edilmesi gereken konulardan biridir.

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Özet
Günümüze kadar gelen makroekonomik düşünce bazında, iktisat literatürünü incelediğimizde, büyük çapta değişim ve dönüşüme uğrayan iktisadi anlayışla birlikte, milletlerin zenginliğinin ve gelişmişliğinin göreceliliğini tasvir eden iktisadi büyümeyi; üretim imkanlarının artış göstermesi, bir yıl içerisinde bir ülkede üretilen nihai mal ve hizmetlerin parasal cinsten ifadesinin bir önceki yıla göre fert başına düşen gelirdeki artış oranı olarak tanımlanan genel bir kanaat bulunsa da; iktisadi büyüme bir süreç olarak ele alındığında politik, ekonomik, sosyolojik, çevresel ve teknolojik çok boyutlu süreçler, sistemler ve yapılar açısından pek çok faktör ile etkileşim hâlinde olduğu görülebilir; kişi başına düşen hâsıla miktarı, fiziki ve beşeri sermaye birikimi, teknolojik gelişme, demografik etkenler, coğrafi etkenler ve iklim, kültürel veya kurumsal etkenler, demokrasinin düzeyi, gelir dağılımı, hükümet politikaları ve tam istihdam, fiyat istikrarı gibi makroekonomik istikrar ve benzeri içsel ve dışsal faktörlerle olan ilişkilerinden dolaysız ve bu faktörlerin kendi aralarındaki ilişkilerinden dolaylı yollardan etkilenmektedir.

Bu çalışmada, ülkelerin ya da ulusların zenginliğini belirleyen temel etkenleri ve ilgili faktörleri ele alarak, iktisadi büyümeyi; ölçümünü, Spontane, Planlı, kapalı, açık, durgun, dengeli, dengesiz, üstel, kötü, işsiz, acımasız, sessiz, köksüz, geleceksiz büyüme çeşitlerini dikkate alarak iktisadi büyümenin yolları üzerinde modernleşme ve sanayileşme hamleli iktisadi gelişim sürecinde, ekonomik yapının bileşenleri incelenerek hangi unsurların sürdürülebilir iktisadi büyümeye neden olacağı, konuyla ilgili uluslar arası ekonomik göstergeler doğrultusunda sürdürülebilir iktisadi büyümenin kaynakları, sınırları ve aşamaları değerlendirilerek öneriler sunulacaktır.

Anahtar Kelimeler: Sürdürülebilir İktisadi Büyüme, Büyüme Çeşitleri, Makroekonomik İstikrar, Büyüme Aşamaları

WAYS TO SUSTAINABLE ECONOMIC GROWTH

Abstract
When we examine the economics literature on the basis of macroeconomic thought up to the present day, economic growth, which describes the relativity of the wealth and development of nations, together with the economic understanding that has undergone major changes and transformations; Although there is a general opinion that the increase in production possibilities and the monetary expression of the final goods and services produced in a country in a year is defined as the rate of increase in per capita income compared to the previous year; When economic growth is considered as a process, it can be seen that it interacts with many factors in terms of political, economic, sociological, environmental and technological multidimensional processes, systems and structures; per capita income, physical

and human capital accumulation, technological development, demographic factors, geographical factors and climate, cultural or institutional factors, level of democracy, income distribution, government policies and full employment, macroeconomic stability such as price stability and similar internal and external factors. It is directly affected by the relations with the factors and indirectly by the relations between these factors.
In this study, by addressing the main factors and related factors that determine the wealth of countries or nations, economic growth; Taking into account the spontaneous, planned, closed, open, stagnant, balanced, unbalanced, exponential, bad, unemployed, brutal, silent, rootless, futureless growth types, on the ways of economic growth, in the economic development process with modernization and industrialization, the components of the economic structure will be examined. Suggestions will be presented by evaluating the sources, limits and stages of sustainable economic growth in line with the relevant international economic indicators.

Keywords: Sustainable Economic Growth, Types of Growth, Macroeconomic Stability, Growth Stages

1.Giriş

Ekonominin arz yönünü ilgilendiren üretim kapasitesindeki uzun dönemli artışları açıklayan; iktisadi büyüme olgusu sadece üretim faktörleri ile bir ülkede belli bir yıl içerisinde üretilen nihai mal ve hizmetlerin miktarındaki artışın parasal olarak önceki yıla göre fert başına düşen gelirdeki artış oranı olarak tanımlansa da nüfus, eğitim, tarih, antropoloji, sosyoloji, coğrafya, siyaset gibi bir çok alanla da karşılıklı bağ ve bağımlılık içerisinde bulunmaktadır. Özetle; iktisadi, toplumsal ve siyasal olaylardaki tüm gelişmelerle de bağlantılıdır. Kişi başına düşen gelir miktarı, yarına bir değer bırakacak fiziki ve beşeri sermayenin güçlendirilmesi, iklim, hukuka uygun yapılanmalar, kültürel veya kurumsal süreç, sistem, yapı ve etkenler, bireysel hak ve özgürlükler, demokrasinin düzeyi, gelir dağılımındaki adalet, hükümet politikaları ve tam istihdam, fiyat istikrarı, makroekonomik istikrar yolsuzlukla ve yoksullukla mücadele gibi, rüşvetin kontrol altına alınması, katılımcılık, açıklık ve şeffaflık, hesap verebilirlik gibi iyi yönetişime uygun yapılanmalar vb. etmenlerle olan ilişkilerinden dolaysız ve bu etmenlerin kendi aralarındaki ilişkilerinden dolaylı yollardan etkilenmektedir. Bunlara ek olarak bir ülkenin iktisadi büyümesi kaynakların tam, etkin ve yerinde kullanılması ile işgücünde tam istihdam imkanlarını sağlama, doğal kaynakları yenilenebilir enerji üretme de etkin ve karlı çalışma altında kullanılan iktisadi kaynakların daha verimli kullanılmaya başlanması yoluyla büyümenin gerçekleştirilmesi; bu üretimle beraber sürdürülebilirlik açısından bu kaynakların kullanımından elde edilen gelirle de beyni ve ilmi faaliyetler neticesinde araştırma geliştirme, patentler, markalar, buluşlar, bilim, fen ve mühendislik alanlarında yenilikçilik anlayışına erişme ile kullanılan kaynak miktarına yenilerin eklenmesi yoluyla üretimin gerçekleştirilmesidir. Dolayısıyla iktisadi büyüme, ekonominin üretim potansiyeli ve verimliliği ile yakından ilişkilidir. Aynı zamanda gayrisafi milli hasıladan yatırımlara ayrılan payla beraber yatırımların reel kaynağı tasarruflar ve tasarrufları doğuran gelir düzeyleri büyüme için büyük önem arz etmekle beraber bugün gelişmekte olan ülkeler gelir-yatırım-tasarruf kısır döngüsünü yenememektedir. Bu bağlantılar için işletilen süreçler, uygulanan sistemler ve yerleştirilen yapı ve dokular tarım, sanayi, ticaret, hizmetler gibi ekonomik yapıyla da doğrudan ilgili bulunmaktadır. Sanayi devriminin oluşturduğu koşullar, sanayi devrimiyle beraber oluşan liberal akımlar ve serbestiyetçilik ve buna uyum sağlayamayıp himayecilik ve korumayla piyasayı sarsmış ve dengeden uzaklaştırmıştır, ülkelerin zenginliğinin düzeyleri ve genişleme oranları neredeyse periyodik olarak politik, ekonomik, sosyolojik ve teknolojik bir çok alanda değişirken bir bilim olarak iktisadın kendisi de antikiteden, ortaçağa, ortaçağdan, sanayi inkılabına, din alanındaki değişiklikler, şehir

hayatındaki canlanmalar, şehirleşme olgusu, fizyokratik ve merkantilist olguların da etkisinde büyük çapta değişime uğradı. Ekonomik faaliyetler zaman içinde canlanma, durgunluk da azalırken 'büyüme ekonomisi' önce yükselen, sonraları ise standartlaşan bir konu olarak, az gelişmiş ülkelere tek düze tedbir ve düzenlemelerle önerilen prototip kalkınma, büyüme modelleri dünyanın dinamik ekonomik koşullarıyla çatışmaya salt büyüme modellerinde yer alan işbölümü, uzmanlaşma, teknolojideki değişme, ileri seviyedeki teknolojik ve kurumsal yapılanmadaki gelişim süreci ve ölçek ekonomileri hızla önem kazanmıştır. Nüfus, işgücü, kaynakların kullanımı, sermaye teçhizatları, yıldan yıla değişmektedir(Zhu, J. Hua, W.(2017). Üretimi arttırmak için yatırım harcamaları yapıldıkça istihdam seviyesi yükselmekte, sermaye stoku genişlemekte, işlenmemiş atıl topraklar ekilebilir ve dikilebilir alanlar olarak üretime açılmakta ve sonuç olarak üretim hacmi ve milli gelirler artmaktadır. Bunun yanı sıra bu gelirin artışını absorbe edecek nüfusta artmaktadır(Klarin, T.(2018).

2. Büyüme Teori ve Modelleri

İşbölümü ve uzmanlaşmayla artan verim halini, iktisadi büyümenin sınırını ifade eden, mutlak üstünlükler teorisiyle bunları açıklayan;sermaye için azalan, emek için artan verim kanununun hakim olduğu Adam Smithle başlayan düşünce, Malthus, J.S.Mill, James Mill, McCuloch, Senior gibi klasik büyüme teorisi ile yeni bir iktisadi düşünceyi, ekonominin gidişi hakkındaki görüşleri yansıtan ve klasik iktisadın doğuşunu doğanın gücünü ifade eden, doğal düzeni savlayan, tarım kesimine aşırı önem veren Fizyokratlara bağlayan düşünürler mevcuttur. 15.yüzyıldan 18. Yüzyılın ortalarına kadar etkili olan yeni devletlerin iktisadi imkanları altın ve kıymetli madenlerle değerlendiren ticari zihniyeti temsil eden merkantilizm de ortaçağın son dönemlerinde feodalitenin merkezi devletlere dönüşmesi şeklinde oluşan siyasal gelişmeler ve yeni gereklilikler büyüme koşullarını yeniden revize etmişlerdir. Azgelişmiş ülkeler için de sınırlı açıklama imkanını veren ekonomiyi sonunda durgunluğa götürecek olan diffaransiyel rant kavramını, serbest rekabet koşullarının ülkeleri işbölümü ve uzmanlaşmaya götüreceğini, Mukayeseli Üstünlükler teorisini uzmanlaşma rehberi gören Ricardo modeli, bu modelde; gerek emek, gerek sermaye için azalan verim kanunu, bu ülkelerde gelir düşük olduğundan tasarruflar ve dolayısıyla yatırımlar yetersiz kalmakta ve gelirin yeterince artmasını engellemektedir. Diğer yandan ekonomik faaliyetlerin Sanayileşmiş ülkelerin krizsiz büyüme koşullarını ele alan, gelişmekte olan ülkelerde uygulanan ve kabul gören Harrod Domar modeli denge büyüme haddi, yatırımların bir taraftan talepte diğer taraftan kapasitede oluşturduğu artışı hesaplamak ve bu ikisinin birbirine eşit olması şartını kabul etmek suretiyle tespit edilebilir, gecikmesiz bir tasarruf fonksiyonu ve tasarruf planları daima tahakkuk edecek ve büyüme için yatırımların gayrisafi milli hasılaya oranı, üretimin, işgücünün, yatırım, tasarruf ve tüketim düzeyinin devamlı genişlemesi de ekonominin bütünü üzerinde de belirleyici olmaktadır. Harrod, Domar, Fellner, Solow tipi model ve çalışanlar teşkil eder, Nitekim Singer, Bruton, Hamberg, Coale ve Hoover hep temel olarak Harrod-Domar tipi modellerle çalışmaktadırlar(Hiç, Mükkerem,1970). Karşıt görüş olarak da neoklasik istikrarlı büyüme Solow modelini değerlendirebiliriz. Toplumsal ve ahlaki kaygılarla ütopik ve ideal bir toplum düzeni kurmak isteyen her düşünürün fikrini Marxın müsamahasız uslubuyla eleştirmek gereksizdir. Adaletin ve barışın hüküm sürdüğü bir toplum öneren Platon dan toplumda burjuva ve proleter arasında sınıfsal çıkar çatışmasını anlatan Sismondi'ye teknokratların eğemen olduğu güdümlü ekonomi fikrinin savunucusu Saint Simondan falanjların mucidi Fourier'e, sefaletin felsefesi yazarı anarşist Proudhon'dan kooperatif hareketin öncüsü Owen'e, devlet sosyalizmini öneren Rodbertus'dan demokratik sosyalizme inanan Lasale'a kadar sayısız düşünür, filozof, siyasetçi, iktisatçı ve yazar toplumdaki çelişkilerden rahatsızlık duymuşlar ve çözüm üretmeye koyulmuşlardır. Bununla beraber klasik liberal doktrini, kendi bilimsel araçlarıyla vuran, diyalektik felsefeyi, diyalektik

materyalizmi veya tarihsel materyalizmi, Praxis felsefesi veya aksiyon felsefesi yaklaşımı olan Karl Marxtır. K. Marx tarihi maddecilik tezi ve sosyal sınıflar fikri, ekonomik alanda ise yatırımların gelişmedeki rolü, gelişme ve dengesizlik, dinamik analiz metodu, konjonktür dalgalarının ve emek değer teorisi öne çıkmaktadır(Zhao, J.; Liang, X .; Zhang, X.(1999). Marx doğru bir görüşle büyüme sürecini esas itibariyle, bir denge problemi ve bir denge noktaları dizisi olarak değil, devamlı bir dengesizlik olayı olarak kabul etmiştir. Marx büyümenin dar bir geçit olduğunu da görebilmiş ve yatırımların fazla yahut eksik olması halinde kapitalist sistemin konjonktür dalgaları göstereceğine işaret etmiştir. Diğer yandan Schumpeter de; müteşebbisin ve yeniliklerin önemli rolü, ekonomik gelişme ve dalgalanmalarla birlikte kapitalist sistemin başarı ile yürüyecek ve sistemin getirdiği hasıla artışı ile işçilerin ücretini ve refahını arttıracağını ileri sürmüştür. Neoklasiklere göre, ekonominin tam istihdam dengesinde ve devamlı gelişme gösterme imkanı açıktır. Keynesgil Büyüme teorisi ise nüfus artışı, teknik terakki ve yeni sürüm alanlarının açılması gibi dış faktörlerin ortaya çıkması ihtimali ve bunlarının etkilerinin azaldığı durgunlukla gelecekte karşılaşacağı söz konusudur. .Hansen de bu görüşü benimsemektedir**(**Karagül, Mehmet(2003). Yatırımların marjinal etkinliğini Keynesgil Büyüme teorisi tamamen çarpan ilkesinin açıklanmasından ibaret, para ve faiz teorisi ise para talebinin saiklerinin çağdaş koşullara göre yorumlayan efektif talep yanlı bir iktisatçıdır. Statik bir yapıya sahip uzun dönemli ekonomik sorunların çözümünün güç olduğunu ifade eden Keynesin makroekonomik denge modeliyle tekrar klasiklerin, neoklasik iktisatçılar tarafından marjinal analizin genelleyici niteliği dolayısıyla terkedilen makroanaliz tekniğine dönülmüştür. Modeli dinamize edip uzun dönemli büyüme sorunlarını inceleyebilecek hale sokan Harrod ve Domar olmuştur. Bu modele göre nüfus artış hızı ve doğal büyüme hızı veri iken sistemi dengeli büyüme halinde tutacak tek bir tasarruf oranı vardır. Bu oran ekonomideki çeşitli sınıfların tasarruf eğilimlerinin ortalamasıdır. Hicks'in konjonktür modeli, basit çarpan hızlandıran modelinde gerek yoğaltım gerek yatırım için gecikmeli fonksiyonlar kabul edilmiştir. Kaldor modelinde ise; ücretlilerle sermayedarların tasarruf fonksiyonu veri ise, kar payı oranı, yatırım hasıla oranının bir fonksiyonudur. Yatırımlar dış değişken varsayılmakta ve davranışsal ilişkiler değerlendirilmemektedir. İktisadi hayat da büyüme sırasında meydana gelen dalgalanmalara konjonktürel değişikliklerle açıklanmaktadır(Alkin, E.1975). W.W.Rostow ise; geleneksel çağ, gelişmenin ön şartlarını hazırlayan dönem, kalkınma, olgunluk ve kütlevi refah safhası şeklinde değerlendirilmektedir. Rostow da kendi kendini besleyen büyümeye götüren; verimli yatırımların milli gelire oranı, imalat kesiminin yüksek gelişme hızı, politik, sosyal ve kurumsal bir kadro ve çerçeve önem arz etmektedir. Burada kalkış çok kısa süren bir safha olarak belirtilmektedir(Molotch, H, Daly(1998). Kalkışta önde giden endüstri kolları pamuklu dokuma, demiryolu, askeri ağır endüstriden kereste, kağıt hamuru, hayvani gıda maddeleri gibi alanlarda yeni tekniklerin uygulanması, öz tasarrufların yükselmesi ve dışsal ekonomiler oluşturması öne çıkmaktadır. Arthur Lewis'in Sınırsız Emek Arzı Büyüme modelinde ise, teorik olarak sermaye birikimi ile teknik yeniliklerin hasıla üzerindeki etkileriyle beraberkapitalist kesimdeki ücretin asgari geçim kesimindeki ücrete bağlı olarak teşekkülü politik açıdan önemlidir. Harvey Leibenstein'ın Yeni malthus tipi düşük gelir tuzağı modeli, R.R.Nelson'un nüfus tuzağı analizi, Dengesi büyüme doktrininin savunucusu A. O. Hirschman'a göre, az gelişmiş ülkelerdeki kıtlık yalnızca sahip olunan kaynakların kendi azlıklarından değil, az da olsa bu kaynakları bir araya getirerek işletecek araç, kabiliyet ve karar vericiliğin yetersizliğinden kaynaklanmaktadır. Kuznets (1971), işgücü verimliliği başta olmak üzere, toplam faktör verimliliğindeki yüksek oranlı artış, nüfusun ve kişi başına düşen üretimin yüksek oranda büyümesi,ekonomide yüksek oranlı yapısal değişim,yüksek oranlı sosyal ve ideolojik değişim,gelişmiş ülkelerin ihtiyaç duyduğu ham madde ve pazarlar için dünyanın diğer bölümlerine ulaşabilme yetenekleri,büyümenin üçüncü dünya nüfusunu sınırlı

düzeyde etkilemesi yani çok küçük bir gruba sirayet etmesi modern anlamda büyümeyi tanımlarken süreci tamamlayan altı özellikten söz etmiştir(Barral, V. (2012).

3. BÜYÜME YOLLARI VE ÇEŞİTLERİ

Bütün toplumlardaki temel meselelerin kaynakların kullanımı, etkinliği ve büyüme ile ilgili meselelerdir. Bu meseleler yolsuzluğu, yoksulluk kısır döngüsünü, rüşveti, işsizliği, gelir dağılımındaki adaletsizliği, ölçek ekonomilerine erişememeyi, fiziki ve beşeri sermaye stoklarını artıramayıp, teknolojik geriliklerle durgunluklar; ekonomik bunalımlar, krizler, işsizlik, enflasyon, durgunluk gibi fiyat istikrarsızlıkları ve açıklar ortaya çıkacaktır. Bunun için kaynakların etkin, verimli ve karlı olabilecek şekilde kullanımı üretim kapasitesini artıracak ve büyümeyi beraberinde getirecektir(Jabareen, Y.(2006). Bir ülkenin üretim olanakları eğrisinin dışa doğru kaymasına yol açan, ülkenin kıt kaynak miktarlarını arttırarak ya da onların niteliklerini iyileştirerek üretim olanakları sınırını genişletebilmesi kurumsallaşmış ekonomiler, uzmanlaşmış vasıf seviyesi yüksek emek, sermaye etkin kullanımı ve ekili dikili alanların verimliliğinin arttırılması, yatırımlar ve teknolojik gelişme yoluyla kişi başına fiziki sermaye ve yarına bir değer bırakacak beşeri sermaye (eğitim) düzeylerinde ve verimlilikte sağlanan artışlar ve de en önemlisi üreticinin ve girişimcinin yenilikçi ve rekabetçi yüksek başarma güdüsü ve mücadele yapısı gibi benzer faktörler iktisadi büyümenin görünürdeki en önemli sürükleyicileri arasında yer almaktadır(Du Pisani, JA(2006**)**. Devletin ekonomiye müdahalesini istemeyen, üretim faktörleri kendiliğinden harekete geçerek belli bir oranda otomatik stabilizatörle büyümesi, **Spontane Büyüme** belli makamların bilinçli kararlarıyla, emir kumanda zinciri içerisinde gerçekleşen ise **Planlı Büyüme**; ithal ikamesine dayalı dışa kapalı olan ekonomi anlayışıyla ülkenin sahip olduğu öz kaynaklara dayanan, hiçbir dış yardım ve dış ticaret almayan ve dışa açılmayan **Kapalı Büyüme,** dışa açılmayı yararlı hale getirmeyi amaçlayarak serbest dış ticareti ve serbest piyasa ekonomisini benimsemiş, dış pazarı genişlemiş büyüme ise **Açık Büyüme**, gelir ve nüfus birlikte ve aynı oranda artmasını veya azalmasını ifade eden **Durgun Büyüme,** iç talep ile dış talep, mal arzı ile mal talebi,yatırım malları ile tüketim malları, para arzı ve para talebi, sanayi malları ile ham maddeler gibi konularda dengeyi esas alıp düzgün işleyen bir piyasayı hedefleyen **Dengeli Büyüme,** yeterli uzman elemanların olmadığı vasıf seviyesi düşük bir nüfus, yeterli sermaye birikimi ve teknolojisi olmayan, verimlilik, etkinlik ve karlılığı dikkate almayan büyüme Malthusyan **Dengesiz Büyüme,** yaşam standartları düşük, nüfus üstel olarak, gıda üretimi ise aritmetik olarak büyüme **Üstel Büyüme** türleri bütün ekonomilerde belli bir zaman ve dönemde görülebilir. Öte yandan iktisadi büyüme her zaman iyi olmayabilir. Birleşmiş Milletler'in (BM) 1996 yılında İnsani Kalkınma Raporu'nda kötü büyümenin 5 çeşidinden bahsedilerek, bunlardan kaçınılması gerektiği vurgusu yapılmıştır. Kötü büyüme çeşitleri; yeterli istihdam imkânının oluşturulamadığı **İşsiz Büyüme,** adaletsiz bir gelir dağılımını sağlayan **Acımasız Büyüme a**nti demokratik ortamlarda, bireysel hak ve özgürlüklerin kötüleşmesi, ifade mekanizmalarının hürriyetini kısıtlayan, **Sessiz Büyüme;** İnanç ve değerlerin erozyonuyla ahlaka ve fazilete dayalı değerlerin hiçe sayılıp, toplumun örf-âdet, gelenek ve göreneklerinin yozlaşması, kültürel kimliksiz, benliksiz kendini özüne karşı yabancı hisseden **Köksüz Büyüme,** yenilenemeyen doğal kaynakların tüketilmesi, çevre bilincinden yoksun çevrenin kirletilmesi, doğanın doğal zenginliklerin ve düzeninin insan eliyle yok edilmesi **Geleceksiz Büyüme** sürdürülebilir Büyüme kavramını ortaya çıkarmıştır Wang,S, Miao,Z.(2018). Sürdürülebilir büyüme açısından, çevre koşullarını yeterince dikkate almayan, suçları azaltmayan, hukuka uygun bir rekabet ortamı oluşturmayan, doğa dostu ve çevre bilinci yoksunu bir iktisadi büyüme anlayışının sürdürülebilirliğine ilişkin kuşkular giderek artmaktadır(Stevens, C(2018). Oysa ki; sürdürülebilirlik, çevresel sonuçlarını tam

olarak dikkate alan, değiştirilebilen veya yenilenebilen ve dolayısıyla tükenmeyen kaynakların kullanımına dayanan ekonomik kalkınmadır(Kates, RW; Parris, TM; Leiserowitz,2005). İşletme açısından sürdürülebilirlik, bir işletmenin çevreyi korurken kâr elde etme yeteneğidir(Wikström, 2010: 99-100; Caniato vd., 2012: 660).

4. Sonuçlar

Sürdürülebilir ekonomik büyümenin sağlanabilmesi için üretici verimliliği ve karlılığı tüketici fayda ölçütünde kıt kaynakların etkin bir şekilde dağıtılmasının yanı sıra, ekonomik, sosyal, politik, kültürel ve kurumsal faktörlerin insanların yaşam standartlarının iyileştirilmesi için organize edilmesine yönelik oldukça geniş bir alanı kapsar(Mebratu, D.(1998). Doğal kaynakları sürdürülebilir bir büyüme için etkin olarak kullanabilen ülke sayısı da çok sınırlıdır.(Hedenus,F. Martin,P Sprei,(2018). Ekonomik büyümenin sürdürülebilir kılınmasının; yenilenebilir ve yenilenemez özellikler taşıyan doğal kaynaklar nedeniyle üretimin ve ekonomik büyümenin sürdürülebilirliği ekonomideki yapısal, süreçsel ve sistemsel dönüşümlerin hem çevre bilinci oluşturulması için, hem ekonomik yapı unsurları olan tarım, sanayi, ticaret ve hizmetler sektörlerinin toplam hâsıladaki payının, toplam istihdamın içinde yüksek verimliliğe etkin bir kaynak kullanımıyla gerçekleşen ekonomik büyüme, istihdam oranının ve toplam üretim içerisinde yüksek katma değerli ürünlerin payının artması, bir ekonomik toplumun üretim ilişkileri, istihdam oranının artması, çevre bilincinin oluşturulması, kayıtdışı ekonomiyi kayıtlı ve kurallı bir ekonomiye dönüştürme çabaları, üretim biçimi, ekonomik sistemler açısından diğer toplumlarla olan her türlü iktisadi alışverişi, adil bir gelir dağılımını, hukuka uygun bir rekabet ortamını, verimli kullanılan üretim kaynakları, yönetişime uygun bir ekonomik yapı ve doku, sanayi sektörlerinde ve teknolojideki ilerlemeler, işgücü, doğal kaynaklar, reel sermaye ve teknoloji düzeyinin durumu ve bu faktörlerin kalitesi ekonomiyi etkileyen ve bir sürece doğru ilerleten her türlü siyasi, ekonomik, kültürel, politik, geleneksel yapılanmalar ve diplomatik ilişkiler ve yapısal değişmeler, sanayileşme, halkın belli ölçüde devlet yönetimine katılımı, seküler/rasyonel normların kültüre yayılması, yenilikçi, yaratıcı kişilik yapıları ile etkin üretim sağlayan girişimci, kurumsallaşmış bir düzgün işleyen piyasa mekanizması, yüksek katma değerli ürünler, buluşlar, icatlar, bilim, fen ve mühendislik alanlarındaki gelişmeler, marka ve tescil artırımı, insan ilişkileri, beşeri, toplumsal kurumlar ve beşeri ile maddi kaynak varlıkları internetin doğru ve yerinde kullanımı, ilgili kültürün, toplumun bilgi birikimi, ekonomik planlama, organizasyon, koordinasyon ve denetim örgütlenme, teknoloji ve benzeri özelliklerinden ortaya çıkan değişmelerle bağlantılı olduğu, ekonominin üretim potansiyelleri, teknoloji düzeyleri ve bilgi toplumu olması ise sürdürülebilir büyüme açısından büyük önem arz etmektedir**(J**ones, Charles I.(2007),. Bütün dünya açısından refah düzeyinin artırılması, yolsuzlukla mücadele, yoksulluğun azaltılması, teknolojik gelişimin hızlandırılarak yeni üretim girdilerinin kullanılması, üretim faktörlerinin eldesi ve etkin kullanılması, rüşvetin kontrolü ve kayıt dışılığın önlenmesi, ileri teknoloji kullanımı ve buna bağlı olarak daha fazla çıktı yaratılması, risk ve belirsizliği azaltıcı farklılaştırılmış üretim portföy yöntemlerinin harekete geçirilmesi, reel üretimden sağlanan reel gelirin hızlı ve istikrarlı artışının sağlanması ve vasıflı bir nüfus ile toplumun demografik özelliklerine uyumlu olacak şekilde ekonomide yapısal değişimin gerçekleştirilmesi sürdürülebilir büyüme konuları içinde değerlendirilir. mesleki becerinin ön plana çıktığı eğitimli donanımlı çalışanlar, mesleki yetkin ve beceri düzeyi yüksek yenilikçi, artan teknolojik imkânlar ve bu imkanları değerlendirecek beşeri sermayeyi güçlendirme ve gelişen bilgi birikimi ile istihdam politikaları; Tüm bu tematik öğeler neticesinde öz sermayesi ile ithal ikameci ve yenilikçi, dinamik girişimci yapısıyla, kendi kendisini sürdürebilen büyüme, bilgi ve akıl dolu ürünlerle

üretim kalıplarında yapısal değişim, teknolojinin absorbesi, ayılması ve teknolojik ilerleme, nüfus, eğitim, tarih, coğrafya gibi etmenleri içeren sosyal bir yapı, yatırım artışı, bilinçli tüketici, teknolojik gelişme, etkin bir verim artışı, reel gelir artışı, beşeri eğitim düzeyinin yükselmesi tutucu ve banal düşüncenin, zihniyetin yeniliklere açık hale getirilmesi ve değişime koşullandırılması için sosyoekonomik yapıların da değişmesi gerekmektedir(Saatçi, Mustafa; Dumrul Yasemin(2011). Bunlara ilaveten, etkin bir iktisadi politik ve çağı okuyan hızlıca uyum sağlayan kurumsal modernleşme, sağlık, yaşam, bilim, uygarlık, medeniyet, din, hukuk ve ahlak koşullarının ve insani koşullarda geniş çaplı iyileştirmelerin sürdürülebilir büyümenin temel ilkesi olarak görülmesi büyük önem arz etmektedir(Bansal, P. (2005).Beşeri sermaye ve eğitimde, sosyal yapı ve dokuda, iktisadi politikalarda özellikle para ve maliye politikalarında, gelir dağılımında, kurumsal yapıda, iyi yönetişime uygun yapılanma içinde insan hakları ve politik özgürlükler ile politik istikrar endekslerinde, sosyal, kültürel ve politik alanlardaki yapısal değişim ile finansal piyasalarda finansal aracılığın gelişimi ile dış büyümede dış pazar ağlarını genişletici dış ticarette serbestlik derecesinde farklılıklar gibi çeşitli etkenler, bulundukları ekonomik, sosyal ve politik yapı, süreç ve sistemlerle ülkeler arasında gözlenen kişi başına gelir düzeyi veya büyüme oranı teknolojik gelişme düzeyindeki farklılıklarının temel açıklayıcıları olarak, sahip oldukları değerleri korumak ve bunları sağlıklı bir şekilde bir sonraki nesillere aktarmak açısından işsiz, sessiz, acımasız ve köksüz büyümeyi iyi büyüme çeşitlerine dönüştürecek sürdürülebilir bir büyüme anlayışını bütün dünyanın benimsemesi hem dünya açısından hem de uygulayıcılar açısından büyük yararlar sağlayacaktır(Wichaisri, S; Sopadang, A.(2018). Doğal kaynakların uygun kullanılmaması, tehlikelerden arındırılmaması, etkinlik ve verimlilik ilkelerine uyulmaması, düzensiz keyfi kentleşme ve gürültü gibi faktörler ekolojik dengenin bozulmasına neden olmaktadır. Sürdürülebilir kalkınma kaynağı tekrar yerine koyabilme hızından daha hızlı kaynak tüketimini önlemeyi amaçlamaktadır(Konya, Sevilay(2012). Vasıf düzeyi yüksek nüfus artışı ve katma değeri yüksek teknolojik ilerleme olmaksızın, sürdürülebilir ekonomik büyümenin sağlanması mümkün olmayacaktır(Ahi, P. ve Searcy, C. (2013). Sürdürülebilir kalkınma, çevre düşmanı çevreye karşıt büyümeden çevre dostu doğayı bütün tehdit ve tehlikelerden koruyan çevreye uyumlu büyümeye geçişi ifade etmektedir. Sürdürülebilir büyüme kavramıyla vurgulanmak istenen konu, ekonomik büyümenin tek başına yeterli ve arzulanır olamayacağı, suçların azaltılması, terörün önlenmesi ve çevre bilinci oluşturulması, yaratılan zenginliklerin ülkeler, bölgeler ve gelir gruplar arasında adaletli bir biçimde dağıtılması ve bu süreçte çevresel değerlerin de korunması gerektiğidir(Aslan, Funda,2010). İnsanlığın en önemli zenginlik kaynağı olan doğal çevreyi gözetmeyen, geri döndürülemez biçimde yok eden bir ekonomik büyüme süreci uzun vadede sürdürülemez bir süreçtir.

Kaynakça

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KENTLERDE İMARLI ALANLARDA SUNİ SİNİR AĞLARI TEKNİĞİ İLE DOĞALGAZ HATLARININ TASARLANMASI, ELAZIĞ İL ÖRNEĞİ

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Özet
Türkiye ülke olarak 81 kent merkezinden meydana gelen başkent kenti Ankara olarak yönetilen üniter bir devlet yapısına sahiptir. Kentler hiyerarşik olarak olarak ilçe, belde, köylerden oluşmaktadır. Kentler belli bir nüfus topluluğuna sahip alanlardır. Bu nüfus topluluğuna sahip alanların ulaşım, sağlık, eğitim vb. ihtiyaçlarını gidermek üzere kurumlar kentlerde kurulmuştur. Kentlerin bayındır ve barınma ihtiyacı başta olmak üzere altyapı ve üstyapı tüm donatıların oluşmasının tasarımdan kentlerin yerel yönetimleri olan belediyeler sorumlu kılınmıştır. Belediyeler altyapı ve üstyapı bayındır işlemlerini kimi zaman karayolları, devlet su işleri, ilbank gibi kurumlarla koordineli şekilde yürütmektedir. Konut, ticaret vb. şehirde olması gereken donatıların oluşturulması için kendisine bakanlığın nazım planları doğrultunda uygulama imar planlarını yaptırma yetkisi belediyelere verilmiştir. Bu yetki ile birlikte imar planları kentlerde yapılmış ve ihtiyaca göre revize edilmektedir. İmar planları bir kentin barınmadan ulaşıma, ticaretten parkına, eğlence merkezlerinden sosyal donatı alanlarına kadar her türlü planlamanın yapıldığı planlardır. Bu planlar doğrultusunda altyapı hizmeti olan doğalgaz boru hatlarının bir kent merkezinde nasıl döşenmesi gerekliliği incelendi. Yöntem olarak, canlı vücudundaki, beyin sinir hücrelerindeki akson ve dendritlerin nasıl ki birbirleri ile her türlü hareketin gerçekleşmesi bir ağ örgüsü şeklinde oluyorsa, bu tip doğalgaz hatlarının da tasarlanmasının ana ve ara dağıtım noktaları kurulması şeklinde bir suni ağ tasarlanması ile mümkün olabileceği irdelendi. Hatların ana dağıtım noktalarının imar sınırları içerinde belli lejanta sahip yerleşim yerlerinin dışında gösterilmesi gerekliliğine ulaşılarak ara noktaların ise yeşil alan gibi ancak park olmayan, elektrik trafo alanları gibi alanların belli metre mesafe içerisinde olmasıyla sağlıklı olacağı incelendi. Hatların toprak altından belli kot oluşturarak geçirilip, bağlantı noktaları ile sayısallaştırılarak koordinat verilerek bir ağ tasarlanması şeklinde uygulanması gerekliliği incelendi. Bu şekilde sağlıklı bir ağ tasarlanmasında bir arıza anında hangi noktaya hızlı ve kolay şekilde ulaşılabileceği, bir patlama olması durumunda belli mesafe ışığında bu hatların geçirilmesi yapıldığında canlıların etkilenme olasılığının en asgari seviyede olacağına ulaşıldı. Doğalgaz hatlarının oluşturulmasın da paket program Başarısoft kullanıldı. Bu tip programlar imar planları ile hatların sayısallaştırılarak entegre edilmesi ile birlikte bu ağ tasarımının bilgisayar ortamında depo edilerek oluşum ve müdahaleye zaman açısından asgariye çekmeye yarayan coğrafi bilgi sistemi oluşumlarıdır.

Anahtar Kelimeler: İmar planı, Kent, doğalgaz, suni sinir ağları

DESIGNING NATURAL GAS LINES BY ARTIFICIAL NEURAL NETWORKS TECHNIQUE IN ZONED AREAS IN CITIES, THE CASE OF ELAZIG

Abstract

Turkey as a country has a unitary state structure, which is managed as the capital city Ankara, which consists of 81 city centers. Cities are hierarchically composed of districts, towns and villages. Cities are areas with a certain population community. The areas with this population community are in transportation, health, education, etc. Institutions were established in cities to meet their needs. Municipalities, which are the local administrations of the cities, have been made responsible for the design of all infrastructure and superstructure equipment, especially the need for flourishing and housing of the cities. Municipalities sometimes carry out infrastructure and superstructure improvement works in coordination with institutions such as highways, state water works, and ilbank. Residential, commercial etc. In order to create the necessary equipment in the city, the municipality has been given the authority to make the implementation development plans in line with the master plans of the ministry. With this authority, zoning plans were made in cities and revised according to needs. Zoning plans are the plans in which all kinds of planning are made, from housing to transportation, from trade to parks, from entertainment centers to social reinforcement areas of a city. In line with these plans, the necessity of laying natural gas pipelines, which are infrastructure services, in a city center was examined. As a method, it was discussed that just as the axons and dendrites in the living body and brain nerve cells perform all kinds of movements with each other in the form of a network, it is possible to design this type of natural gas lines by designing an artificial network in the form of establishing main and intermediate distribution points. It was observed that the main distribution points of the lines should be shown outside the settlements with a certain legend within the zoning boundaries, and it was examined that the intermediate points would be healthy if the areas such as green areas but not parks, such as electrical transformer areas, were within a certain meter distance. The necessity of applying the lines in the form of a network design by passing the lines under the ground by creating a certain level, digitizing with the connection points and giving the coordinates was examined. In this way, in designing a healthy network, it was determined that which point can be reached quickly and easily in case of a malfunction, and that the possibility of living things to be affected will be at the minimum level when these lines are passed in the light of a certain distance in case of an explosion. The package program Basarisoft was used in the creation of natural gas lines. These types of programs are geographic information system formations that are used to digitize and integrate zoning plans and lines, and to store this network design in a computer environment, minimizing time for formation and intervention.

Keywords: Zoning plan, city, natural gas, artificial neural networks

THE EXCLUDED SOCIETIES IN THE EFL TEXTBOOK ENGLISH NET 6: A CRITICAL PERSPECTIVE TOWARDS THE EFFECTS OF COLONIZATION

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Abstract
Culture means peculiar values, beliefs, knowledge, customs, norms, and traditions of a group of people. It simply refers to everyday life, attitudes, and behaviors of individuals. Culture is also described as an active structure of gained characteristics with values, behaviors, assumptions, conventions, principles, beliefs and rules through which individuals are integrated with each other. Culture mirrors who we are as humans, keeps our past alive, signifies our beliefs and values, reflects our dreams, and promotes our dignity. In sum, culture reveals our identity and being as humans. It is crystal clear that language and culture are interwoven and it would end in fiasco if we separate them from each other. A language is shaped by the cultural characteristics of a society in that it mirrors all the traditions, customs, beliefs, values, norms, principles and attitudes of that society. In this inquiry, it is aimed to find out the proportion of the inner, outer, and expanding circle cultural compounds formed by Kachru in a state EFL textbook. Hence, the EFL textbook English Net 6 for middle schools which is widely distributed by the Ministry of Turkish National Education was evaluated. The results of the study have represented that there was no balance in the rates of the inner/outer/expanding circle cultural characteristics in the analyzed EFL textbook in that the textbook excluded once colonized outer circle societies. The efficiency or inefficiency of the supremacy of specific circles from Kachru's Three Circles of English is commonly debated in the related literature.

Keywords: textbook evaluation, EFL textbook evaluation, culture and language.

Introduction
Merriam Webster Online Dictionary refers to culture in a number of dimensions such as ‘’a) the beliefs, customs, arts, etc., of a particular society, group, place, or time’’; b) ‘’a particular society that has its own beliefs, ways of life, art, etc. a way of thinking, behaving, or working that exists in a place or organization (such as a business)’’; c) ‘’the customary beliefs, social forms, and material traits of a racial, religious, or social group’’; d) the characteristic features of everyday existence (such as diversions or a way of life) shared by people in a place or time’’; e) ‘’the set of shared attitudes, values, goals, and practices that characterizes an institution or organization’’; f) ‘’the set of values, conventions, or social practices associated with a particular field, activity, or societal characteristic’’; g) ‘’the integrated pattern of human knowledge, belief, and behaviour that depends upon the capacity for learning and transmitting knowledge to succeeding generations’’; g) ‘’enlightenment and excellence of taste acquired by intellectual and aesthetic training’’; h) ‘’acquaintance with and taste in fine arts, humanities, and broad aspects of science as distinguished from vocational and technical skills’’; and i) ‘’the act of developing the intellectual and moral faculties especially by education’’. In sum, culture can be interpreted as all the aspects of life involving attitudes, perceptions, traditions, customs, beliefs, norms, stereotypes, norms, principles, and institutions of a specific group of people which are transmitted from generation to generation (Birukou, Blanzieri, Giorgini, & Giunchiglia, 2013). Culture may be simply interpreted as the style of life for a particular community. Besides, it contains language, art, rituals, faith, clothing, attitudes, routines, and nutrition (Jahoda, 2012). Culture is a covering term that

encircles the societal characteristics encountered in any community. People learn about culture by means of such practices as socialization and enculturation (Katrini, 2018). A societal standard assign approved behaviour in society in that it directs human actions (Faulkner, Baldwin, Lindsley, & Hecht, 2006). Moreover, identity refers to the unique characteristics of a person, or his/her personality. The meaning of identity also refers to who an individual is, the way she/he observes, perceive, and approach (Rutherford, 1990). Further, it refers to how we, as humans, perceive our environments. How a person perceives himself or herself also mean identity. The name of an individual also refers to his/her identity (Sökefeld, 1999). The typical personality of a Turkish also refers to identity (Sasley, 2010). Additionally, cultural identity is a dimension of an individual's identity, or their self-awareness, or self-conception, and it is closely associated with social class, ethnicity, nationality, locality, faith, customs, traditions, or any cultural component. Thus, cultural identity refers to both the individual person and group of people in that each member of a community shares the same cultural characteristics (Jensen, Arnett, & McKenzie, 2011). Oxford Reference Online defines cultural identity as ‘’the definition of groups or individuals (by themselves or others) in terms of cultural or subcultural categories (including ethnicity, nationality, language, religion, and gender), and adds that in stereotyping, this is framed in terms of difference or otherness’’. Moreover, a person’s social identity states who she/he is with respect to the community in which she/he is involved (Ellemers, Spears, & Doosje, 1999). Social identity is interpreted by all the societal, psychological, and physical features of individuals. Intergroup attitudes on the ground of conceived group status variations, the comprehended justice and constancy of those status variations, contrasts, and diversities are all involved dimensions of social identity (Jenkins, 2014). In this study, it is aimed to find out the proportion of the inner, outer, and expanding circle cultural compounds formed by Kachru in a state EFL textbook. Thus, the EFL textbook English Net 6 for middle schools which is extensively distributed by the Ministry of Turkish National Education was evaluated.

Kachru's Three Circles of English

Braj Kachru's model of World Englishes based on three concentric circles is possibly the most extensively utilized model for the spread of English (Kilickaya, 2009; Xiaoqiong & Xianxing, 2011). In Kachru’s model, the dispersion of English language is grouped in three concentric circles involving the inner, outer, and expanding circles. The inner circle includes the English-speaking regions where it was initially produced and expanded over the world. Thus, the native speakers from England transferred English to Australia, New Zealand, Canada, the USA, South Africa, and some of the Caribbean regions— norm providers. The outer circle comprises the earlier periods of the expansion of English in non-native environments English has turned to be second and official language in a multilingual atmosphere. The outer circle countries involve the previous colonies of the UK and the USA. Such countries as Malaysia, Singapore, India, Ghana, and Kenya may exemplify the outer circle— norm-developing. The expanding circle covers the regions where English is taught solely as a foreign language in that no colonization, official tie, or historical role of English exist in such countries. Japan, China, Poland, and Greece may represent the expanding circle countries— norm dependent (Park & Wee, 2009; Schmitz, 2014; Mair, 2016). The following figure illustrates the three concentric circle of Englishes defined by Kachru .

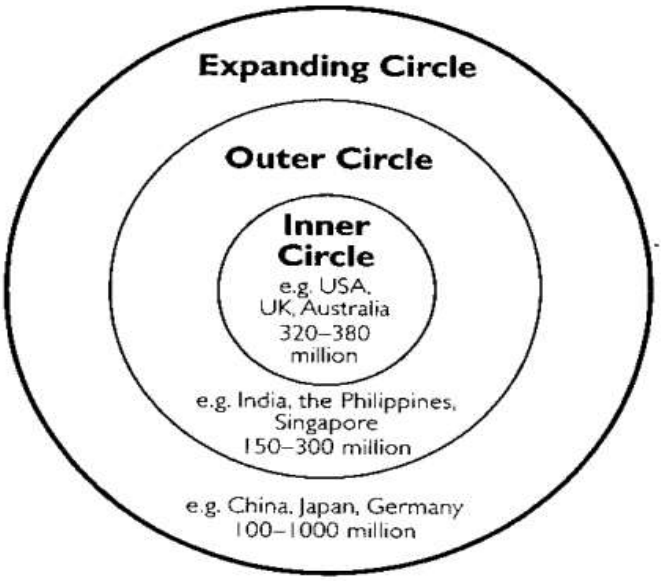

Figure 1. Kachru's concentric circles of English (Bacha & Bibi, 2010)

Methodology

The data of this descriptive content analysis study was collected from the EFL textbook Middle School English Net 6 (Şilit, 2016) which has been extensively distributed by the Ministry of Turkish National Education. The textbook was chosen from a list of other EFL textbooks suggested by the Ministry of Turkish National Education. Besides, the textbook was evaluated based on cultural ingredients which would represent characteristics from inner, outer, and expanding circle cultures. In the textbook, each unit involving exercises, reading passages, tasks, and dialogues were perused. Lastly, the employed cultural inner/outer/expanding circle ingredients were categorized.

Findings and Results

As the first steps of the study, for each occurring cultural ingredient, a frequency test was run utilizing SPSS 26.00. At the second step of the evaluation, samples for each cultural ingredient were supplied regarding inner/outer/expanding circle cultural components (see Appendix).

Dispersion of the Cultural Compounds

This group of cultural compounds involves inner, outer, and expanding circles of English with frequencies and the related percentages.

Table 1

Cultural compounds from inner, outer, and expanding circles of English

Inner		Outer		Expanding	
f	**%**	**f**	**%**	**f**	**%**
15	21.43	—	—	55	78.57

It is simply observed from Table 1 that while no emergence was detected in the outer circle group, a big percentage of occurrences (78.57%) has been observed in the expanding

group. Further, a percentage of 21.43 has been detected in the inner circle group of cultural constituents. The samples representing the related percentages are illustrated in the Appendix.

Discussion and Conclusion

In the related literature, numerous sources refer to the inclusion of specific cultures, hegemony of privileged cultures, cultural ideology, and dominance of specific societies in EFL/ESL settings in general and in EFL/ESL textbooks in particular (Awayed-Bishara, 2018; Köksal & Ulum, 2020; Köksal & Ulum, 2021; Safari & Razmjoo, 2016; Su, 2016; Xiong & Qian, 2012). However, an intricate and specific study based on the dominance of the inner, outer, and expanding circle cultural ingredients that appeared in the present study was not particularly conducted. Hence, this study aims to clarify the included and excluded societies in an EFL textbook designed by the Ministry of Turkish National Education. The picture drawn by the present EFL textbook which has been locally written illustrates that the outer circle societies— Malaysia, Singapore, India, Ghana, and Kenya etc. were totally excluded in the analyzed textbook. On the other hand, the expanding circle societies— Egypt, Spain, Turkey, Germany, etc. (78.57%) were dominantly included in the textbook, while its inner circle equivalents were involved with a percentage of 21.43. Another outstanding dimension is that, let alone the authors from the inner circle countries, the author of the analyzed textbook who is from an expanding circle— from the Turkish context, excluded the once colonized societies from the outer circle. Therefore, authorities, policy makers, and textbook authors deciding on the content or agenda of courses, curriculums, and textbooks should be careful about not to create an imbalance in the inclusion of diverse societies. Otherwise, they may serve specific ideologies intentionally or unintentionally.

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Appendix

Inner	Outer	Expanding
My family and I live in a small country called Frodsham. It's a quiet and lovely place. (p. 25)	—	I learn Polka with my friends. It's a traditional German dance. (p. 11) Student A : What does 'polka' mean? Teacher : It's the name of a traditional German dance. Polka, a traditional German dance. (p. 13) Halay, a traditional Turkish dance. (p. 13) Flamenco, a traditional Spanish dance. (p. 13) Tanoura, a traditional Egyptian dance. (p. 13)
Clifwood City park (p. 41)	—	Egypt – Spain – Turkey – Germany (p. 13)
Harry : Hi, Carol! I'm happy to see you again. Carol : Me too. How was your holiday? Harry : It was great. My family and I were in New York. Carol : In New York? Really? Harry : Yes. Look at my photo of the Statue of Liberty. Carol : It's amazing. Harry : How was your holiday? Carol : It wasn't interesting or fun. Harry : Where were you? Carol : I was here. (p. 48)	—	I'm Kaito from Tokyo. I'm a student in the sixth grade. On weekdays, I often have a quick breakfast at home. But I sometimes have sushi in the school canteen. Yummy! I love sushi. It's my favorite. At weekends, my family and I always have a traditional Japanese breakfast. As you know, Japanese people eat lots of rice. We even have rice for breakfast. There is also miso soup. It's a kind of vegetable soup. (p. 18)
visit-Buckingham Palace walk-Hyde Park	—	Bon appétit! Buon appetito!

get on-London Eye (p. 53)		Guten Apetit! (p. 19, 20)
Officer : What's your address? Jack : It's Highbury House 75 Drayton Park. (p. 65)	—	At the moment, two people _____ Chinese food at the Chinese restaurant. (p. 27)
A gang of criminals robbed a bank in central London yesterday. (p. 69)	—	Turkish Airlines Turkish Railways (p. 29)
And here's some sports news. Manchester United is playing against Real Madrid tonight. (p. 69)	—	Student A : Which city is larger? Ankara or İstanbul. Student B : Ankara. (p. 30)
Ryan Tedder / give / a concert / last weekend . (p. 69, 80)	—	Look at the symbols and present the weather forecast for Turkey. (p. 33)
Take photos of all the English words you see around you and print out your photos. (p. 70)	—	Linda : _____ you in Greece? Jim : No, I _____ . I _____ in Italy. Look at my photo of the Pisa Tower. (p. 49)
Iron Maiden 50 Cent (p. 80)	—	Student A : Where were you on your summer holiday? Student B : I was in Marmaris (p. 51)
—	—	Last weekend, my family and I were at a winter sports centre in Sweden. (p. 53)
—	—	They didn't take the Van Gough's painting. (p. 67)
—	—	Yesterday was a very exciting day for me because there was an election in Brazil. Finally, the anchorman announced the new president of Brazil. It was Dilma Roussef! (p. 84) The voting age in Brazil is 18. (p. 85)
—	—	When was the last general election in Turkey? a) In 2001 b) In 2011 (p. 86)
—	—	In Turkey, anyone _____ can vote. a) under 18 b) over 18 (p. 86)
—	—	Who was the first president of the Turkish Republic? a) Mustafa Kemal Atatürk b) İsmet İnönü (p. 86)
—	—	In Turkey, _____ a) men and women have equal rights. b) men have more rights than women. (p. 86)

EFFECTS OF SOCIAL MEDIA AND LEARNING ON ADULT'S EDUCATION DURING PANDEMIE

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Abstract
Through the end of the 20th century, with the emerging of internet, the developments in information technologies led to many changes in the ways communication and daily life. In human interaction, face to face communication gave way to the communication with technological devices. Social media takes place in the centre of this virtual platform. Social media represents all the applications, services and means that enables the users to communicate by using network technologies. The indivudals' dialogues and sharings with each other form the social media. Social media reformed people's communication, interaction, collaboration, studies an even learning process. Because it is flexible and user-friendly than other instructional management systems, social networking sites can be used more easily. By following these simple steps to create a community and the realization of shares among themselves provide a very convenience for the students in terms of communication and feedback. In addition to these features, social networking sites are also beneficial for the institutions due to the features such as enrichment of blended learning experiences and supporting students' learning process and teachers' training and evaluation process. This study aims to reveal the importance of social media in education; education, social media and relationship between education and social media are discussed.

Keywords: Social media, Media Literacy, Social Media Education

MOBİL UYGULAMALAR, FİNANSAL TEKNOLOJİLER VE BLOKZİNCİR TEKNOLOJİSİNİN FİNANSAL KAPSAYICILIK ÜZERİNDEKİ ETKİLERİ

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Özet
İnternet üzerinde geliştirilen teknoloji ürünü altyapı yazılımları ve mobil uygulamalar bir çok sektörün dinamiklerini değiştirmektedir. Mobil cihazlarda kullanıcıların işlem yapabilmesini sağlayan program setlerinden oluşan basit, kullanıcı deneyimi odaklı üretilmiş, ve temin edilmesi çok kolay olan mobil uygulamalar küresel bilgi ve iletişim teknolojilerinin yeni ve çok hızlı gelişen bir segmentidir. Mobil uygulamalar finansal teknoloji (fintek) şirketlerinin ortaya çıkışı ve büyümesinde önemli bir rol oynamış ve finansal hizmetlere erişim anlamında kapsayıcılığı artırarak dönüşümsel bir değişim getirmiştir. Mobil uygulamalar konvansiyonel bankacılık ve finansal çözümlere alternatif ürün ve hizmetlerin gelişmesini sağlarken, bir yandan da teknoloji şirketlerinin mobil uygulama tabanlı ürün portföylerine finansal çözümler eklemesini tetiklemektedir. Bu gelişmelerin yanı sıra son yıllarda kullanımı hızlanarak yaygınlaşan ve verinin güvenilir bir şekilde yönetilmesini sağlayan blokzincir teknolojisi, paranın dahi mobil uygulamalar ile yönetilmesine imkân sağlamaktadır. Güvenli, şeffaf ve merkezi olmayan veri yönetimi altyapısı sunan blokzincir teknolojisi, aracıya gerek duymadan kişiler arası para transferi yapılabilmesi odağında yeni bir vizyon sunarak finans sektöründe ciddi bir dönüşümü tetiklemektedir. Blokzincir teknolojisi ve bu teknolojinin ilk ürünlerinden olan kripto paralar çok kısa sürelerde, aracısız, limitsiz, ve düşük maliyetli bir sistem ile geleneksel finansal sisteme bir alternatif ortaya çıkartmakta ve finansal kapsayıcılığa yeni bir katman ilave etmektedir. Finansal kapsayıcılık, bireylerin ve şirketlerin finansal hizmetleri kullanma bağlamında temel finansal ürün ve hizmetlere ulaşabilme imkânları ile bir ekonomi içerisinde herhangi bir nedenden dolayı finansal sistemin dışında kalan bireylerin veya grupların finansal sisteme dâhil edilmesine odaklanır. Blokzincir teknolojisi sürdürülebilir kalkınma hedeflerinin somutlaştırdığı şekliyle sürdürülebilir, dengeli kalkınmanın temelini oluşturan finansal kapsayıcılığın artırılmasına imkan verecek altyapının geliştirilmesine yönelik ilerici bir yaklaşım sunabilmektedir. Bu makalede mobil uygulamaların gelişimi ve bu uygulamalar üzerinde küresel ölçekte büyüyen fintek ekosisteminin blokzincir tabanlı uygulamalar ile gelişiminin finansal kapsayıcılık üzerindeki etkileri üzerine bir inceleme sunulmaktadır.

Anahtar kelimeler: Finansal kapsayıcılık, sürdürülebilirlik, blokzincir teknolojisi, mobil uygulamalar, fintek

EFFECTS OF MOBILE APPLICATIONS, FINANCIAL TECHNOLOGIES AND BLOCKCHAIN TECHNOLOGY ON FINANCIAL INCLUSION

Abstract

Softwares and mobile applications developed on the internet are changing the dynamics of many industries. Mobile applications consisting of program sets that enable users to perform transactions on mobile devices, are a new and rapidly developing segment of global information and communication technologies which are simple, easy to access, and user-experience oriented. Mobile applications have played an important role in the emergence and growth of financial technology (fintech) companies and have brought about a transformational change by increasing inclusiveness in terms of access to financial services. While mobile applications enable the development of alternative products and services to conventional banking and financial solutions, they also trigger technology companies to add financial solutions to their mobile application-based product portfolios. In addition to these developments, blockchain technology, which has gained popularity in recent years and ensures reliable management of data, allows even money to be managed with mobile applications. Blockchain technology, which provides a secure, transparent and decentralized data management infrastructure, triggers a serious transformation in the financial sector by offering a new vision focused on interpersonal money transfer without the need for an intermediary. Blockchain technology and cryptocurrencies, one of the first products of this technology, provide an alternative to the traditional financial system and offer solutions that can increase financial inclusion enabling unlimited and low cost money transfers in a very short time. Blockchain technology can offer a progressive approach to the development of infrastructure that will allow for increased financial inclusion, which forms the basis of sustainable, balanced development as embodied in the sustainable development goals. This article presents a review on the development of mobile applications and the effects of the blockchain-based mobile applications on financial inclusion.

Keywords: Financial inclusion, sustainability, blockchain technology, mobile applications, fintech

OPTIMIZATION OF PID CONTROLLED ROBOTIC FINGER ORTHOSIS WITH HARMONY SEARCH ALGORITHM

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Abstract
The hand limb has a critical importance in terms of been able to perform the daily activities. It performs many functions such as touching surfaces, grasping objects, moving things, writing. Despite its importance, unfortunately, many people are faced with the loss of hand functions or part of the hand for various reasons. In such cases, it is appropriate to use devices called orthoses that can be worn on the hand in order to make it to increase the performance of the hand. For this purpose, a robotic orthosis that can be adjusted according to finger length and has a low energy cost has been designed. In this study, for designed robotic finger orthosis, the parameters of PID controller have been optimized in the MATLAB environment using the Harmony Search algorithm, which is a meta-heuristic algorithm. The graphical results show that the PID controller using the Harmony Search Algorithm is suitable for robotic orthosis design.

Keywords: Robotic finger orthosis, PID controller, Optimization algorithm, Harmony search algorithm.

Introduction
Hands and fingers are of great importance in terms of sustaining human life. Many daily tasks and activities are carried out with hands and fingers. Muscle or sensory losses occurring in the hands or fingers affect human life negatively in all aspects. It prevents the person from acting independently. Some of these diseases can be treated through physical therapy and rehabilitation (Winstein et al, 2004; Lai et al, 2002). Some patients can regain their hands functions while others can not use their hands fully even after a physical therapy (Murphy & Corbett, 2009; Bovolenta et al, 2009; Legg et al, 2000; Kwakkel et al, 2004). Wrong applications can cause permanent damage. Despite these negativities, it is possible to provide a more appropriate treatment to the person with a robotic orthosis. With the wearable orthosis, it can be ensured that the mobility of the hands and fingers can be improved and the individuals' ability to work independently can be increased (Park et al, 2016). The orthosis design must be personal. On the other hand, it is a difficult and complex task to design hand or finger orthosis that is personal (suitable for finger length), capable of performing fine motor movements, easy to use, and lightweight (Susanto et al, 2015; Fischer et al, 2016; Nijenhuis et al, 2016; Vanoglio et al, 2016).

Meta-heuristic algorithms are effective methods that have been tested on many design problems in the field of optimization. Optimization problems in various fields such as engineering, medicine and economics are solved through meta-heuristic algorithms, as they are easy to apply and give effective results (Yıldırım & Karcı, 2018; Vasant, 2012). Harmony Search (HS) algorithm is inspired and designed from the harmony between the notes of the compositions, providing fast runtime thanks to its random operators. At the same time, HS is an effective algorithm that aims to achieve local and global optimum by considering both the

information in memory and new candidate solutions in the search space. Zou et al. optimized the robust PID controller parameters using a Modified Global Harmony Search (MGHS) algorithm on two constrained optimization test problems (Zou et al, 2011). Wang et al. designed a HS based PID controller for electronic throttle valve (Wang et al, 2011). Ambia et al. applied the HS and the optimization of PID control parameters for a distributed generation system (Ambia et al, 2015). Sambariya and Prasad used the HS algorithm to optimize the PID control parameters in a power system stabilizer design based on a PID controller. They used the standard IEEE ten-machine thirty nine-bus test power system for the test of the developed application (Sambariya & Prasad, 2015). In their study, Omar et al. optimized the PID controller parameters in the system performing load frequency control using 4 versions of the HS algorithm. They compared the results of this three-area thermal system with Generation Rate Constraint (GRC), Dead Band and Boiler Dynamics with the GA results (Omar et al, 2015). Arulanand and Dhara used the HS to optimize the PID control parameters in the Inverted Pendulum problem, which is frequently used in control engineering, and compared the results with the Genetic Algorithm (Arulanand & Dhara, 2015). Omar et al. optimized the PID control parameters by using 4 different versions of HS in the central control scheme of the two-area load frequency control model. They used the most successful HS version for the PID controller tuning of the decentralized control scheme (Omar et al, 2016). Shankar and Mukherjee used the HS for load frequency control for an automatic hybrid system (Shankar & Mukherjee, 2016). Mohammed et al. tested and analyzed the HS on benchmarking problems through Wilcoxon and Friedman nonparametric tests in order to determine the PID control parameters (Mohammed et al, 2016). Sambariya and Shrangi optimized the PID control parameters using the HS in order to be able to control the power of load and connection line responses in a two-area power system without reheating (Sambariya & Shrangi, 2017). Mazare et al. used the HS algorithm to optimize a system with DNN (dynamic neural network) and PID control to set the position of the PWM-driven pneumatic actuator (Mazare et al, 2018). Shamseldin et al. have developed an application for tracking the determined position of a one-stage servo mechanism system using a non-linear PID controller. They used the HS algorithm for the parameters optimization of non-linear PID controller proposed and the linear PID controller used to compare with it (Shamseldin et al, 2019). Kayabekir et al. used HS algorithm for the optimization of active tuned mass dampers (ATMDs). In the study, both the parameters of the PID controller and the mechanical properties of the ATMD are optimized with Modified HS (Kayabekir et al, 2020). Behera et al. implemented an application in the form of a fractional controller by trying to combine a reheating thermal power plant, hydroelectric power plant and a wind farm unit in a single-site system. They used HS algorithm in optimization of PID controller parameters in this multi-area power system. The results showed that the HS has superiority in optimization of FO-PID parameters (Behera et al, 2020). Ulusoy et al. have optimized the PID control parameters for the multiple structure of active tendon control systems by using HS and FPA (flower pollination algorithm). They revealed that HS is more successful in the study (Ulusoy et al, 2021).

In this study, optimization of PID parameters is performed with the HS for the control of the robotic finger orthosis (RFO). Section 2 examines the HS in detail. In Section 3, information is given about RFO design. In Section 4, the parameters of the dynamic system designed for the control of the RFO and the application of the HS to this dynamic system are explained. The results obtained in Section 5 are presented in graphics and tables. In the conclusion part, the achievements of the article are discussed.

Harmony Search (HS) Algorithm

HS is a population based meta-heuristic algorithm that models the effort to capture harmony between the sounds of musical instruments. A musical instrument's pitch determines its quality of harmony. Similarly, the fitness function determines the significance of decision variables for an optimization problem. She/he will record it in her/his memory if the musician receives good harmony. In the same way, if the algorithm reaches a better fitness score, this value is registered in harmonic memory. The HS has been developed for optimization issues using these similarities. The HS is an intuitive method that is simple to operate and easy to design due to its random operators (Geem et al, 2001; Alia & Mandava, 2011).

The algorithmic steps of HS begins with the configuration of the parameters and the harmony memory (HM) according to the problem parameters (Alia & Mandava, 2011). At the same time, the objective function relevant to the problem is determined. Then, a new harmony is formed in three methods. These methods are harmony memory consideration rate (HMCR), pitch adjustment rate (PAR) and random selection (RS). If the new harmony reached is better than anything else in HM, the new harmony is deposited in place of the worst harmony in HM. Unless the case of termination is reached, the process of generating new harmony is repeated. If necessary, the HM is upgraded with new values (Ceylan & Ceylan, 2013).

Harmony Memory Consideration Rate (HMCR)

Harmony Memory Consideration is the operator of selecting from existing values in the HM. Accordingly, while the new harmony (x_i') is randomly chosen from the HM $(x_i^1, x_i^2, x_i^3, \dots, x_i^{HMS})$ with the HMCR, the new harmony (x_i') is randomly selected from the solution space (X_i) with (1-HMCR) (Eq.1).

$$x_i' = \begin{cases} HMCR & x_i' \in \{x_i^1, x_i^2, x_i^3, \dots, x_i^{HMS}\} \\ (1 - HMCR) & x_i' \in X_i \end{cases}$$

(1)

Pitch Adjustment Rate (PAR)

With the operator of Pitch Adjustment, $\pm\, rand(0,1) \times bw$ is added to randomly selected harmonies from the existing HM according to the PAR. In the case of (1-PAR), HM is not changed. Here, bw indicates the bandwidth value (Eq.2).

$$x_i' = \begin{cases} PAR & x_i' \pm\ rand(0,1) \times bw \\ (1 - PAR) & x_i' \end{cases} \tag{2}$$

Random Selection (RS)

If the condition of HMCR is not verified, the RS process is applied. The new harmony is created randomly as Eq.3:

$$x_{ij}' = l_{ij} + \left(u_{ij} - l_{ij}\right) \times \mathrm{rand}(0,1) \tag{3}$$

where l and u is the lower and upper bound respectively (Ceylan & Ceylan, 2013; Nasir et al, 2020).

Dynamic Modelling of Mechanical System for the RFO

Each finger has three small bones and associated joints (Fig. 1a). These small bones are called *proximal, middle* and *distal* phalanxes. Due to rotational movement, distal interphalangeal (DIP) and proximal interphalangeal (PIP) joints have 1DOF. DOF indicates the degrees of freedom of the joints, which means the number of joints that provide independent movement. Due to adduction-abduction and rotational movements, the metacarpophalangeal (MCP) joint has 2DOFs. Except the thumb finger, all finger kinematics and dynamics are similar (Jacobsen et al, 1986; Tarmizi et al, 2009). Accordingly, the RFO design requires 3DOFs.

Fig. 1b displays a dynamic model of RFO. The phalanx masses are defined as m_1, m_2 and m_3. The phalanx dimensions are determined as L_1, L_2 and L_3. θ_1, θ_2, θ_3 are accepted as the joint variables of the system. The joint turn axis are vertical to the floor along the z-axis. The model for RFO is an idealized mechanical model by some assumptions. Since, it is presumed that the finger connections were rigid and the mass centers of fingers were at the just midpoint. Where g is the acceleration of gravity, c_i is the damping parameter and k_i is the coefficient of spring. It was designed considering that the joints work only rotationally. The equations of movement were created using the Lagrange method (Güzel & Bingül, 2005; Güzel & Bingül, 2008).

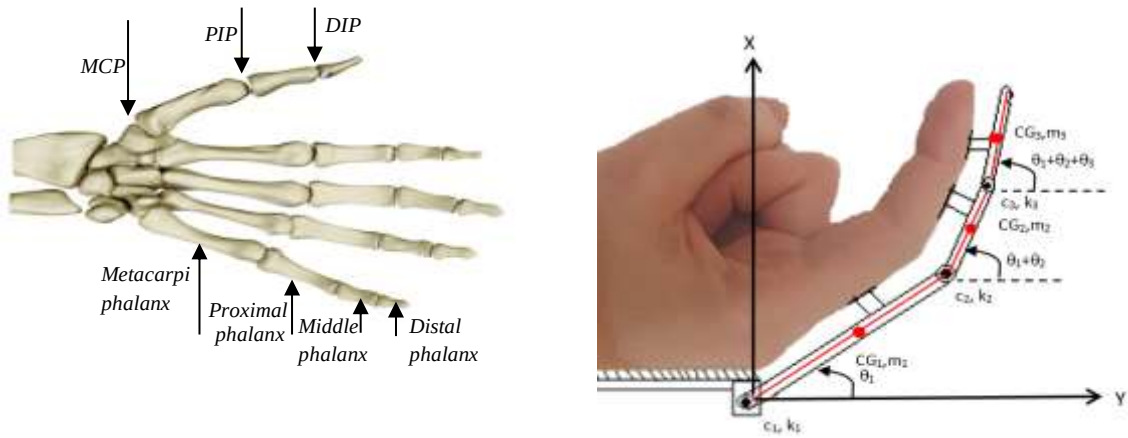


Fig. 1 a) Structure of the movable joints **b)** Finger mechanism for dynamic analysis

As a common phase, the Lagrange method is given in Eq.4.

$$\frac{d}{d_t}\frac{\partial L}{\partial \dot{\theta}_i} - \frac{\partial L}{\partial \theta_i} = \tau \tag{4}$$

It is necessary to measure L in order to obtain τ (Eq.5)

$$L = T - U \tag{5}$$

T is the kinetic energy and U is the potential energy of the scheme. With Eq.6 and Eq.7, it is computed the kinematic and potational energy of RFO.

$$T = \frac{1}{2}m_1V_1^2 + \frac{1}{2}m_2V_2^2 + \frac{1}{2}m_3V_3^2 + \frac{1}{2}J_1\dot{\theta}_1^2 + \frac{1}{2}J_2(\dot{\theta}_1 + \dot{\theta}_2)^2 + \frac{1}{2}J_3(\dot{\theta}_1 + \dot{\theta}_2 + \dot{\theta}_3)^2 \tag{6}$$

$$U = m_1gy_1 + m_2gy_2 + m_3gy_3 + \frac{1}{2}k_1\theta_1^2 + \frac{1}{2}k_2\theta_2^2 + \frac{1}{2}k_3\theta_3^2 \tag{7}$$

The central point is the gravity center of each phalanx. This point is represented in the x-y plane in Eq.8-13.

$$x_1 = \frac{L_1}{2}\cos\theta_1 \tag{8}$$
$$y_1 = \frac{L_1}{2}\sin\theta_1 \tag{9}$$
$$x_2 = L_1\cos\theta_1 + \frac{L_2}{2}\cos(\theta_1+\theta_2) \tag{10}$$
$$y_2 = L_1\sin\theta_1 + \frac{L_2}{2}\sin(\theta_1+\theta_2) \tag{11}$$
$$x_3 = L_1\cos\theta_1 + L_2\cos(\theta_1+\theta_2) + \frac{L_3}{2}\cos(\theta_1+\theta_2+\theta_3) \tag{12}$$
$$y_3 = L_1\sin\theta_1 + L_2\sin(\theta_1+\theta_2) + \frac{L_3}{2}\sin(\theta_1+\theta_2+\theta_3) \tag{13}$$

The horizontal and vertical elements of the velocity expressions are V_i^2 (Eq.14).

$$V_i^2 = \dot{x}_i^2 + \dot{y}_i^2 \tag{14}$$

J_i is inertia moment of phalanxes. In the model, the phalanx is shown as a straight bar. J_i is computed as in Eq.15.

$$J_i = \frac{m_i L_i^2}{12} \tag{15}$$

If all statements in Eq.15 are replaced, L can be described in Eq.16.

$$L = \frac{1}{2}m_1V_1^2 + \frac{1}{2}m_2V_2^2 + \frac{1}{2}m_3V_3^2 + \frac{1}{2}J_1\dot{\theta}_1^2 + \frac{1}{2}J_2(\dot{\theta}_1+\dot{\theta}_2)^2 + \frac{1}{2}J_3(\dot{\theta}_1+\dot{\theta}_2+\dot{\theta}_3)^2 m_1gy_1 + m_2gy_2 + m_3gy_3 + \frac{1}{2}k_1\theta_1^2 + \frac{1}{2}k_2\theta_2^2 + \frac{1}{2}k_3\theta_3^2 \tag{16}$$

According to Eq.5, the motion formulas for the whole finger phalanxes are obtained within Eq.17-19. τ_1, τ_2, τ_3 represent the dynamic symbols of orthosis (Taşar et al, 2021).

$$\frac{d}{d_t}\frac{\partial L}{\partial\dot{\theta}_1} - \frac{\partial L}{\partial\theta_1} = \tau_1 - c_1\dot{\theta}_1$$
(17)
$$\frac{d}{d_t}\frac{\partial L}{\partial\dot{\theta}_2} - \frac{\partial L}{\partial\theta_2} = \tau_2 - c_2\dot{\theta}_2 \tag{18}$$
$$\frac{d}{d_t}\frac{\partial L}{\partial\dot{\theta}_3} - \frac{\partial L}{\partial\theta_3} = \tau_3 - c_3\dot{\theta}_3 \tag{19}$$

Application of the RFO using HS

For a robotic wearable finger orthosis to be used in real time, it is more appropriate to make a PID controlled design. It is possible to adjust PID parameters in the best way with the use of optimization methods. In this study, the optimal values for the PID parameters of the RFO were tried to be obtained by using the HS. Eq.20 is used to specify the correlation between the inputs and outputs of PID.

$$u(t) = K_p\, e(t) + K_i \int_0^t e(t)dt + K_d \frac{de(t)}{dt} \tag{20}$$

The objective function was calculated by the sum of error squares method.

Dynamic System Parameters

The phalanx lengths (short, medium, long), the weights of phalanxes, the spring and the damping coefficients are given in Table 1.

Table 1. Parameter settings for finger orthoses

Finger	Phalanx Length (mm)	Weight (g)	K (Spring)	C (Damping)
proximal phalanx (L1)	32 / 39 / 45	8.60	0.001	0.005
medial phalanx (L2)	18 / 22 / 27	5.74	0.001	0.005
distal phalanx (L3)	15 / 16.5 / 18	6.70	0.001	0.005

In order to view the output of the controller, the user must first put the RFO on the index finger and then make the three hand grasping movements separately (Table 2). The joint reference angles of MCP, PIP and DIP were defined to be compatible with the finger and hand structure by examining the relevant studies in the literature (Eshak et al, 2011; Case & Ross, 2007; Buryanov & Kotiuk, 2010; Gustus et al, 2012).

Table 2. Angles of the index finger joints to compatible hand-gripping motions

Motion Scenerios /Joint reference angle (degree)	**Pinch**	**Span**	**Hook**
MCP	80	45	15
PIP	90	30	90
DIP	90	15	60

Harmony Search Algorithm Parameters

Table 3. shows the parameters of the HS for the PID controlled RFO. In addition, it gives information about the total number of parameters specifying the individual PID values for MCP, PIP and DIP.

Table 3. Parameter settings of HS for PID controlled RFO

Parameter	Value
Amount of parameters	9 (3;3;3)
HMS (Harmony Memory Size) value	20
HMCR (Harmony Memory Consideration Rate) value	0.9
Min PAR	0.4
Max PAR	0.9
Min value of bandwidth	0.0001
Max value of bandwidth	1.0
Max generation	200

HS operators apply according to the conditions in the pseudo code below. Random weighted operators provide ease of design. It is also effective in the fast running of the algorithm.

$if\ x < HMCR$

Apply $Memory\ Consideration$

$If\ y < PAR$
Apply $Pitch\ Adjusting$
end
$else\ if\ x > HMCR$
Apply $Random\ Selection$
end

After applying the above operators, the new obtained value is compared with the best and worst fitness values in HM. If it is better than worst fitness value, the new value is taken to HM. The worst value is discarded from HM. The best and/or worst values are updated as required. The process of creating new harmony continues until it reaches the generation number.

Experimental Results

The adjustment of PID parameters for RFO using the HS was carried out using the MATLAB 2018b. Runge-Kutta Method was chosen for the solution of the dynamic model. PID parameter values for the dynamic system are given in Table 4.

Table 4. Adjusting PID parameters set by the HS for joint reference angles

PID Parameters /Joint reference angles	KP	KD	KI
MCP	2.3605	0.0701	0.2783
PIP	2.1086	0.0257	0.0400
DIP	1.2565	0.2085	0.2792

The responses and error values of the dynamic system where the PID parameters are optimized with the HS are presented in the graphics. Accordingly, system responses were obtained for three situations in order to use orthosis design simultaneously for persons with short finger, medium-sized finger and long finger structure. In addition, reference angle values for the MCP joint with Tetha-1, the PIP joint with Tetha-2, and the DIP joint with Tetha-3 have been arranged. Fig. 2 shows the PID response and error of the dynamic system for the pinch motion scenario.

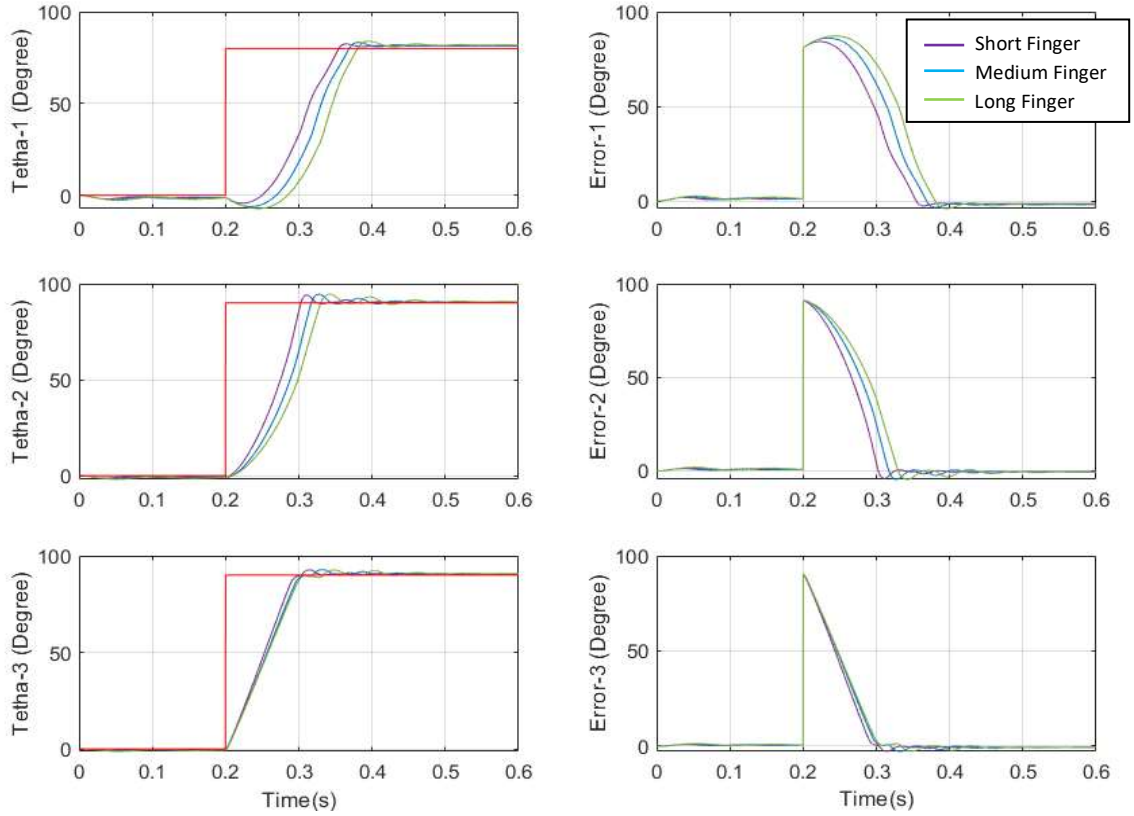


Fig. 2 PID response and error graphs for pinch motion

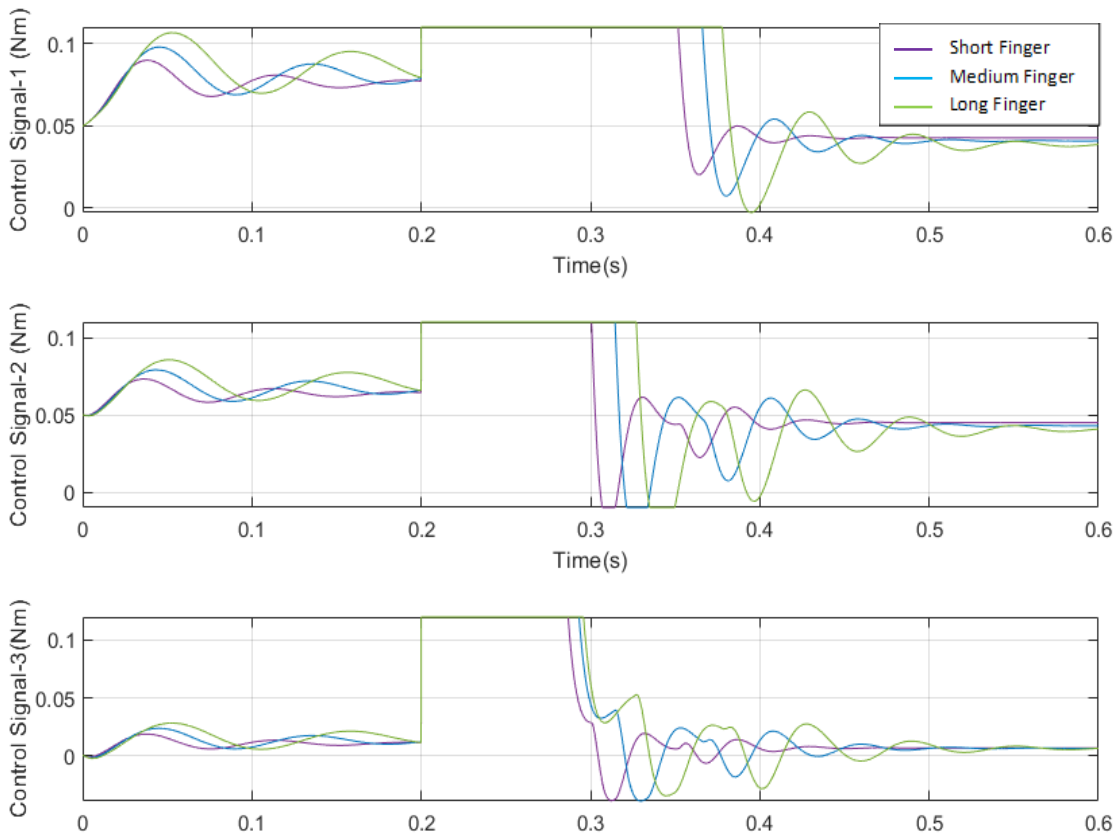


Fig. 3 PID controller signal graphs for pinch motion

Fig. 3 shows the PID controller signal graphs of the dynamic system for the pinch motion scenario. In order to obtain the PID controller parameters, the system is trained for the pinch

motion scenario. For this reason, it is observed that the system goes to stable state faster for the first scenario.

Fig. 4 shows the PID response and error of the dynamic system and Fig. 5 shows the PID controller signal graphs of the dynamic system for the span motion scenario. As can be seen from the graphs, the system takes longer to transition to steady state for this motion scenario compared to the first scenario.

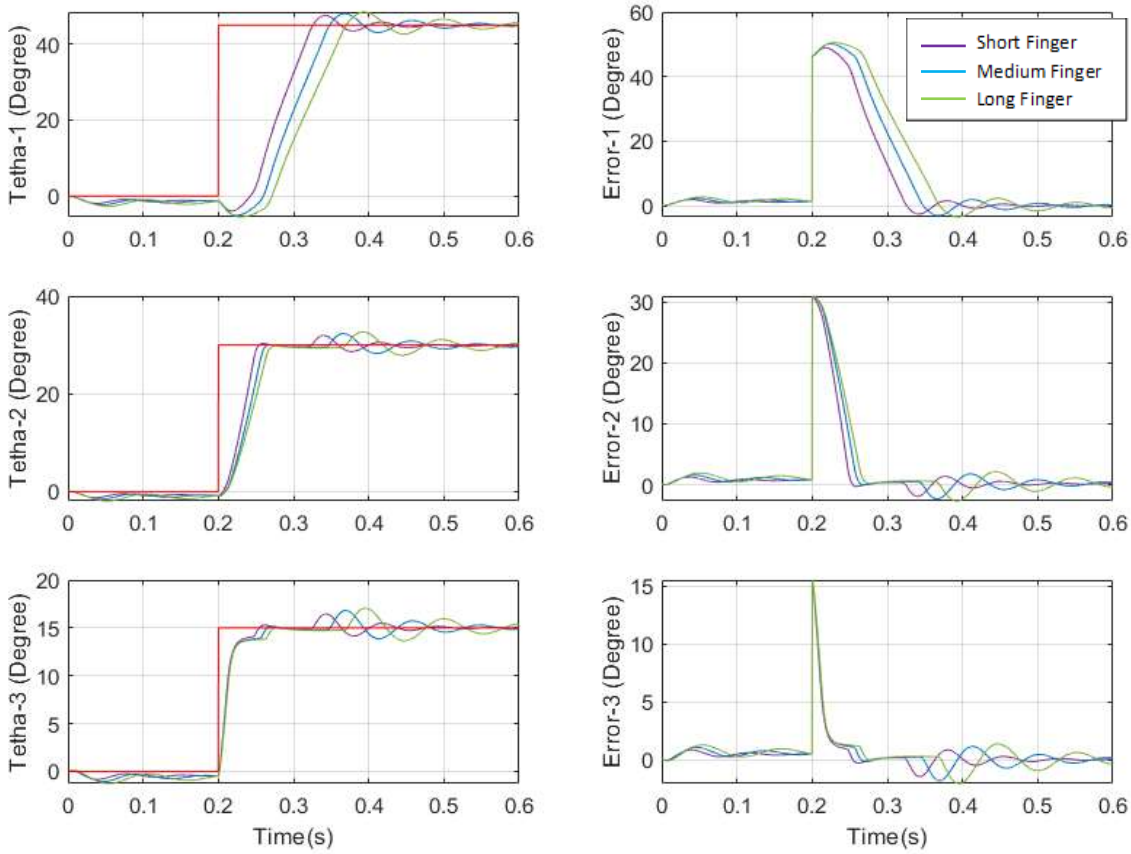


Fig. 4 PID response and error graphs for span motion

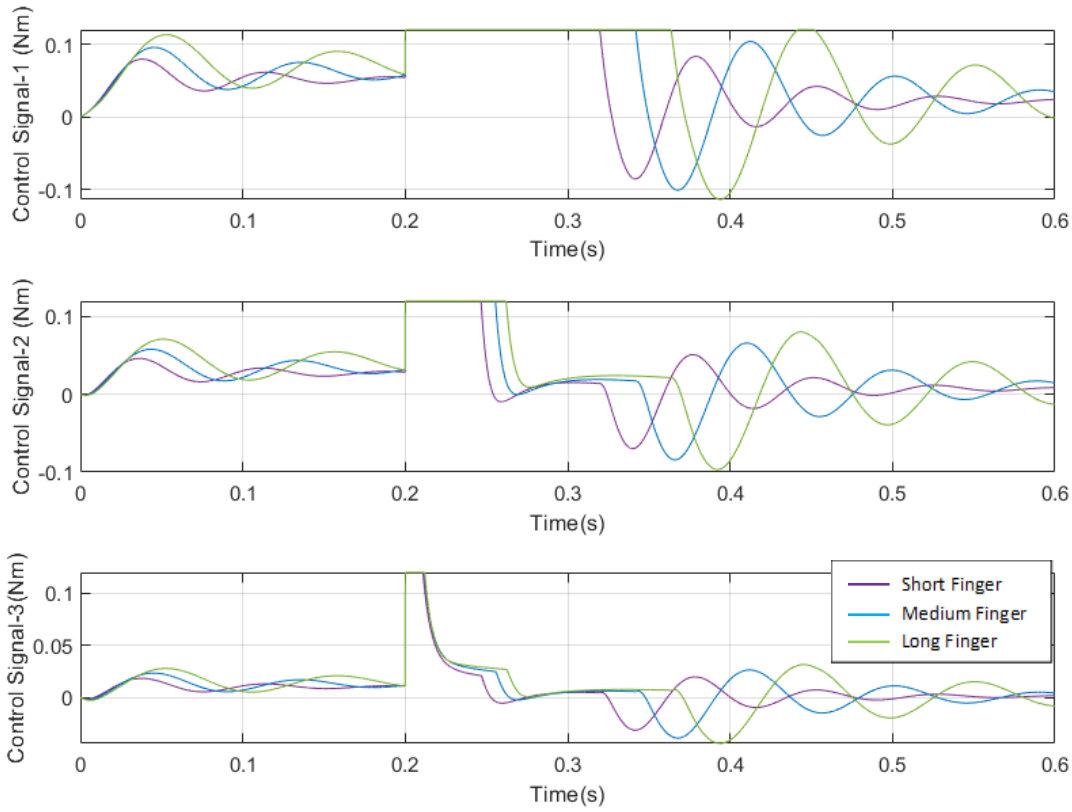


Fig. 5 PID controller signal graphs for span motion

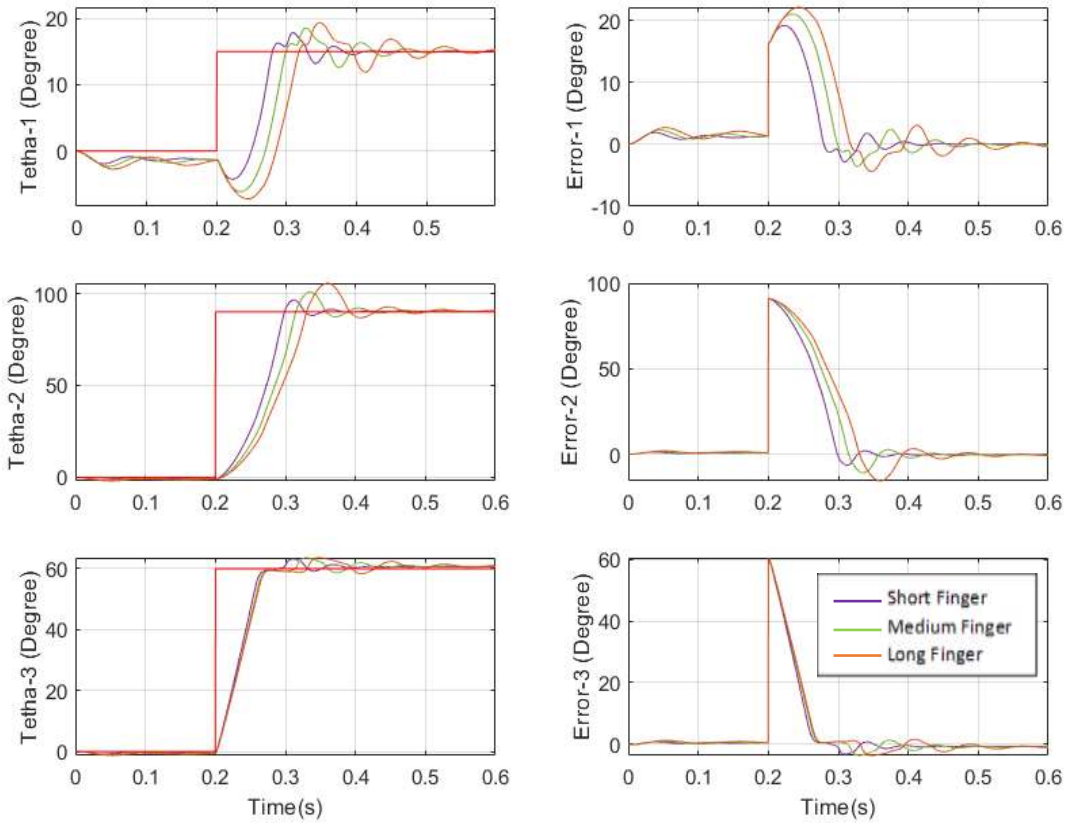


Fig. 6 PID response and error graphs for hook motion

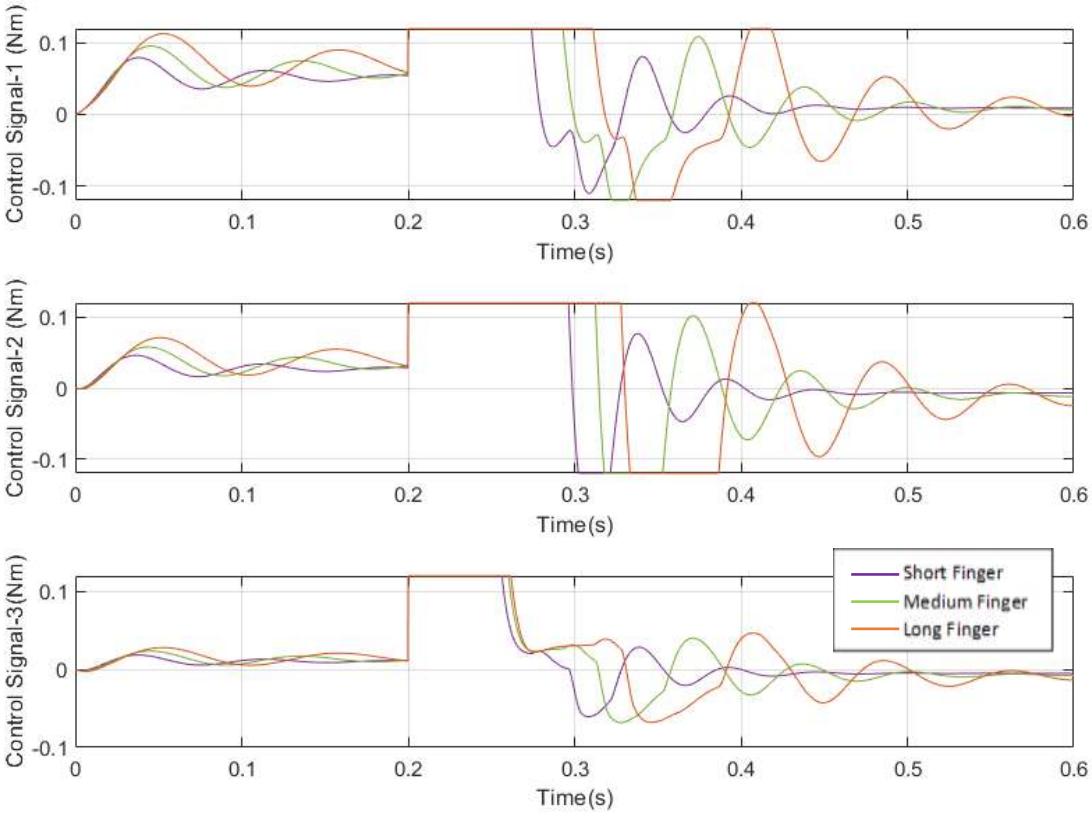
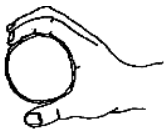


Fig. 7 PID controller signal graphs for hook motion

Fig. 6 shows the PID response and error of the dynamic system and Fig. 7 shows the PID controller signal graphs of the dynamic system for the span motion scenario. According to the graphs, the system takes longer to transition to steady state for hook motion scenario compared to the first scenario.

Table 5. PID controller response parameters for three motions and three fingers structure

Phalanx Length (mm)	PID Response Parameter	Pinch			Span 			Hook		
		MCP	PIP	DIP	MCP	PIP	DIP	MCP	PIP	DIP
Short Finger	Overshoot (deg)	2.48	4.06	2.71	2.55	1.92	1.46	2.84	6.50	3.19
L1=0.015 L2=0.018 L3=0.032	Steady-state error (deg)	1.35	0.39	0.64	0.11	0.21	0.03	0.07	0.29	0.64
	Steady-state time (s)	0.39	0.41	0.40	0.47	0.47	0.51	0.48	0.38	0.44
Medium Finger	Overshoot (deg)	3.28	4.50	2.81	3.04	2.31	1.82	3.53	10.9	3.58

L1=0.016	**Steady-state error (deg)**	1.61	0.52	0.72	0.25	0.38	0.15	0.05	0.45	0.81
L2=0.022 **L3=0.039**	**Steady-state time (s)**	0.45	0.47	0.44	0.56	0.52	0.58	0.49	0.42	0.49
Long Finger	**Overshoot (deg)**	3.92	4.52	2.65	3.45	2.66	2.06	4.34	15.6	3.60
L1=0.018 **L2=0.027**	**Steady-state error (deg)**	1.88	0.68	0.78	0.73	0.38	0.43	0.32	0.81	1.08
L3=0.045	**Steady-state time (s)**	0.48	0.53	0.47	0.59	0.58	0.59	0.54	0.54	0.56

In a dynamic system, three criteria that are overshoot, steady-state error, steady-state time, determine the acceptability of the PID controller's response. Overshoot indicates the amount of departure from reference values at the top of the system. Steady-state error shows the difference between the system and the reference value at the last point. Steady-state time indicates the time for the system to stabilize. Accordingly, in Table 5, the PID response of the system to the scenarios created for 3 different motions (pinch, span and hook) and 3 different finger lengths (short, medium and long) are given with overshoot, steady-state error and steady-state time parameters.

As can be seen in Table 5, the steady-state time values are very low for all three hand motions and all three finger lengths. The MCP reference angle appears to deviate more than others during the pinch motion. Also, deviation from the DIP reference point in hook movement is slightly greater for individuals with long fingers. However, angular deviations are tolerable. Even if the overshoot values vary according to the movement and finger length, the steady-state time mostly takes less than 1 sec., the system returns to the stable state quickly and the hand takes the desired position in a short time. This situation shows the success of the proposed system. Graphics and system response parameters showed that the optimization of PID control parameters in the RFO design with the HS gave appropriate results for the dynamic system.

Conclusions

Hand or finger functions are very important for people to be able to do their daily activities on their own. Patients who have lost these functions for various reasons should be rehabilitated with the most appropriate orthoses. Instead of a custom designed mechanical orthosis, robotic and individually adjustable orthosis design is more advantageous in many ways.

In this study, it was performed optimization of PID controller with an intuitive method for 3DOFs RFO, which can be adjusted individually. Runge-Kutta Method was chosen for the solution of the dynamic model. HS is preferred for the optimization of the parameters of the PID controller in the dynamic system. With the study, for 3 different finger structures as short, medium and long, 3 swinging joints as MCP, PIP and DIP, and 3 different hand-gripping movements, including pinch, span and hook, PID response is obtained in terms of overshoot, steady-state error and steady-state time parameters. The results show that the

designed PID stabilizes in reasonable time for all motion types and all finger lengths. This means that the HS is a suitable optimization method in PID controller designed for 3DOFs RFO. In addition, the use of HS, a meta-heuristic approach to optimizing the PID controller, provides many advantages, such as easy implementation, high run-time performance, and a mechanism that prevents stuck at local optimum. In future studies, orthosis designs that can obtain more optimal PID responses can be made in comparison with different algorithms.

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DETECTION OF DEPRESSION IN ONLINE SOCIAL NETWORKS

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Abstract
Online digital platforms have been instrumental in rapid content production and mass sharing, leading to an exponential increase in the dimensions of interaction within a social network. Due to these online social networks, it has become possible to share the content desired to be shared whenever there is internet, regardless of time, place and environment. Therefore, the modern application area of social network analysis in today's world is digital social platforms called online social networks. Popular online social networks such as Facebook, Twitter, Instagram and Tumblr connect millions of people and enable the formation of relationships among their users in various ways. The multifaceted form of interaction, which includes economic, social and communal relations, has revealed social network analysis problems that arise in online platforms. These problems, called online social network analysis problems, consist of dozens of problems such as community detection, stance detection, role discovery, hate speech detection and stress detection. These problems attract the attention of many researchers and there are many studies in these areas. In particular, the detection of health problems by analyzing social posts is one of the popular topics recently studied. For example, online social networks provide a lot of data in the detection of mental health disorders and contribute to the experts in this field. In this paper, studies and applications related to the detection of depression are explained. During these studies, various artificial intelligence and machine learning methods were used to solve this problem. As a result, this study provides a guide for new studies by explaining current studies for researchers who will work in this field.

Keywords: Depression detection, online social network analysis, social networks, machine learning, artificial intelligence

INTRODUCTION

Depression is among the main health problems that are becoming increasingly common with the complex and busy lifestyle of today's world. Depression is a concept that defines mood situation such as feeling sad and a significant decrease in individual and social activities. Along with depression, deep sadness, anxiety, apathy, not being able to enjoy anything, sexual reluctance and fatigue are occurred. It is a syndrome characterized by thought, speech, concentration difficulties and slowing down in physiological functions, as well as worthlessness, smallness, powerlessness and recurrent thoughts of death, and as a result, it has a destructive aspect that negatively affects life (Kumar et al. 2012, Kaplan 2012, Bernard 2018). The World Health Organization predicted that depression would take the second place after cardiovascular diseases by 2020 (Lopez and Murray, 1998), and also, in a statement published on the subject in 2004, WHO stated that Major Depressive disorders may take the

first place among health problems by 2030 (Organization WH, 2004). He also stated that depression affects 27 million American citizens, which may be associated with 30,000 suicides each year (CDC 2001 and Luoma et al. 2002).

Despite its negative effects on human life such as suicidal ideation and behavior and high financial costs, investment in depression assessment and intervention strategies has been minimal (Giuntini et al. 2020). Detecting depression and its consequences, using new methods as well as traditional methods may be important for public health. The increase in social media areas, especially with technological opportunities, has increased these opportunities. The large amount of data produced in these channels can offer us clues to the detection of depression. This large amount of data can be analysed using current and effective artificial intelligence methods.

In this study, depression detection studies in online social networks (OSNs) are briefly discussed. He also explained the social networks, methods and results used in these studies.

ONLINE SOCIAL NETWORKS

All kinds of information sharing between people using digital technologies has become quite common. According to Boyd and Ellison (2007), in order for a web service to be called an OSN, that web service should allow people to create an open or semi-open profile, create a list of users they can interact with, and also see what people are doing on the system. OSNs such as Twitter, Facebook, Tumblr, Instagram, Youtube and WhatsApp connect millions of people and allow them to share a variety of information. With the opportunities provided by these platforms, various types of data such as pictures, audio files and text posts are shared. This data may contain different types of information about individuals. For example, there may be information that includes their economic status, educational status, political attitudes or psychological status.

In addition, the number of OSNs is increasing rapidly year by year. In 2017 alone, the number of OSN users worldwide was 2.86 billion. Three years later, in 2020, this number reached 3 billion people. This number is expected to reach 4.41 billion people in 2025 (Can and Alatas, 2021a). Considering the large number of nodes in these networks and the edges between them, it is clear that these networks offer great opportunities for new research.

DEPRESSION DETECTION ON SOCIAL NETWORKS

Since OSNs represent large-scale online networks, they have also created social problems that have been transferred to online platforms. Although these problems are classical social network analysis problems, they have been moved to new channels with technological opportunities. OSN analysis problems consist of dozens of problems such as Community Detection, Stance Detection, Fake News Detection, Rumor Detection, Hate Speech Detection and Depression Detection. OSNs for solving these problems offer new possibilities and many studies are carried out in this area.

Studies conducted in OSNs for the solution of mental diseases have gained momentum in recent years. It is very important to detect both mental disorders caused by OSNs themselves and existing diseases through OSNs. In this study, we focused on the studies using the posts in the OSNs. Although it is important for public health to detect depression and reveal its results using classical treatment methods, it has deficiencies in terms of inclusiveness and early diagnosis. In this respect, the increase in social media opportunities with technology creates various opportunities. For example, Twitter, Facebook, Instagram, Blogs and Forums

and Reddit offer various possibilities for the early detection of depression (Giuntini et al. 2020).

METHODS USED IN DETECTION OF DEPRESSION

Data analysis techniques have the ability to automatically identify disorders based on signs and symptoms of depressive disorders. Abnormal patterns in behavior can be recognized through data mining techniques, sentiment analysis, and emotion recognition in OSN (Moreno et al. 2011). Thanks to the automatic analysis of social media posts, it allows various features and variables to be extracted from this data, thus enabling the creation of different prediction models. For example, word frequency expressing mental disorders, the language of the users coded, posting time, and other variables could help for detecting depression. These can then be used inside algorithms as arguments. Below, some of the methods used in the studies on the detection of depression in social networks are introduced and the solution models are collected in Table 1.

PCA: Principal component analysis (PCA) is the process of computing the principal components and using them to perform. In statistics, PCA is a method of finding the projection of a data in a multidimensional space onto a lower-dimensional space in a way that maximizes variance. For a set of points in space, the "best fit line" with the least average distance from all points is chosen.

SVM: SVM (Support Vector Machine) is a popular algorithm in machine learning. Basically SVM is a two-class classifier. Considering that there are two labelled data in a training dataset, SVM can successfully classify among them and divide them into new categories. It does this with non-probabilistic binary linear and nonlinear classifiers. (Can and Alatas, 2021b).

RBF Kernel: RBF (Radial Basis Function) is one of the frequently used kernel learning methods. In particular, it is frequently used in SVM for classification tasks.

Naïve Bayes: This method, named after Thomas Bayes, is a probabilistic method. Naïve Bayes algorithm is a predictive and descriptive classification algorithm that tries to determine the relationship between the target variable and the independent variables. It has many application areas such as text classification, medical diagnosis and classification of malicious e-mails (Can and Alatas, 2021b).

Logistic Regression: It is a popular method used for classification of numerical and categorical data. It works only if the dependent variable can take 2 different values. The most distinctive feature that distinguishes logistic regression from linear regression is that the result variable in logistic regression is binary or multiple (Can and Alatas, 2021b).

Ridge Regression: Ridge regression is used in parameter estimations. It is also used to solve the collinearity problem, which is one of the most frequently encountered problems in multiple linear regression problems (https://en.wikipedia.org/wiki/Ridge_regression).

Random Forest: Random Forest algorithm consists of a combination of three classifiers method. Each classification method has an independent input vector, consisting of a random vector sample. To classify the input vector, each tree votes one unit to the more popular class (Can and Alatas, 2021b).

Solution methods used in other studies are shown below.

Table 1. Methods used for the detection of depression (Giuntini et al. 2020)

SVM, LIWC
SentiStrength, Econometric models,
Man-made rules, feature extraction
Bayesian Networks, J48; Rules Decision Table
Egocentric Social Graph, LIWC, ANEW
Spearman and Mann–Whitney U test, CES-D and BDI survey
Bag-of-words; Bigrams, NB, SVM, DT
Egocentric networks and binary logistic regression
Stanford CoreNLP
NLP processing, extraction of negative features
IBL, SMO, J48 and CART
User frequency analysis, user activity
LIWC
Image analysis, Bayesian estimation, RF, Valencia filter
Linguistic Content Analysis, Gradient Boosted Decision Trees
Logistic Regression, SVM, KNN, RF
NRC Word-Emotion Association Lexicon, WordNet-Affect, NB, MLP, Multiple Regression
Ontology, sentiment analysis, FAQs, Multiple Nominal L
Linear Least Squares Regression, Lexicon diversity

RESULTS OBTAINED FROM STUDIES IN THE LITERATURE

In this section, some studies in the literature and the best results obtained as a result of them are shown in Table 2.

Table 2. Some studies on the detection of depression and the results obtained (Guntuku et al. 2017)

Year	OSN	Methods	Metric	Result
2013	Twitter	PCA,SVM,RBF Kernel	Accuracy	.72
2014	Facebook	Logistic Regression	Pseudo-R2	.36
2014	Facebook	Ridge Regression	Correlation	.38
2014	Twitter	Log Linear Classifier	Precision	Depression=0.48 Bipolar=.64 PTSD=.67 SAD=.42
2015	Twitter	SVM	Accuracy	.69
2015	Twitter	Logistic Regression	AUC	Depression=.48 PTSD=.91
2016	Twitter	Naïve Bayes	AUC	0.70
2016	Twitter	Random Forest	AUC	Depression=.87 PTSD=.89
2017	Twitter	IBL, SMO, J48 and CART	Precision, Recall F1-score	Precision:0.88 Recall:0.86 F1-score:0.84
2019	Twitter	Multinomial Naive Bayes and Support Vector Regression (SVR)	Accuracy	79
2020	Twitter	Hybrid Deep Learning Model	Accuracy, Precision Recall F1-score	Accuracy:0.895 Precision:0.902 Recall:0.892 F1-score:0.893

CONCLUSION

Depression detection in OSNs is a popular problem. Commonly Machine learning methods and sentiment analysis methods are used as solution methods. Most of the studies in this field have been done using social networks such as Facebook, Instagram, Reddit, Twitter, Blogs/Forum and Live Journal. Along with depression, disorders such as Bipolar, Self-Harm, PTSD (Post Traumatic stress disorder), SAD, Anxiety, Suicide Attempt, Distress, Disturbed Sleep, Low Self-confidence, Poor Concentration or Indecisiveness, Poor or Increased

Appetite, Agitation, Guilt, Memory Difficulties have been studied. For future Mental diseases that have not been studied before can be studied in OSN.

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CITICOLINE ADSORPTION ONTO MAGNETIC POLYMERIC MICROPARTICLES

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Abstract
Magnetic polymeric microparticles offer advantages such as a large surface-to-volume ratio, great porosity, and magnetic properties that make them suitable materials for drug delivery applications. It's possible to improve the efficiency of drug treatment since loading the drug onto particles can minimize the systemic absorption of that drug and helps to deliver the drug to the targeted sites where only the drug itself couldn't reach that specific area, like the central nervous system (CNS). In this study, magnetic polymeric microparticles were synthesized with the suspension polymerization technique. The magnetic material used in polymerization was selected as iron (II, III) oxide (Fe_3O_4) due to its superparamagnetic and biocompatible properties. Citicoline was used as the model drug because it should cross the blood-brain barrier to perform therapeutic effects in CNS, and the approach of using magnetic polymeric particles as drug delivery vehicles enables them to be driven to CNS in the presence of an external magnetic field. Citicoline was loaded onto synthetised magnetic polymeric microparticles via the adsorption method. The effects of temperature on the drug adsorption were investigated. Scanning Electron Microscopy (SEM) study was performed to characterize the prepared particles. SEM observations showed that the particles were in spherical shapes. Citicoline adsorption onto these magnetic polymeric microparticles was carried out successfully. It was observed that as the temperature increases, the adsorption capacity of the magnetic polymeric microparticles decreases. These magnetic polymeric microparticles can be a good candidate to be used as drug delivery vehicles even for other drugs for further applications.

Keywords: Drug adsorption, citicoline adsorption, magnetic polymeric microparticles.

INTRODUCTION

Polymers have unique properties that make them the vastest class of materials used for biomedical applications (Bass et al., 2013). Drug delivery systems have been examined countlessly to obtain the maximum effect of treatment while reducing the adverse effects to the minimum (Bale et al., 2016). Drug delivery vehicles are necessary for several reasons to exemplify: when a free drug is administered to the body; (i) the drug may be lacking solubility and stability, (ii) undesired toxicity may occur, (iii) the drug may have inadequacy to reach the desired site, (iv) the quantity of the drug reached the desired area may be insufficient to show its therapeutic effects. The approach of designing drug carriers helps to overcome such disadvantages and a good knowledge of polymer chemistry allows the synthesis of polymeric carriers for specific purposes. (Escudero et al., 2020).

Central nervous system (CNS) disorders, particularly neurodegenerative disorders (ND) have been investigated elaborately to develop a treatment strategy since the population ages and the number of people affected by ND increases worldwide. In ND, neurons lose their structure/function, and it coheres with neuronal death. Several drugs and treatment strategies

have been studied to cure ND, but the blood-brain barrier (BBB) limits the therapeutic efficacy (Masoudi Asil et al., 2020). The BBB serves a function in protecting the brain from pathogens and toxic agents circulating in the blood. It's also the main obstacle that hinders the delivery of the circulating drug to the brain. Even though there are candidate therapeutics to treat most of the CNS disorders, many of the drug molecules are not able to cross the BBB, therefore such diseases remain untreated (Chen and Liu, 2011). Under favor of the advances in technology, different forms of drug delivery vehicles (such as nanotubes, nanoparticles, microparticles, etc.) have been developed to manage CNS disorders (Masoudi Asil et al., 2020).

The term "microparticle" implies particles with a size range between 1-1000 µm. When compared to relatively bigger-sized materials, microparticles hold some advantages due to their higher surface-to-volume ratio (Galogahi et al., 2020). If the particle size decreases, its surface area increases, and thus they become more applicative for adsorption and desorption processes (Dubey et al., 2009). Moreover, microparticles can be functionalized via the combination of additional materials to obtain a responsivity towards external stimuli (Krug et al., 2019). The incorporation of different polymers and magnetic nanoparticles has been used for drug delivery applications. Magnetic nanoparticles can be mightily attracted by an external magnetic field. When this behavior of magnetic nanoparticles is combined with biocompatible polymers, these magnetic polymeric particles become favorable candidates for magnetically guided drug delivery (Insin, 2020). Fe_3O_4 nanoparticles are widely studied magnetic materials and exhibit superparamagnetic properties that allow them to be used in drug delivery applications. These nanoparticles enable the drug carrier to target to the desired area in the presence of an applied magnetic field (Yew et al., 2018). Besides their excellent magnetism, Fe_3O_4 nanoparticles have other characteristics such as biocompatibility, biodegradability, and low toxicity (Shen et al., 2018).

Citicoline, also known as cytidine 5'-diphosphocholine or CDP-choline, is a metabolite in Kennedy's pathway, produced in the synthesis of phosphatidylcholine (Amenta et al., 2020). It is a neuroprotectant that has positive effects on CNS injury models subsuming cerebral ischemia (Farooqui, 2018) and ND including Alzheimer's and Parkinson's diseases (Grieb, 2019). In this study, citicoline was used as the model drug because it should cross the BBB to perform therapeutic effects in the CNS, and using magnetic polymeric particles as drug carriers enables them to be driven to the CNS in the presence of an external magnetic field.

MATERIALS AND METHODS

Materials

Ethanol (>99,9%), toluene (>99,9%), and polyvinyl alcohol (PVA) (98% hydrolyzed, M_w:100.000) were purchased from Merck (Darmstadt, Germany). Ethylene glycol dimethacrylate (EGDMA) (98%), iron (II, III) oxide nanopowder, and cytidine 5'-diphosphocholine sodium salt dihydrate (citicoline) (~98%) were obtained from Sigma-Aldrich (St. Louis, USA). N-isopropylacrylamide (>98%) was supplied from TCI (Tokyo, Japan).
2,2'-Azobisisobutyronitrile (AIBN) was purchased from Fluka A.G. (Buchs, Switzerland).

Synthesis of Magnetic Polymeric Microparticles

Magnetic Fe_3O_4@poly(EGDMA-N-isopropylacrylamide) microparticles were synthetized by the suspension polymerization method. 0,2 g of PVA (the stabilizer) was dissolved in 50 ml of distilled water on a heating magnetic stirrer to form the continuous phase. 15 ml of toluene (the pore former), 2,85 ml of EGDMA (the crosslinker), and 1,0 gr of iron (II, III) nanopowder stirred at room temperature. Then, 0,1 g of AIBN (the initiator) and 2,829 g of N-isopropylacrylamide were dissolved in the organic phase. Dispersion of the organic phase was acquired by stirring the mixture at 900 rpm in a sealed Pyrex polymerization reactor. The polymerization reaction was carried out at 70 ºC for an hour, and then heated to 80 ºC for 2 h. For the removal of excessive monomers or the diluent, magnetic polymeric microparticles were washed with ethanol and distilled water. After the washing process, obtained microparticles were filtered and placed in the vacuum oven at 50 ºC, for 2 days.

Characterization of Magnetic Polymeric Microparticles

Scanning Electron Microscopy (SEM) study was performed using a Zeiss Sigma 300 Field Emission Scanning Electron Microscope to characterize magnetic Fe_3O_4@poly(EGDMA-N-isopropylacrylamide microparticles.

Adsorption Experiments

The maximum wavelength (λmax) of the citicoline solution was 272 nm. All the measurements were performed at 272 nm. 50 mg/L of citicoline solution was prepared and stored at 4 ºC until used. The effects of temperature on drug adsorption onto magnetic polymeric microparticles were investigated. pH values for each temperature experiment were set at 7.4. The magnetic polymeric microparticles were placed in vials containing citicoline solutions. Then, vials were put into a water bath for 24 h. Investigation of temperature effects on drug adsorption was performed at 25, 30, 37, 42, and 55 ºC. The change of citicoline concentration in the solutions was defined with a UV-Vis spectrophotometer. The adsorption capacities of magnetic polymeric microparticles were calculated by the Eq. (1):

$$q_e = \frac{(C_0 - C_e)\,.\mathrm{V}}{m} \qquad (1)$$

where q_e (mg/g) is the adsorption capacity, C_0 and C_e are the equilibrium and initial concentrations (mg/L) respectively, V (L) is the volume of the citicoline solution, and m (g) is the weight of the used Fe_3O_4@poly(EGDMA-N-isopropylacrylamide) microparticles.

RESULTS

Characterization of Magnetic Polymeric Microparticles

Scanning Electron Microscopy screening showed that the particles were in spherical shapes (Figure 1.).

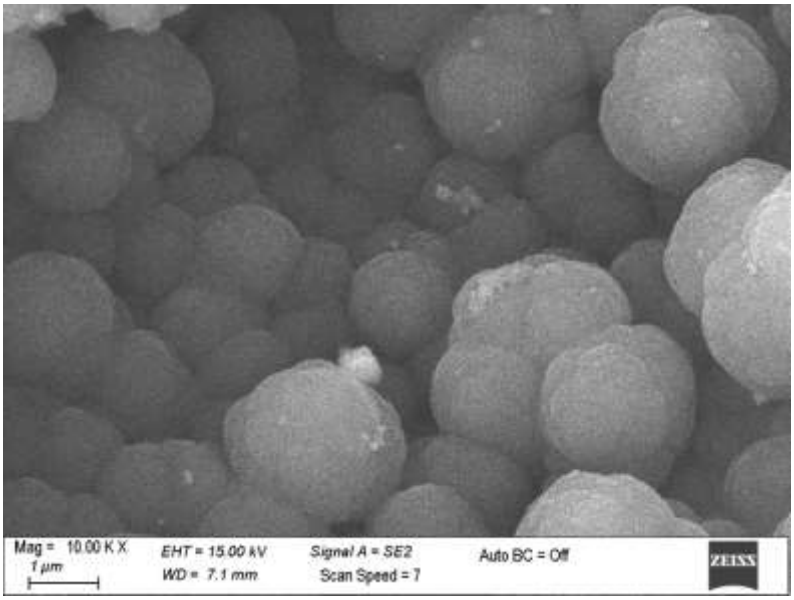

Figure 1. SEM micrograph of magnetic Fe_3O_4@poly(EGDMA-N-isopropylacrylamide) microparticles

Adsorption Studies

The effects of temperature onto citicoline adsorption were investigated with performing experiments at 25, 30, 37, 42, and 55 ºC. Calibration curves for temperature experiments are given in Figure 2. The maximum adsorption capacity of magnetic Fe_3O_4@poly(EGDMA-N-isopropylacrylamide) microparticles was marked at 25 ºC. As the temperature increased from 25 ºC. to 55 ºC, a decrease was observed in the adsorbed citicoline amount from 50,72857 mg/g to 2,26087 mg/g. Calculated adsorption capacities for each temperature experiment are listed in Table 1. The relation between temperature and adsorption capacity is shown in Figure 3.

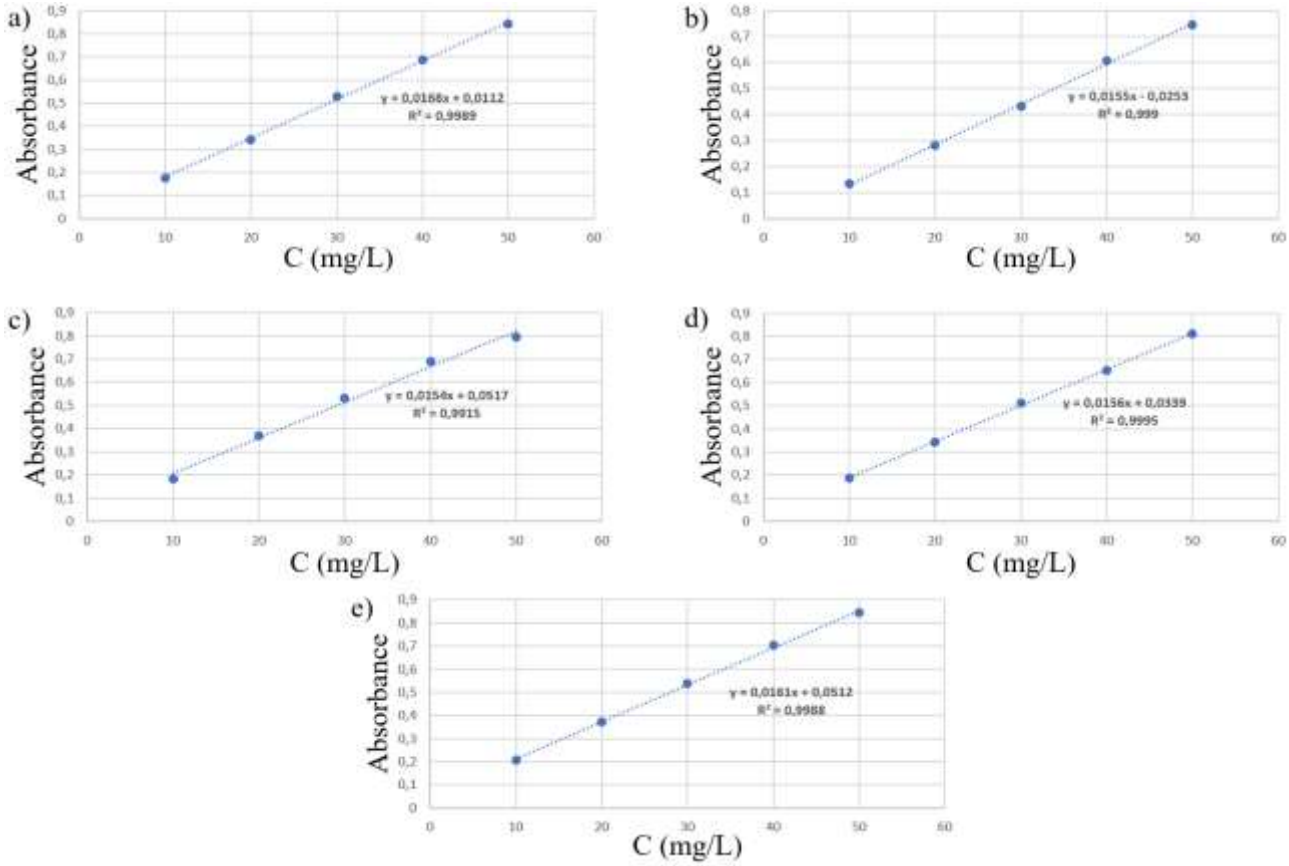

Figure 2. Calibration curves of temperature experiments
(a) 25 ºC, b) 30 ºC, c) 37 ºC, d) 42 ºC, and c) 55 ºC)

Table 1. Adsorption capacities at 25, 30, 37, 42, and 55 ºC

Temperature	Adsorption Capacity
25ºC	50,72857 mg/g
30ºC	19,96129 mg/g
37ºC	7,623377 mg/g
42ºC	2,294872 mg/g
55ºC	2,26087 mg/g

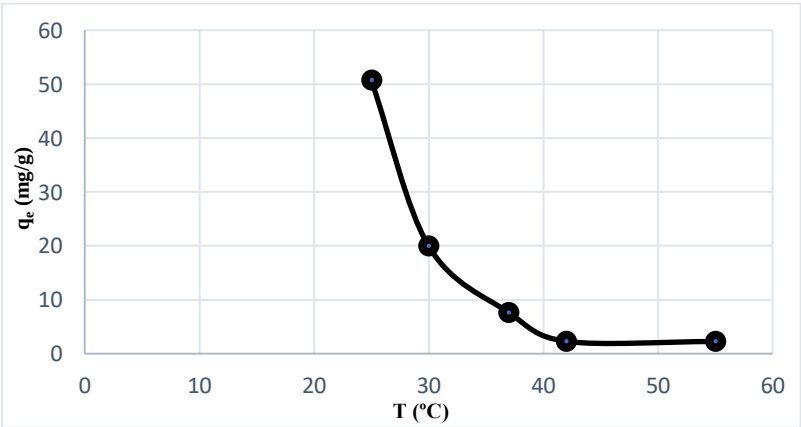

Figure 3. Effects of temperature on the adsorption capacity of magnetic

CONCLUSION

Magnetic Fe_3O_4@poly(EGDMA-N-isopropylacrylamide) microparticles were synthetized. Citicoline was loaded onto synthetized magnetic polymeric microparticles via the adsorption method. Effects of temperature on citicoline adsorption were investigated. It was observed that the increase in temperature results in a decrease in the adsorption capacity. This indicates the interactions between microparticles and the drug molecules are weak interactions (Horsfall Jnr and Spiff, 2005) and supports that the nature of the adsorption process is physical adsorption (Ray et al., 2020). Physical adsorption is characterized by its low specificity (Rouquerol et al., 2014). Thus, obtained particles can also be used as drug carriers for other drugs. Magnetic Fe_3O_4@poly(EGDMA-N-isopropylacrylamide) microparticles can be a good candidate to be used as drug delivery vehicles for further applications.

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SALICYLIC ACID ADSORPTION ONTO MAGNETIC POLYMERIC PARTICLES

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Abstract
The active ingredient of aspirin is acetylsalicylic acid and it is a drug belonging to the group of non-steroidal pain relievers. It has analgesic, antipyretic and blood thinning properties. Salicylic acid, which is the raw material of aspirin, and its derivatives are found in the leaves and bark of some plants such as willow. Salicylic acid is an antiseptic and is added to some foods as a preservative. In this study, magnetic polymeric particles were synthesized with the suspension polymerization technique. The magnetic material used in polymerization was selected as iron (II, III) oxide (Fe_3O_4) due to its superparamagnetic and biocompatible properties. This polymerization method took place in two phases. The dispersion phase was prepared by dissolving the stabilizer in pure water, and toluene was preferred in the organic phase because of its pore-forming feature. In this phase, a homogeneous mixture was obtained by mixing the initiator, crosslinker and monomer. Both phases were mixed using a magnetic stirrer in a closed polymerization reactor and the polymerization reaction was carried out. Salicylic acidwas loaded onto synthetised magnetic polymeric particles via the adsorption method. pH effects on salicylic acid adsorption were investigated. Scanning Electron Microscopy (SEM), SEM observations showed the particles were. Salicylic acidadsorption onto these particles was carried out successfully. Studies on the physicochemical parameters of the synthesized polymer drug adsorption continue. These magnetic polymeric microparticles are potential candidates for drug release and can be used as salicylic acid carriers for drug delivery to the site of inflammation.

Keywords: Drugadsorption, salicylicacid, magneticpolymericparticles

Introduction

The role of polymers in medicine, in the pharmacological aspect, is still relatively small. In medical practice, they are used a little. Naturally, very stringent requirements are imposed on the substances introduced into the body, especially those that must in dissolved form enter the blood, lymph, intercellular and cellular cavities and can reach any part of the body, any of its receptors (Göller, G., 2005). For polymers to be widely used in pharmacology, many issues related to the *polymer-organism* interaction must be studied. However, the potential for obtaining positive effects from the use of polymers in this area is very large, and therefore experimental (in animals) and clinical studies are gaining momentum (Garg S. Drug Discovery Today, 7(10), 2002). Polymers are used as pharmacological (therapeutic) drugs in the form of drugs or components of dosage forms and compositions (Berkem, A.R. ve Baykut, S., 1975). The most common property of such polymers is their solubility (absorbability) in water, water-salt or biological (gastric and intestinal juices, lymph, plasma)

media. The transfer of medicinal compounds into a polymer state allows:to retain the drug in the body for a longer time, that is, to prolong its action; selectively target specific organs or tissues;to obtain such dosage forms of substances in which they could not previously be used, for example, to convert insoluble substances into soluble ones or vice versa;turn injectable drugs into oral ones, and used in the form of powders or tablets - into injectable (ampoule) ones (Gürsoy, A. Z., 2002). Acetylsalicylic acid (commonly known as Aspirin for a century) is a drug with analgesic, anti-inflammatory, antipyretic and antiaggregant (blood thinner) effects. Aspirin is used more frequently in the clinic as a treatment to prevent atherosclerosis at certain doses (Otero, M., Grande, C. A., & Rodrigues, A. E. (2004). p.203-213). However, aspirin, which has analgesic, antipyretic and inflammation-reducing effects.Inflammation is a normal protective response of the body to any harm. Inflammation means that our white blood cells protect us from an external factor such as bacteria or virus, while inflammation occurs in case of any disability; For example, when you have difficulty doing sports, the injured area usually becomes painful, swollen and inflamed.(Gogotsi, Y. (2013). Acute inflammation is the immune system's response that lasts only a few days and is often beneficial for your health, but it also causes unwanted sensations such as itching or pain.Inflammation occurs when the immune system tries to protect organs from infection and injury. The purpose of inflammation is to locate and rule out damaged tissue so that the body can begin to heal.(Racovita, S., Lungan, M. A., Bunia, I., Popa, M., & Vasiliu, S. (2016) p103-113). The inflamed organ or various regions have different pH values. In this study, magnetic polymeric particles were synthesized with the suspension polymerization technique. Salicylic acid was loaded onto synthetised magnetic polymeric particles via the adsorption method. pH effects on salicylic acid adsorption were investigated. These magnetic polymeric microparticles are potential candidates for drug release and can be used as salicylic acid carriers for drug delivery to the site of inflammation.

MATERIALS AND METHODS

Chemicals

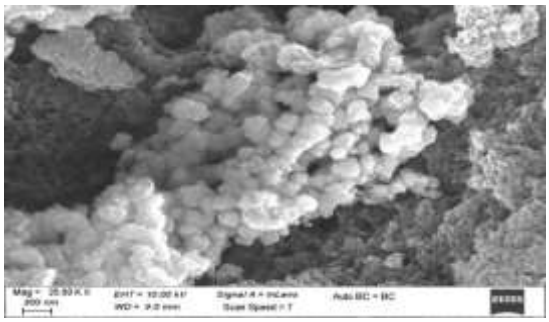
Crosslinker ethylene glycol dimethacrylate (EGDMA) was obtained from Merck (Darmstadt, Germany).benzoyl peroxide (BPO), used as the initiator, was obtained from Fluka (Switzerland). Stabilizer polyvinyl alcohol (PVAL; Mw: 100,000, 98% hydrolyzed) was obtained from Aldrich Chem. (USA).Monomer *N*-Vinylcaprolactam (NVCL) was supplied by Merck (Darmstadt, Germany). $Fe2O_3$(nanopowder) was obtained from Sigma-Aldrich (Germany). All other chemicals used in this study were reagent grade and were purchased from Merck AG (Darmstadt, Germany). Salicylic acid

Synthesis of the [poli(EGDMA-NVCL)]-Fe2O3

Polymer microbeads were synthesized by the suspension polymerization method. For the dispersion phase, 0.2 g of PVA was mixed in a magnetic stirrer until dissolved in 50 mL of distilled water. To prepare the organic phase, 0.2 g of benzoyl peroxide was added to 10 mL of toluene and dissolved. Then 3,8 mL of EGDMA and 3 mL of NVCL were added. The dispersion phase, 0.5 g of Fe2O3 , and the organic phase were added to the cylindrical

polymerization reactor made of pyrex glass. The reaction occurred at a temperature of 70°C at a stirring speed of 700 rpm and for 6 hours. The polymer microbeads obtained at the end of the reaction were kept in a mixture of water and ethyl alcohol for 48 hours. The polymer microbeads were removed from the unreacted monomers and dried in a vacuum oven at 70°C for 48 hours.

Characterization studies



Surface photographs were taken by scanning electron microscopy (SEM) to determine the surface morphology of synthesized [poly (EGDMA-NVCL)] -Fe2O3 microbeads.

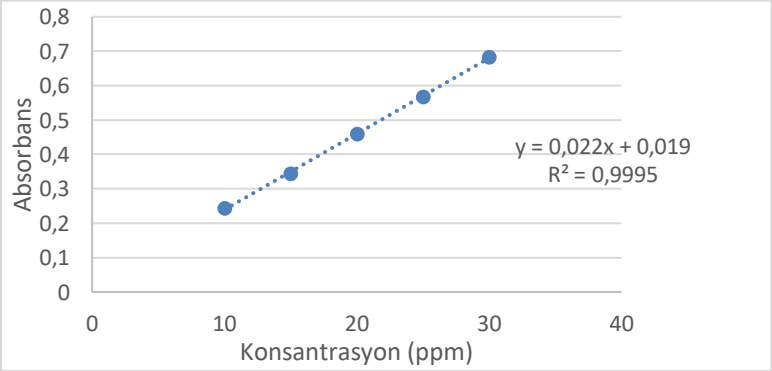
Figure 1. SEM image of [poly (EGDMA-VCLM)] – Fe2O3

DIFFERENT pH EFFECT EXPERIMENTS

Salicylic acid aqueous solution with [poly (EGDMA-VNCL)] -Fe2O3 microbeads, pH parameter were examined. All studies were carried out with the UV spectrophotometry. The maximum absorption wavelength (λ max) of the salicylic acid was determined as 298 nm by Uv-vis spectrophotometry. After the experiments, salicylic acid adsorption effect was determined by a calibration graph.

RESULTS

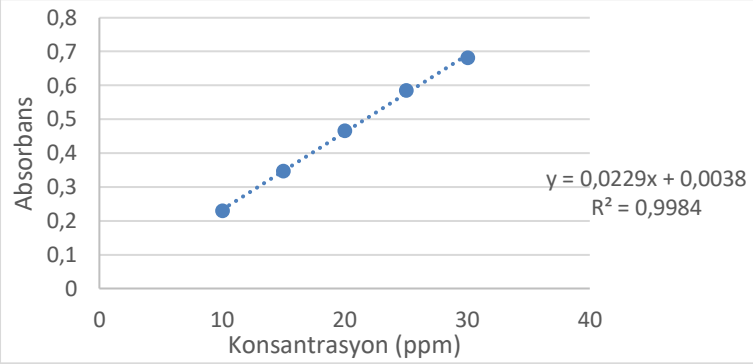
pH=5



ppm	abs
10	0,244
15	0,344
20	0,46
25	0,568
30	0,683

Figure 1. Calibration chart of pH 5 effect

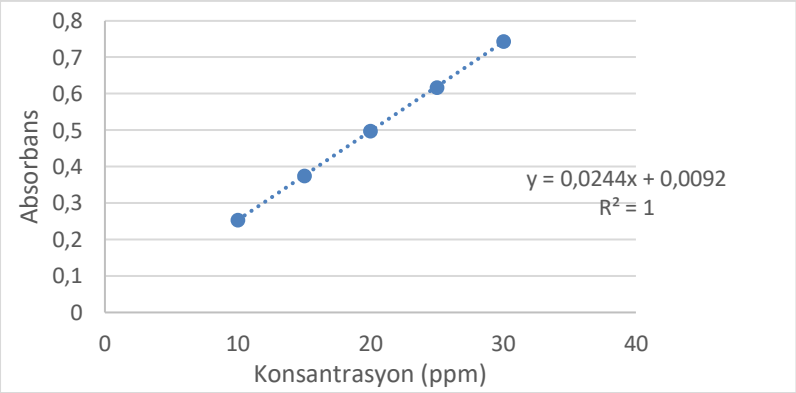
pH=6



ppm	abs
10	0,228
15	0,347
20	0,466
25	0,585
30	0,681

Figure 2. Calibration chart of pH 6 effect

pH=7,4



ppm	abs
10	0,254
15	0,375
20	0,498
25	0,618
30	0,743

Figure 3. Calibration chart of pH 7.4 effect

pH	polimer(g)	Absorbans	Co (ppm)	Qe (mg/g)
5	0,01	0,489	21,36363636	8,636364
6	0,01	0,517	22,41048035	7,58952
7,4	0,01	0,727	29,41803279	0,581967

pH	Qe
5	8,636364
6	7,58952
7,4	0,581967

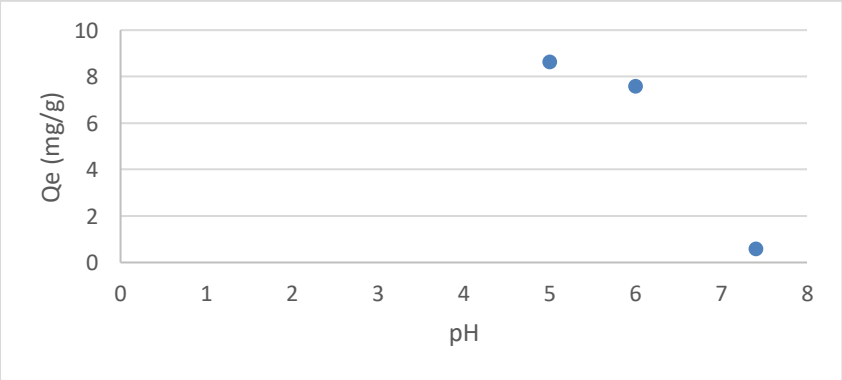


Figure 4. Calibration chart values of different pH effect

Conclusions

In this study, different pH effects were determined as a result of magnetic poly(NVCL) and salicylic acid adsorption. The drug was found to be more active at lower pH levels.

Salicylic acid adsorption took place on the synthesized polymer. The change of pH parameters affected salicylic acid adsorption. The magnetic property of the polymer revealed that it could be a potential candidate for a magnetic drug release system. Our studies continue to examine the physicochemical (temperature, concentration, time) parameters.

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INVESTIGATION OF CONSISTENCY LIMITS USING IRON STEEL SLAG ADDED SOIL SAMPLES AT THE DETERMINED PROPORTIONS

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Abstract
Soil is one of the important subjects of many engineering studies. Many engineering fields such as construction, mining, geology, geophysics and even agriculture carry out many studies such as the structure of the soil, the durability of the soil, the granulometric structure of the soil, the acidity-baseline values of the soil and the bearing capacity of the soil. The aim here is to make the ground suitable for the desired engineering work and, if there is a structure to be built on the ground, to carry out the necessary studies in order to carry the structure on it in the best way. In this study, liquid limit values were investigated by using steelwork slag, which is an inert waste of iron and steel factories, in order to increase the durability of soil structures containing high amounts of clay. The slag of the steel mill was mixed into the clayey soil sample at the rates of 0%, 5%, 10%, 15%, 20%, 25%, 50%, 75% and 100%, and the liquid limit values were obtained. As a result of the study, it was observed that the ideal mixing ratio was between 15% and 20% when the steel slag was added to the clayey soil sample.

Keywords: Consistency limits, steelmaking slag, clay soil, iron and steel, waste.

DEMİR ÇELİK CÜRUFU KATKILI ZEMİN NUMUNELERİNİN BELİRLENEN ORANLARDA KULLANILARAK KIVAM LİMİTLERİNİN ARAŞTIRILMASI

Özet
Zemin pek çok mühendislik çalışma alanının önemli konularından biridir. İnşaat, Maden, jeoloji, jeofizik ve hatta tarım gibi pek çok mühendislik alanı zeminin yapısı, zeminin durabilitesi, zeminin granülometrik yapısı, zeminin asitlik-bazlık değerleri ve zeminin taşıma gücü gibi pek çok çalışmalar yapmaktadır. Buradaki amaç zeminin istenilen mühendislik çalışması için uygun hale getirmek ve zemin üzerinde yapılacak bir yapı söz konusu ise üzerindeki yapıyı en iyi şekilde taşıması için gerekli çalışmaları yapmaktır. Biz bu çalışmamızda yüksek miktarda kil içeren zemin yapılarının durabilitesini attırmak için demir-çelik fabrikalarının bir inört atığı olan çelikhane cürufunu kullanarak likit limit değerleri araştırılmıştır. Çelikhane cürufu killi zemin numunesi içerisine %0, %5, %10, %15, %20, %25, %50, %75 %100 oranlarında karıştırıldı ve likit limit değerleri elde edildi. Yapılan çalışma sonucu killi zemin numunesi içerisine çelikhane cürufu eklenildiğinde en ideal karışım oranın %15 ile %20 oranında olduğu gözlenmiştir.

Anahtar Kelimeler: Kıvam limitleri, çelikhane cürufu, killi zemin, demir çelik, atık

Giriş

Toplumun ihtiyaçlarına bağlı olarak teknolojik gelişmeler, ulusal ya da uluslararası rekabetin artması, endüstrinin ve sanayinin gelişmesi artan nüfus ile birlikte üretim miktarını da arttırmaktadır (Zerenler ve ark., 2007). İhtiyaçların artması ile üretim girdileri artmaktadır. Bu durum endüstri ürünlerine olan ihtiyacı karşılarken ortaya çıkan atıkların değerlendirilmesini de kaçınılmaz kılmaktadır (Örnek ve Türkmen, 2019). İnşaat, maden, jeoloji, jeofizik gibi pek çok mühendislik alanları yapılacak ya da çalışılacak mühendislik yapısının niteliğine göre çalışmalar yapmaktadır (Çetinkaya, 2012; Tunçdemir ve Tiryaki, 2015). Bina, hava alanı, sulama kanalları, otoyollar ve benzeri pek çok alanda etkili çalışmalar yapılmaktadır. Bu mühendislik yapılarının en önemli aşamasından biri ise zemin çalışmasıdır (Selçukhan ve Ekinci, 2020). Üzerine yapılacak mühendislik yapısı için zeminin yapısı, granülometrik yapısı ve akma sınırlarının bilinmesi önemli bir aşamadır. Akma sınır değerleri uygun olmayan zemin yapıları çok kez dışardan malzeme eklenerek ya da güçlendirme malzemeleri kullanılarak ideal olan sınırlara getirilmesi sağlanır (Eren, 2010). Son zamanlarda yapılan çalışmalarda zemin güçlendirmesinde atık maddelerden kullanılmaya başlanmıştır. Böylelikle zemin güçlendirmek için pahalı malzemelerin yerine atık malzemelerin kullanılması daha uygun olacaktır.

Türkiye demir çelik üretimi göz önünde bulundurulduğunda yıllık yaklaşık 35.8 milyon ton ham çelik üretimi ile yaklaşık 1.5 milyon ton cüruf atığı ortaya çıkmaktadır. Bu da ton başına yaklaşık 140-160 kg arası çelikhane cürufu ortaya çıkacağı tahmin edilmektedir (Turkish Steel Manufacturers Association, 2015).

Gerçekte mühendislik yapılarına korozif etkilerden biride iklim sıcaklıkları, rüzgâr ve yağış olduğu görülmektedir. Zemin yapıları ise iklimsel olaylardan ve yağış rejimlerinden daha çok etkilendiği düşünülmektedir. İklimsel olayların ve yağışın etkisini ve ayrıca taşıma gücünü düzenlenmesinde zeminin granülometrik yapısının ve zemin kimyasal özelliklerinin düzenlenmesi ile arttırabileceği de önemli bir araştırma konusudur. Yol, tünel, bina ve benzeri yapıları taşıyan zeminlerin fiziksel, kimyasal ve granülometrik yapısını düzenlemek, üzerindeki mühendislik yapılarının ömrünü uzatmanın önemli bir etkeni olduğu düşünülmektedir. Demir-çelik fabrikalarının atığı olan çelikhane cürufu malzemesi inört atık olarak kullanılmaktadır. Bu malzemelerin belirli oranlarda karıştırılması ile oluşturulan numuneler üzerinde yapılan testler ile zemin granülometrisine, zeminin fiziksel ve kimyasal yapısına olan etkisi araştırılmıştır.

Bu çalışmamızda Türkiye'nin Hatay ili İskenderun ilçesinde bulunan ve demir-çelik üretimi yapan İSDEMİR A.Ş'nin bir inört atığı olan çelikhane cürufunun killi zeminler için kullanıldığında akma sınırında nasıl bir değişme olduğu araştırılmıştır. Çalışma kapsamında Hatay'ın İskenderun ilçesinden temin edilen killi zemin numunesi kullanılarak likit limit değerleri hakkında bilgi edinmek için testler yapılmıştır. Bölgeden temin edilen killi zemin numuneleri içerisine %0, %5,%10,%15, %20, %25, %50, %75, %100 çelikhane cürufu konularak likit limit değerleri incelenmiştir. Yapılan laboratuvar çalışmaları sonucunda bir işletmenin atığı olan çelik cürufu malzemesinin, bir başka mühendislik yapısı olan zeminin güçlenmesine önemli katkı sağlayacağı yapılan testler ile ortaya konmuştur.

MATERYAL VE METOT

Mühendislik açıdan uygun olmayan; geoteknik, kimyasal kompozisyon, zemin akışkanlık değeri ve taşıma gücü yetersiz olan zeminleri düzenleme işlemine stabilizasyon denir (Kavak ve ark., 2009). Stabilizasyonu sağlanacak zemin bölgesinde uygulanacak kireç ve çimento malzemesi kimyasal reaksiyon gerçekleştirir. Anacak İSDEMİR A.Ş'den temin edilen malzemede demir çelik üretim yöntemi gereği kireç bulunmaktadır. Bölgeden temin edilen

Killi zemin numunesi yaklaşık 1,5 metre ile 2,0 metre derinden toprak numuneleri alınmıştır. Laboratuvar ortamında bu numuneler içerisinde çelikhane cürufu %0, %5,%10,%15, %20, %25, %50, %75, %100 oranlarında eklenerek kıvam limitleri araştırılmıştır.

Killi zeminler ve oluşumu:

Killer mineralojik yapı ve tane boyut olarak karmaşık yapıya sahip bir malzemedir. Karakteristik yapısından dolayı killer farklı ortamda farklı özellik gösterebilirler. Zemini oluşturan malzemeler, granülometrik dağılımı, zemini oluşturan malzemesinin kayaç yapısı ve kökeni, tuz içeriği gibi pek çok nedenden dolayı yapısal olarak farklılıklar gözlenebilmektedir. Bu yapısal nedenlerden dolayı killer şişme özelliği de gösterebilmektedir (Malayoğlu ve Akar, 1995). Bu durum zemin yapısının kohezyon durumunu arttırabilmektedir. Mühendislik çalışmalarında bu durum şişme gösteren ya da şişme göstermeyen killerin sınıflandırmasından ziyade zemini oluşturan malzemelerin granülometrik açıdan incelenmesi ile tespit edilmektedir. Yapısal olarak ince yapılı olan zemin yapıları kohezyonlu zeminler olarak adlandırılırken, iri taneli yapıya sahip zeminler kohezyonsuz zeminler olarak adlandırılır (Uzuner, 2007). Zeminler içerdiği tane boyutuna ve zemini oluşturan malzemenin cinsine göre taşıma kapasitesinde önemli değişikliler olmaktadır. Örneğin: ince tane yapılı ve su emme düzeyi yüksek olan zeminler kesme mukavemetine, iri tane yapılı ya da ideal granülometrik yapıya sahip malzemelerden daha iyi taşıma gücü göstereceği düşünülmektedir (Uzuner, 2007).

Şekil 1. Betonarme yapılarda zemin sıvılaşmasına bir örnek (Keçeli ve Cevher, 2014)

Şekil 2. Demir yolu rayında yanal deformasyon (Keçeli ve Cevher, 2014)

Yukarıda Şekil 1'de zemin malzemesi su ve tuz taşınımı ile mekanik özelliklerini yitirmiş ve sismik kayma dalgası ile de zemin üzerine binen yük ile birlikte yenilmiş ve kırılma-çatlamalar ortaya çıkmıştır (Uzuner, 2007; Keçeli ve Cevher, 2014).

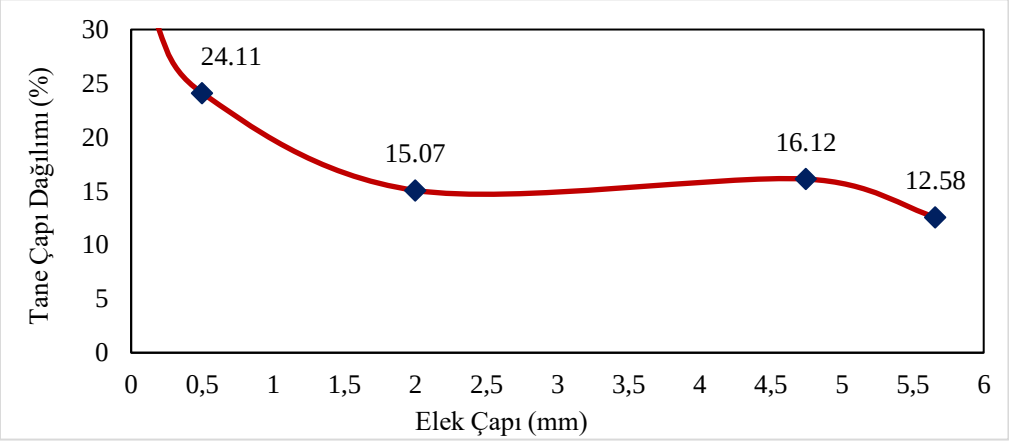
Ayrıca sulama kanalları, kara yolları, demir yoları su ve su ile birlikte tuz taşınımı ile zemini oluşturan materyallerin kalitesine göre zemin kayması, zeminde oluşan çukurlara bağlı göçmeler, yol, köprü ve bina gibi yapıların hareket etmesine neden olabilir. Yüksek kil muhteva eden ve tuz taşınımı ile alterasyona uğramış zemin sismik hareketleri ile birlikte yapı kusurlarına ve yıkımlara neden olabilir. Şekil 2'de su taşınımı ve sismik hareketler ile demir yolunda oluşan kusuru anlatmaktadır (Uzuner, 2007; Keçeli ve Cevher, 2014).

Bu çalışma kapsamında Türkiye'de Hatay ilinin İskenderun ilçesinden alınan killi zemin numunesi tane dağılım fraksiyonu Tablo 1'de gösterilmiştir. Bu çalışma kapsamında bölgeden alınan killi zemin numunesi TS EN 933 standardına göre 0.125 mm ile 5.0 mm elek aralığında elekler kullanılarak yapılmıştır.

Tablo 1. İskenderun bölgesi killi zemin numunesi tane dağılım tablosu

Tane büyüklüğü fraksiyonu (mm)	Ağırlık (gr)	Ağırlık%	X	X	Y	Y	Normal dağ. Oranı	Δd (d1-d2)	Ort. Tane iriliği
					Kümülatif dağılım				
			EA(mik)	EÜ(mik)	EA(%)	EÜ(%)	(%ağırlık / Δd)		
-5.66 +4.75	25.16	12.58	5.66	4.75	100.00	17.38	**13.82**	0.91	**5.21**
-4.75 + 2	32.24	16.12	4.75	2.0	87.42	33.50	**5.86**	2.75	**3.38**
-2 + 0.5	30.14	15.07	2.0	0.5	71.30	48.57	**10.05**	1.50	**1.25**
-0.5 + 0.125	48.22	24.11	0.5	0.125	56.23	72.68	**64.29**	0.38	**0.31**
-0.125	64.24	32.12	0.125	0.0	32.12	104.80	**256.96**	0.13	**0.06**
TOPLAM	**200.00**	100.0							
		Coarseness Index (CI)				**276.93**			

Yapılan tane fraksiyonu sonucu 0.5 mm altı malzeme ile 0.125 mm üstü malzeme miktarı 48.22 gr'dır. Toplam kütlenin %24.11'ni kapsamaktadır. 0.125 mm altı malzeme miktarı ise 64.24 gr'dır. Toplam kütlenin %32.12'i kapsamaktadır. Toplam kütleye baktığımızda 0.5 mm ile 0.125 mm eleğin altına geçen malzeme miktarı 112.46 gr'dır. Toplam kütlenin % 56.23 oranında eleğin altına geçmiştir. Bölgeden alınan zemin malzemesinin kil oranının yüksek olduğu görülmektedir. Killi malzemenin elek analizi şekil 3'de verilmiştir.

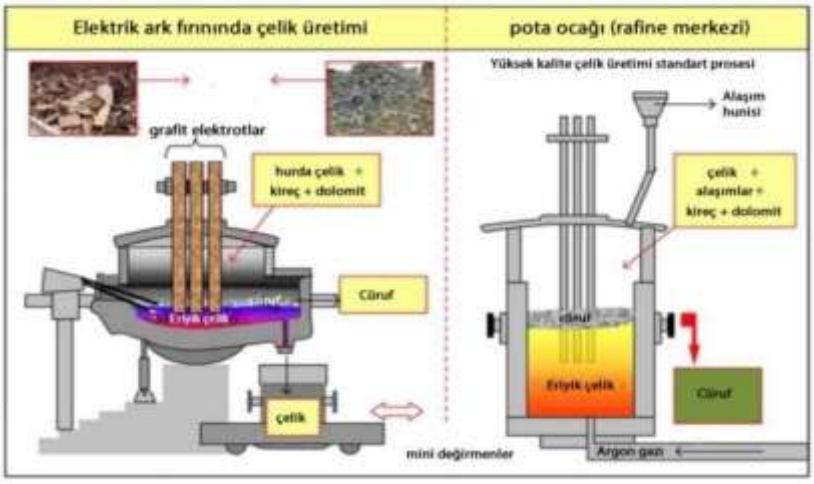


Şekil 3. Killi zemin numunesi tane dağılım grafiği

İskenderun bölgesinden alınan killi zemin numunesi tane dağılım eğrisi incelendiğinde kütlece en yüksek miktarı %24.11 ile 0.5 mm altı malzeme miktarı oluşturmaktadır.

Çelikhane cürufu:

Cüruf metal-çelik üretim aşamasında yüksek fırınlarda ergimiş metal yüzeyine çıkan kısımdır. Cüruflar çelikhanelerde yüksek fırınlara sıvı ham çeliğin içerisine oksijen üflenmesi ile oluşmakta ve sıvı ham çeliğin içerisinde istenmeyen Na_2O, CaO, MgO, CaF_2, TiO_2, Al_2O_3 MnO, Cr_2O_3, FeO, Fe_2O_3, SiO_2 gibi empüritelerin uzaklaştırılmasını sağlamaktadır. Kısaca metalin atık kısmı da denilebilir. Yüksek fırınlarda cüruf cevherindeki katkı, kömürdeki külün ve bunlara bağlı ürünlerin yüksek fırınlarda boşalmasını sağlamak amacı ile flaks yapıcı olarak kireç, dolomit, dunit gibi yardımcı hammaddeler eklenebilir. Böylece yoğunluğu artan malzemeler sıvı ham çeliğin üzerinden alınarak uzaklaştırılır (Pretorius, 2015). Bu işlemler sonucu oluşan ürünler yani deoksidasyon ürünlerini (SiO_2, Al_2O_3) ve inklüzyanları toplayarak üretilen çeliğin kalitesinin artmasını sağlayarak daha temiz ürünlerin oluşmasını sağlamaktadır. Ayrıca EAF (Elektrik Ark Fırını) ve Pota ocağında arkı kaplayarak refrekterleri ark rodasyonundan da korumaktadır (Pretorius, 2015; Uysal ve Bahar, 2018).



Şekil 4. EAF ve Pota ocağı üretim şeması (Internet kaynağı, 2021)

Dünya çelik birliği (worldsteel) 2021 Temmuz ayı ham çelik üretim verilerine göre, küresel ham çelik üretimi, 2020 Temmuz ayı değerlerine göre %3.3 artış yaparak 161.7 milyon ton seviyesine geldi. Bu dönem içerisinde Çin %8,4 oranında üretim artışı yaparak 86.3 milyon ton üretim gerçekleştirirken Japonya %32.5 artış ile 8 milyon ton üretim gerçekleştirmiştir. Ayrıca Rusya %13.4 üretim artışı yaparak 6.7 milyon ton, ABD %37.9 üretim artışı yaparak 7.5 milyon ton, Almanya %24.7 üretim artışı yaparak 3 milyon ton ve Türkiye 2020 Temmuz ayı verileri incelendiğinde %2.5 üretim artışı yaparak 3.2 milyon ton olarak gerçekleştirmiştir. Diğer yandan söz konusu dönemde Brezilya çelik üretimini Yüzde 14.5 arttırarak 3 milyon tona, İran %9 üretim artışı yaparak 2.6 milyon ton üretim miktarına ulaşmıştır. 2021 yılı ocak-temmuz döneminde küresel ham çelik üretimi, 2020 yılının ocak-temmuz döneminde %12.4 artarak 1 milyar 165 milyon ton olarak gerçekleşmiştir (Dünya gazetesi, 2021; Internet kaynağı, 2021]. Üretimde elde edilen sonuçlar incelenecek olursa 1 ton ham çelik üretimi için yaklaşık 150 kg ile 200kg arası çelikhane cürufu açığa çıkmaktadır (Dünya gazetesi, 2021; Bölükbaşı ve Tufan, 2014). Dünya ham çelik üretim miktarları incelendiğinde 1 milyar 165 milyon ton ham demir çelik üretilirken beraberinde yıllık yaklaşık 203.875 milyon ton demir-çelik üretim atığı olarak çelikhane cürufunun ortaya çıkacağı tahmin edilmektedir.

Çelikhane Cürufunun kimyasal özellikleri:

Çelikhane cürufları Bazik Oksijen Fırın (BOF) cürufu ve Elektrik Ark Fırın (EAF) cürufu olarak adlandırılmaktadır[12-13-16]. Çelikhane cürufları ergitme potası içerisine beslenen malzeme ve ergitme koşulları sonucu değişik aralıkta kimyasal, fiziksel ve mineralojik yapıda çelikhane demiri ve bu üretimin yan ürünü olarak da çelikhane cürufu açığa çıkmaktadır (Pretorius, 2015; Uysal ve Bahar, 2018; Bölükbaşı ve Tufan, 2014). Çelikhane cürufu ve Elektrik Ark Fırın cürufları yükseltgenme (oksidasyon) proses ile ortaya çıkmaktadır. Bu nedenle çelikhane cürufları çok çeşitli değerli maddeleri de içermektedir (Pretorius, 2015; Uysal ve Bahar, 2018; Bölükbaşı ve Tufan, 2014, Reuter ve ark., 2004). Çelikhane cürufları genel olarak Na_2O, CaO, MgO, CaF_2, TiO_2, Al_2O_3 MnO, Cr_2O_3, FeO, Fe_2O_3, SiO, P_2O_5, K_2O gibi bileşikler de oluşabilmektedir. Bu durum daha önce de belirttiğimiz üzere pota içerisine konulan maden ve indirgenme şartlarına bağlı olarak oluşmaktadır (Reuter , 2015; Uysal ve Bahar, 2018; Bölükbaşı ve Tufan B, 2014; Reuter ve ark., 2004). Tablo 2'de Bazik Oksijen Fırın cürufu ve Elektrik Ark Fırın cürufu kimyasal bileşiklerinin yaklaşık olarak miktarı verilmektedir.

Tablo 2. Bazik oksijen fırını cürufu ile elektrik ark fırını cürufunun kimyasal bileşiminin karşılaştırılması (Uysal ve Bahar, 2018)

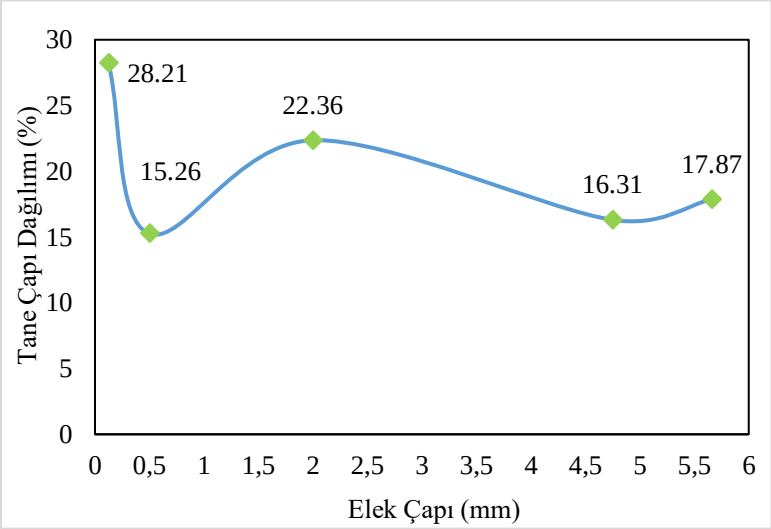
CÜRUF TİPİ	CAO	SiO_2	AL_2O_3	FE_2O_3	FEO	MGO	MNO	P_2O_5
BAZİK OKSİJEN FIRIN CÜRUFU (BOF)	45-60	10-15	1-5	3-9	7-20	3-13	2-6	1-4

Çelikhane Cürufu çok yoğun, sert ve yüksek dayanımlı bir malzeme olması nedeniyle kullanıldığı alana göre üstün özellikler gösterebilmektedir (Uysal ve Bahar, 2018). Bu nedenle çelikhane cüruflarını killi zemin malzemesi içerisine belirlenen oranlarda karıştırarak likit limit değerlerinin de araştırılmasında fayda görülmüştür. İşletmeden alına çelikhane cürufu malzemesi zemin çalışması amacı ile tane boyutlandırılması yapılmıştır. Alınan çelikhane cüruflarının tane boyut dağılım Tablo 3'de gösterilmektedir.

Tablo 3. Çelikhane cürufu elek analizi

Tane büyüklüğü fraksiyonu (mm)	Ağırlık (gr)	Ağırlık%	X	X	Y kümülatif dağılım	Y kümülatif dağılım	Normal dağ. Oranı	Δd (d1-d2)	Ort. tane iriliği
			EA(mik)	EÜ(mik)	EA(%)	EÜ(%)	(%ağırlık / Δd)		
-5.66 +4.75	35.73	17.87	5.66	4.75	100.0	17.38	**19.63**	0.91	**5.21**
-4.75 + 2	32.61	16.31	4.75	2.0	82.14	33.69	**5.93**	2.75	**3.38**
-2 + 0.5	44.72	22.36	2.0	0.5	65.83	56.05	**14.91**	1.50	**1.25**
-0.5 + 0.125	30.52	15.26	0.5	0.125	43.47	71.31	**40.69**	0.38	**0.31**
-0.125	56.42	28.21	0.125	0.0	28.21	99.52	**225.68**	0.13	**0.06**
TOPLAM	**200,00**	100.0							
		Coarseness Index (CI)				**277.93**			

İSDEMİR A.Ş'den temin edilen çelikhane cürufu TS EN 933-1 temel elek standardına göre elek analizi yapılmış ve Tablo 3'deki değerler elde edilmiştir (Arıoğlu ve ark., 2006). Eleme işlemi yapıldığında 0,5mm altı malzeme miktarı ile 0.125 mm üstü malzeme miktarı 30.52gr oran olarak toplam kütlenin %15.26'sını oluşturmaktadır. 0.125 mm elek altı malzeme miktarı 56.42 gr iken toplam kütlenin %28.21'ini kapsamaktadır. Genel olarak baktığımız da 0.5 mm ile -0.125 mm elekten geçen toplam malzemenin 86.94 gr'ını kapsarken yüzde olarak %43.47'sini oluşturmaktadır.



Şekil 5. Çelikhane Cürufu elek analiz grafiği

Şekil 6. Casagrande cihazı

Likit limit deney yöntemi:

Zemin malzemelerinin akma sınırlarını belirlemede kullanılan en yaygın yöntem likit limit (casagrande) yöntemidir. Bu yönteme göre zemin malzemesi casagrande aletine konularak ortasından yaklaşık bir parmak büyüklüğünde yarık açılarak casagrande kabına 25 adet darbe vurulmaktadır. Casagrande kabında açılan yarık 25 darbe ya da daha yakın bir darbe sonucunda birbirine yaklaşıyor ise deney tamamlanmaktadır. Darbe sayısı 35 adeti bulmasına rağmen casagrande aletinde zemin numunesinde açılan yarık hala kapanmamış ise deney sonlanarak su ilavesi yapılır ve deney tekrarlanır. Şekil 6'da killi zemin numunesin casagrande aletinde deney öncesi durumunu göstermektedir.

Tablo 4. Killi zemin ve çelikhane cürufu karışım oranları

Deney numunesi	Kısa sembolü
Zemin numunesi	A
Çelikhane cürufu	B
Çelikhane cürufu ve zemin karışımı	AB
Zemin ve %5 çelikhane cürufu	AB-5
Zemin ve %10 çelikhane cürufu	AB-10
Zemin ve %15 çelikhane cürufu	AB-15
Zemin ve %20 çelikhane cürufu	AB-20
Zemin ve %25 çelikhane cürufu	AB-25
Zemin ve %50 çelikhane cürufu	AB-50
Zemin ve %75 çelikhane cürufu	AB-75

Yapılan çalışma kapsamında İskenderun bölgesinden alına killi zemin numunesi içerisine yine aynı bölgede Bulunan İSDEMİR A.Ş'den alınan çelikhane cürufu %0, %5,%10,%15, %20, %25, %50, %75, %100 oranlarında karıştırılmıştır (Tablo 4). %0 karışım oranı zemin numunesini temsil etmektedir ve karışım oranlarında ki değişim saf zemin malzemesi ile kıyaslama için deneye dâhil edilmiştir. Aynı amaçla %100 karışım oranı da Çelikhane cürufunu temsil etmektedir. Killi zemin ve çelikhane cürufu için belirlenen karışım oranları Tablo 4'de görülmektedir.

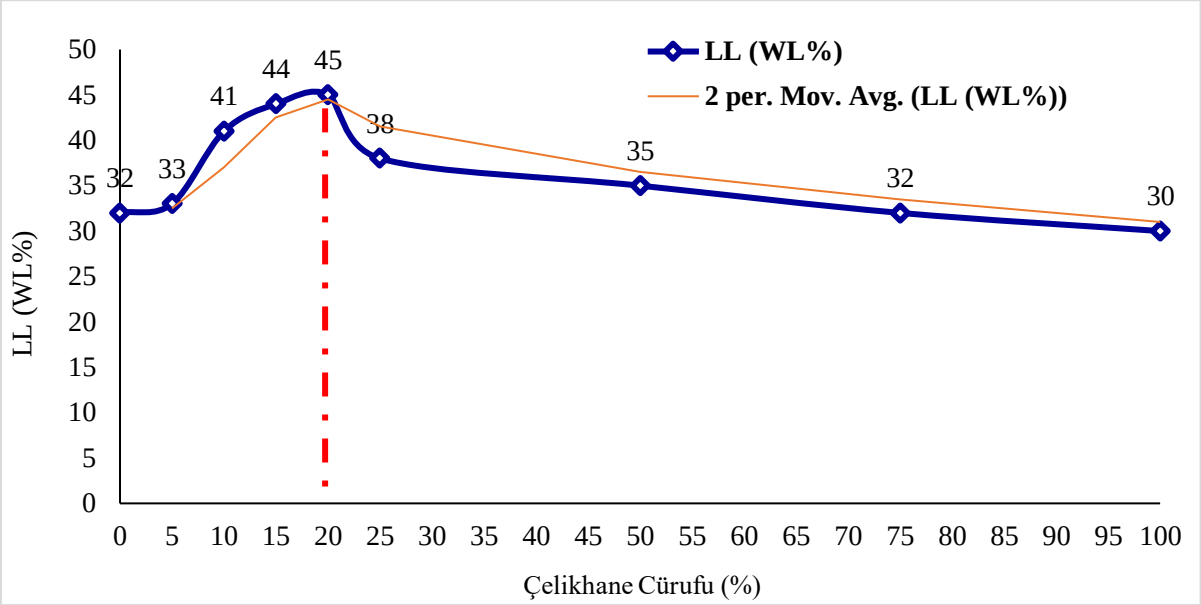
SONUÇLAR

Yapılan çalışama sonucunda İSDEMİR A.Ş'den alınan çelikhane cürufu yine İskenderun bölgesinden alınan killi zemin numunesi içerisine %0, %5,%10,%15, %20, %25, %50, %75, %100 karıştırılarak toplam 9 adet farklı karışım oranlarında numune hazırlanmıştır. Bu numunelerde de her bir karışım oranı için 3 er adat numunelerde hazırlanarak kontrol amaçlı numuneler dâhil toplam 27 adet numune hazırlanmıştır. Hazırlanan her bir deney numunesi için elde edilen değerler kaydedilmiştir ve bu değerlerin ortalaması alınarak genel bir Tablo 5 hazırlanmıştır.

Tablo 5. Çelikhane cürufu katkılı zemin numunelerinin likit limit değerleri

	A	**AB-5**	**AB-10**	**AB-15**	**AB-20**	**AB-25**	**AB-50**	**AB-75**	**B**
Çelikhane Cürufu (%)	0	5	10	15	20	25	50	75	100
LL (WL%)	32	33	41	44	45	38	35	32	30

Tablo 5'de ifade edilen LL (WL%) sembolü likit limit değerini göstermektedir. İlk satırda çelikhane cürufu karışım oranlarının sembollerini gösterirken ikinci satırda Çelikhane cürufu ile killi zemin numunesi yüzde karışım oranlarını göstermektedir.



Şekil 7. Çelikhane cürufu ve Killi zemin numunesi likit limit değerleri

Hazırlanan toplam 27 adet numunede yapılan çalışmalar sonucunda Tablo 5 ve Şekil 7'deki sonuçlara ulaşılmıştır. Hazırlanan karışım numunesi içerisinde kontrol amaçlı olarak A numunesi LL(WL%) ortalama değeri 32 olarak bulunmuştur. Bu değerden yola çıkarak AB-5 numunesinde A numunesine göre zemin likit limit değerinde pek bir değişme gözlenmemiştir. Ancak AB-10 karışım numunesi likit limit değerinde gözle görülür bir artış olmuştur. En ideal sonuçları ise 44 WL% değeri olan AB-15 numunesi ile 45 WL% değeri olan AB-20 karışım oranlarında gözlenmiştir. AB-25 ve diğer numune değerlerinde likit limit değerlerinde düşüş gözlenmiştir. Yapılan çalışma sonucu anlaşılmıştır ki İskenderun bölgesinden alına killi zemin numunesi içerisine Çelikhane cürufu karıştırıldığında en ideal likit limit değerlerini; killi zemin numunesi içerisine %15 ile %20 oranlarında çelikhane cürufu eklenildiğinde verdiği gözlenmiştir. Yapılacak bir sonraki çalışma için ise bu karışım oranlarında taşıma gücünün araştırılması faydalı olacaktır.

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EXAMINATION OF THE CLIMATE EFFECTS OF CONCRETE MORTAR SAMPLES WITH ADDITIONAL BLAST FURNACE SLAG IN SALTY ENVIRONMENT

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Abstract
Today; many engineering structures such as houses, buildings, bridges, tunnels, roads, airports, ports, walls are made using reinforced concrete materials. As it is known, concrete and concrete coating structures and mortars are standard; it consists of lime, cement, concrete chemicals and mostly aggregate material. In construction structures, it is desirable that the concrete mortar or the coating or mortar used on it have a good strength structure. It is desired that the concrete or concrete mortar material should be homogeneous and of high quality standard structure according to the building design to be used. This reveals the need for an increase in the number of mines or modern chemical mixtures to increase the quality of concrete. YFC, which is an inert waste that occurs during the production process in iron and steel factories, can be in various sizes and shapes according to the production method. It has been the subject of research that this inert waste material can be used as a binder in concrete or concrete mortar. In this study; In order to test the usability of blast furnace slag as an aggregate, pressure tests were carried out by making concrete mortar with blast furnace slag (YFC) aggregate between 0-5 mm size as fine aggregate class. In addition, the effects of climate and climatic events on the concrete mortar samples were investigated by performing the magnesium sulphate test, which shows the Thermal Deterioration of the Aggregates in TS EN 1367-2. Samples were prepared in dimensions of 40mm x 40mm x 160mm and experiments were carried out under laboratory conditions to see the effects of salty climate conditions on concrete samples. The effect of blast furnace slag added concrete mortar samples from salty water climatic test conditions was investigated.

Keywords: Blast furnace slag, freeze-thaw, climatic effect, TS EN 1367-2.

YÜKSEK FIRIN CÜRUFU KATKILI BETON HARCI NUMUNELERİNİN TUZLU ORTAMDA İKLİMSEL ETKİLERİNİN ARAŞTIRILMASI

Özet
Günümüzde; evler, binalar, köprüler, tüneller, yollar, hava alanları, limanlar, surlar gibi pek çok mühendislik yapısı betonarme malzemesi kullanılarak yapılmaktadır. Bilindiği üzere beton ve beton kaplama yapıları ve harçları standart olarak; kireç, çimento, beton kimyasalları ve büyük oranda agrega malzemesinden oluşmaktadır. İnşaat yapılarında, beton harcının ya da üzerinde kullanılan kaplama veya harçların mukavemet yapısının da iyi olması istenir. Beton veya beton harcı malzemesinin kullanılacak yapı tasarımına göre homojen ve kaliteli standart yapıda olması istenir. Bu da maden ocaklarının artmasına veya beton kalitesini arttırmak için modern kimyasal karışımlarına ihtiyacı ortaya çıkarmaktadır. Demir-çelik fabrikalarında üretim sürecinde ortaya çıkan ve bir inört atığı olan YFC üretim yöntemine göre çeşitli boy ve şekilde olabilmektedir. Bu inört atık malzemenin beton ya da beton harcında bağlayıcı olarak

kullanılabileceği araştırma konusu olmuştur. Bu çalışmada; yüksek fırın cürufunun agrega olarak kullanılabilirliğini test etmek amacı ile 0-5 mm boyutları arasında yüksek fırın cürufu (YFC) agregası ince agrega sınıfı olarak beton harcı yapılarak basınç denemeleri yapılmıştır. Ayrıca, TS EN 1367-2 Agregaların Termal Bozulma durumunu gösteren magnezyum sülfat deneyi yapılarak beton harcı numuneleri üzerinde iklimin ve iklimsel olayların etkileri araştırılmıştır. Numuneler, 40mm x 40mm x 160mm boyutlarında hazırlanarak tuzlu iklim şartlarının beton numunelerine vermiş olduğu etkileri görmek için laboratuvar şartlarında deneyler yapılmıştır. Tuzlu sulu iklimsel deney koşullarından yüksek fırın cürufu katkılı beton harç numunelerinin etkilenme durumu araştırılmıştır.

Anahtar Kelimeler: Yüksek fırın cürufu, donma-çözünme, iklimsel etki, TS EN 1367-2.

GİRİŞ

Demir ve çelik üretimi dünyada ve ülkemizde her geçen yıl artmaktadır. Çok katlı yapılara talebin artması, gelişen şehirler ve otomobil ve raylı taşıma gibi ulaşım ve lojistik ihtiyaçların artması nedeni ile bunlara bağlı alt yapıların yani yollar ve demir yolları gibi yapılarına gelişmesi kaçınılmazdır (Mohsunlu, 2021). Bu ve buna bağlı pek çok mühendislik yapıların temel ham madde tedarikçisi doğal olarak entegre demir-çelik üretim tesisleridir (Erol ve Türkmen, 2020). Bu çalışama kapsamında entegre demir-çelik üretim tesislerinin üretim prosesleri sonucunda oraya çıkan bu atık malzeme yine sektörün ihtiyacı olan inşaat malzemesinin (beton ince agrega, yol alt yapı agregası gibi) bir ürününe fayda sağlamaktır (Karadağ ve ark., 2020). Biliyoruz ki beton harcı malzemesinin en büyük miktarda girdi ürünü agregadır (Karadağ ve ark., 2020; Çizmecioğlu, 2020). Beton malzemesini oluşturan diğer malzemeler ise su, çimento ve beton kimyasalları olmaktadır (Çizmecioğlu, 2020). İşte bizde bu çalışma kapsamında Türkiye'de Hatay ilinin İskenderun İlçesinde bulunan İsdemir A.Ş entegre demir-çelik üretim tesisi bulunan bu inört atığın beton agregası olarak kullanılabilirliği araştırıldı. Ancak mühendislik yapıları; binalar, taşıt yolları, sulama kanalları, demir yolları gibi pek çok mühendislik yapıları beton ve agrega temelli bileşenden oluşsalar da beton malzemelerin iklimsel ve/veya fizikomekanik olaylardan çokça etkilenmektedirler (Aytekin, 2021). Mevsimsel ısı farkları yağış alan aylarda çevreden tuz taşınımı gibi olaylar beton gözeneklerine difüzyon ile girerek burada mikro çatlaklar oluşturmaktadır (Akgül ve ark., 2020; Boğa ve ark., 2020). Zaten gevrek yapılı beton malzemesi bu etkiler ile yıpranmakta ve bulunduğu yapılarda hasarlar meydana gelmektedir. İşte bu yüzden beton malzemesini oluşturan bileşenlerin yeterli kalitede olması gerekmektedir (Boğa ve ark., 2020; Yedek, 2020).

Bizde bu çalışma kapsamında İsdemir A.Ş'de alınan yüksek fırın cürufunu 40 mm x 40 mm x 160 mm boyutlarında beton harcı numuneleri hazırladık. Numuneler içerik olarak %0 YFC agregası (%100 kalker) kontrol numunesi olarak hazırlandı ve %100 YFC agregası hazırlanarak iki adet kontrol numunesi oluşturuldu. Böylece hazırladığımız numuneler arsında sadece doğal agrega içeren (%100 kalker) ve sadece YFC katkılı (%100 YFC agregalı) agrega tuzlu ortamda iklimsel döngü sonrası nasıl bir etki altında olacağı görülmüş olacaktır. Genel olarak 40 mm x 40 mm x 160 mm boyutlarında hazırlanan beton harcı numunelerinin içerisine %0, %20, %40, %60, %80, %100 oranlarında YFC karıştırılarak hazırlanmıştır. Bu numuneler üzerine TS EN 1367-2 agregaların termal bozulma deneyi olan magnezyum sülfat deneyi yapılmıştır. Burada amaç YFC katkılı beton harcı numuneleri arasında hangi karışım oranındaki numune tuzlu su ortamından ve iklimsel sıcaklık farkından kaynaklanan etkiden en az etkileneceği araştırılmıştır.

MATERYAL VE METOT

Çalışma kapsamında Türkiye'de Hatay'ın İskenderun İlçesinde bulunan İsdemir A.Ş entegre demir-çelik tesisinden entegre demir-çelik ürün üretimi sonucu elde edilen YFC yapılacak çalışma kapsamında temin edildi. Seçilen YFC tesisin kırma eleme tesisinde eleme sonucu elde edilen 0-5mm tane boyutunda malzemelerdir. Çalışma kapsamında hazırlanacak 40 mm x 40 mm x 160 mm beton harcı numuneleri tane boyutu 0-5mm ince agrega sınıfında malzemelerdir. YFC hazırlanacak numune hamuru içerisinden 0-5mm doğal agrega belirlenen oranlarda çıkarılarak yerine belirlenen oranlarda 0-5mm boyutlarında YFC agregası eklenmiştir. Hazırlanan beton harcı numunesi içerisindeki YFC karışım oranları %0, %20, %40, %60, %80, %100 olarak ayarlanmıştır. Hazırlanan numuneler 28 günlük küre tabi tutulmuştur. Kür süresi tamamlandıktan sonra numuneler hazırlanan aşırı doygun magnezyum sülfat tuzlu suyu içerisine 24 saat bırakılarak tuzlu suya doygun hale getirilmiştir. Sonra bu numuneler iklimlendirme odasında TS EN 1367-2 agregaların termal bozulma standardına uygun olarak 24 saat iklimsel çevrime tabi bırakıldı. İklimlendirme işlemi sonrası numuneleri tatlı suda yıkanarak numunelerin yüzeyinde bulunan tuz temizlemiştir. Bu 48 saatlik işlem bir iklimsel çevrim periyodu olarak kabul edilmiştir. Bu işlem 5 iklimsel çevrim periyodu olarak işlem yapılmış ve toplam 10 günde tamamlanmıştır. Deney sonucunda numunelere tek eksenli basınç deneyi yapılarak numune kalitesi incelenmiştir.

Yüksek Fırın Cürufu (YFC):

Entegre demir-çelik tesisleri üretim şekline göre yüksek fırın ya da YFC (Şekil 1) olmak üzere iki çeşit cüruf türünü yan ürün olarak ortaya çıkarmaktadır. Yüksek fırın cürufu ergitme potası içerisinde ergimiş metal içerisine lanslarla oksijen üfleyerek indirgenmesi sonucu pota içerisindeki empirütelerin oksijene bağlanarak yoğunluğu arttırılır ve yoğunluğu artan malzeme (cüruf) yüzeye çıkarak sıvı ham çelikten ayrılır. Yüzeyde kalan cüruf potadan alınarak sistemden uzaklaştırılır ve tumba tesisine götürülerek soğutulur ve burada soğuduktan sonra kırma eleme tesisine gönderilir. Kırma eleme işleminden kırma eleme tesisine gönderilen malzeme +55mm boyutundan -10mm boyutundan malzeme boyutuna kadar indirilir. Burada -55 mm ile +48mm boyutundaki demirli malzeme stoklanır. Demirli malzemenin ince kısmı (-10mm) öğütücülerden geçerek manyetik seperatörlerden demirli kısmı ayrılır. Ayrıca -10mm tane boyutundaki malzeme demir ve ergitici malzeme olarak yeniden sinter karışımına eklenir.

Şekil 1. Tipik bir YFC örneği (Yüksek Fırın Cürufu, 2001)

Tipik bir YFC fiziksel olarak sert, yüzeyi grift yapılı, üzerinde benekli demir parçaları ile bezenmiş bir tüf parçası gibi görülürken kırılgan bir yapıya da sahiptir. Ayrıca cüruf bileşenleri Ph sınıflandırması olarak değerlendirmek gerekirse cüruf bileşenleri asidik, bazik ve amorfik yapıda sınıflandırılabilir. Amorf olarak sınıflandırılan bileşenler hem asidik hem de bazik bileşen gibi davranabilir. Buna rağmen bir cürufun bazikliğini fiziksel olarak ölçmek pek mümkün değildir (Pretorius ve Refractories, 2019).

Tipik bir cüruf SiO_2, CaO, MgO, Al_2O_3, FeO, MnO ve Cr_2O_3 bileşiklerinden oluşmaktadır. Çelikhane cürufları genel olarak Na_2O, CaO, MgO, CaF_2, TiO_2, Al_2O_3 MnO, Cr_2O_3, FeO, Fe_2O_3, SiO, P_2O_5, K_2O gibi bileşikler de oluşabilmektedir. Bu durum daha önce de belirttiğimiz üzere pota içerisine konulan maden ve indirgenme şartlarına bağlı olarak oluşmaktadır (Uysal ve Bahar, 2018). Tablo 1'de Yüksek Fırın cürufu kimyasal bileşiklerinin yaklaşık olarak miktarı verilmektedir.

Tablo 1. Yüksek Fırın cürufunun kimyasal kompozisyonu

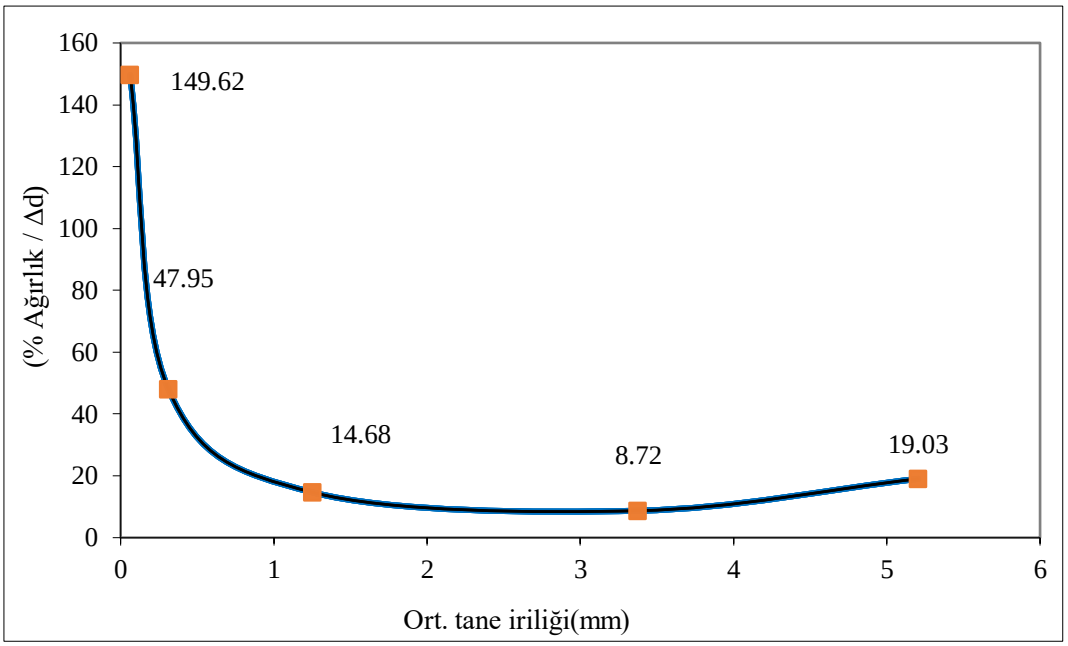
Fe	P	SiO_2	CaO	Al_2O_3	MgO	S	MnO	K_2O	TiO_2	Na_2O
0.586	0.019	41.127	36.227	12.013	5.593	0.485	2.230	0.778	0.633	0.309

İsdemir A.Ş'den alınan YFC 5 mm ile 0.125 mm elek aralığında toplam 4 adet elekle el ile elenmiştir. Elek analiz sonuçları Tablo 2'deki gibidir.

Tablo 2. YFC fiziksel sınıflandırması.

Tane büyüklüğü fraksiyonu (mm)	Ağırlık (gr)	Ağırlık%	X	X	Y	Y	normal dağ.oranı	Δd (d1-d2)	Ort.tane iriliği
					kümülatif dağılım				
			EA(mik)	EÜ(mik)	EA(%)	EÜ(%)	(%ağırlık / Δd)		
-5.66 +4.75	86.76	17.32	5.66	4.75	100.0	1738	**19.03**	0.91	**5.21**
-4.75 + 2	120.12	2398	4.75	2.0	82.68	41.36	**8.72**	2.75	**3.38**
-2 + 0.5	110.34	22.02	2.0	0.5	58.71	63.38	**14.68**	1.50	**1.25**
-0.5 + 0.125	90.08	17.98	0.5	0.125	36.68	81.36	**47.95**	0.38	**0.31**
-0.125	93.7	18.70	0.125	0.0	18.70	100.06	**149.62**	0.13	**0.06**
TOPLAM	**501,0**	100.0							
		Coarseness Index (CI)				**303,54**			

Tablo 2 değerleri incelendiğinde -2.0 mm malzeme miktarı 294.12 gr olarak görülmektedir. Toplam kütlenin %58.71'ini kaplamaktadır. Kil boyutu malzeme miktarı 93.7gr ile toplam kütlenin %18.70'ini kaplamaktadır.



Şekil 2. YFC normal dağılım eğrisi.

YFC normal dağılım eğrisi Tablo 2 değerleri kullanılarak ince agrega malzeme dağılımı hakkında fikir edinmek için oluşturuldu. Şekil 2'ye baktığımızda 0.125 mm altı malzeme miktarı ile 2.0 mm malzeme miktarı yoğunluğu daha fazla olarak görülmektedir.

Agrega ve beton harcı karışım oranları:

Beton harcı numunesi hazırlanırken doğal agrega (kalker) kullanılmıştır. Çalışmalar kapsamında agrega tane boyutu olarak ince agrega 0-5 mm boyutlarında agrega malzemesi seçilmiştir. Beton harcı numunesi hazırlanırken standart doğal agrega kullanılmıştır. Standart beton numunesi içerisinde YFC agregası %0, %20, %40,%60, %80 ve %100 olmak üzere hazırlanan her numune için miktar olarak çıkarılmıştır. Karışım hesabı su/bağlayıcı oranı 0.55, bağlayıcı dozajı; 350 kg/dm^3, ince malzeme yoğunluğu; 2.33 kg/dm^3 YFC yoğunluğu 4.14 kg/dm^3 çimento yoğunluğu; 3.15 kg/dm^3 olarak kabul edilmiştir. Bu malzemeler % 100 doğal agrega (%0 YFC) kullanılarak numuneler hazırlanmıştır.

Tablo 3.YFC karışımlı beton harcı numuneleri adlandırılması ve miktarları

28 Günlük Kür Süresi	Tuzlu ortam Etkisi 1367-2	28 günlük kürden sonra standart deney
%100 Agrega+%0 YFC	3	3
%80 Agrega+%20 YFC	3	3
%60 Agrega+%40 YFC	3	3
%40 Agrega+%60 YFC	3	3
%20 Agrega+%80 YFC	3	3
%0 Agrega+%100 YFC	3	3
Toplam	**18**	**18**

Tablo 3'de tuzlu ortam etkisini test etmek için her karışım oranı numuneden üçer adet olmak üzere toplam 18 adet numune hazırlanmıştır. Normal şartlarda aynı beton harcı numunesi karışımının etkisini anlamak için 28 günlük küre tabi tutulan beton harcı numunesinden her bir karışım oranı için 3'er adet numune hazırlanmıştır. Bu karışım oranındaki numunelere tek eksenli basınç testi uygulanarak aralarında nasıl bir fark olduğu gözlenmiştir.

Şekil 3-a) 40 mm x 40 mm x 160 mm beton harcı numunesi kalıba döküm, b) 28 günlük kür sonrası beton harcı numuneleri

Magnezyum sülfat çözeltisi:

Çalışma kapsamında 40 mm x 40 mm x 160 mm boyutlarındaki beton harcı numune kalıpları (Şekil 3) magnezyum sülfat deneyi (TS EN 1367-2) kapsamında hazırlanan numuneler aşırı doygun magnezyum sülfat tuzlu sıvısının içerisinde 24 saatlik küre tabi tutulmuştur. Bu malzeme iklimlendirme odasına bırakılarak 24 saat iklimsel çevrim etkisine bırakılmıştır. Numuneler tek eksenli basınç dayanımına tabi tutulmuştur. Deney için gerekli kimyasallar ve şu şekildedir;

Kimyasallar :

Tuz: Magnezyum sülfat ($MgSO_4$) ya da Episomit ($MgSO_4$+7H_2O), 9 kg

Çözelti : Baryum klorür çözeltisi ($BrCl_2$) (alikot çözeltisi) $MgSO_4$ çözeltisinin kontrolü için hazırlandı, (%5'lik)

Su: De-iyonize su gerekli kimyasalların hazırlanmasında kullanıldı.

Baryum Klorür ($BrCl_2$) ve Magnezyum Sülfat ($MgSO_4$) çözeltilerinin hazırlanması:

•MgSO4 çözeltisi: 1000 ml de-iyonize su içerisine 1500 gr magnezyum sülfat tuzu eklenerek hazırlanır. Çok yoğun bir karışım çözelti olacağından su en fazla 30 ºC ye kadar ısıtılabilir). Çözelti hazırlanırken $MgSO_4$ tuzu (katı) azar azar eklenerek iyice karıştırıldı.

•%5'lik Alikot ($BrCl_2$) Çözeltisi: 100 ml de-iyonize su içerisine 5 gr baryum klorür ($BrCl_2$) katısı eklenerek hazırlandı. Karışımın %5'lik olmasına ve saf su kullanılmasına dikkat edildi. Musluk suyu içerisinde çeşitli mineraller olduğundan $BrCl_2$ katısı çeşme suyu içerisinde renk vermektedir. Bu çalışmada, %5'lik alikot çözeltisi magnezyum sülfat deney aşamasında magnezyum sülfat çözeltisinin derişim ve çözelti kalitesini ölçmek için kullanıldı. Magnezyum sülfat deneyi kapsamında kullanılan sıcaklık aralıkları aşağıda Tablo 4'de verilmiştir.

Tablo 4. Magnezyum sülfat deneyi iklimsel çevrim basamağı.

İşlem Sırası	Dondurma İşlemi		Maruz Bırakılan Süre (dk)	Tolerans (dk)
	İlk Sıcaklık (ºC)	Son Sıcaklık (ºC)		
1. işlem: Soğutma	(20±3) ºC	0 ºC	150	±30
2. işlem: Bekletme	0 ºC	0 ºC	210	±30
3. işlem: Soğutma	0 ºC	(-17 ± 2.5) ºC	180	±30
4. işlem: Bekletme	(-17 ± 2.5) ºC	(-17 ± 2.5) ºC	240 (en az)	-

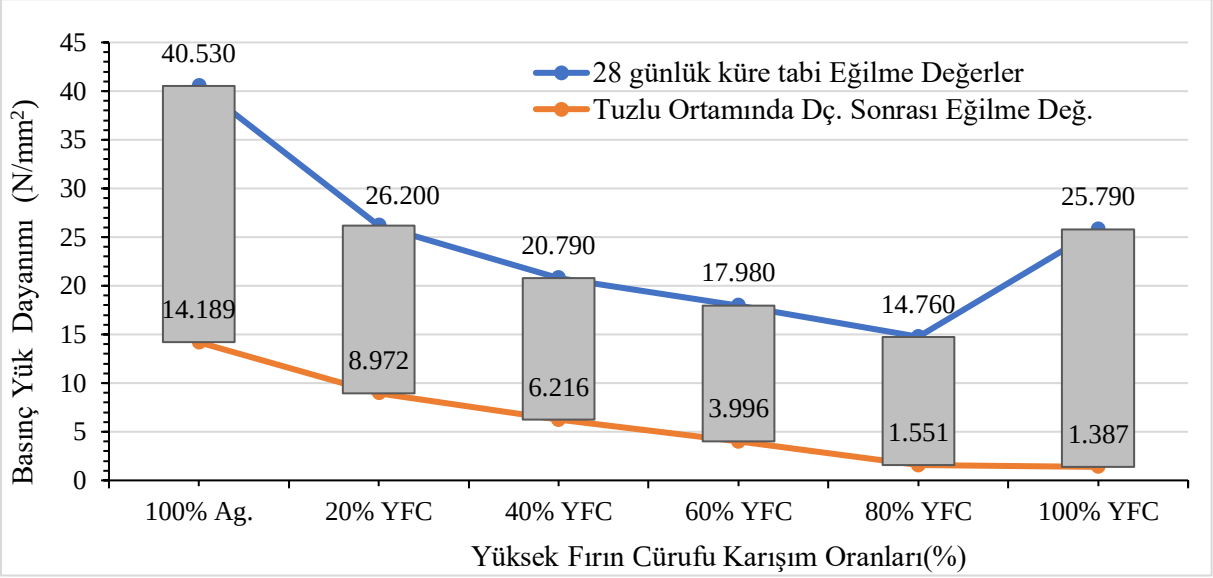
Hazırlanan numuneler iklimlendirme odasında Tablo 4'de verilen parametrelere göre tuzlu su ortamından çıkarılan beton harç numuneleri çeşme suyunda yüzey tortuları yıkanarak iklimsel çevrim aşamasına bırakıldı. 1. İşlem adımı numuneler oda sıcaklığından 0 ºC'ye 150 dk'da soğutuldu. 2. İşlem adımı olarak 0 ºC'de 210 dk bekletildi. 3. İşlem adımı olarak 0 ºC'den -17 (± 2.5 ºC) ºC'ye indirildi ve son olarak 4. İşlem adımında -17 ºC'de 240 dk bekletildi. Toplam bu 4 işlem adımı 13.5 saati geçmeyecek şekilde ayarlandı. Geriye kalan sürede 10.5 saatte 5. işlem adımı olarak numuneler oda sıcaklığına tekrardan gelmesi sağlandı ve bu 5 işlem adımı dahil deney parametresi 24 saati geçmeden tamamlandı. Yapılan bu işlem adımlarının hepsi toplam 1 iklimsel çevrim periyodu olarak tanımlanmıştır. Biz bu çalışma kapsamında 5 periyot tekrar ederek numuneler sulu ortamda toplam 10 iklimsel çevrim basamağına tabi tutulmuştur.

SONUÇLAR VE TARTIŞMA

Türkiye'de Hatay ilinin İskenderun İlçesinde bulunan entegre demir- çelik fabrikasının inört atığı olan YFC hazırlanan beton harcı numunesi içerisine %0, %20, %40, %60, %80 ve %100 oranlarında karıştırılarak 40 mm x 40 mm x 160 mm boyutlarında beton harcı numuneleri tuzlu ortam da bekletilerek 10 gün 22 ºC ile -17.7 ºC sıcaklık değerleri arsında 10 gün boyunca iklimsel çevrim etkisine tabi tutulmuştur. Deney sonucunda 28 günlük normal şartlarda sertleşmiş beton harcı numuneleri arasında tek eksenli basınç deneyi yaparak tuzlu sulu ortamın mühendislik yapılarına vermiş olduğu korozif etkileri anlamak için deneyler yapılmıştır deney sonuçları aşağıda Tablo 5'de görülmektedir.

Tablo 5. Beton harcı numuneleri arasında tek eksenli basınç deneyi değerleri

Sıra No	Numune Cinsi (BETON)	Fiziksel Özellikler					28 günlük küre tabi Eğilme Değerleri	Tuzlu Ortamında Dç. Sonrası Eğilme Değ.
		En	Boy	Alan	Yükseklik	Mesnet	Basınç Yük Dayanımı	Basınç Yük Dayanımı
		W(mm)	L(mm)	So(mm^2)	h(mm)	l (mm)	(N/mm^2)	(N/mm^2)
1	100% Ag.	40	160	6400	40		40.530	14.189
2	20% BOF	40	160	6400	40		26.200	8.972
3	40% BOF	40	160	6400	40		20.790	6.216
4	60% BOF	40	160	6400	40		17.980	3.996
5	80% BOF	40	160	6400	40		14.760	1.551
6	100% BOF	40	160	6400	40		25.790	1.387



Şekil 4. YFC 28 günlük kür ve iklimsel çevrime tabi tutulmuş numuneleri basınç testi grafiği

Sonuçlar incelendiğinde 40 mm x 40 mm x 160 mm boyutlarında hazırlanan ve içerisine %0, %20, %40, %60, %80 ve %100 oranlarında YFC konulan beton harç numunelerinde 28 günlük küre tabi tulumuş beton numunelerinde 40.530 N/mm^2 basınç mukavemet değeri elde edilmiştir. 0-5mm YFC agregası eklendiğinde basınç değerlerinde düşme gözlenmiştir. Ancak %100 Çelikhan cürufu ile hazırlanmış beton harcı numunesinde 25.790 N/mm^2 değer gözlenerek basınç değerinde artış gözlenmiştir. Tuzlu sulu ortamda küre tabi tutulmuş ve iklimsel çevrim şartlarında beton harç malzemesi değerleri grafikte altta turuncu renk olarak grafikte gösterilmektedir. Bu beton numuneler incelendiğinde tuzlu sulu ortamda iklimsel çevrime tabi tutulmuş numuneler; özellikle %100 agrega içeren numune 40.530 N/mm^2 basınç değeri ile mukavemet gösterir iken tuzlu sulu ortamda 26.341 N/mm^2 basınç dayanımı değeri kaybederek 14.189 N/mm^2 basınç değerine düşmüştür. Diğer karışım oranlarında da büyük basınç değerinde kayıplar yaşanmıştır. %100 YFC eklenmiş beton harcı numunesinde 25.790 N/mm^2'den 1.387 N/mm^2'ye kadar basınç değeri düşerek 24.403 N/mm^2 basınç değerinde düşüş olmuştur.

Sonuç olarak %0, %20, %40, %60, %80 ve %100 oranlarında karışım yapılan beton harcı numuneleri içerisinde en az basınç kaybı değeri %20 ve %40 oranlarında tuzlu sulu ortamda iklimsel çevrim işlemleri sonucunda en az basınç değer kayıplarını 17.228 N/mm^2 ile 14.574 N/mm^2 değerlerinde göstermiştir.

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IMPROVEMENTS IN EXPERTISE PROCESSES ON METAL SCRAPS ARRIVED BY SEA AND HIGHWAY

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Abstract
It is a well-known fact that metal scraps are used in iron and steel production all over the world. However, in plants such as electric arc furnaces (EAF) that produce steel directly from scrap, the importance of scrap has a greater impact than in blast furnaces using iron ore, and scrap control is just as important. In particular, the inability to clearly determine the quality of the imported scraps and the lack of use of test methods that can obtain data other than visual inspection cause major problems and conflicts. Enterprises with good scrap control and using quality scrap are able to minimize the residual element problem in their production. Scrap loss adjusting is an increasingly important profession, especially in Turkey. 70% of iron and steel production in our country is made using scrap, the interest in steel scrap, which is an important cost element, is increasing day by day. As a result, the need for this profession is of great importance in order to choose among scrap materials and use the right one. In this study; Scrap quality types and parameters, scrap quality determination methods, materials and quantities that are not objectionable in the scrap, materials and quantities that are absolutely undesirable to be in the scrap, and the quantitative and qualitative evaluation of the scrap, will be investigated to determine the type and quality of the scrap lot. A new perspective will be provided on the subject of steel scrap quality and expertise. The theoretical infrastructure of the scrap quality evaluation method will be established with the knowledge revealed.

Keywords: Metal scrap, scrap expertise, iron and steel, EAF, impurity

DENİZ VE KARAYOLU İLE GELEN METAL HURDALARA YAPILAN EXPERTİZ İŞLEMLERİNDE İYİLEŞTİRMELER

Özet
Metal hurdaların tüm dünyada demir ve çelik üretimlerinde kullanıldığı herkesçe bilinen bir gerçektir. Ancak direkt olarak hurdadan çelik üreten elektrik ark fırını (EAF) gibi tesislerde hurdanın önemi demir cevheri kullanan yüksek fırınlı işletmelere göre daha büyük bir etkiye sahiptir ve hurda kontrolü de o kadar önem taşımaktadır. Özellikle ithal edilen hurdaların kalitesinin net olarak belirlenememesi, görsel muayene dışında veri elde edilebilecek test yöntemi kullanılmaması büyük sorunlara ve ihtilaflara yol açmaktadır. Hurda kontrolü iyi olan, kaliteli hurda kullanan işletmeler üretimlerinde kalıntı element sorununu minimize etmeyi başarmaktadırlar. Hurda eksperliği özellikle Türkiye'de giderek önem arz eden bir meslek olmaktadır. Ülkemizde demir çelik üretiminin %70'i hurda kullanılarak yapılmaktadır, önemli bir maliyet unsuru olan çelik hurdasına olan ilgi her geçen gün artmaktadır. Bunun sonucu olarak hurda malzemeleri arasından seçim yapmak ve doğru olanı kullanmak için bu mesleğe olan ihtiyaç büyük önem arz etmektedir. Bu çalışmada; hurda kalite çeşitleri ve parametreleri, hurda kalite tespit yöntemleri, hurda içinde olması sakıncalı olmayan

malzemeler ve miktarları, hurda içinde olması kesinlikle istenmeyen malzemeler ve miktarları ile hurdanın nicel ve nitelik olarak değerlendirerek, hurda partisinin çeşit ve kalitesinin belirlenmesi gibi konular araştırılacaktır. Çelik hurda kalitesi ve eksperliği konusuna yeni bir bakış açısı sağlanacaktır. Ortaya konan bilgi birikimi ile hurda kalitesi değerlendirme metodunun teorik alt yapısı oluşturulacaktır.

Anahtar Kelimeler: Metal hurda, hurda eksperliği, demir ve çelik, EAF, empürite

GİRİŞ

Çelik hurdalarının toplanması ve geri dönüştürülmesine yönelik altyapı, yüzyıldan fazla bir süredir başarıyla kurulmuştur (Liu and Zhou, 2021). Hurda endüstrisi, üç önemli uzmanlık seviyesinden oluşmaktadır. İşleyiciler, hurdayı endüstriyel tesisler, devlet tesisleri, oto sökümcüler, demiryolları, tersaneler, bina sökücüler, yıkım operasyonları ve belediyeler dahil olmak üzere çeşitli kaynaklardan satın alır (Shmidt et al., 2020). Tesislerinde, yakma, kesme, balyalama ve parçalama gibi çeşitli teknikler kullanarak hurdayı yeniden kullanıma hazırlarlar (Rieger et al., 2021). Brokerler, işlemciler ile endüstriyel tüketiciler veya hurda kullanıcıları arasındaki aracılardır ve işlemcilere, hazırladıkları hurdalar için pazarlar bulmalarında yardımcı olur ve endüstriyel tüketicilerin, üretim operasyonlarını yürütmek için ihtiyaç duydukları demirli hurda ürünleri tedarikini bulmalarına yardımcı olmaktadır. Endüstriyel tüketiciler, işlenmiş hurdayı satın alan, yeniden eriten ve ondan yeni bir çelik ürün üreten fabrikalar ve dökümhanelerdir. Hurda tüketicisi geri dönüşüm çemberini kapatır ve çeliğin artık hurdaya geri döndürülmesi nedeniyle geri dönüşümün gerçekleşmesini sağlar (Chitaka et al., 2018). Hurdalar kendi başına çok kapsamlı bir malzemeler topluluğunu oluşturur. Burada önemli olan nokta bizim hangi kısmına odaklanacağımızdır. Biz şüphesiz ki bu çalışmada metal hurdaları inceleyecek ve odak noktamızı bu yönde oluşturacağız. İskenderun-Dörtyol bölgesi Türkiye'nin demir ve çelik üretimi bakımından en önemli birkaç bölgesinin başında gelmektedir. İskenderun demir çelik limanı, Akdeniz bölgesinin en büyük dökme katı ve genel kargo limanıdır. İskenderun Körfezi'nde, İskenderun ilçesine 22 km, otoyol ve E91 kara yoluna 4 km. uzaklıkta kurulmuştur ve limanın ulusal demir yolu sistemine direkt olarak bağlantısı bulunmaktadır (Invest in Hatay, 2021). Dolayısıyla burada bölgeyi sistem olarak düşünecek olursak giren ve çıkan malzemeleri tahmin etmek ve bu malzemelerin maliyetlerini, taşıma şekillerini de göz önünde bulunduracak olursak kendi başına önemi çok büyük bir sektör karşımıza çıkmaktadır. Öyle ki ülkemizde, 2019 yılında 33,7 milyon ton olan ham çelik üretimi yaklaşık %6,1 oranında yükselişle, 2020 yılında 35,8 milyon ton olarak gerçekleştirilmiştir. Üretimdeki bu artışla birlikte Türkiye, dünya ham çelik üretim sıralamasında, ilk 10 ülke arasında 7. sırada yerini almıştır (Nazilli Ticaret Odası, 2021). Bu çalışmada literatürde benzerine az rastlanan hurda exspertizliği ile alakalı tavsiyeler, gelişmeler ve hurda kontrolleri sırasında ortaya çıkabilecek bazı problemler değerlendirmeye alınmış ve irdelenmiştir. Gemi ve karayolu ile gelen metal hurda kargoları incelemelerinde elde edilen tecrübeler sonucunda yapılan bu çalışmada literatürden farklı olarak kişisel deneyimlere ve değerlendirmelerde yer verilecektir ve bu bilgiler adeta bir kılavuz niteliğinde olacaktır. Deniz yolu ve karayolundan gelen hurdalar her ne kadar aynı karakteristikleri kullansa da bazı önemli ayrıntılar ile birbirinden farklıdırlar ve bu farklar aslında üretimlerde neden yerli veyahut ithal hurda kullanılıp kullanılmamasının da temel cevabını oluşturmaktadır.

MATERYAL VE METOT

Bu çalışmada yapılan gözlemler, tutulan değerlendirme formları ve hurda nakilleri sırasında elde edilen bulgular ışığında şu söylenebilir ki üreticinin belirli bir miktar para harcayarak sahip olduğu hurda kargosu aslında hiç o kadar da düşünüldüğü gibi özenle veyahut bilinçli şekilde ülkemize getirilmemektedir. Hurda expertizliği işlemi başlıca bilgiler ışığında yapılmaktadır. Bunlardan bir tanesi hurda tahliye edilirken, tahliye işlemi süresince gerekli gözlemlerin yapılması ve bu bilgilerin kaydedilmesi gerekmektedir. Bir başka durum ise hurda tahliyesi sırasında hurdayı kalitesini tanımlayıcı gerekli kayıtları yapmak ve değerlendirmeler göz ile yapıldığı için geminin kaç tane ambarı varsa bütün ambarlar titizlik ile gözden geçirilmeli ve gerekli datalar toplanmalıdır. Aynı şekilde hurda karayolu ile geliyor ise ilk önce aracın üstüne dikkatli bir şekilde göz gezdirmeli, göze çarpan ve hurda standartlarına göre kullanılması mümkün olmayan malzemeler var ise tespit edilmelidir. Daha sonra hurda boşaltılır iken gerekli gözlem yapılıp video ve resimler ile bunlar desteklenmektetir. Çelik hurdası üzerinde yapılan bu gözlemler, kullanan demir çelik sektörü kalite birimlerinden gelen geri dönüşler ile birleştirilerek, hurda exsperliği işleminin en iyi şekilde yapılması sağlanacaktır.

Fabrikalar, şirketler belirli bir miktar bütçe ayırıp hurda expertizliği hizmeti satın alıyor ve bunun karşılığında da kendisi için bir uyarı mekanizması sağlamış olmaktadır. İşte bahsi geçen bu uyarı mekanizması hurda expertizliği olmaktadır. Hurda, heterojen malzemeler bütünü olduğu için ve nasıl tahliye edildiği fark edilmeksizin ayırması güç olmaktadır. Bu işin temel unsuru gözlem ve kayıt işlemleridir. Expertiz görerek hurdaları değerlendirir ve kendi belirlediği aralıklar ile kayıt işlemlerini gerçekleştirir ve bu işlem basamakları sayesinde hem kendisi hem de hurda sahipleri daha emin adımlar ile ilerleyebilir.

Karşılaşılan Problemler:

Özellikle kara yolu ile gelen yerli hurda diye tabir edilen malzemelerde az rastlanılan bakır gemi hurdalarında sıklık ile karşımıza çıkmaktadır. Çünkü yerli hurda tüccarları bakırın ülkemizde ki fiyatından kaynaklı bu malzemeleri bizzat elleçleme ile hurda içerisinden aldırırlar ama bu demek değildir ki hiç bakır çıkmaz elbette ki çıkar ama ithal edilen gemi hurdalarına göre bu miktar çok azdır. Başka bir konu ise farklı ulaşım yolları ile gelen hurdaları aynı şekilde değerlendirmeye çalışmaktır. Gemi hurdası toplu bir şekilde bir alana yayılır ve oradan polipler yardımı ile gemi ambarına nakliyesi yapılmaktadır. Hurdanın yüklenmesi esnasında nezaret eden bir eksper var ise o bazı müdahalelerde bulunabilir ancak zamanla yarışıldığı için ve zaten hurdanın kendisi heterojen bir malzeme olduğundan ayrım yapmak karayolu ile gelen hurdalara göre daha zor olmaktadır. Karayolu hurdalarının tonajı az ve ayrımının yapılması kolaydır ayrıca tahliyesi sırasında içinde bulunan toprak gibi istenmeyen malzemelerin dikkatli bir şekilde tespit edilmesi gerekmektedir.

Şekil 1. Gemi ambarında bulunan farklı tipte hurdalar

Şekil 1'de görüldüğü üzere kıyılmış, HMS (Heavy melting scrap) ve bazı bonus hurdalarının birbirine karıştığı görülmektedir. Burada önemli olan kıyılmış hurdanın en altta olmasıdır. Hurdalar arasında ki toprak geminin su yüzeyinde yaptığı git gel hareketlerinden kaynaklı adeta bir süzgeç gibi ambarın en dip noktalarında toplanırlar. Bu yüzden ambarın dibi geminin en kirli kısmı olarak kabul edilir. Kıyılmış hurdalar bu noktada özellikle dikkat edilmesi gereken kısımdır çünkü görüntüsü itibari ile uzaktan çok rahat toprağı andırabilir özellikle aşırı kıyılmış hurdalar bu noktada toprak gibi görülerek, yanlış uygulamalara neden olabilir.

Başka bir önemli nokta ise hurdalar arasında gelen fakat kimyasal kompozisyon olarak işletmelerin tercih etmediği malzemeleri bir şekilde ellerinden çıkartmak isteyen hurda tüccarları ile alakalı olmaktadır. Burada önemli olan işletmenin nasıl bir kompozisyonda çalıştığı ve ihtiyacı doğrultusunda hurda almak istemesidir. Bunun yerine yüksek alaşımlı, ağır tonajlı, hacmi düşük fakat alaşımlı, dökme demirler gibi malzemeler ile karşı karşıya gelinmesi durumunda gerekli tedbirlerin alınması gerekmektedir aksi takdirde üretim proses parametrelerini etkileyecek problemlerin oluşmasına neden olurlar.

Şekil 2. Elleçleme işlemi sonrası tespit edilen alaşımlı malzeme

Şekil 2'de görülen malzeme sanayide sıkça gördüğümüz kepçelerin arkasında ağırlık olarak kullanılan malzemelere ait. Tek parça ağırlığı iki buçuk ton olan malzemenin tespit edilmesi elleçleme yapılması ve ayıklanması gerekmektedir. Malzeme ayıklanmış ve kantarda

tartılmıştır. Bu şekilde büyük bir kütlenin tespit edilmemesi durumunda elektrik ark ocağına veya konvertörlere büyük zararlar verebilir ve buda hem maliyet hem de işletme açısından olumsuz etkilere neden olacaktır. Tüm hurda kaliteleri; alaşımlı çelikler ve paslanmaz çeliklerin yanı sıra motorlar, kamyonlar için tahrik dişlileri, akslar, dişli kutuları, dişli çarklar, aletler ve kalıplar gibi mekanik parçalar (esas olarak bu unsurları içeren) ve manyetik olmayan parçalar içermemelidir (Cascade Steel Rolling Mills Inc, 2008).

Metal hurdaların yüklenmesi, tahliyesi gibi konularda en fazla sorun genelde kirlilik ile alakalı olmaktadır. Bu noktada hem ithal hem de yerli hurdaların takiplerinin sık sık yapılması gerekmektedir. Çünkü kalite kararları ne kadar doğru verilir ise tarafların kazançları o kadar iyi olacaktır.

Şekil 3. Hurdanın gemiden sahaya tahliyesi sırasında takip edilen tozuma olayı

Şekil 3 incelendiğinde hurdanın gemi ambarından kamyona nakliyesi sırasında ortaya çıkan tozuma olayı kirlilik hakkında bize önemli bilgiler vermektedir. Şayet gemi ambarında gördüğümüz kirlilik miktarı ile nakliye sırasında tespit ettiğimiz tozuma arasında dikkate değer bir ilişki var ise bu bilgiyi artık ilgili merciler ile paylaşabiliriz demektir. Şekil 3'te bahsi geçen tozuma olayına daha yakından bakılması gerekmektedir elbette çünkü en doğru sonuç kontrollü yapılan işlemler sonucunda elde edilir.

Şekil 4. Tahliyesi olan gemi ambarının taban görüntüsü

Şekil 4'e bakıldığında gemide ki hurda yüklerinin kirliliklerinin kontrolü hakkında tespit edilmek istenen bazı konular irdelenmiştir. Burada dikkat edilmesi gereken noktalar şunlardır;

- Kirlilik en yoğun şekilde geminin tabanında görülür fakat bu demek değildir ki yığının diğer kısımlarında yoktur.
- Gemi denizde yol alırken sallantı halinde olduğu için toprak zamanla kayarak tabanda birikme yapar.
- Hurda armatörleri ve satış şirketleri en ağır malzemeleri en üste ve diğer kalan hafif malzemeleri en alt kısma koymayı tercih ederler bunun nedeni tıpkı kıyılmış hurdadaki gibi geminin tabanında yastık görevi görmesidir.

SONUÇLAR

Yapılan çalışma sonucunda İskenderun-Dörtyol bölgesindeki limanlara demir atan gemilerin ve bölgede faaliyet gösteren demir çelik fabrikalarına karayolu ile gelen metal hurdalara uygulanan expertiz işlemleri incelenmiş bu doğrultuda hurda kaliteleri, gemi tahliyeleri, hurda boşaltım işlemleri takip edilmiş ve yaşanan problemler ile ilgili tavsiyeler verilmiştir. Konu ile alakalı olarak yapılan tavsiyeler farklı firmalarda çalışan expertizlere sunulmuş ve denemeleri istenmiştir buna ek olarak bu çalışmada literatürden farklı olarak visual olarak yapılan hurda expertizliği işine direkt olarak işin içinde olan biri tarafından püf noktalar yorumları ile birlikte teorik ve teknik bilgi olmadan en yalın hali ile verilmeye çalışılmıştır. Yapılan çalışma sonucu anlaşılmıştır ki hem karayolu hem de deniz yolu ile gelen metal hurdalar arasında bariz farklar bulunmakta ve bu farklar da bu hurdalara önmeli farklı kalite karakterizasyonu kazandırmaktadır. Hurda verimi ve üretimde yaşanan sıkıntılarda göz önüne alındığında bu ayrımı yapmak işletmeler için adete bir kılavuz görevi görmektedir.

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THE IMPORTANCE OF SCRAP CLASSIFICATION IN THE IRON AND STEEL INDUSTRY

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Abstract
The iron and steel industry is progressing rapidly in Turkey compared to other countries. Turkey, surpassing Germany in Europe, became the most steel producing state in Europe and rose to the seventh rank in the world. The total scrap consumption of our country's steel industry is 30 million tons/year, and it ranks first in the world in global scrap imports. %20 (about 1/5 of it, 20 million tons/year) of world scrap imports is made by our country. Considering these data and taking into account that 69.2% of the steel production in Turkey is made of scrap, both the problems and the improvement works of the enterprises continue intensively at this point. Some factories divide the scraps into halls and use them in the ways they classify, while some of them can eliminate soil and some unwanted materials more easily with separator machines. Since scrap is not a homogeneous material, it always contains residual elements and this causes significant problems in steel production. In this study, the importance of separating the steel scraps into quality classes and the effects on the steel quality properties during the production process until the final product is melted in the electric arc furnace. In addition to special cases such as classification, handling and separation of scraps with magnetic separators, it has been researched how the enterprises know the materials they buy well and how to choose the scrap according to the quality they will produce. Studies have been carried out for enterprises to develop healthier and scientific methods for determining the quality of steel scrap.

Keywords: Scrap, classification, iron and steel production, scrap hall, separator.

DEMİR VE ÇELİK ENDÜSTRİSİNDE HURDA SINIFLANDIRMASININ ÖNEMİ

Özet
Demir çelik sektörü Türkiye'de diğer ülkelere kıyasla hızlı bir şekilde ilerlemektedir. Türkiye, Avrupa da Almanya'yı geride bırakarak Avrupa'nın en çok çelik üreten devleti olmuştur, dünyada ise yedinci sıraya yükselmiştir. Ülkemiz çelik sektörünün toplam hurda tüketimi 30 milyon.ton/yıl olup, küresel hurda ithalatında dünyada ilk sırada bulunmaktadır. Dünya hurda ithalatının %20'si (yaklaşık 1/5'i olan 20 mio.ton/yıl) ülkemiz tarafından yapılmaktadır. Bu veriler göz önüne alındığında ve Türkiye'deki çelik üretiminin % 69,2'sinin hurdadan olduğu da hesaba katıldığında işletmelerin hurdalardan kaynaklı hem sorunları hem de iyileştirme çalışmaları da bu noktada yoğun bir şekilde devam etmektedir. Bazı fabrikalar hurdaları hollere bölüp kendi sınıflandırdığı şekillerde kullanmakta, bir kısmı ise seperatör makineleri ile toprağı ve bazı istenmeyen malzemeleri daha rahat elimine edebilmektedir. Hurda homojen bir malzeme olmadığından her zaman kalıntı element içermekte ve buda çelik üretiminde önemli problemlere neden olmaktadır. Bu çalışmada çelik hurdalarının kalite sınıflarına ayrılmasının önemi, elektrik ark ocağında ergitilip nihai ürüne gelene kadar olan üretim sürecinde çelik kalite özelliklerine etkileri incelenmiştir. Hurdaların sınıflandırılması,

elleçlenmesi, manyetik ayırıcılarla ayrılması gibi özel durumlara ilave olarak, işletmelerin satın aldığı malzemeleri iyi tanıması ve üretim yapacağı kaliteye göre hurda seçiminin nasıl yapılacağı araştırılmıştır. Çelik hurdasının kalitesinin belirlenmesi konusunda işletmelerin daha sağlıklı ve bilimsel yöntem geliştirmesine yönelik çalışmalar yapılmıştır.

Anahtar Kelimeler: Hurda, sınıflandırma, demir ve çelik üretimi, hurda holü, seperatör

GİRİŞ

Hurda metal, tüm endüstriyel ve gelişmekte olan ülkelerin ekonomik refahı için hayati önem taşıyan bir emtiadır (Turner, 2006). Demir ve çelik endüstrisinde kullanılan hurdalar, çoğu zaman hiçbir ayrıma, temizlenmeye ya da sınıflandırmaya tabii tutulmaz. Bu nedenle üretimlerde hurdalardan kaynaklı elementlerde sorun oluşmaya başlar. Kalıntı element de denilen bu sorun şayet çözülemez ise üretimler ciddi mali sorunlara yol açabilmektedir. Üretilen yarı mamulün veyahut nihai ürünün kimyasal kompozisyonu istenen şekilde değil ise ya ikinci olarak satılacak ya da hurdaya ayrılıp tekrardan eritilmesi gerekecektir. Her şekilde işletme bu durumdan bir şekilde zarar görecektir şayet bunun önüne geçmek için belirli işlemler yapılmalı ve bir alt yapı oluşturulmalıdır. Bu çalışmada; demir çelik fabrikalarının hurda sahaları incelenmiş ve hurdaların kullanım şekilleri, istif sahaları, istifleme şekilleri ve yöntemleri irdelenmiştir. Literatürden farklı olarak güncel resimler çekilmiş ve bu resimler üzerinden günlük çalışma rutinine bağlı olarak değerlendirmeler yapılmıştır. Çelik %100 geri dönüştürülebilir, bu da onu dünyadaki en sürdürülebilir malzemelerden biri yapar (Robalinho ve Fernandes, 2019). Bunun sonucu olarak da çok fazla çeşit malzeme hurda olarak kullanılmaktadır ve bir düzen olmadan kargaşa ortamında bu malzemelere erişmek ve yoğun bir şekilde çalışan işletmeler için sıkıntılara yol açabilmektedir. Hurdaları sınıflandırma işlemleri genelde işletmeden işletmeye hatta çelik üretim yöntemine göre de farklılık gösterebilmektedir. İhtiyaca ve sistemin gerektirdiklerine göre hurda seçmek ve bunu kontrol altına almak gün geçtikçe önemini artırmaktadır. Çünkü hurda her ne kadar yurt içinden karşılanmaya çalışılsa da bu durum ne yazık ki şu an için imkansızdır. 2019 yılında, önemli ülkeler ve bölgeler tarafından kullanılan çelik hurda miktarın yaklaşık 491 milyon tona yükselir iken (bir önceki yıla göre +%3,6), ilgili ham çelik üretimi ise yaklaşık 1.533 milyar ton olmaktadır (Bureau of Internatioanl Recycling 2019). Dünya pazarı bu yükselişleri yaşarken Türkiye'nin de hurda ithalatının artmakta olduğu bilinen gerçektir.

MATERYAL VE METOT

Gerek mühendislik gerekse ticari açıdan karma bir malzeme olan hurdanın belirli bir sistematik içinde değerlendirilmesi ve düzene oturtulması ile alakalı yapılan bu çalışmada hurda sahalarının fotoğrafları çekilmiş hem bölgesel hem de uluslararası demir çelik sektöründe yeri bulunan hurda standartlarına göre gerekli incelemeler visual olarak yapışmış ve konu hakkında veriler toplanmıştır. Şayet hurda expertizliği işlemi bazı teknolojik yöntemler haricinde göz ile gözlem yaparak yapıldığı için burada kullanılan en önemli yöntem doğru zamanda ve miktarda gözlem yapmaktan geçmektedir.

Hurda Holü Nedir:

Şekil 1 incelendiğinde hurdaların istiflendiği bir çukur göze çarpmaktadır. Burası hurda holü veyahut hurda sahası olarak tanımlanmaktadır. Fabrikaya gelen ithal ve yerli hurdaların döküldüğü ve üretimde kullanılmak üzere hurda arabalarına doldurulup çelikhaneye

gönderildiği kısımdır. Hurda holleri; hurdaların sınıflandırıldığı ve çeşitli elleçleme işlemlerinin yapıldığı yerdir.

Şekil 1. Hurda yıkımı yapan bir hurda aracı ve hurda holü görüntüsü

Hurda Sahalarında Yapılan Tespitler:

Hurdalar arasında çeşitli sınıflandırmalar, tespitler yapmak ve gereken durumlarda farklı reaksiyonlar almak önceden beri yapılan bir demir çelik üretim klasiğidir. Burada önemli olan nokta bunun nasıl yapıldığı ve nerede yapıldığıdır. Şayet demir çelik fabrikalarında; elektrikli ark ocakları ve entegre demir çelik tesislerine baktığımızda hurda, demir cevheri veya diğer soğutucu malzemeler entegre demir ve çelik tesislerinde yüksek sıcaklığı düşürmek için ilave edilmektedir (Türkiye Cumhuriyeti Çevre ve Şehircilik Bakanlığı ve Dokuz Eylül Üniversitesi, 2020) bunun yanında elektrikli ark ocaklarında ana hammadde olarak kullanılmaktadır. Bu nedenle bazı sınıflandırmalar yapmak ve bunların uygulanması için talimatlar, prosedürler hazırlamak ve eğitimler vermek en doğru karar olacaktır.

Şekil 2. Hurda havuzunda tespit edilen basınçlı kap (Tüp)

Şekil 2'de görülen tüp malzemesi dökülen hurdalar arasında tespit edilmiştir ve hemen gerekli müdahale yapılarak oradan aldırılmıştır. Bunun en büyük nedeni içinin boş veya dolu olup olmadığının bilinmemesidir. Tüpün dolu çıkma ihtimali sonucu meydana gelebilecek patlamalar başta insan sağlığına sonra maddi zararlara yok açabilmektedir.

Şekil 3. Yüksek oranda bakır içeren bobinler

Hurdalar arasında yapılan tespitler tabi ki tek taraflı değildir ve bir den çok faktöre bağlıdır. Şekil 3 incelendiğinde olayın kimyasal tarafı öne çıkmaktadır. Tespit edilen malzeme yüksek oranda bakır içeren sarımlardan meydana gelmektedir. Bu malzemenin elleçleme yapılarak alınmaması durumunda üretimde bakır oranlarında farklılıklar meydana gelebilir ve üretim hattında kalite sorunlarına yol açabilmektedir. Bu tarz sorunlu malzemeleri tespit etmek için, sahaların belirli sıklıklarda kontrolünün yapılması gerekmektedir.

Şekil 4. Hurdalar arasına atılan sarım malzemeleri

Şekil 4'de sarım malzemesi görülmektedir. Bu malzemeler diğer hurdalardan farklı malzeme grubundadır. Bu sarım malzemesinin hurda yığınından farklı bir yere tahliye edilmesi veya hurdadan ayrıştırılması gerekmektedir. Sarım malzemesi vinç ile alındığında açılabilmekte, uzamakta ve şarj sırasında konvertör içerisinde dağılabilmektedir. Bu neden ile ayrı bir sahada istif edilmeli ve şarj sırasında dağılmasını önleyecek tedbirlerin alınması gerekmektedir.

Şekil 5. Hurdalar arasından seçilen tüplerin ayrı bir yerde istifi

Üretimde sorunlara yol açacak ve uluslararası standartlara göre off-grade olarak geçen tüpler saha içerisinde şekil 5'deki gibi ayrı bir yere istiflendiği zaman hem sahanın hem de üretimin kontrolü sağlanmış olur. Ayrıca bu malzemeler içleri boşaltılarak ve ezilerek tekrar hurda olarak kullanılabilmektedir.

Hurda Sahasında Yaşanabilecek Sorunlar:

Şekil 6. Proses fazlası kenar kesme sarmallarının birbirine dolanması

Tel, çember, kangal demir gibi malzemelerin istifleri şekil 6'daki gibi malzemelerin birbirine dolanmasına yol açabilir bu yüzden zaman kaybı ve ekstra iş gücü ihtiyacı oluşabilir. Fabrika içerisinden, proseslerden direkt olarak gelen slab uçbaşı, tandiş, skal gibi sıcak malzemeleri galvanizli hurdaların üstüne bıraktığımızda yangın çıkabilmektedir. Bu malzemelerin ayrı bir yerde depolanması ve yangın ihtimaline karşı sahada mutlaka yangın söndürme tüpü bulundurulmalıdır.

Şekil 7. Kıyılmış hurda yığını

Şekil 7'de görülen kıyılmış hurda yığınının içerisinde toprak bulunması nedeni ile, bu malzemelerin boşaltımı, yüklemesi, pota doldurma işlemleri sırasında boğucu dumanlar ortaya çıkabilmektedir. Bu dumanların içinde küçük metal partikülleri bulunmaktadır ve solunması ciddi sağlık sorunlarına yol açabilir bu yüzden N95 model bir gaz maskesi kullanmak doğru olacaktır.

SONUÇLAR

Demir ve çelik endüstrisinde hurda sınıflandırılmasının iyi yapılması sonucunda aşağıdaki iyileşmeler sağlanacaktır;

- Metal hurdaların, pota dolum işlemleri hız kazanacak,
- Talep edilen hurdaya daha çabuk ulaşılacaktır,
- Hem yurt içi hem de ithal hurdaların arasında ki kimyasal etkiler ortadan kalkacaktır.
- Yapılan bu ayırımlar sonucunda hurdadan çıkan ve ülkemiz için piyasa değeri yüksek olan bakır, nikel, krom gibi malzemelerin ticareti de yapılabilmektedir.

Hurda sahasında farklı cins hurdaların ayrı yerlerde istiflendirilme işlemleri daha düzenli yapılmalıdır. Dolumu yapan vinç operatörü bir yığından hurda ayıklamak yerine farklı yığınlardan hurdaları ölçüsüne göre seçerek doldurmakta ve kullanılan malzemeyi kendisi de kontrol etme imkanı bulacaktır.

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Türkiye Cumhuriyeti Çevre ve Şehircilik Bakanlığı, ve Dokuz Eylül Üniversitesi. 2020. Entegre Demir Çelik Üretimi.

IMPACT OF HEALTH CAPITAL ON ECONOMIC GROWTH IN PAKISTAN

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Abstract
Health is necessary for the well-being of individuals because healthy individuals can be more productive and efficient as compared to people who are unwell physically or emotionally. Healthy people tend to be more active, eager, excited and enthusiastic in their workplace and become more productive in their respective disciplines. Thus, healthy and productive workforce is important for both industrial and agricultural growth of the economy. Expenditure on health produces healthy populations which can lead to long and productive lives, less infant mortality, healthy mothers, healthy children and healthy population which engenders the high number of workforces to boost the economy of the country. Therefore, current research comprised to examine the impact of health capital on the economic growth in Pakistan. Keeping in view all the facts, importance and significance of health capital, it becomes crucial to empirically investigate what factors determine the impact of health capital on economic growth. For this purpose, data ranging from 1973 to 2020 was used to analyze the important relationships between the variables. The other variables included in the model are domestic investment, education and trade openness. Autoregressive distributed lag model and error correction model was used to estimate the long run and short run results respectively. The results showed that there exist long run as well as short run relationship between health capital and economic growth in Pakistan. Health capital expenditure has a long run convergence towards the equilibrium. Thus it is concluded that to boost the economy, the expenditures on human health are imperative and crucial. Education and openness of trade are also important for the economy.

Keywords: Health Capital, Domestic Investment, Economic Growth, Education, Trade Openness

Introduction
Health is necessary for the well-being even though it is not the only parameter to measure the well-being of individuals or population. However, healthy individuals can be more productive and efficient compared to people who are unwell physically or emotionally. Healthy people can work more hours and can be helpful for their countries (Akram, Padda, & Khan, 2008; Arrow, Dasgupta, Goulder, Mumford, & Oleson, 2012, Szreter & Woolcock, 2004). Healthy

people can live longer and work for more years than unhealthy people. Therefore, health can be considered an asset or capital.

Health has various dimensions and concepts such as mental health, illness, severity of illness, risk of disease, lack of pain or excessive pain, and nutritional problems for individual fitness. It can be measured through live expectancy, infant mortality rate, presence of diseases preventable and availability of the services and healthcare units for the population (Narayan, Narayan & Mishra, 2010). Similarly, the concept of treating health as a capital is contested as it is not an input into the production function as many economists would like to define the capital (Arrow et al., 2012; Barro, 1996; Bloom, Canning, & Sevilla, 2004, Chandra & Skinner, 2012). Expenditure on the health produces healthy populations which can lead to long lives, less infant mortality, healthy mothers, healthy children and healthy population which engenders the high number of workforce to boost the economy of the country. It can be sum up that human health can lead to financial health (Accountancy Knowledge, 2021). The government of Pakistan is focusing on human health by providing them health care facilities but the current expenditure on health is very low as compared to other neighboring countries. A graphical representation of current expenditure on heath as a percentage of GDP is given below in figure 1.

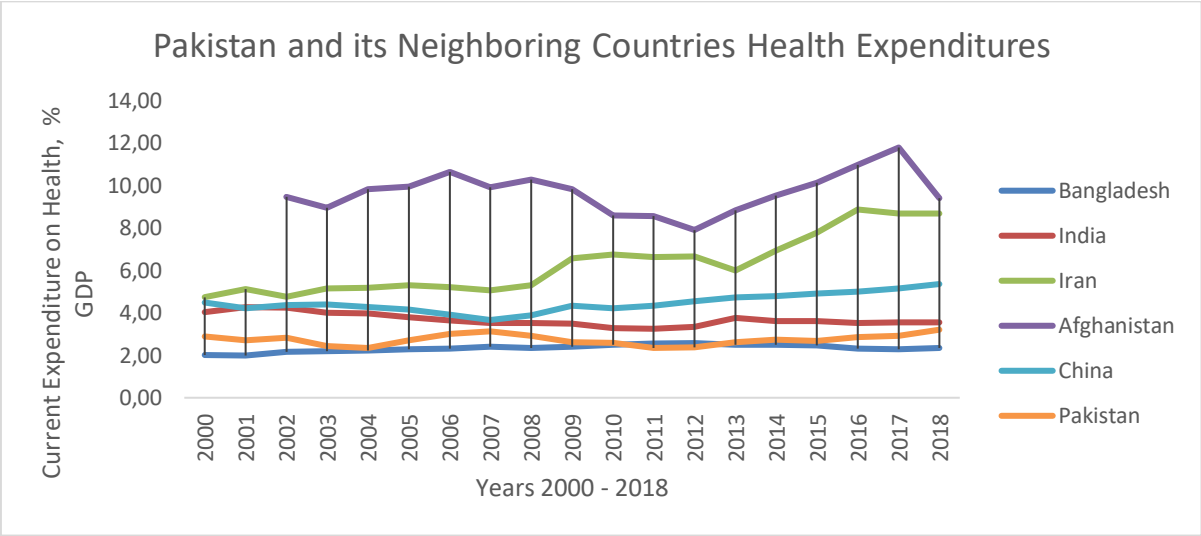

Figure 1: Pakistan and its Neighboring Countries Health Expenditures

The relationship between health capital and economic growth is very much important. Countries spent on health and health care facilities to improve level of economic growth and progress for the wellbeing of the people. The relationship between health expenditure and economic growth in Pakistan is presented in figure 2 below.

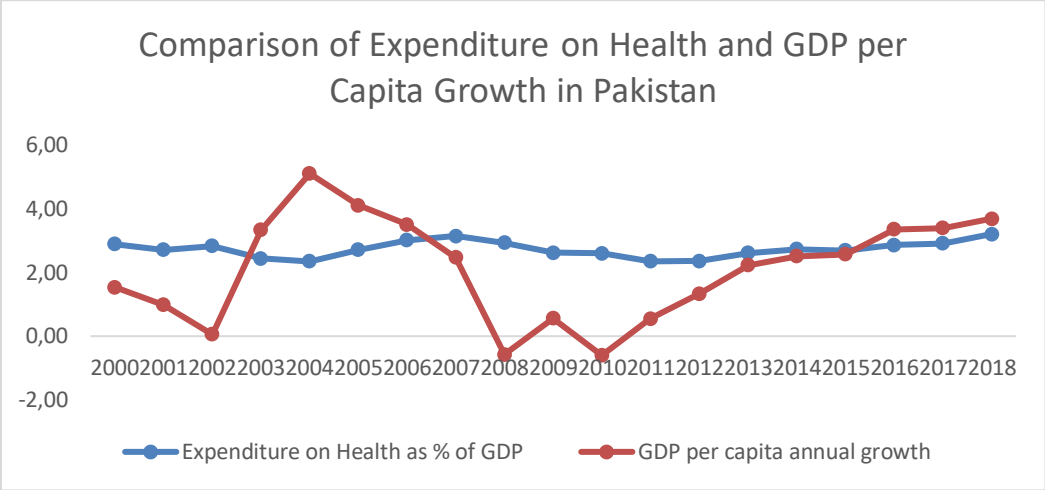

Figure 2: Comparison of Expenditure on Health and GDP per Capita Growth in Pakistan

Thus, the study of health capital and economic growth is quite important for policy maker to understand a broad spectrum of development. Therefore, current research is comprised to examine the impact of health capital on the economic growth in Pakistan. Keeping in view all the facts, importance and significance of health capital, it becomes crucial to empirically investigate what factors determine the impact of health capital on economic growth in Pakistan. Therefore, the overall aim of this study is to analyze the impact of health capital on economic growth in Pakistan as well as to find the long run and short run relationship between health capital and economic growth.

Model Specification and Data

Time series data from 1973 to 2020 was used to determine the effect of health capital on economic growth in Pakistan. The following specification was used in the empirical model to examine the impact of health capital on economic growth in Pakistan.

$$\ln Y_t = \alpha_0 + \alpha_1 \ln H_t + \alpha_2 \ln K_t + \alpha_3 \ln E_t + \alpha_4 \ln TO_t + \varepsilon_t$$

Y = Gross Domestic Product Per Capita
K = Domestic Investment (GFCF)
H = Health Capital (per capita expenditure on health)
E = Education Expenditure (per capita expenditure on education)
TO = Openness of Trade

In this econometric model, gross domestic product per capita is the dependent variable while the explanatory variables are domestic investment, health capital, education and trade openness. In the model above most of the variables are transformed into Log form in order to smooth out the data. Data for the variables included in the model were extracted from World Development Indicators (WDI).

Augmented Dickey Fuller test was employed for stationarity analysis and autoregressive distributed lag model and error correction model was used for long run and short run analysis respectively. Descriptive and correlational analysis was also performed to study the behavior of the individual variables as well as the association of variables under study.

Results and Discussion

To understand the basic information about variables and nature of data we have applied the descriptive statistics. Descriptive statistics is the basic analysis of the data for all the independent variables as well as for the dependent variable. It summarizes the data set and helps in order to get know the different features of the date set with the help of mean,

maximum, minimum, standard deviation, Skewness, kurtosis and normality of variables. Correlation analysis shown that expenditure on health, expenditure on education and openness of trade has a significant positive association with economic growth of the country. ADF test revealed that all the variables were stationary at first difference and they can be used for further analysis. The results obtained from ARDL revealed that there exist a long run relationship between the independent and dependent variable as the F-value was higher the upper bound value. ECM results predicted a short run relationship of the variables under study and confirmed a 64 percent convergence towards the equilibrium annually in the long run. It is evident from the results of the study that health capital plays a vital role in boosting the flow of economic growth in the country.

Thus, healthier and skilled workforce can bring a potential change in the flow of economy. In this connection the policy makers and government must pay attention in increasing the expenditure on health as well as on education. Also the openness of trade is depending upon the healthy and skilled labors thus, the policy makers must focus on the trade liberalization and promotion policies.

Conclusion

Keeping in view all the facts, importance and significance of health capital, it becomes crucial to empirically investigate what factors determine the impact of health capital on economic growth. For this purpose, data ranging from 1973 to 2020 was used to analyze the important relationships between the variables. The other variables included in the model are domestic investment, education and trade openness. Autoregressive distributed lag model and error correction model was used to estimate the long run and short run results respectively. The results showed that there exist long run as well as short run relationship between health capital and economic growth in Pakistan. Health capital expenditure has a long run convergence towards the equilibrium. Thus, it is concluded that to boost the economy, the expenditures on human health are imperative and crucial. Education and openness of trade are also important for the economy.

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THE KEYS TO UNLOCK WOMEN LEADERSHIP

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Abstract
Women's leadership style has irrevocably impacted the business arena. Across 2019-2021, the political, financial, legal, technological, sociocultural, geophysical and health-related environment underwent rapid change influencing multinational corporations, small and medium sized businesses, educational institutions, nonprofit organizations, service organizations that consequently engaged in major re-evaluation and restructuring. Women played an instrumental role. Within this upheaval, studies have shown that much of the bedrock of brick and mortar and the socio-culture of virtual management was revamped. Some studies indicated that, in many cases, when women leadership stepped in, management was authoritarian and dictatorial: It was top-down, centralized, and imperial. Such women leaders took over the reins of command, marshaling the unilateral flow of events. However, in other women millennial settings, structural leadership worked differently: Studies reflected that a woman's personality, her emotional intelligence, and performance impacted the work context and work-related outcomes. The purpose of this exploratory research addresses the influence of women's personality as she took on leadership roles to plan, organize, influence, and control others. In line with the review of literature, two research questions explore (1) whether women's leadership attributes reflected aptitude, resilience, and authenticity, in the work context, and (2) whether the level of aptitude, resilience, and authenticity were positively correlated to the leaders' job performance and employee performance in the work context. Using a survey research design, descriptive data from a sample of 100 reflected positive results on the use of the three attributes, women leadership, management design and performance. Implications are discussed and recommendations address women's leadership attributes across hierarchical positions to increase understanding of aptitude, resilience, and authenticity within the levels of management design to enhance overall context performance.

Key Words: Women Leadership; Emotional Intelligence; Performance; Work-Related Outcomes; Business Context; Middle East and North Africa

THE ROLE OF EMERGING TRENDS IN EDUCATION

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Abstract
Emerging Technology Trends in Education is defined as those technologies that represent new and significant developments in the field like the Internet of Things (IoT), Education 4.0 which uses the Blending Learning, Augmented Reality, and Virtual Reality. In this time of Pandemic there are lots of challenges encountered like we cannot conduct a face to face classroom instruction and even the simulation of activities. Educational courses that require laboratory of simulation of activities is the biggest challenges because students are having hard time in understanding the practical real-time applications. In this time of Pandemic the evolution of Emerging Trends in Education helps a lot because it's characteristics to adopt the requirements as required by the Inter-Agency Task Force on COVID-19 (IATF.)The purpose of the study is to help and strengthen the role of the Emerging Trends in our Education amidst the Pandemic and to help our Educational Sector boost up the level of education in the new Normal Approach and schools will be able to adapt these emerging technologies specially in this time of a pandemic. In conclusion Emerging Trends plays a vital role because majority of the educational sector are now using Augmented Reality (AR) and Virtual Reality (VR) in their practical laboratory exercises while at home.

Keywords: Emerging Trends, Education, Role

ASSESSMENT OF POVERTY, INEQUALITY, AND PERSONAL SAVING BEHAVIORS OF COASTAL COMMUNITIES IN KHANH HOA, VIETNAM

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Abstract
This study investigates poverty, inequality and personal saving behavior of coastal communities in Khanh Hoa, Vietnam, thereby providing policy implications to reduce poverty, improve the subject's quality of life. The descriptive statistical research method, Binary Logistic, was used in the study. Research results show that poverty and inequality of coastal communities in Khanh Hoa tend to decrease, living standards of coastal people are getting better and better. Key factors that reduce poverty and inequality in coastal communities include increased economic activity, better infrastructure, and greater access to public services such as health care, clean water or education, etc. due to the positive impacts of poverty reduction programs. However, vulnerability makes it easy for coastal communities to become poor when only a small negative change in economic life, natural disasters occurs...Research results show that factors affecting the income of the poor, including: market distance, household size, education of the household head, professional experience, land access, fisheries … Besides, through qualitative research, we also identified more specific causes leading to poverty of coastal communities in Khanh Hoa, Vietnam, which are cultural factors and factors their psychology. It is the community culture and consumption habits along with the expectation, risk perception, and dependence mentality that make the life of a large number of coastal people in Khanh Hoa, Vietnam very precarious and difficult to escape out of poverty, falling back into poverty... Personal finance behaviors including saving behavior, risk taking and other personal finance behaviors are generally above average, and personal saving behavior has a positive effect on quality of life, change, poverty reduction. From the research results, it is suggested that there should be systematic and visionary training programs to improve financial literacy for all classes of the population, first to improve the lives of the poor, and then to improve the quality of life of the poor and improve capital supply from coastal communities for the economy of Khanh Hoa in particular and Vietnam in general for sustainable growth.

Keywords: poverty, inequality, personal savings, Vietnam

1. Introduction

Khanh Hoa is located in the South-Central region of Vietnam, is an area where many fishing communities (fishing, aquaculture) live along the coast and is one of the areas where Many poor coastal households are facing special difficulties. Poverty in this area is also accompanied by the harshness of nature, the impact of climate change (storms, floods, heat, etc.) causing droughts or floods all year round. As a result, many people often associate the cause of poverty with climatic conditions, forgetting about other important factors, such as shortage of land for farming, underemployment, large household size, low level of education, lack of capital, etc. Or if they are interested, people do not know how much the impact of each such factor is, which factor is more important.

Poverty and inequality exist in coastal communities in Khanh Hoa, Vietnam, and poverty reduction can be extremely challenging. Future poverty reduction efforts must confront a group of "entrenched" poverty. It is a fact to be recognized that there are a sizable number of "borderline poor" households whose living standards are not much higher than those of the poor. Extremely small social and natural shocks to their lives will easily push them back into poverty. Therefore, it is necessary to analyze the characteristics of poverty and inequality, and personal saving behavior for the coastal fishing community of Khanh Hoa province to help the State management agencies and local authorities to policies to help localities in the process of hunger eradication and poverty reduction in this area.

2.3. Related research overview

- Poverty and livelihood

Poverty and livelihood case studies, such as that of Gordon (Glewwe, 1991), show that shared ownership in the small-scale fisheries also leads to poverty. More and more people are able to enter fisheries with limited experience or capital in terms of open access. This leads to overexploitation of resources and impediments to marine livelihoods (Geronimo Silvestreet al, 2003), (John Swamy et al, 2009). As a result, economic income is reduced and people's income is low. The main cause of poverty in coastal communities is related to low levels of access to natural resources such as fisheries (Copes. P, 1989).

Bené's research. C (2003) has reached a conclusion quite similar to that of Gordon (Copes. P, 1989). This study also provided explanations for the relationship between fisheries and poverty. Fishermen are considered as the poorest of the poor, which is caused by the characteristics of the fisheries sector and leads to the conclusion that: in general, small-scale fisheries generate income for fishermen, any No matter what effort, fishermen will remain poor and free access to fisheries resources has made fishermen the poorest. Small-scale fisheries are seen as the last job that can ensure the safety of the poor and allow everyone to participate in fishing/aquaculture, even if they don't have any skills ability or property.

In the world, there have also been many studies on the effects of activities other than fisheries, positive and negative impacts on the livelihoods and lives of local people in protected areas.

Regina Scheyvens (1999), has studied the positive effects of activities other than fisheries on communities such as aid in terms of infrastructure, socio-economic life, education and politics, from protected area projects. The research revolves around the issue of different empowerment of: Economic, political, social, psychological activities of activities other than fisheries to groups of communities that benefit a lot, groups that benefit little and those who suffer from poverty activities of activities other than fishing.

Eugene E. Ezebilo et al. (2010), based on the Tobit model to study the economic values obtained from activities other than fishing to local communities living around the Nigerian rainforest such as: Creating jobs, increase income, develop education and contribute to the protection of the ecological environment. The author studied over 150 households belonging to 3 different local communities living in the protected area, the author used the least squares estimation method and the Tobit model to estimate the different contributions activities other than fisheries to local communities living around the Nigerian rainforest reserve.

Aramde Fetene et al. (2012), used simple analysis of variance statistical method (Oneway - ANOVA) to compare the difference in income between groups of people who directly participate in activities for activities other than profession fish and population groups do not participate in ecological activities, thereby showing the practical contributions of participating in activities other than fisheries to the community livelihoods of residents living around the area. Nech Sar National Park, Ethiopia.

Manu, et al. (2012), used a statistical method to describe the difference in income and social benefits of the local community between the group of residents engaged in activities other than fishing and the group of residents did not participate in Sirigu, Ghana. Through the research, it has been shown that the positive impact of the local community on activities other than fishing and livelihoods is significantly improved in this group of people.

Jessica (2011) studies the influence of activities other than fishing on the level of income increase for local residents. The study also provides a number of successes and failures of operating models other than community-based fisheries, thereby providing better approaches to the ability to enhance livelihoods for local communities, while promoting the empowerment of land use rights by local communities.

- Saving behavior of individuals

Personal saving is a behavior where each person has the ability to control their spending plan well, try to reduce spending, reduce recurring expenses to create a financial accumulation in the future. Strengthening financial literacy through financial education is one of the positive measures to improve personal saving behavior. Studies often explain individual saving behavior according to the life cycle theory of savings (Modigliani et al., 1954). Accordingly, the personal saving behavior of an individual often follows the rule: in the period of high income, they often increase their savings and gradually decrease their spending; at the retirement stage, the individual usually uses the money previously saved (Modigliani et al., 1954). Personal finance behaviors include thrift, risk taking, and other personal finance behaviors in general.

The saving behavior of individuals is considered a financial behavior based on certain motivations and responsibilities for their future (social behavior), so if they have the capacity to balance personal finances will be able to accumulate and save. The authors use savings frequency to measure individual saving behavior. Thus, how often does an individual save according to frequency to save money or save money for contingency and future needs? Research on individual saving behavior includes Muhammad I. A. and Behrooz G. (2015), Lusardi (2008) and Lusardi and Mitchell (2007a, 2007b, 2008), Peter J. Morgan and Long Q. Trinh, 2017; Agnew, J.R., H. Bateman, and S. Thorp. (2013), N.S. Mahdzan, and S. Tabiani, 2013...

3. Research Methods

3.1. Sampling

The author randomly selected 200 individuals from the coastal community of Khanh Hoa, Vietnam. There were 220 questionnaires distributed, resulting in 200 respondents. Descriptive statistics show that the surveyed people are distributed in almost all the coastal communities of Khanh Hoa, with all subjects of education, age, gender, etc.

Most of the interviewers had life quality knowledge and data collection experience. Selected interviewers received training prior to conducting the questionnaire to familiarize them with the questionnaire. The survey uncovered a number of common problems for coastal communities. It takes a long time to reach the head of household who can provide accurate information in the questionnaire.

The data collected may be affected by some perceived biases of the respondents, even though the questionnaire was carefully prepared. Coastal people often do not keep standard accounting records (income statements...), so people have to recall based on memory, when asked for some details about past activities. Cross-checking of the data during and after the survey did not show any extremely wrong or impossible answers, so the answers of the people living along the coast of Khanh Hoa can be trusted.

3.2. Research models

From the theoretical basis of poverty and an overview of related research results to build a research model such as: (Phan Dinh Hung, 2011), Tran Mai Thi Kim Hoa (2014), Pham Hong Manh (2011)), Dao Cong Thien (2008), Regina Scheyvens (1999), Eugene E. Ezebilo et al. (2010), Aramde Fetene et al. (2012), Manu, et al. (2012), Jessica (2011)…, through expert discussion and based on the actual situation of coastal communities in Khanh Hoa, the author proposes a research model.

In the topic, the author also applies two poverty approaches that are using national and international indicators to assess the general poverty situation of the research area, and at the same time using an econometric model to assess the factors affecting poverty and inequality of coastal communities in Khanh Hoa province.

- Model of factors affecting poverty

$$LN(Income) = \beta_0 + \beta_1 \text{MarketD} + \beta_2 \text{HouseholdS} + \beta_3 \text{EducationH} + \beta_4 \text{ProfessionalE} + \beta_5 \text{LandA} + \beta_6 \text{FishA} + \varepsilon$$

Inside:

ε: is the random error of the population regression function

I: is a dependent variable representing per capita income/monthly income.

Market distance (MarketD): the market distance variable is the distance variable from the householder's house to the market center. Expectations carry a (+) sign. Households with close waiting distance are often convenient in daily life, reducing travel costs. In the study, this variable is assumed to be that the distance from the householder's house to the market center is negatively related to the probability of falling into the poverty line.

Household size (HouseholdS): Variable that represents the number of people living in a household, excluding employees and tenants. Expectations are marked (-). According to the population living standard survey conducted by the General Statistics Office in collaboration with UNDP, we have evidence that at low income levels of surveyed households, household size is often higher than other income levels, in addition, in households. The family has many members, even though they are of working age, but before that, these members lacked access to education and health services . . . weak access to the labor market. We assume that household size has a positive relationship with the probability of falling into the poverty line.

Education of household head (EducationH): shows the average number of years of schooling of adults in the family, expected to have a positive sign (+). Poor households often cannot afford to send their children to higher education. The higher the education level of family members, the more likely they are to have access to technology and techniques in production, to access the labor market, and to improve their chances of income improvement. Therefore, it is expected that, other things being equal, an increase of 1 unit of this variable will reduce the probability of falling into poverty of the household.

Professional experience (ProfessionalE): Professional experience has a fairly positive impact on improving household income and poverty status, has the expected sign (positive sign) and is statistically significant at the 5% level of significance. . This means that household heads with more experience in fishing activities will increase their chances of escaping poverty. Show the number of years participating in fishing activities of the household, expected to bear the (+) sign. Households that have been in the fishing industry for a long time often have stable and higher incomes than those that have just joined. Therefore, it is expected that, other things being equal, an increase of 1 year of experience will reduce the probability of falling into poverty of the household.

Land access (LandA): is the variable showing the distribution of productive land to households, the expectation of this variable has a positive sign (+). According to Pham Hong Manh (2011), coastal communities mostly live in coastal areas and often few households have land for agricultural production. If coastal communities have additional land for agriculture, there is more income. If the coastal community has little or no land, the risk of falling into the poor group is greater. This study assumes that households with land for cultivation and cultivation will be able to reduce the probability of poverty.

Fisheries (fishing and aquaculture - FishA): is an independent variable, dummy variable, showing that the household is active in fisheries, taking the value 1 if the head of the household works in fisheries. This variable takes the value 1 if the household is only engaged in fishing and takes the value 0 in the other cases. The expectation of this variable in the model is negative (-). According to Pham Hong Manh (2011), it is shown that fishermen who only engage in pure fisheries are more likely to fall into the poverty line. Coastal fisheries (fishing, aquaculture) depend heavily on aquatic resources, seasonality, and use of rudimentary production tools, so productivity is low, and the sea season is more difficult. Therefore, we assume that if the household has various activities other than fishing to generate income, it will increase income.

- Model to assess the marginal impact of each factor on the poverty status of households

To quantify the influence of some socio-economic factors on whether the poor coastal community is assessed as poor or not, the author will establish a logit regression model where the dependent variable has the same value. equals 1 (if the household is poor) and equal to 0

(for all other households). To evaluate the marginal effect of each factor on the model by transforming the general model on Pham Hong Manh (2011):

The Binary logistic model analyzing the factors that have marginal effects on the poverty probability of the coastal community is proposed as follows:

$$P = \frac{e^{(\beta_0 + \beta_1 \text{MarketD} + \beta_2 \text{HouseholdS} + \beta_3 \text{EducationH} + \beta_4 \text{ProfessionalE} + \beta_5 \text{LandA} + \beta_6 \text{FishA})}}{1 + e^{(\beta_0 + \beta_1 \text{MarketD} + \beta_2 \text{HouseholdS} + \beta_3 \text{EducationH} + \beta_4 \text{ProfessionalE} + \beta_5 \text{LandA} + \beta_6 \text{FishA})}}$$

3.2. Research results and discussion

3.2.1. Causes and extent of their influence on household income

Research results show that poverty and inequality of coastal communities in Khanh Hoa tend to decrease, living standards of coastal people are getting better and better. Key factors that reduce poverty and inequality in coastal communities include increased economic activity, better infrastructure, and greater access to public services such as public services such as health care, clean water or education, etc. due to the positive impacts of poverty reduction programs. However, the vulnerability makes it easy for coastal communities to become poor when only a small negative change in economic life, natural disaster occurs...

Most of the women in the coastal community lack knowledge and have no job, so they get married very early (about 16 years old). Therefore, they stay at home as housewives, do not have jobs to generate additional income for the family and have to rely on their husbands to work in the sea. Due to the decrease in catches, the family's economic situation is increasingly difficult. Furthermore, due to the stereotype of “respecting men and disrespecting women”, women are dependent and have no role in the family.

To determine the degree of influence of these factors on per capita income in coastal fishing communities in Khanh Hoa province, the author uses an econometric model with the dependent variable being average income to estimate. The initial model estimation results showed that the data set explained the variation of the model at 34.7%. In which, the explanatory variables have the expected sign. Factors affecting poverty of coastal households in Khanh Hoa province include: Distance from home to market, household size, time of going to school of household head, fisheries, land and credit use. In which, Household size has the strongest effect on household income, with land having the weakest impact. After removing the non-statistically significant variables and performing the re-analysis, the model results are presented.

Table 1. Results of the regression model on the causes affecting the household's income of the household

Variable	Symbol	Regression coefficient	Statistical value	
			T	Sig.
Dependent variable	Ln(Income)			
(Constant)	B	7,642	32,880	0,000
Market distance	MarketD	0,092	2,181	0,030
Household size	HouseholdS	-0,286	-8,257	0,000
Education of household head	EducationH	0,177	4,049	0,000
Professional experience	ProfessionalE	0,014	2,446	0,015
Land access	LandA	0,337	1,896	0,059
Fisheries	FishA	0,304	2,663	0,008
Number of observations	200			
R^2 adj	0,647			
Index F	19,826 (Sig.f=0,000)			

Source: Author calculated from survey data

Market distance: The distance from the householder's house to the market center has a positive effect on improving household income, has the expected sign (positive sign) and is statistically significant in significance level of 5%. Going to the market to buy food and drink for the family is a daily habit of Vietnamese people. Therefore, households far from the market center will face more difficulties, both in terms of time and finance, and the monthly cost of living will increase. Far from the market center leads to difficult conditions to access the market, limited trading opportunities. Grandparents have an old saying: "Non-trade is not rich", which means that without trading, business is not rich, so it is more difficult for households far from the market center to get rich. This means that households near the market center are more likely to escape poverty.

Household size: Household size has the strongest influence on the level of per capita household income. This factor has the expected sign (negative sign) and is statistically significant at the 1% significance level. The large number of children has made the size of the household large. The larger the household size, the higher the level of spending on living and other activities while income generating activities do not keep up. This has caused households to borrow money to meet their minimum needs and inevitably falling into poverty is inevitable.

Attendance time of household head: From the t-statistic and the regression coefficient, it shows that the education level of the household head has a positive impact on improving the income and poverty status of the household and is statistically significant at 1%, this means that household heads with higher education are more likely to escape poverty. On the other hand, in the survey sample, more than 50% of household heads only attended primary school or below. This is a fact and a very clear feature in the coastal community in Khanh Hoa today.

Professional experience: Occupational experience has a rather positive impact on improving household income and poverty status, has the expected sign (positive sign) and is statistically

significant at the 5% level of significance. This means that household heads with more experience in fishing activities will increase their chances of escaping poverty.

Land access: This factor has a positive impact on the improvement of household income and poverty, has the expected sign (positive sign) and is statistically significant at the 10% significance level. Land is not only one of the important resources for farmers but also an important source of income for fishermen engaged in fishing activities that are highly dependent on weather conditions and resources. With land, coastal communities in this area will have many opportunities to produce, increase their income and improve their poverty status.

Fisheries (fishing and aquaculture): This factor has a positive impact on household income and is statistically significant at 1% significance level. This shows that households working in fisheries (aquaculture and fishing) but not engaged in other occupations have lower per capita income compared to other households. This may be because the sample collected with a large number of households working near the shore is small, so only fishing or aquaculture activities near the shore in the condition of inshore seafood resources decline has made the fishing efficiency less effective aquaculture. Low efficiency is the cause of low income and hence poverty for these households.

In addition, through qualitative research, it is also determined that the specific causes leading to poverty of coastal communities in Khanh Hoa, Vietnam are their cultural and psychological factors. It is the community culture and consumption habits along with the expectation, risk perception, and dependence mentality that make the life of a large number of coastal people in Khanh Hoa, Vietnam very precarious and difficult to escape out of poverty, falling back into poverty...

3.2.2. Effects of causes on the likelihood of falling into poverty

To determine the probability of a household falling into poverty, the study used a logit regression model to estimate. Among the variables included in the analytical model, there are two factors that are not statistically significant at the 10% significance level, which is the variable distance from the householder's house to the market center and experience in fishing and aquaculture activities property of the householder.

The analysis results show that most of the variables are statistically significant at the 1%, 5%, and 10% significance levels. The coefficients of the variables have negative signs, which means that, other things being equal, an increase of one unit of this variable will reduce the probability of falling into poverty of the household. The coefficients of the variables with positive signs are those that increase the probability of falling into poverty if one more unit of this variable is kept constant.

Table 2. Binary logistic regression model results on household poverty

Dependent variable: poor household (poor household=1)	Symbol	Coefficient (B_k)	S.E	Wald	Df	Sig.	Exp (B)
Household size	MarketD	0,578	0,160	13,168	1	0,000	1,795
Attendance time of household head	EducationH	-0,763	0,328	5,784	1	0,015	0,463
Fisheries (fishing and aquaculture)	FishA	-1,008	0,575	3,077	1	0,067	0,373
Constant	B_0	-3,127	1,159	7,320	1	0,005	0,044
Number of observations	200						
-2Log likelihood	12,467						

Source: Calculation from survey data

In this model, the variable household size is statistically significant at the 1% significance level. The variable has a positive sign, which means that, other things being equal, an increase of one unit of household size will increase the probability of poverty of the household, in other words if the size of the fisherman household increases adding 1 person, the probability of falling into poverty of the household increases at 17.02% compared to the initial poverty probability of 10.3%.

The education variable of the head of household in the household has a negative sign, which means that, other things being equal, an increase of one unit of education of the head of the household will reduce the probability of household poverty at a 5% significant level. It also means that if the education level of the household head increases by 1 year, the poverty probability will decrease to 4.95% compared to 10.3% according to the calculation results from the author's initial survey data.

The fishery variable is statistically significant at the 10% level. The variable with a negative sign means that if other factors are constant, the household's fishing activity is fishery, then the poverty probability is reduced to 4.01% compared to the original poverty probability of 10.3%.

Table 3. Simulation results of household poverty

Dependent variable: Is the household poor (first income group) (yes=1)	Marginal impact factor (e^{b_k})	The probability of poverty is estimated when the independent variable changes by one unit and the initial probability is: (%)					
Independent variables:		10	10,3	20	30	40	50
Household size	1,793	16,64	17,12	30,92	43,42	54,40	64,14
Education of household head	0,460	4,83	4,97	10,23	16,32	23,27	31,27
Fisheries (fishing and aquaculture) (Yes = 1)	0,372	3,92	4,06	8,37	13,57	19,66	26,72

Source: Calculation from survey results.

The same argument for other cases with the original assumption that the poverty rate at 10%, 20%, 30%, 40%, 50% also shows that the above factors can reduce or increase poor status of coastal communities in Khanh Hoa province.

3.2.3. Personal saving behavior

Personal finance behaviors including saving behaviour, risk taking and other personal finance behaviors are generally below average, and personal saving behavior has a positive effect on quality of life, change, poverty reduction

3.2.4. Assessment of poverty and inequality of coastal communities in Khanh Hoa and policy implications

Research results show that poverty and inequality of coastal communities in Khanh Hoa tend to decrease, living standards of coastal people are getting better and better. Key factors that reduce poverty and inequality in coastal communities include increased economic activity, better infrastructure, and greater access to public services such as public services such as health care, clean water or education, etc. due to the positive impacts of poverty reduction programs. However, vulnerability makes it easy for coastal communities to become poor when only a small negative change in economic life, natural disasters occurs...Research results show that factors affecting the income of the poor, including: market distance, household size, education of the household head, experience, means of production, support from agricultural extension services, loans from Official credit institutions… Besides, through qualitative research, we also identified more specific causes leading to poverty of coastal communities in Khanh Hoa, Vietnam, which are cultural factors and factors their psychology. It is the community culture and consumption habits along with the expectation, risk perception, and dependence mentality that make the life of a large number of coastal people in Khanh Hoa, Vietnam very precarious and difficult to escape out of poverty, falling back into poverty...

Personal finance behaviors including saving behaviour, risk taking and other personal finance behaviors are generally above average, and personal saving behavior has a positive effect on quality of life, change, poverty reduction

From the research results, it is suggested that there should be systematic and visionary training programs to improve financial literacy for all classes of people, reduce poverty and inequality for coastal communities in Khanh Hoa.

Livelihood strategies for coastal communities in Khanh Hoa should focus more on creating a favorable economic environment for the community, rather than focusing on small-scale income-generating projects individual. An enabling environment is a more inclusive approach that aims to improve shared livelihood resources for households and communities as a whole, reducing insecurity and increasing living conditions for them with new multiple livelihood options. This form of livelihood support needs to be prioritized over small individual business ventures, because it is less risky and focuses on helping communities improve their own livelihoods. This approach also allows, in conjunction with poverty reduction programs and other important livelihood activities, to increase the accessibility of people and communities to these programmers.

Building an alternative source of income for individuals can help form a successful livelihood strategy in the coastal community of Khanh Hoa. It allows testing, testing and improvement of income generating projects targeting specific segments of the community whose livelihoods are completely dependent on dwindling (unsustainable) resources and/or adversely

affect biodiversity. A range of factors – including project infeasibility, inadequate credit systems and mechanisms, lack of sound administrative and financial management, lack of rigorous evaluation of proposals, project effectiveness monitoring, poor community awareness, ineffective organization and support, and a host of other issues – creating barriers and impediments to success and sustainability of project. Therefore, new implementation initiatives should only be implemented after a thorough and thorough evaluation.

Credit provision is considered a key livelihood support activity. This study suggests that the Women's Union should be given a role as a partner agency with conservation projects to manage activities that provide credit to women. With a wide network of facilities, the Women's Union has an active role in the community, takes responsibility and effectively manages to ensure that the target group can access and use credit. Banks and other small credit institutions operating at higher levels (districts, provinces) often do not understand the nature of the community, as well as do not have a mechanism to help distinguish target beneficiaries, not directly or indirectly participate in the same management as the Women's Union.

From the lessons learned, the credit mechanism should focus better on the target beneficiaries (ie the group with the most precarious and affected lives). Criteria for borrowing should be established to ensure that credit is used in a manner consistent with the goals of coastal communities. Credit can be provided concurrently with training and implementation of services and other forms of support towards the development of a "favorable economic environment", piloting promising implementation initiatives meet the defined criteria. Staff need to be trained so that they have the necessary management skills for the credit-savings and loan assistance program.

3. CONCLUSION

In this study, the author uses the traditional poverty analysis approach according to per capita income to estimate and analyze the factors affecting household income and the factors that increase the poverty status in coastal fishing communities in Khanh Hoa province. From the research results, it shows that the factors that really affect the household's income, including: distance from market, household size, education of the household head, experience fisheries, land. Among the above factors, household size has the strongest influence. When the household size increases by 1 person, the probability of falling into poverty of the household increases at 17.02% compared to the initial poverty probability of 10.3%.

From the research results, the research suggests that there should be mechanisms and policies to support the expansion and transformation of livelihoods in coastal areas; improve the quality of human resources in the transformation and expansion of livelihoods in coastal areas; joint development cooperation to support livelihood transformation for coastal areas.

The livelihood transformation needs to prioritize low-income groups, women's groups, crew members supporting work on fishing boats, local individual business households, residents in craft traditional villages. Focus on marine economic development and sea-based economy, coordinate the development of other industries, such as tourism... to develop in a sustainable way.

Limitations of the study and directions for further research: The study only stops at determining the factors affecting poverty of the coastal communities of Khanh Hoa based on the traditional approach. In order to evaluate the multi-dimensional impacts of socio-economic activities and ecological environment on residential communities, further studies

are needed on the impact on poverty, inequality, and personal savings of human health, environmental load, biodiversity and willingness to pay for ecological environmental protection.

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ASSESSMENT OF THE DYNAMICS OF POLITICAL RELATIONS AND ITS EFFECT ON ECONOMIC DEVELOPMENT IN NIGERIA (2011-2020)

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Abstract
The economic development of areas in developing economies is a nexus of the political dynamics of the state and the relations such areas have with the political structure of the state. This is to say that there is an association between the political structure and economic development. The importance of political alliances, structures and relations in achieving sustained economic prosperity cannot be over-emphasized. This study therefore explores the connection between the political class in governance in the Nigerian state and the economic development of their geographical location and ethnic loyalty. In doing this, the study do a comparative analysis between the administration of President Goodluck Jonathan (2011-2015) and President Muhammadu Buhari. To achieve the objectives of this study, data were collected from members of civil society organizations across the Northern and Southern parts of Nigeria through the instrument of questionnaires. The data collected from a sample of 400 respondents were analysed using descriptive statistics of frequency, mean and standard deviation. The findings of the study reveal that Nigeria's geographical location and ethnic loyalty has affected the distribution of the common resources and political appointments into public offices especially between 2015 and 2020. The study further reveals that geographical location and ethnic loyalty has no significant effect the level of poverty and unemployment in Nigeria. The study concludes that political administration in Nigeria is primordial and corrupt, favouring mostly the leaders, their cronies and ethnic nationalities. This situation has encouraged both laxity and mediocrity, thereby engendering ethnic disharmony and disagreements, and a terrain of open struggles and conflicts as geographical, ethnic and religious forces and factors come to play on the distribution and allocation of economic resources. Based on this conclusion, the study therefore recommends that accountability, meritocracy, transparency and most importantly the rule of law should be the bases of distribution of economic resources. In addition, the study also recommends that extensive and patriotic national values re-orientation that can drive the processes of managing and utilizing Nigeria's enormous material and human resources for sustainable economic development should be encouraged through national orientation programmes.
Keywords: Allocation of resources, political appointment, geographical location, ethnic background, level of poverty and unemployment

INTRODUCTION

The economic progress of any area especially in developing economies is a nexus of the political influence and dynamics of the state and the relations such areas have with the political structure of the state (Adegbesan, 2014). This is to say that there is an association between the political structure and economic progress and development. The importance of political alliances, structures and relations in achieving sustained economic prosperity cannot be over-emphasized in any country. The political economy of a nation is a strong pivotal to its economic development as well as its social system (Ejiofor, 2017). While political structure and the process of politicking do not always give rise to the social structure of the people, the institutional framework, process and outcome of this exercise do influence the course and outcome of achievable socio-economic status of the nation and its people.

It is obvious the primary expectations of the citizens to enjoy the benefits of good governance through their improved standard of living, reduction in poverty level, job creation and general sustainable socio-economic prosperity, failure to deliver on these very important measurable indicators could be disturbing. These expectations are always seen as a kind of benchmark for every political leadership (including in Nigeria), the true reality of situations has been one-dimensional. As the largest economy and the most populous country in the sub Sahara Africa, the prospect of economic advancement and prosperity are largely evident and supported by the political environment (Kalu, 2019). However, the prospects of the realization of these expectations in a country that was characterized by a history of political imbalance, including thirty years of military rule, thirty-month civil war and highly diverse and polarized ethnic and religious groupings that are constantly at friction with one another, appears to be a serious challenge (Thomas, 2018).

This study assesses the dynamism in political relations among the political leaders and how it affects the economic development in Nigeria. In doing this, the study focused on two different administrations at different times between 2011 and 2020, the President Goodluck Jonathan and President Muhammadu Buhari respectively.

Statement of the Problem

Nigeria as it is today is an amalgamation of the then Southern and Northern protectorate which is still an underlining factor in political development in the country. This divide is a consideration in the political structure of the country and tends to play out in the distribution and allocation of both human and material resources (Osita-Njoku, 2016). The power wielded by the President of the Federal Republic of Nigeria makes it possible for some sentimental and skewed political considerations which then affect how economic resources of the country can be allocated. According to Kalu, (2019), political elites attract favours and economic gains to their areas of interests which could be through appointment of their allies or allocation of resources to their regions on zones. These situations have resulted in an even economic development in the country especially across the Northern and Southern divided of the country. According to National Bureau of Statistics (NBS, 2021) over 65 percent of those living below the poverty line are in Northern States of the country and also unemployment rate is predominantly high.

The problem statement of this study therefore is whether the geographic location and ethnic nationality of the head of national government in Nigeria affects the distribution of economy gains in the country. This study concern itself with the perception of citizen with how geographical location and ethnic background of the presidents and their compatriots affects their political appointments into public offices on one hand and how it affects the level of

poverty and unemployment on the other hand. Given that Goodluck Jonathan is from the Southern part of Nigeria from the Ijaw ethnic group and Muhammadu Buhari is from the Northern part of Nigeria from the Fulani ethnic nationality.

Research Questions

Based on the statements above, the research questions that this study seeks to answer are as follows:

i. How has the geographical location of the political leaders affect the distribution of resources and appointment into political offices among the regions in Nigeria?
ii. What is the effect of the ethnic background of political leaders on the distribution of resources and appointment into political offices among the ethnic groups in Nigeria?
iii. How has the geographical location of the political leaders affect the level of poverty and unemployment among the regions in Nigeria?
iv. What is the effect of the ethnic background of political leaders on the level of poverty and unemployment among the regions in Nigeria?

Objectives of the Study

The central objective of this study is to evaluate the effect of the political dynamism on the economic development in Nigeria. However, the specific objectives of the study are as follows:

i. To determine the effect of geographical location of the political leaders on the distribution of resources and appointment into political offices among the regions in Nigeria
ii. To evaluate the effect of the ethnic background of the political leaders on the distribution of resources and appointment into political offices among the ethnic groups in Nigeria
iii. To analyse how the geographical location of the political leaders affect the level of poverty and unemployment among the regions in Nigeria
iv. To find out the effect of the ethnic background of political leaders on the level of poverty and unemployment among the regions in Nigeria

LITERATURE REVIEW

The literature review of this study is presented under two subheadings which are conceptual definition and empirical review. The conceptual definition explained the concepts used in this study and in their contexts while the empirical review critically presented related studies in order to explore gaps.

Conceptual Definitions

The concepts defined in this study include geographical location, ethnic background, distribution of resources, appointment into political offices, level of poverty and unemployment.

Firstly, in this study, geographic location refers to the place of origin of any individual. Nigeria as a country is politically divided into two: the Southern Nigeria which is predominantly Christians by faith and Northern Nigeria which is predominantly Muslims by faith with 17 states (sub-nationals) and 19 states (sub-nationals) respectively. Secondly, ethnicity or ethnic background is characterized by a shared nationality, tribal affiliations, religious allegiance, shared language or traditional and cultural background and origin (Adegbesan, 2014). Further Adebgesan emphasized that ethnic loyalty is a social phenomenon that is associated with relations among members within the same ethnic group and that ethnic group is socially formed distinguished by the common character of their unit and boundary.

Thirdly, distribution of resources entails the allocation and sharing of the common and national economic resources among the regions and sub-nationals that exist in the country. This distribution is done through resources control, fiscal allocations, exploration of resources and the sharing of resources from the earnings of the state. Fourthly, political appointments in Nigeria involve the selection of individuals to control and run the affairs of public offices. The political appointment is usually at the discretion of the head of the government, in this case, the President of the Federal Republic of Nigeria.

Furthermore, level of poverty is conceptualized as the income of a particular community which when is sub-divided among families and individuals, is less than 40 percent of the norm which manifests more in poor health, poor infrastructure, poor nutrition, low hygienic standards, low self esteem, low intellectual development and the lack of capacity to articulate socio-economic and political environment with associate low per capita income (Thomas, 2018). Poverty is therefore the absence of the basic needs and necessities of life for individuals or a group of people (Ejiofor, 2017). Finally, according to International Labour Organization (ILO, 2019) unemployment represent the numbers of the population that are economically active but without work, which are available for and seeking for work in addition to those people who have lost their jobs compulsorily or voluntarily.

Empirical Review

The study of Kalu, (2019) on political economy in Nigeria: the military, ethnic politics and development examines the role of the political structure and relations on the socio-economic development of the country. The study used secondary data, collected from literatures and publications which were analysed using systemic content analysis. The finding of the study shows that ethnic politics and political arrangement have significant effect on the social development of the nation. The study therefore concludes the government machineries when properly deployed can harness not just social development but economic growth of the country.

Thomas (2018) in his study explores the link between the Nigerian state, governance and socio-economic development. The study used secondary data revealed that Nigeria's historical background and multidimensional ethnic loyalty has made governance structure in Nigeria primordial and corrupt, favouring mostly the political leaders, their cronies and ethnic nationals. This has encouraged mediocrity, laxity and engendered ethnic disharmony and disagreements, thereby turning the Nigerian state into a spectacle of intense struggles and

conflicts as political, ethno- religious factors and forces come to bear on the distribution and allocation of revenues and resources. The study therefore recommends transparency, rule of law, accountability and extensive nationalistic value re-orientation that will instigate both a active, vibrant and patriotic leadership/citizenship and a vibrant civil society that can drive the processes of utilizing Nigeria's huge material and human resources for sustainable social and economic progress.

Osita-Njoku (2016) examined the political development, the practice of politics and various developmental policies initiated in Nigeria, their level of implementation and success. The study carried an opinion survey and the findings revealed that the political economy of the Nigerian society has witnessed pitfalls resulting in an economy led by visionless leaders, known for reckless spending or borrowing, over-invoicing, misappropriation, diverting state funds into private accounts, thereby plunging the Nigerian nation into socio-economic and political woes. The study recommendations proposed include value re-orientation, disabusing the minds of the citizens from ethno-centrism, wrong consumption patterns and import oriented culture.

METHODOLOGY

This study employed a cross-sectional survey research design. This study focuses on the perception and responses of the civil society organization in Nigeria as they are believe to represent the interest of the common man without any form of formal political inclinations or interests. The principal officers of civil society organization across the Northern and Southern divide in Nigeria were engaged as survey participants. The study used a total sample of 400 respondents representing 200 each from the Northern (19 States) and Southern (17 States) parts of Nigeria were selected for the survey as distributed in the sample table below.

Table 1: Sample Distribution of the Study

S/N	Civil Society Organizations	Region/Location	Sample Size
1.	Arewa Consultative Forum	Northern Nigeria	50
2.	Northern Youth Congress	Northern Nigeria	50
3.	Northern Elders Forum	Northern Nigeria	50
4.	Oodua People's Congress	Southern Nigeria	50
5.	Ohanaeze Ndigbo	Southern Nigeria	50
6.	Pan Niger Delta Forum	Southern Nigeria	50
7.	Nigerian Labour Congress	National	100
		Total	**400**

Source: Researcher's compilation (2021)

The study purposively selected and allotted sample sizes to the civil society organizations that are nationally recognized and well distributed across the country to ensure there is no bias in the data collected. Therefore, copies of questionnaire were distributed to their zonal offices in the regions. For the purpose of research, ethical considerations were upheld. This study completely ensured that respondents stayed anonymous with high level of confidentiality of all information provided by them.

Research Framework

Economic Development: The economic development or progress in this study is a function of the distribution and allocation of resources, appointment into political offices, poverty level and level of unemployment. And these variables formed the dependent variables of this study.

Political Relations: The political relations in this study are function of the geographical location, and ethnic loyalty and background of the political leaders and elites with specific focus on the head of National government in Nigeria. And these variables formed the independent variables in this study.

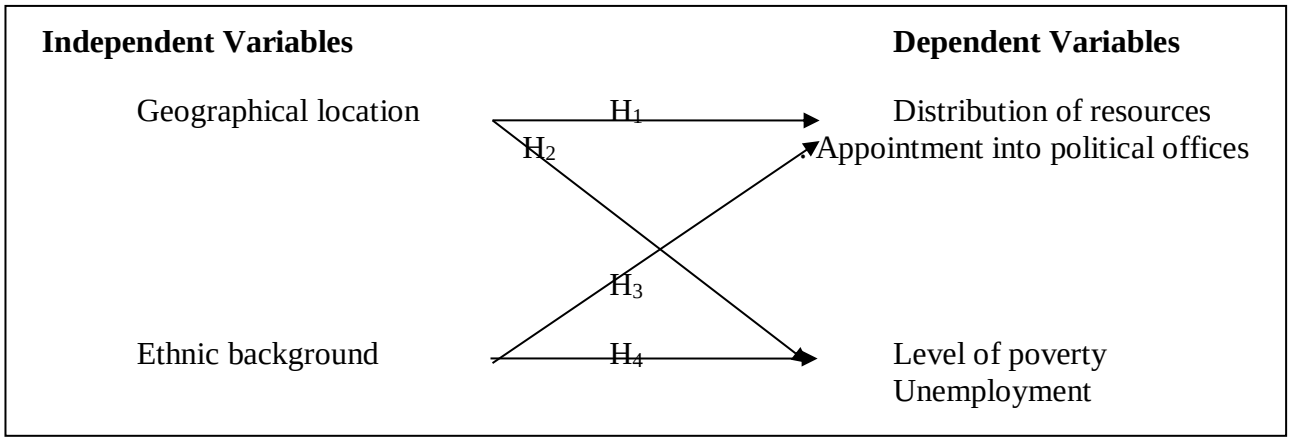

Figure 1: Research Framework

Based on the research framework of this study, the model specifications of this are represented in the econometric function as below:

$DR = \alpha_0 + \alpha_1 GL + \varepsilon_1$ …….. 1

$APO = \alpha'_0 + \alpha'_1 GL + \varepsilon'_1$ …….. 2

$DR = \mu_0 + \mu_1 EB + è_1$ …….. 3

$APO = \mu'_0 + \mu'_1 EB + è'_1$ …….. 4

Where DR = distribution of resources, APO = allocation of political offices, GL = geographical location, EB = ethnic background, α, μ = slopes of the graphs, ε, è = error of estimates.

Method of Data Collection and Analysis

The instrument of data collection for this study is questionnaire and they were administered to the respondents through the use of Google form. The data collected were coded analysed using descriptive statistics of frequency and mean. The instrument used 4-Likert scales of strongly agree (SA = 4 points); agree (A = 3 points); disagree (D = 2 points) and; strongly disagree (SD = 1 point). Based on this score points, the cut off point for decision making is 2.5, that is, the position is accepted when the mean score is greater than or equal to 2.5 and otherwise if it is less than 2.5. in addition, where the standard deviation (Std) is less than 0.5 it shows the consistency of the data/result and if otherwise it shows the data is not normally distributed.

The analysis of the collected data revealed the extent to which Nigeria's geographical location and ethnic loyalty background have affected the distribution of the common resources by the government institutions. Furthermore, it revealed whether it is skewed intentionally or unintentionally towards a particular sentiment that favours the political elites or class in power.

RESULTS AND DISCUSSION

The results and discussion of this study are presented based on the research questions as follows:

Research Question 1: ***How has the geographical location of the political leaders affect the distribution of resources and appointment into political offices among the regions in Nigeria?***

Table 2: Geographical Location and Political Offices and Distribution of Resources

S	Variables	*Between 2011-2015*						*Between 2015-2020*					
		SA	**A**	**D**	**SD**	**x**	**Std**	**SA**	**A**	**D**	**SD**	**x**	**Std**
1	Distribution of resources depend on the geographical location of the President of FRN	55	98	150	97	**2.3**	**0.44**	153	103	93	51	**2.9**	**0.18**
2	Appointments into political offices depend on the geographical location of the President of FRN	82	86	146	86	**2.4**	**0.37**	164	122	63	51	**3.0**	**0.22**

Source: Field Survey, (2021)

The table above reveals how the geographical location of the political leaders affects the distribution of resources and appointment into political offices among the regions in Nigeria. The responses on the distribution of resources depend on the geographical location of the President of FRN reveals mean scores of 2.3±0.44 and 2.9±0.18 between 2011-2015 and 2015-2020 respectively. This is an indication that distribution of resources does not depend on the geographical location of the President during the Goodluck Jonathan's administration while the distribution of resources depend on the geographical location of the President during the Muhammad Buhari's administration. Furthermore, the responses on appointments into political offices depend on the geographical location of the President of FRN reveals mean scores of 2.4±0.37 and 3.0±0.22 between 2011-2015 and 2015-2020 respectively. This is an indication that appointments into political offices does not depend on the geographical location of the President during the Goodluck Jonathan's administration while the appointments into political offices depend on the geographical location of the President during the Muhammad Buhari's administration.

Research Question 2: ***What is the effect of the ethnic background of political leaders on the distribution of resources and appointment into political offices among the ethnic groups in Nigeria?***

Table 3: Ethnic Background and Political Offices and Distribution of Resources

S	Variables	Between 2011-2015						Between 2015-2020					
		SA	A	D	SD	x	Std	SA	A	D	SD	x	Std
1.	Level of poverty in a particular region depends on the geographical location of the President of FRN	96	74	101	151	**2.4**	**0.33**	74	68	125	133	**2.2**	**0.42**
2	Level of unemployment in a particular region depends on the geographical location of the President of FRN	65	81	102	152	**2.1**	**0.35**	32	52	115	201	**1.8**	**0.48**

Source: Field Survey, (2021)

The table above reveals the effect of the ethnic background of political leaders on the distribution of resources and appointment into political offices among the ethnic groups in Nigeria. The responses on the level of poverty in a particular region depends on the geographical location of the President of FRN reveals mean scores of 2.4±0.33 and 2.2±0.42 between 2011-2015 and 2015-2020 respectively. This is an indication that level of poverty in a particular region does not depends on the geographical location of the President during both the Goodluck Jonathan and Muhammad Buhari's administration. Furthermore, the responses on level of unemployment in a particular region depends on the geographical location of the President of FRN reveals mean scores of 2.1±0.35 and 1.8±0.48 between 2011-2015 and 2015-2020 respectively. This is an indication that level of unemployment in a particular region does not depends on the geographical location of the President during the Goodluck Jonathan's and Muhammad Buhari's administration.

Research Question 3: How has the geographical location of the political leaders affect the level of poverty and unemployment among the regions in Nigeria?

Table 4: Geographical Location and Level of Poverty and Unemployment

S	Variables	Between 2011-2015						Between 2015-2020					
		SA	A	D	SD	x	Std	SA	A	D	SD	x	Std
1.	Distribution of resources depend on the ethnic background of the President of FRN	43	166	102	89	**2.4**	**0.31**	86	152	63	99	**2.6**	**0.28**
2	Appointments into political offices depend on the ethnic background of the President of FRN	89	92	111	108	**2.4**	**0.34**	73	127	111	89	**2.5**	**0.30**

Source: Field Survey, (2021)

The table above reveals how the geographical location of the political leaders affects the levels of poverty and unemployment among the regions in Nigeria. The responses on the distribution of resources depend on the ethnic background of the President of FRN reveals mean scores of 2.4±0.31 and 2.6±0.28 between 2011-2015 and 2015-2020 respectively. This is an indication that distribution of resources does not depend on the ethnic background of the President during the Goodluck Jonathan's administration while the distribution of resources depend on the ethnic background of the President during the Muhammad Buhari's administration. Furthermore, the responses on appointments into political offices depend on the ethnic background of the President of FRN reveals mean scores of 2.4±0.34 and 2.5±0.30 between 2011-2015 and 2015-2020 respectively. This is an indication that appointments into political offices does not depend on the ethnic background of the President during the

Goodluck Jonathan's administration while the appointments into political offices depend on the ethnic background of the President during the Muhammad Buhari's administration.

Research Question 4: What is the effect of the ethnic background of political leaders on the level of poverty and unemployment among the regions in Nigeria?

Table 5: Ethnic Background and Level of Poverty and Unemployment

S	Variables	Between 2011-2015						Between 2015-2020					
		SA	A	D	SD	x	Std	SA	A	D	SD	x	Std
1.	Level of poverty in a particular region depends on the ethnic background of the President of FRN	64	81	119	136	**2.2**	**0.35**	73	79	127	121	**2.3**	**0.29**
2	Level of unemployment in a particular region depends on the ethnic background of the President of FRN	72	89	111	128	**2.3**	**0.37**	67	85	115	133	**2.2**	**0.33**

Source: Field Survey, (2021)

The table above reveals the effect of the ethnic background of political leaders on the levels of poverty and unemployment among the regions in Nigeria. The responses on the level of poverty in a particular region depends on the ethnic background of the President of FRN reveals mean scores of 2.2±0.35 and 2.3±0.29 between 2011-2015 and 2015-2020 respectively. This is an indication that level of poverty in a particular region does not depends on the ethnic background of the President during both the Goodluck Jonathan and Muhammad Buhari's administration. Furthermore, the responses on level of unemployment in a particular region depends on the ethnic background of the President of FRN reveals mean scores of 2.3±0.37 and 2.2±0.33 between 2011-2015 and 2015-2020 respectively. This is an indication that level of unemployment in a particular region does not depends on the ethnic background of the President during the Goodluck Jonathan's and Muhammad Buhari's administration.

CONCLUSION AND RECOMMENDATIONS

The study concludes that political administration in Nigeria is primordial and corrupt, favouring mostly the leaders, their cronies and ethnic nationalities. This situation has encouraged both laxity and mediocrity, thereby engendering ethnic disharmony and disagreements, and a terrain of open struggles and conflicts as geographical, ethnic and religious forces and factors come to play on the distribution and allocation of economic resources. The head of governments and political leaders in developing economies wield a lot of power to influence the allocation and distribution of resources under their control as a result weak institutions. These political powers often translate into economic gains for those whose interests are protected by the authorities.

This study further concludes that the geographical location and ethnic background of the political leaders especially the President of Nigeria affects the distribution of economic resources such as infrastructure, capital flow and development. Also, the geographical location and ethnic background of those on authority often favours political appointment from their regions which makes other regions feel neglect in the dividends from the government.

In addition, this study posits that geographical location of the political leaders and especially those at the heads of government affects the levels of poverty. This explains that level of poverty is not affected by the geographical location of the president of the nation which

explains while poverty is still higher in the Northern part of the country despite being around the corridor of power more. Conclusively, even though resources allocation could favour a particular region or geographical location but it has no significant effect on the level of unemployment among the regions in Nigeria.

Summarily the dynamism in the Nigerian political environment has partly affects the economic development of the country, eventhough it was not enough to positively influence the level of poverty and unemployment it has played a very significant role in determining allocation of resources and political appointment of office holders especially between 2015 and 2020. Based on this conclusion, the study therefore recommends that accountability, meritocracy, transparency and most importantly the rule of law should be the bases of distribution of economic resources. In addition, the study also recommends that extensive and patriotic national values re-orientation that can drive the processes of managing and utilizing Nigeria's enormous material and human resources for sustainable economic development should be encouraged through national orientation programmes. They should be piece of legislation or legal framework guiding the appointments of all political office holders irrespective of the ethnic background or geographical location of the head of the government. Lastly, government should consider alternative options to reduce unemployment and poverty by engaging the citizens through a robust agricultural and technological policies and programmes where the country has comparative advantage rather than paying lip service to issues of economic development.

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Appendix:

Questionnaire

S/N	Variables	Between 2015-2020				Between 2015-2020			
		SA	A	D	SD	SA	A	D	SD
1.	Distribution of resources depend on the geographical location of the President of FRN								
2.	Appointments into political offices depend on the geographical location of the President of FRN								
3.	Level of poverty in a particular region depends on the geographical location of the President of FRN								
4.	Level of unemployment in a particular region depends on the geographical location of the President of FRN								
5.	Distribution of resources depend on the ethnic background of the President of FRN								
6.	Appointments into political offices depend on the ethnic background of the President of FRN								
7.	Level of poverty in a particular region depends on the ethnic background of the President of FRN								
8.	Level of unemployment in a particular region depends on the ethnic background of the President of FRN								

A CRITIQUE OF THE EUROCENTRIC CURRICULA IN THE CONTEXT OF AFRICA'S SOCIO-POLITICAL HERITAGE: A MISMATCH

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Abstract
Education plays a significant role in societal growth and development. It is one of the indexes used in measuring the human capital as developed by the United Nations. Education is a beacon that can illumine Africa and its dark continent but unfortunately Africa continues to retrogress and immerse in poverty despite the increase in educational enrollments across the continent. This very disturbing reality is not unconnected to the superficially received education by the so-called educational gurus and torch bearers in Africa. This research attempted to look at the reason behind the ever increasing educational retrogression in Africa in the context of Africa's socio-political heritage. The research adopted the Pence, Kuchne, Greenworld Church and Opekokew's orienting principles of Africa's educational theory. The research concluded that a generative curriculum model is fundamentally necessary if Africa must be taking out of the woods which must be synchronized in the context of the African culture.

Keywords: Africa, Education, Human Capital and Generative Curriculum Model.

Introduction
Education as a word by etymology is derived from two Latin words where the first is EDUCARE, while the second is EDUCERE. The former means encourage and enhance the growth and development of, while the latter means an end or to cause an end. Education is without doubt a beacon that can illumine the dark continent of Africa and Africans in general. It is expected that teachers are the guide and incidentally the torch-bearers. Unfortunately, the continents teachers, gurus and its education torch-bearers thus for peripherally educated into the *Collected* knowledge, social and cognitive values of their east colonial masters and as a result promulgate half knowledge of that collected education (Nsamenag and Tchombe, 2011). Incidentally, the continent's teachers to a very large extent lose "Sight of the soil out of which the existing African Society has grown and human values it has produced" (Kishanni 2001: 37).

For half a century today education has strived to illumine Africa's tropics with the modalities of the temperate Eurocentric and Euro-American torch lights. African nations have strived to make their academic curricula and pedagogies in similitude with the latter but for less African as possible on the note (shared by most people in the global rich North especially in the Europe and in the New World) that doing so will make the continent's education at par with its colonial masters (Herzog, 2008). Unfortunately, these strives and attempts have produced disheartening results for Africa, yet the same methods and modalities of education and structure of curricula remains today. As predicted by the human capital theory, academic learning and school education is expected to automatically bring economic growth and societal development, this has not happened in Africa even with the so-called assimilated Euro-centric and Euro-American curricula and pedagogies (Disen and Akkari 2008). To put succinctly, education in a very large part of Africa had resulted to most graduates to semi-literate or semi-numerate with only an insignificant minority understanding and mastering the intricacies of the rich North Countries cognitive systems, modalities and knowledge systems. This has been captured by Nsamenang and Tchombe 2008 in their words.

> "But with almost every educated African imitative of Western lifestyles with unsuccessful strives to be "modern" by eliminating indigenous African heritages from their behavioural repertoires."

Africans who seem to be already educated and obviously "Successful" continue to live a life of endless reconciliation between two value systems and are ultimately caught up in a quagmire of two competing ideologies. They are already separated from their ancestral traditions and communities of origin (Nsamenang 1992). It is Africans whose cultural heritage has been withering for a long time now ultimately affecting their identities yet they are called upon and expected to lead Africa to the promise land.

EUROCENTRIC CURRICULA IN THE CONTEXT OF AFRICA'S SOCIO-POLITICAL HERITAGE: A DISCOUNT

The system of education in Africa is original based on indigenous knowledge accumulated and inherited by Africans over time based on the needs at the time, which ranges from sociopolitical, socio-cultural, ecological and agricultural challenges (Merriam, 2007). The fundamental purpose of the indigenous knowledge of Africans is dependent on the socioeconomic needs shared by the multi-variant communities over time, this indigenous knowledge that was passed from generation to generations was infiltrated and was deemed irrelevant by the colonial masters and was replaced by their own Eurocentric pedagogies which was inconsistent with the needs of the various African societies.

The education received by a majority of Africans is fragmented and inadequate to lead them into a developed society characterized by productivity and happiness (Herzog, 2008). To put simply, the education received by Africans is inconsistent with the need of their agrarian economies and is filled with a lot of Western-European needs, little why, the education meets the need of foreign European/American markets but to a very large extent anathema to the local market. In fact, higher institutions of learning in Africa could be seen advertising training and development programmes of Euro-Western recruitment agencies and labor markets (Nsamenang and Tchombe, 2011). This ultimately had created a situation where the graduate is not only alienated from his ancestral and cultural root but also has been made to be an ignoramus of his status-quo by virtue of the received Euro American education. This has also impeded in his ability to think critically and reflectively on his sorry state. How can such so-called educated elites think in a manner that is suitable enough to bring about productivity and development in their communities, states, nations and countries that their education and knowledge has taught them to ignore, how could they present the interest of their countries in a skillful way to match the overgrowing global politics? It is no doubt that national government in Africa continue to battle with low resource base and biting budget deficits and

their institutions continue to chunk out semi-literate and semi-numerate graduates in masses. These graduates are abreast with the education suitable for Euro-American job markets but not their own ancestral and African agrarian economics.

The education in Africa is not contributing to the human capital index instead it is creating poverty (Nsamenang and Tchombe, 2011). The paradox that exists is there is an increased and ever rising enrollment of students across the continent. Hirash (2010) posits that education is not only creating poverty in some countries in Africa but across the continent. The "Mastermind" is the educational institution system itself, which is more desirable to the Euro-American markets than their national economies. Incidentally a large number of graduates now view their careers outside the continent. This has resulted in massive human exodus costing the continent its human resources and brain drain. This also has a multiplier effect on their recipient Euro-American nations as bulk majority of these individuals are illegal immigrant living in the most precarious conditions (Nsamenang, 2009).

The absolute assumption of the so-called Euro-American education when it was adopted for Africa was that it will bring change and development to its host communities. Paradoxically, it has brought poverty that is biting and crippling a vast majority of the continent, this is facilitated by the very academic institutions mandated to deliver knowledge to the people (Nsamenang 2005). It is no doubt that education in Africa produces professionals and experts in various fields but this status-quo change "Ever since the early 19th century when the Euro-American presence in Africa began to be noticeably felt in the interior, Africa's knowledge has increasingly ceased to be rooted in the African soil" (Ojiaku, 1974:204). This unfortunate situation continues to be exacerbated by the academic institution which are delivering education inconsistent with their own economics. Little why, there is no originality in research except continuous following of their Euro-Western scholars (Kashoki, 1982). To put further developmental sciences and pedagogy continues to be an imported product from Europe and other developed nations, and will continuously remain Euro-American in nature and character (Dassen and Akkari, 2008).

RIGHT TO CULTURAL IDENTITY OF THE LEARNER

The right to cultural identity of an African child is provided for and enshrined in the UN *Convention on the Rights of the Child* (1989). Africans are caught up in a quagmire of trying to compete and catch up with the rest of the world while holding on to their culture (Lanyasunya and Lesolayia, 2001). We live in a global world today that is characterized by senseless politically induced Euro-American hegemonic imposition of the so-called Institutional Public Basic Schooling (IPBS) (Serpel and Hatano, 1997). This politically induced Euro-American hegemony pathologize the African system of learning and pedagogies and as a result alienate the African child from his culture and ultimately deny him from living to see and enjoy a productive and responsible adult life. Destroying the very culture and norms of the African society and imposing the so-called IPBS model is not only retrogressive to the continent but is an outright breach of the UN convention. Sharp (1970) has warned on such potentialities most especially if it is accompanied with absence of social security.

The cultural identity, norms and pedagogies of learning in Africa needs an objective and investigative understanding geared towards assimilating the productive elements into the school curricula instead of assuming it to be out rightly counterproductive. As put by Nsamenang and Tchombe (2011), what good are we doing to Africa if its educational thoughts and practices continue to be substantively subverted by received Western narratives and models that depict African understandings of education and educative processes as primitive and anti-developmental? This research is undertaken to prove that there is a lot good in Africa's educational system and pedagogies which is characterized by child bearing and child rearing. Indeed this has been the practice for untold centuries (Challaghan 1998:31).

This is so true that Africa has produced great icons the like of which the world is yet to see like Kwamme Nkrumah, Nelson Mandela, Walter Rodney and a very host of others.

FUNDAMENTAL THRUST OF THE RESEARCH

It is no gain saying to posit that we live in an unjust world where mankind practices inhumanity to man. This is characterized by deprivations ranging from deeming other people's educational system unfit for development. Africa should strive to combat the so-called educative sciences that see their own system of education unfit to adding value to global knowledge (UNESCO, 1999). It is so disheartening and disturbing for example to see that sub-Saharan Africa which constitute 10% of the world population contributing 0.4% of the world research (N & T, 2011). For this disturbing facts and more African should focus more on their own educational theories and take advantage of their social capital to give a boost on its own educational capacities.

This research is not aimed at replacing the Eurocentric and Euro American curricula but aimed at also recognizing Africa's own educational theories to contributing to ever growing global diversity. This is necessitated by the large gap between the practical reality today in Africa and the almighty promises of the Euro-American educational promises and pedagogies. Africans today continue to watch with dismay their black continent continuing to retrogress even after the promises of the imposed Euro-American and Eurocentric education (Ayandele, 1982).

THEORETICAL FRAMEWORK

The under guiding principles that have shaped the theories and practices of education in Africa are the hybridity of Africa's Education Landscape and the Generative Curriculum Model (Nsamenang and Tchombe, 2011). There is no doubt that education takes place in a socio-cultural setting which has significant influence on the education itself. The eco-cultural system not only influence the educational setting and its environment but also shapes the attitudes of the students. Socialization in Africa does not only take place in school but also at the home (Rogoff, 2003). It is in this light that education should be shaped mutually with the culture and norm of the African society, unless this is achieved the very purpose to which education is meant to achieve will be defeated. After recognizing the culture as an important instrument follows a synchronization of the education in line with the cultural setting (Smale, 1998).

The landscape of Africa's contemporary education will be incomplete without mentioning the intrusion of the Islamic-Arabic and Western-Christian educational heritages (Nsamenang and Tchombe, 2011). Century old African system of education has survived the test of time ranging from colonial and neo-colonial intrusions.

If education is to illumine the dark continent of Africa, Africans must take a step back from dogmatic adherence of the Eurocentric curricula but also designing of a generative curricula not in autarchy but in the light of global trends in developmental science and outstanding scholarship in education. The fundamental objective of a generative curricula is not only to preserve the identity of the African Heritages and culture but also to teach educative sciences in the context of global competition. A generative curriculum develops the interest of the teachers and students and maintains that interest is the fundamental objective of learning (Ball and Pence, 2006).

CONCLUSION

Time has so passed, technology and globalization is on the rise. The world has seen tremendous importation of not only cultures but infectious pandemics. Africans and their dark continent continue to remain on the cross roads and at the receiving end. The advent of the social media has had a tremendous effect of alienating Africans from their culture so much so, that Africans will always want to look like the Euro-Americans. The disappointing result is there is little or no resource and befitting avenue to achieve that.

It is in the interest of Africans to pursue a generative curriculum model that will not only preserve their culture but also enhance the interest of both students and teachers in education while also competing favourably in the global world.

This research will conclude by a statement from Nsamenancy and Tchombe 2008 as follows:

> ***"The more Africans invest in and pursue the elusive goal of Western lifestyles and social thought the more inept they function, incidental to struggles to give up their centuries-old socio-cultural inheritance."***

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SCOPE OF 'ACCESS TO INTERNET' AS A HUMAN RIGHT: AN INTERNATIONAL AND INDIAN LEGAL PERSPECTIVE

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Abstract
Cyber network or internet is considered as network of networks which interconnect various computer networks and devices and allows exchange of information's and files. Being an easy and fast medium of communication, exchange of information and for transferring files, individuals are more and more depending on the internet worldwide. An estimate shows that worldwide three billion people have access to internet and are widely using it for various purposes like research, education, gaming, online shopping, job-hunting, entertainment and social networking etc. Thus, it can be seen that, the influence of internet in individual's life is so deep. Access to internet is an act thereby one individual is connecting his computers, mobile phones or other digital devices to internet. An access to internet can be done either to wireless connectivity or through land cables. So also access to internet includes the availability or ability to browse various contents available in cyber space using internet. However, the enjoyment of right to access to internet is depending on technology and the policy of governments. Since, there are various internet service providers and the accessing devices such as computers, mobile phones or other digital devices are available in the market very easily, every individual who wish to access internet can do so. However, due to several reasons governments often disfavour the full and free access to internet. At present, access to internet is not yet expressly declared as human rights by any international binding human rights documents. However, the human right to access to internet can be identified from various established rights from existing binding international human rights documents. This paper identifies the legal basis of human right to access to internet and identifies its scope.

Keywords: Access, Human Right; Internet; Freedom; Restrictions

Introduction

Cyber network or internet is considered as network of networks which interconnect various computer networks and devices and allows exchange of information's and files. Being an easy and fast medium of communication, exchange of information and for transferring files, individuals are more and more depending on the internet worldwide. An estimate shows that worldwide three billion people have access to internet and are widely using it for various purposes like research, education, gaming, online shopping, job-hunting, entertainment and social networking etc. Thus, it can be seen that, the influence of internet in individual's life is so deep. This paper identifies the legal basis of access to internet and concludes that access to internet has achieved the status of a fundamental human right.

Access to Internet: Concept

Access to internet is an act thereby one individual is connecting his computers, mobile phones or other digital devices to internet. An access to internet can be done either to wireless connectivity or through land cables[i]. So also access to internet includes the availability or ability to browse various contents available in cyber space using internet. However, the enjoyment of right to access to internet is depending on technology and the policy of governments. Since, there are various internet service providers and the accessing devices such as computers, mobile phones or other digital devices are available in the market very easily, every individual who wish to access internet can do so. However, due to several reasons governments often disfavour the access to internet.

Access to Internet: A Fundamental Human Right?

Access to internet is not yet expressly declared as human rights by any international binding human rights documents. However, the human right to access to internet can be identified from various established rights from existing binding international human rights documents. Universal Declaration of Human Rights, 1949 as well as International Covenant on Civil and Political Rights, 1966 guarantees that, 'Everyone shall have the right to freedom of expression; this right shall include freedom to seek, receive and impart information and ideas of all kinds, regardless of frontiers, either orally, in writing or in print, in the form of art, or through any other media of his choice[ii]'. It is to be noted that, this right includes right to seek and receive information regardless of any frontiers through any media of choice. Internet is a component part of digital media and therefore internet can be treated as a medium. Thus the right to freedom of speech and expression can be considered as a basis for deriving a human right to access to internet. Moreover, everyone has the right freely to participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits[iii]. Since internet is a product of scientific advancement, accessing or enjoying such advancements forms part of a person's right to enjoy benefits of scientific advancements.

The UN Special Rapporteur on the promotion and protection of the right to freedom of opinion and expression points out that 'by acting as a catalyst for individuals to exercise their right to freedom of opinion and expression, the Internet facilitates the realization of a range of other human rights'[iv]. The same is also accepted by UN Human Rights Council through its resolution on July 5th, 2012. It expressly declares that, 'the same rights that people have offline must also be protected online, in particular freedom of expression, which is applicable regardless of frontiers and through any media of one's choice, in accordance with articles 19 of the Universal Declaration of Human Rights and the International Covenant on Civil and Political Rights'. It also c*alls upon* all States to promote and facilitate access to the Internet and international cooperation aimed at the development of media and information and communications facilities in all countries[v].

The Internet Rights & Principles Dynamic Coalition has developed the 'Charter of Human Rights and Principles for the Internet' which also ensures access to internet as basic human rights. Thus, it can be seen that, an individual can claim right to access to internet as a human rights. However, like every other rights, this right also has several limitations. As per the provisions of ICCPR, any restriction on right to access to internet can be imposed only on the basis of a law and only if it is necessary based on any of the following grounds namely, protecting rights of others, reputations, for the protection of national security or of public order, or of public health or morals.

At national level there are several countries who have expressly declared access to internet as a human right. For example, in countries such as Estonia, Greece, France, Spain, Finland and Costa Rica are guaranteed the right to access to internet either through legislation or through

Constitutional amendments or through judicial decisions. In India the major legal framework which regulates internet is Information Technology Act, 2000. However, this Act is silent about the issue of right to access to internet. Like UDHR and ICCPR, Indian Constitution also guarantees freedom of speech and expression. By following the dictum of Vishaka v. State of Rajasthan[vi] and many other cases, it can be safely argue that freedom of speech and expression in India also covers right to access to internet as in the case of ICCPR. Thus in India right to access to internet is a fundamental rights under article 19 of the Constitution of India.

Recently, the High Court of Kerala also pointed out that, 'the right to have access to Internet becomes the part of right to education as well as right to privacy under Article 21 of the Constitution of India'[vii]. Thus, it can be seen that in India also right to access to internet is a fundamental human right. However, it is to be noted that, this right is not an absolute right which can be restrained on account of various reasons such as in the interests of the sovereignty and integrity of India, the security of the State, friendly relations with foreign States, public order, decency or morality or in relation to contempt of court, defamation or incitement to an offence[viii].

Scope of Access to Internet

Access to internet is recognised as a fundamental human rights though not expressly but impliedly as a part of freedom of speech and expression at international human rights law framework. There are several countries including Estonia, Greece, France, Finland, Costa Rica, and India, etc. In 2011, the Internet Rights & Principles Dynamic Coalition (IRPDC) has launched a Charter of Human Rights and Principles for the Internet. The IRPDC is an international forum leaded by various organisations and individuals committed to uphold the various human rights in cyberspace. This 2011 Charter has identified the various human rights which are specifically applicable to cyber space. They are: Right to Quality of Service; Right to Freedom of Choice of System and Software Use; Right to Ensuring Digital Inclusion; Right to Net Neutrality and Net Equality; Right to Non-Discrimination in Internet Access, Use & Governance; Right to Liberty & Security on the Internet; Right to Development through the Internet; Right to Freedom of Expression & Information on the Internet; Right to Freedom of Religion and Belief on Internet; Freedom of Online Assembly & Association; Right to Privacy on the Internet; Right to Digital Data Protection; Right to Education on & about the Internet; Right to Culture & Access to Knowledge on the Internet; Right to benefit from the Internet; Freedom from Exploitation and Child Abuse Imagery; Right to have Views Heard; Best Interests of the Child; Accessibility to the Internet of peoples with disabilities; Right to Work & the Internet; Right to Online Participation in Public Affairs; Rights to Consumer Protection on the Internet; Rights to Health and Social Services on the Internet; Right to Legal Remedy & Fair Trial for Actions Involving the Internet; Right to Appropriate Social & International Order for the Internet. All these different rights in cyberspace can be considered as components of access to internet as these rights can be exercised only if there is a right to access to internet. However, it is to be noted that, these rights are not absolute, all these rights are subject to rights of others and security of states.

Conclusion

The influences of internet in daily life of millions are noteworthy. It enables the individuals to enjoy various other human rights including freedom of speech and expression, right to education and right to socialise. These rights are so essential for the development of an individual's human dignity, values, human potential, and other basic rights. Hence both as a single human right or as an enabler for human rights, the access to internet have emerged as a

powerful right in past two decades. Many authors have recognised access to internet as a fourth-generation human right conditioned by freedom of speech and expression [ix]. Considering the profound significance of internet and the need for guaranteeing right to access to internet, access to internet should be declared as independent basic human rights. At the same to avoid the negative effect of internet and potential misuse of right to access, a proper mechanism should be established to regulate the right to access to internet.

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[1] See generally, https://en.wikipedia.org/wiki/Right_to_Internet_access, visited on 21.11.2020.

[1] Article 19 of both UDHR & ICCPR

[1] Article 27 of UDHR

[1] See, Report of the Special Rapporteur on the promotion and protection of the right to freedom of opinion and expression, available at https://www2.ohchr.org/english/bodies/hrcouncil/docs/17session/A.HRC.17.27 _en.pdf, visited on 21.11.2020.

[1] See, https://www.apc.org/en/news/un-recognises-freedom-expression-internet-human-right, visited on 21.11. 2020.

[1] (1997) 6 SCC 241

[1] Faheema Shirin.R. K v. State of Kerala, WP(C).No.19716 of 2019(L), available at https://indiankanoon.org /doc/ 188439981/ visited on 21.11. 2020.

[1] See Article 19(2) of Indian Constitution & Section 69A of IT Act, 2000

[1] Andreas J. Wiesand, Kalliopi Chainoglou, Anna Sledzinska-Simon, Culture and Human Rights: The Wroclaw Commentaries, p.204

DIFFICULTIES FACING LEARNERS OF ENGLISH GRAMMAR IN IRAQI SCHOOL

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Abstract
The challenge for Iraqi students is one of learning English grammar. Despite many reports examining this situation. But certain things do need to be explained. Due to its significance in English language study. This study therefore seeks to detect and describe these problems and identify potential solutions. Via this research, we hear about errors in writing from students. The sources of these mistakes are found in the students' writings. They are categorized. The analyst observes that current curricula are among the leading times in English teaching because they lack specific objectives and material that match those objectives and relate the teaching methods of applied curricula to content and methods. In this report, 80 students from 4 rural schools investigated errors. Much of the curricula laid out in it overlook the consistency of the work, which, along with technique examinations and vibrant images, attracts the student and makes the book and calendar a student accustomed to memorizing and graduating, rather than actual learning. The students have dedicated themselves. We're aware of the sorts of errors students produce. In terms of error amounts, ratios varied. In the papers of students, there are mistakes, such as verbs, which were contained in significant proportions. We found that students make mistakes in many aspects of using verbal texts, whether they are "omitted or misspent." And after the verbs' faults, the remaining mistakes arrive sequentially. There are many explanations and several causes for the mistakes found in student literature, as we discussed earlier. We do not consider that conventional teaching approaches are enough to learn the language well and do not build the foundations of the language in the mind of the student. It needs more than the taught content and the next day's exam. New and efficient learning plans and methods should be developed which teach all definitions and principles of the right language and do not leave anything unprocessed. In students' thinking, too, the inspiration element must be identified.

Keywords: Grammar, errors, English learning school , literacy, second language learners.

INTRODUCATION
Iraqi students face a learning curve when it comes to rules of the English language. Due of its importance in the study of the English language. As such, this research aims to identify and explain these issues, as well as possible remedies. We will learn about writing errors produced by Iraqi students and how difficult it is to master the English language via this review. These errors originate in the pupils' essays. They are classified. According to the observer, current courses are among the most prominent periods in which English is studied, because there are currently no clear objectives and content that are commensurate with those objectives, because they connect the applied curriculum's teaching methods to content and analysis methods, and because students' subjects and units lack consistency and logical sequence. It is not included in the list of challenges here.

Along with technology testing techniques and the cheery graphics that entice kids and make the book and calendar work for the student to remember and earn marks, rather than for real education, the curricula offered are inconsistent in producing positive outcomes for the learner. Additionally, courses place a greater emphasis on information or cognitive abilities prior to adding a skill component. As a consequence, the program does not inspire students to use what they have learned, nor does the curriculum take into consideration their desires and needs, nor does it contain subjects pertaining to their reality and potential. In short, if we want to define the general characteristics of English language course, we will prioritize the academy over the practical, and its rejection means that we will ignore

students' capabilities, skills, and requirements, as well as their inconsistency with students' linguistic and skill requirements, both in practice and in theory.

It strikes an appropriate mix of quantity and consistency, but it lacks sufficient information and execution, and it does not improve the learner's ability to participate in language. A grammar is a set of rules and laws for controlling phrases; without these structures, a phrase cannot be shaped in a straightforward, clear manner. Grammar English teaches pupils to grasp and master basic language concepts, enabling them to comprehend and properly interpret a variety of component words. Understand how to properly shape and form verbs, as well as how to construct a sentence utilizing adjectives, adverbs, phrases, prepositions, and other grammatical rules. Grammar rules also assist the student in writing and reading properly.

Without learning grammar, it is impossible to get accurate language analysis results. Both languages are grammatical. It must adhere to and not disregard its policies and processes in order to accomplish the goal of effective and accurate language mastery and acquisition. Each language is distinct in terms of vocabulary, sounds, and organization. They are also acknowledged. It is not only the correct language to investigate, but also the core of language. Students are cognizant of the obstacles and difficulties inherent in the English language acquisition process. Arabic pupils are having difficulty reading and writing in English.

In Iraq, the children study English exclusively in the classroom, which is very limited since the country's native language is Arabic and the lack of English in daily life. Iraqi students encounter a number of difficulties with the English language's syntax. Identifying and identifying these difficulties enables instructors to address these problems and problems more quickly and effectively, while also providing pupils with enhanced educational facilities.

LITERATURE REVIEW

The acquisition of language is a critical component of grammar. As a result, it is essential to learn English properly in order to practice it (Abdul Haq, F. (2891). As previously mentioned, pupils struggle to learn English. Numerous articles explore the subject of English language study and the problems and difficulties encountered by students in this area of English learning (Yang, A, Leung, H. Yue, L., Deng, L. 2013).

Similarly, to how students encounter difficulties and failures when writing papers and how they discover numerous grammatical errors and obstacles in their peers' writings, researchers identified the most common errors as trials, material analysis, the use of determinants, and the absence of a single third person. In other studies, teachers' perspectives on English language comprehension and their perceptions of how this material is learned in school, as well as the role of teachers in an English language learning through their interpretation and understanding of numerous facets of syntax and how these aspects can be transmitted to their students, were examined (Treet , B. 1984).

The researcher's objective in this study is to ascertain the difficulties and grammatical problems encountered by English language pupils. We saw a massive development of intelligent schooling, and academics developed a strong interest in intelligent transportation systems. Numerous intelligent teaching programs exist (Noorizah Mohd. Noor. 2006), including knowledge based on software mistake correction. Additionally, they created programs to analyze grammatical mistakes for Pascal students in the Mitrovic and Ohlssón systems, as well as educate and show how to construct queries in a relational database via many courses in query writing. The student joins and examines the query in order to identify errors and flaws (Hazita Azman. 2009).

The approach includes a series of comments and suggestions tailored to specific errors, as well as a short paragraph describing and fixing the error. The method through which the system adapts to the learner requires interfaces and responses. As a result, it would depend on a strengthening of the adaptive mechanism (Baker, W. 2009). It is used to assist students in learning English. While language learning has historically concentrated on improving reading abilities, literacy in a language is increasingly being acknowledged as a discipline, and scientists have argued extensively that language

learning cannot and does not exist in the brains of individual pupils, but is linked. Literacy acquisition, which encompasses a range of talents and skills, including basic vocabulary decoding, elicits a more expansive view of language learning that is more in line with the social element with which learners engage in human activities.

There are two different aspects of education: literacy principles and language acquisition, which are important to this research (Ambigapathy, P. 2006). Within the social philosophy of language and literacy, it implies a difference between literacy as a unique skill and literacy as a shared activity. Independent literacy entails developing linguistic abilities such as grammar, sentence construction, and writing ability. When they are taught, they are regarded as context-independent and may be used to any situation. Literacy, on the other hand, is a social activity in which the learning of ideological language is best managed via constructive encounters. Literature is a kind of social interaction (Woolf, P.B. 2008). More precisely, "the manner in which instructors and students interact is a social activity that has an effect on the fundamentals of literacy acquisition for first-class pupils."

THE SIGNIFICANCE OF THE STUDY

The time spent teaching English in our public schools is insufficient. This time frame, which is limited to four classes per week at 45 minutes per lesson, is insufficient, not only because teaching in isolated language environments requires long hours each week, but also because there are no comparable items, such as those available for language learning in the original environment. The student's computer-based education is coordinated. The purpose of the paper is also to identify variables that assist Iraqi students in providing inadequate or ignored information or writing in English properly. According to surveys, the majority of students and instructors are dissatisfied with the way languages are taught and learned. Additionally, research examining English proficiency among university graduates often seem to raise awareness of graduates' English proficiency, which is why this article examines several important problems and competing speeches in this nation. It exemplifies how English education is different in our classrooms, raising important issues regarding students and culture in general in English literacy settings. The primary objective of these studies is to determine why, even after 11 years of schooling, children are unable to acquire adequate English language skills. This method demonstrates the critical necessity to raise the literacy level of English language learners. To examine the difficulties associated with reading and writing in English.

METHODOLOGY

Identify the primary educational obstacles that Iraqi students face while learning the English language. Identify the concepts described in the following research to solve the challenge of teaching English grammar. The research makes the following assumptions: The following are the analysis's hypotheses:
1- Elementary school pupils in Iraq have difficulties teaching English grammar due to a lack of knowledge on how to enhance English language instruction.
2- English education challenges associated with the complexity of an English language learning the curriculum.

- **Firstly, study conditions and the issue:**

Procedures definition: What are the obstacles to pupils studying English grammar that have a detrimental effect on their science levels as evaluated by the study tool? (The Questionnaire).

- **Secondly**;

learning (defined as the structured design of experiences that assist the learner in achieving desired performance changes and a communication activity that aims to stimulate and facilitate learning and encompasses a variety of activities and decisions made by the teacher/student in the educational situation).

Theory;

The psychological and technical obstacles that have existed in the past. Additionally, there are additional instructional and standard education facilities, such as deficiencies in English language teacher training services and language teaching methods at the state, regional, and English levels. Additionally, globally. English teaching programs or departments inside English departments at universities yearly train about 1500 professors and 800 institutions and are focused on providing English language and language courses to students (teachers). Literary criticism and pure linguistic materials such as grammar, morphology, and phonics, as well as materials on teaching methods, teaching theories for foreign language learning, and other aspects of English learning, are largely ignored, even though these programs emphasize the four fundamental language skills in Particles. This identifies mistakes with simple, comprehensible explanations.

1-Word order concepts vary from language to language. The word order rules for each language are unique. The learner is mistaken when he learns a foreign language as he assumes that in all languages the rules are identical and this is certainly not true, particularly when learning English. Complete errors in word . One student, for example, wrote "I need my studies to finish." We realized that the order of words was incorrect and there were multiple explanations for making those errors, including the student's lack of understanding of the grammar of a language to be studied. These mistakes may be caused by applying first-language grammar to learning a second language.

2- All students would prefer to omit those words if the pronunciation was properly observed. Complete mistakes. The phrase in a student's paper says, "I want to have decent work with all my peers." Here we see that the pronoun "I" seems to be deleted since he probably wanted his writings shortened. These mistakes may also be caused by passive mother tongue transfers to the second language. Even though there were few mistakes in this respect relative to the others. However, in student composition, these mistakes should not be neglected. Another case, "I'll do my best, I'm sure“.

3- Looking at the errors of students in papers, we find that their understanding of the rules for their use is seriously poor. Errors (29) in total posts. One student, for example, wrote in his paper "I don't want to be a jobless engineer." Here the student has skipped and has not included the topic (a) and Article (a) should be put here according to the proper rules of the English language. Articles are a term for a particular person or thing and for an unspecified time, two categories of articles and an introductory article are available. Here in the above phrase we see that the word (engineer) is not specified and hence Article (a) is to be followed by the English code, since the vowel in the first word (engineer) is present.

In the case of Article (the), declarative material is utilized exclusively in certain instances—in particular students' works that include postings. We discovered that the documents had been uploaded on sites that did not follow the English laws. "I'm going to perform well in the future," for example, "since after these four years, there will be more employment." B. Violent essay As we thoroughly analyzed the kids' writing, we found that many mistakes were created while we were utilizing the essays. Several pupils utilized inappropriate writings to demonstrate why the rules and regulations governing the usage of English are disregarded by the students. For instance, "I have no aspirations beyond graduation," or "Everyone has a dream for himself”.

4-Subjects, when we read the writings of students, we notice some mistakes and not big numbers relevant to prepositions. Total mistakes in prepositions (25). Errors in how prepositions are used have been identified in certain places, either with wrong preparations or overlooked. "We want to support others, for example...." A-Prepositions misuse From the works of our pupils, we note errors in the use of prepositions. For instance, "All people talk about... when we meet on the weekend." "My dad always recommends studying...."

5- In the writings of the students, we see flaws in the usage of times. The explanation is that a student has not been more accurate in English grammar and has not been able to illustrate to a significant

degree the fundamentals of studying English grammar in schools. Teaching in schools remains routine and does not use new teaching techniques in order to determine that most lessons are not in the student's memory. Orthodox and inadequate approaches to teaching the fundamentals of language acquisition to master and master. The sum of errors at all times is (23). A-Presentation of simple past forms. Other phrases illustrate why the student wrote of an incident that is occurring today, but he said it was completely in the past. For instance, "we went every day to college....." As I finished my degree in the current form, the student decided to remember a certain case in the past, but said it in the present. "I work hard to be at college, for example." When I was 10 years old, my mother and dad told me... "

6- We notice errors that happened in the verbs when we read the articles of some of the students. There have been some faults in high numbers, while the majority have seen a limited number of mistakes. Complete verb errors are (15) mistakes. The reason for such errors may be inadequate grammar in English and the absence of confidence in this part of the education method.

A- Deletion. We find students making a mistake by missing or ignoring the letter (ing) in the verb is larger than the rest of the mistakes. "I never worry about a career," for instance, "we don't all do our homework...."

B- Omission. We don't see why any students appear to miss the prepositions by writing them (to). In certain words, in instances where it is to be found, there is an obvious absence of (to). There are explanations that such mistakes occur. In certain instances, the student just sees the preposition (to) a word that cannot be overlooked, and in keeping with the proper rules of the English language, the student does not place much value on this matter. "I need a job..." for instance. "When we think of a roadmap for our targets...."

C- Possessive Pronouns Misuse. We discovered that the use of possessive pronouns had some minor mistakes by removing clerical errors from our students due to the absence of acquaintances with the right rules for the proper use of possessive pronouns. The right place for the phrase. "For example, I would work tirelessly to fulfill her wishes. For instance, "I want our wishes to be fulfilled..."

7- We discover that there are errors related to pluralism when going from one article to another. Pluralism is a key language feature. The different rules for pluralism in each language are unique and different in a different language. We notice that when writing plurality, students are confused, because of errors in the rules of plurality, they can find it basic, and this does not impact on the grammar of the phrases. These mistakes were very plain and explicit in some articles and this is a vital subject that indicates a students' lack of understanding of the fundamentals of the simple English language learned at school. Total mistakes in combination (22). "These visions all need more effort," for instance.

8- Buildings in comparison If we look at the articles of the teachers, we find errors in comparison constructions. The use of comparative buildings differs between languages. It does not extend to all languages as a guideline of a particular language. Another explanation why students made such mistakes was not understanding the rules for this problem. For example Comparison of total build error (2). "I hope you can be a college graduate as soon as possible".

The reasons why students from the Department of Material Engineering at the University of Tech made mistakes: The objective of this thesis was to study the errors in the writings of students from the Department of Material Engineering, University of Technology. The aim of the student report is also to study the cause of these errors. By reading and researching the writings of the teachers, we find that many factors lie behind students' behavior, including very simplistic methods of teaching at schools and all phases and the inability to address some facets of language education. Language learning is of vital value. There is also a shortage of students in this subject because we found that most students do not have the ability to learn the English language because of a lack of research or everyday use of the English language in Iraq.

Also, while writing in English, some students write whatever they translate into Arabic, their mother tongue. The pessimistic language of the student. The learner or pupil translates the laws and

fundamental elements of his or her natural language while writing in the target language. The fundamentals of vocabulary vary from language to language. There are therefore several explanations why these mistakes are executed. One of the strongest factors is this lack of proper English grammar. Final remarks This thesis was based on an analysis of the mistakes made in the students' writings and the explanations behind them in the students' writings were examined. This research has also been carried out. This thesis was conducted by students from the University of Technology, The Department of Material Engineering.

GAPS

Study on how to enhance English literacy based heavily on teaching and learning English in the language classes in literary work and recommendations for more study. In order to understand English literacy for students, it is now necessary to look beyond the language courses. We want more research to study how students use a different repertoire of languages outside the classroom. We will need studies to find ways to make English accessible to our students in our linguistic codes. Using quantitative approaches such as questions from surveys will eliminate important fields that can be investigated through qualitative case studies. This paper therefore suggests that further studies should be carried out using a qualitative research design to provide objective data on the local and subjective use of the language to view the learning to read and write in English as systematic and relevant to the current requirements.

RESULTS

This study used the technique of student authorship publication. The purpose of using written material from students in this study was to identify and determine the reasons of errors produced by pupils while writing in English. As we carefully examine the students' papers utilized as data for our research, we see that they have committed. We are aware of the types of mistakes that pupils make. The ratios vary in terms of mistake levels. Students' papers include many errors, such as verbs. We discovered that pupils make errors when they "omit or misspend" verbal messages. And after verbal errors, the remaining errors occur consecutively.

There are many explanations and several causes for the mistakes found in student literature, as we discussed earlier. We do not consider that conventional teaching approaches are enough to learn the language well and do not build the foundations of the language in the mind of the student. It needs more than the taught content and the next day's exam. New and efficient learning plans and methods should be developed which teach all definitions and principles of the right language and do not leave anything unprocessed. It is also important to motivate students to learn English and to take advantage of it in several ways, whether in the field of research or in their everyday lives. More study is needed in this field to recognize the other gaps still unresolved in order for both schools and universities to meet the desired standard.

THE CONCLUSION

I am going to illustrate some points in this paper which have significant educational consequences for English teaching.

1. National or Arabic influence on English learning among English learners is high.
2. An assessment should be carried out of the teaching of English in classrooms which concentrate on learning by heart and mastering those language skills and then examined.
3. Simpler learning will be encouraged by a language curriculum which promotes holistic learning experiences. An updated English program, which works on reflective methods of instruction, will enable students to become independent vital linguistic learners in accordance with existing language learning patterns.
4. Future studies need to continue the study of English education in the country and simultaneously assess and discuss the growth of expertise of teachers in the field as critical actors who convert policies into actions. Education is central to literacy and language learning. Language is used as literacy and information transmission means. Recognizing this, the studying of language learning

philosophy in our educational context is extremely relevant to language educators and policy-makers and to make the requisite improvements to promote improved English language learning among our students. The need is instantaneous.

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ONLINE LEARNING PREPAREDNESS: A STUDY WITH SPECIAL REFERENCE TO TRADITIONAL COURSES B A AND BCOM STUDENTS OF SAVITRIBAI PHULE PUNE UNIVERSITY STUDENTS OF AHMEDNAGAR CITY

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Abstract
This research paper aimed at measuring the level of preparedness among traditional courses students like B A and B Com students towards online learning and identifying the most contributing skills to online learning preparedness of students, five online learning skills such as Persistence, effective and appropriate communication skills, Time management, reading and writing skills, motivation and independence were used. The data were collected from students studying in first, second and third year of B A and B Com. A quantitative approach based on survey method was used to collect data from 200 students in Ahmednagar city through online. The collected data was analyzed. The findings revealed that the students were not fully personalized and successful in decisions about their online educational activities and they are not well prepared for online sessions during pandemic situation. These findings would be helpful for traditional courses students like B A and B Com and faculties to improve the quality of online education and implement clear policies and guidelines. This study provides some theoretical and practical implications based on the findings.

Keywords- Learning Preparedness, Online Learning skills, Online Preparedness Level.

Background – The pandemic of COVID-19 caused several schools and colleges to remain temporarily closed. Face-to-face education has ended by numerous schools, universities, and colleges. This will have negative impacts on educational activities, as social distance is crucial at this stage. Educational agencies are trying to find alternatives ways to manage this difficult circumstance. This shutdown stimulated the growth of online educational activities so that there would be no interruption to education. Many faculties have been involved in how best to offer online course material, involve students, and perform evaluations.

This crisis would make the new technology accepted by organizations that were previously resistant to adapt. This was a difficult time for the educational sectors to deal with the current situation; professional education, particularly traditional education, was more challenging. Online e-learning is described as learning experiences using various electronic devices (e.g. computers, laptops, smart phones, etc.) with internet availability in synchronous or asynchronous environmental conditions. Online e-learning could be a platform that makes the process of education more student-centered, creative, and flexible. Online delivery of courses is cost-effective and easily accessible especially when delivering curriculum to students in rural and remote areas. The United online e-learning is seen by the United Nations (UN) and the WHO as a helpful tool for meeting educational
needs, especially in developing nations. Traditional colleges have implemented numerous creative strategies to combat the crisis, using various software/apps such as Google Classroom, Zoom, and Microsoft Teams to take online courses. In order not only to complete the course but also to stay in constant contact with the learners, this virtual class of e-learning

was initiated to grow the certainty and confidence of the students in their faculty during the COVID-19 pandemic

It is anticipated that with the implementation of e-learning, the role of faculty members will be transformed from the traditional teacher-centric to student-centric model which serves the current new curriculum applied at our college. Therefore, this study aims to estimate the student's perceptions, evaluate their experiences, recognize their barriers, and assess their challenges to e-learning during the COVID-19 pandemic. Additionally, the study will investigate factors influencing the acceptance of e-learning as a tool for learning within higher education which could help future endeavors aimed at implementing e-learning not only during the pandemic but in other non-pandemic situations throughout the student's life.

Review of Literature – According to Abdus (2019), there is a need to address factors associated with online student's feelings of anxiety, to boost their confidence, motivation and preparedness to succeed in online courses. In present day today scenario, students may be reasonably prepared to deal with the e- learning technology, for activities such as reading and writing, being clear and concise in responses, synthesizing ideas, planning strategies, making arguments, however they are not well prepared for working with others. (Parkes et al. 2015)

Muthuprasad et.al (2021) found that most of the agricultural students 70% studying in India is ready to opt for online classes to manage the curriculum during this pandemic and the students opined that the flexibility and convenience of online classes make it an attractive option.

The findings revealed a lack of preparedness, participation, and less scope of classroom activities through online learning. Problems of infeasible consistency of the internet and electricity, paying attention, understanding lessons through the online platform are the main constraints of online learning in the developing country. Finding ways of mitigating these problems can be the next subject for further researchers. (Al- Amin et al., 2021)

Readiness is a variable that is often emphasized and measured in distance learning, e- learning and online learning research (Forgerson, 2005: Horzum and Cakrr, 2912 ; Hukle, 2009, Leigh and Watkins, 2005)

Although there are many studies on online learning, no studies were undertaken about the relationship amongst traditional courses student's online learning skills and online learning preparedness. Also there are no findings related to the most contributing online learning skills towards online learning preparedness.

Problem Statement - Teachers of Savitribai Phule Pune University and college teachers were ready and able to connect with their students remotely, both synchronously for lectures and individual support, as well as asynchronously, with teachers offering online resources for self directed learning. (Scheleicher, 2021). However the success of any teaching learning process ultimately depends on the attitude, involvement and preparedness of the students. Colleges in Maharashtra started sharing online resources and for conducting online formative assessments after the pandemic situation.

Objectives of the study:

- To measure the preparedness level of special reference to Traditional courses students of Savitribai Phule Pune University students of Ahmednagar City
- To identify the most contributing skills to online learning preparedness.
- To study the relationship between online learning skills and online learning preparedness.

Methodology:

- Target Population and Sampling: The study population is the students of Traditional courses B A and BCOM students of Savitribai Phule Pune University students of Ahmednagar City around 200 students were selected for online survey.

Research Instrument:

- In this study the questionnaire was developed based on five skills as persistence (P), effective Time Management Skills (ETMS), Effective and Appropriate communication skills (EACS), Basic Technical skills (BTS) reading and writing skills (RWS)Motivation and Independence (M&I) . For each skill questions were included in the questionnaire. The preparedness level of the students was measured using 4 point Likert scale from Strongly agree (4) to strongly disagree (1)

Methods of Data Collection:

- The primary data were collected from target group of students through online questionnaire. The online survey was unstructured and opens to all. For the secondary data the researcher collected through Google and free access research journals.

Methods of Data Analysis:

- This study aims to measure the preparedness level of Traditional courses students B A and B Com of Savitribai Phule Pune University students of Ahmednagar City. As mentioned earlier, the questionnaire consists of 15 questions, for each questions a respondent will get 4 point if he or she strongly agrees, 3 point if agrees, 2 points if disagree and 1 point if strongly disagrees. The preparedness score for each student was calculated using the following formula.

Preparedness Score = Q1+Q2÷ 2+Q3+Q4+2 Q13+Q14÷2

P= Q1+Q2; ETDS= Q3+Q4; EACS=Q5+Q6 SSPU = Q7+Q8; BA / B.COM.

= Q9+Q10 ; M&I = Q11+Q12

GSE = Q13+ Q14

Thus a student who is 100% prepared for online learning will get 20 points (5 skills ×4 points) with the preparedness level of each of the student will be deter minded as shown below –

Preparedness of Students 'A' = Preparedness score of student

'A' ÷ 20 =100

Results / Findings

The research aim at measuring the skills available among B.A. and B.Com students. An analysis is made on the following such skills.

Table – (Online Learning skills of B.A. / B.Com students of Savitribai Phule Pune University, Maharashtra with special reference to Ahmednagar city.)

Online Learning Skills	Statement	Strongly Agree	Agree	Disagree	Strongly Disagree
Persistence	1.I attend classes every day 2. If the lectures interests due to technical issue. I will wait until it resumes.	20 9	12 23	52 49	16 19
Effective Time Management Skills	1. The class schedule is comfortable for me and cope up with it. 2.I can complete the class activities on time	16 10	22 10	43 40	19 40
Effective and Appropriate Communication skills	1.Student can approach teachers anytime through different communication mode 2. Student possesses sufficient listening skills to attend online classes.	38 14	27 47	19 26	16 13
Reading and writing skills	1. Studetns are feeling comfortable reading documents like PPT'S on computer, tab, mobile screen used by teachers during online sessions. 2. Students typing speed and consecration is good enough to complete online assignments and class activities on time.	22 15	42 15	21 40	15 30
Basic Technical skills	1. Student posses sufficient technical skills in creating new documents, use a word processing program, navigate the internet and able to speak confidently. 2.Students are comfortable using E-learning management system	10 5	5 5	50 50	35 40

1. **Persistance** – Persistance is perhaps the biggest key to success in online learning for students, this persistence can be a driving force to help them achieve their academic, as well as personal goals.To is a successful online trainee one must be willing to tolerate technical problems and seek help when needed and work daily for every class. Table 1 shows that 20 % are strongly agree + disagree) of the student are signing in to the online sessions daily wheras 9% of the students are not doing so 52% said that they will not wait.

2. Effective Time Management Skills- Flexibility is one of the great benefits of online learning. However online learning will become a challenge if the student is unable to stick to routine study schedule. As explain in table 1 16% of the students are comfertable with the class schedule and can cope up with it, however 22% are agree and 43% of them are disagree and 19% of them are strongly disagreed with this. In completion of the class activities 10% of the students are strongly agree, 10% are agree and 40% of the students are disagree and 40% are strongly disagreed. This is not an encouraging aspect regarding time management skill.

3. Effective and Appropriate Communication Skills- During offline session teacher has a chance to observe students and get feedback whether students are receiving the

messages. However in online teaching it's a difficult task. In this situation communication skills play a vital role it is important for students as they must seek help when they required. Teachers are ready to provide their help to students but students require communication skills to get their doubts clarified. As mention in Table 138% of the students opined that their teachers are approachable anytime through different communication modes, however 27% are agreed and 19% are disagreed.

4. Reading and writing skills- In online training sessions the students must be comfortable while reading various slides on computer screen and able to type. As explain in Table 1 22% students are comfortable reading documents on computer whereas 35% of the students are strongly disagreed.

5. Basic Technical Skills – In Online learning students need basic technical skills as the ability to create new documents, use a word processing program, navigate the internet and download various information correctly. As explain in Table 1 10% of the students are strongly agree, 5% are agree 50% of the students are strongly disagree and 35% of the students are disagreed with basic technical skills. It indicates that most of the students from traditional courses like B A and B. Com students need special attention to improve their technical skills so that they feel confident about it and will use and give feedback properly.

Table 2- Preparedness Level of Traditional courses B A and BCOM students of Savitribai Phule Pune University students of Ahmednagar City

Preparedness for online Learning	No. of Students	%
Very High	07	7 %
High	05	5 %
Moderate	48	48 %
Low	40	40 %
	100	100

Calculated based on primary data

Table 2 show that 7% of the students are 'Very highly ' prepared and 5% are 'highly' prepared for online learning. Those who are 'moderately' prepared are 48% and low are 40%. Thus a vast majority students are not well prepared to participate and learn through online learning sessions conducted by teachers of Savitribai Phule Pune University for traditional courses like B.A. & B.Com.

Table 3- Descriptive Statistics

From the descriptive analysis shown in below table one could infer the time management skills are having standard deviation and thus there is data inconsistently as compared to data on other online learning skills.

Online learning skills	Mean	Std. Deviation	N
Persistence	1.72	.108	10
Time Management skill	2.53	.878	79
Communication skills	1.00	.100	5
Technical skills	1.00	.100	5

Generated Using SPSS

Table 4- Regression Analysis

Coefficients

Model	Un standardized coefficients		Standardized coefficients	t	Sign
	B	Std Error	B eta		
(Constant)	.011	.111	-	.91	.90
Persistence 1	1.00	.010	.099	32.111	.000
Persistence 2	1.00	.020	.011	32.000	.000
Effective Time management skill	1.702	.052	.095	31.000	000
Effective Communication skill	1.00	.010	.093	11.000	000
Basic Technical skills	1.00	.010	.093	11.000	000

Generated Using SPSS

Conclusion

E-learning was underutilized in the past, especially in developing countries. However, the current crisis of the COVID-19 pandemic enforced the entire world to rely on it for education. In the current study, the majority of participants strongly agreed with the perceived usefulness, perceived ease of use, and acceptance of e-learning. The highest challenge for accepting e-learning were insufficient/ unstable internet connectivity, inadequate computer labs, lack of computers/ laptops, and technical problems. The significant indicators affecting e-learning acceptance were lack of technical knowledge and lack of communication skills amongst Traditional courses like B A and B Com students. The study shows clearly that students are not well prepared for the online learning scenario. The preparedness of the students will reflect in the performance of the students. Education aims to produce successful graduates with adequate knowledge and skills. The colleges can plan training programs for the students to improve the preparedness of students and to ensure better online training sessions. This study highlights the challenges and factors affecting the acceptance of e-learning as a tool for teaching within higher education, in developing countries and may lead to strategic development and implementation of e-learning and view technology as a positive step towards evolution and change.

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THE WAR REALITIES IN WORKS BY MOHAMMED YUSUF AL QUAYID

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Abstract
Mohammed Yusuf Al Quayd is a prominent representative of the "New Wave" literary movement that emerged at the end of the 20th century.
He is a contemporary Egyptian novelist and short-story writer. Born in the Delta region of a peasant background, Al Quayd received his education entirely in Egypt, and worked as a teacher before moving into journalism; he also served in the Egyptian armed forces during the wars of 1967 and 1973.
His first novel, "Mourning" (1969), took as his main theme of the conflict between the requirements of official justice and traditional patterns of family retribution. The novel was marked by a lively use of Egyptian colloquial, and by the author's technique of portraying events through the eyes of the participants themselves. The theme of family honour was continued in "On the farm Ai Minisi" (1971), in which Al Quayd also began to experiment more radically with the novelistic technique.
His other most popular novels are "This is happening in Egypt these days" (1977) and "War on the land of Egypt" (1979).
These works of Al Quayd can be called historic. His stories and novels depict the villages and villagers in Egypt on the background of the socio-political processes taking place in the country, the ongoing agrarian reforms and the war.

Keywords: Mohammed Al Quayid, Egypt, war

Məhəmməd Yusuf Əl-Quayyidin əsərlərində müharibə reallıqları

Özet
XX əsrin sonlarında Misir ədəbiyyatında yaranan "Yeni dalğa" ədəbi cərəyanının görkəmli nümayəndələrindən biri Məhəmməd Yusuf Əl-Quayyid 1944-cü ildə Misirin Əd-Dahriya kəndində dünyaya gəlib. İlk təhsilini kuttəbdə alan gələcək yazıçı Pedaqoji Universitetin məzunu olub, 7 il hərbi xidmətdə çalışıb.
Əl-Quayyidin zəngin ədəbi irsindən bəhs edərkən mütləq qeyd edilməlidir ki, həmişə əsərlərində misirlilərin problemlərini və Misir mühitini işləmişdir. Onun "Matəm" (1969), "Quraqlıq günləri" (1973), "Əl-Minisi xutorunda hadisə" (1971), "Bunlar Misirdə bu gün baş verir" (1977), "Misir torpağında müharibə" (1981), "Qış yuxusu" (1976), "Bəlağətli kəndlinin müharibə haqqında dedikləri" (1983) və digər əsərlərində Misirin hər kəsi və hər yönü təsvir olunmuş, xüsusən kənd reallıqları müfəssəl, ən xırda məişət incəliklərinə qədər işlənmişdir.

Tədqiqatın mövzusuna gəlincə, Əl-Quayyidin yaradıcılığının demək olar ki, 90 faizində müharibə mövzusu ana xətti təşkil etmişdir. Bu baxımdan onun "Misir torpağında müharibə", "Bəlağətli kəndlinin müharibə haqqında dedikləri", "Rəbbab rəsm çəkməkdən imtina edir" əsərləri araşdırmaya cəlb edilmişdir.

Qeyd edilməlidir ki, yazıçı bu əsərlərində müharibənin yalnız ön cəbhədə yaşanan dəhşətlərini verməklə kifayətlənməmiş, eyni zamanda arxa cəbhədə müharibənin yaratdığı fəsadları, acıları çox dolğun işləmişdir. "Misir torpağında müharibə" povesti isə 2008-ci ildə Misirdə Dövlət Mükafatına layiq görülməklə, ərəb dilində yazılmış əsərlər arasında ən çox oxunan dördüncü roman kimi yüksək pillədə qərarlaşmışdır.
Belə bir nəticə də mütləq vurğulanmalıdır ki, Əl-Quayyid daim əsərlərində müharibələrin böyük dövlətlərin maraqlarına görə başlayıb-bitdiyini, bunun fəsadlarından isə günahsız xalqın əziyyət çəkdiyini doğru olaraq qeyd etmiş, buna diqqət çəkmişdir.

Açar sözlər: Əl-Quayyid, Misir, müharibə, ərəb ədəbiyyatı

XIX əsrdən başlayaraq Misirdə baş verən ictimai-siyasi dəyişikliklər həyatın əksər sahələrində olduğu kimi, ədəbiyyatda da izsiz ötüşmür. Belə ki, bu dönəmlərdə digər ölkələrin ədəbi yolu ilə sürətli qarşılıqlı yanaşma prosesi tamam fərqli janrlar, mövzular, ideya və obrazlarda özünü büruzə verən yeni ədəbiyyatın formalaşmasına səbəb olur.

XX əsrin 60-70-ci illərində isə Misir ədəbiyyatında "azad yaradıcılıq", "yeni estetik və etik baxışlar", "sərbəst, sərhədsiz ədəbi ifadə tərzi" cücərməyə başlayır ki, bu da "yeni dalğa" ədəbiyyatını formalaşdırmış olur. Bu ədəbi cərəyan tamamilə yeni mövzu, ideya, ifadə tərzi, obrazlarla seçilir. Bu yeniliklərin yaranmasını isə Misirdəki şərait özü vacib edirdi. Belə ki, ölkədə baş vermiş 1952-ci il inqilabi, hakimiyyət dəyişmələri, İsraillə müharibələr, Süveyş kanalı ətrafında baş verən tarixi hadisələr, Kemp-Devid müqaviləsi (1978) və digər bu kimi qaynar tarixi hadisələrin fonunda iqtisadiyyatın milliləşdirilməsi, kənd təsərrüfatında islahatlar dalğası ədəbiyyatın da inikas güzgüsündən kənarda qala bilməzdi. Xüsusən, bu dövr Misir ədəbiyyatının ana xəttini müharibə mövzuları təşkil edirdi ki, "yeni dalğaçılar" arasında da yaradıcılığında müharibə mövzusu olmayan birini tapmaq mümkün deyil desək, yanılmarıq. Hətta demək olar ki, hər bir əsərdə müharibə mövzusu bu və ya digər şəkildə işlənir, yəni birbaşa müharibədən bəhs edilməsə də, müharibənin fəsadları süjet boyu izlənirdi.

Bu cərəyanın görkəmli nümayəndələrindən biri Məhəmməd Yusuf Əl-Quayyidin əsərlərinin isə demək olar ki, 90 faizində müharibə mövzusu ana xətti təşkil etmişdir. Bu baxımdan müəllifin 1979-cu ildə yazdığı "Misir torpağında müharibə" povesti daha çox diqqəti çəkir (4). Belə ki, əsər adından göründüyü kimi, ön cəbhədə, eləcə də atəşdən uzaq qalan arxa cəbhədə gedən müharibədən, onun fəsadlarından bəhs edir. Süjet arxa cəbhədə başlayır - cəbhədən kənarda varlı insanların yaşamında müharibənin getdiyi heç sezilmir. Gözəl, firəvan, zəngin həyat, rifah içində yaşayan ailə, torpaq, dəbdəbəli ev, avtomobil və qəflətən kəndin varlısı omdanın düzəni kiçik oğluna hərbi xidmətə çağırış vərəqinin gəlməsi ilə pozulur. Omda üçüncü arvadından olan tək oğlunu nəyin bahasına olursa-olsun, hərbi xidmətdən yayındırmağa qərar verir. Və bu, onun ilk təcrübəsi deyil, belə ki, daha öncə birinci oğlu omdaların oğulları haqqında qanuna əsasən, ikinci oğlu Quranı təm əzbərlədiyi, fakih, Allahın sözünü bilən olduğu üçün hərbi xidmətdən azad olub. Üçüncü oğlunu pul müqabilində hərbi xidmətdən saxlatdırıb. İkinci arvadından olan dördüncü oğlunu isə hərbi xidmətdən azad etmək üçün kağızda boşanıb, bundan sonra həmin oğlu anasının tək himayədarı olduğu üçün hərbi xidmətdən azad edilib. İndi omda son oğlunu da hərbi xidmətdən azad etmək qərarına gəlir, bunun üçünsə ona "makleri"in xidmətlərindən yararlanmağı məsləhət görürlər. Və yazıçı Misirdəki "maklerlərin" bir cümlə ilə tərifini verir: "Hamı bilir ki, makler o zaman meydana çıxır ki, qanunu yan keçmək lazım olur". Bu tərifə də müəllif əslində Misirdə hökm sürən özbaşınalıq, rüşvətxorluq və pulun hakimiyyətini, ədalətsizlik və haqların tapdandığı mühiti təsvir etmiş olur.

Omda maklerlə görüşür və onun təklif etdiyi hərbi xidmətdən yayınmanın müxtəlif yollarının heç biri ilə razılaşmayıb, yalnız bir təklifi qəbul edir – oğlunun yerinə yoxsul kəndlinin həmyaşıd oğlunu hərbi xidmətə göndərmək. Bu işin həlli bir çox instansiyalardan, məmurlardan keçir ki, buna görə istənilən məbləği – rüşvəti ödəməyə omdanın maddi imkanı çatır. Fərsiz övladının əvəzində oğlunu hərbi xidmətə göndərəcək kəndlini isə razı salmaq heç də çətin deyil, ona gündəlik çörəyini çıxarmaq üçün bir parça torpağı vəd etmək bəs edir.

Beləliklə, omdanın oğlunun əvəzinə kənddə bacarığı, savadı, ağlı ilə hamıdan seçilən, amma təhsilini davam etdirmək imkanı olmayan Misri seçilir. Misri ailəsinə kömək etmək məcburiyyətində qaldığı üçün bu işə razlıq verir. Dərhal saxta sənədlər düzəldilir.

Əsərin davamı ön cəbhədə cərəyan edir – barıt qoxusu, qana bələnmiş şəhidlər və yaralılar... Omdanın oğlunun sənədləri ilə hərbi xidmətə yola düşən Misri də əsl vətənpərvər kimi qəhrəmanlıq göstərərək Misir uğrunda şəhid olur. Bununla da hər şey dolaşığa düşür. Mərhumun cəsədi dəfn edilməsi üçün kəndə gətirilərkən bütün qurulmuş oyunun üstü açılır.

Beləcə, bu süjet xəttinin içində müəllif çox ustalıqla və parlaq iplərlə müharibə reallıqlarına toxunmuş, insan qəlbini titrədən acıları İsrail-Misir savaşının (1973-cü il) cəbhəsində açıqlamışdır. Əl-Quayyid cəbhədəki həyatın əsərin əvvəlində təsvir olunan həyatdan fərqli çalarlarını ən dərin təzad kimi işləmiş, müqəddəs məfhumunun cəbhədəkilər üçün başqa, omda və onu kimi varlılar üçün başqa mahiyyət daşıdığını vurğulamışdır. Omdanın oğlnun əvəzinə cəbhəyə gedən Misri bir müddət sonra bu sirri yaxın bildiyi, özündən rütbəcə yuxarı zabitə danışır və növbəti gün komandirin qəbuluna yazılaraq həqiqəti bildirəcəyini bəyan edir. Lakin bunu etmir, zabit səbəbini soruşduqda isə Misri cavab verir ki, əgər müharibə başlayırsa, Vətən ən öndə duran məqsəddir, bu zaman hansı şəxsi işdən söhbət gedə bilər: "Hər bir işi bir həftə, bir neçə ay, hətta illərlə təxirə salmaq olar, amma torpaqlarımızın azad edilməsini olmaz. Müqəddəs vəzifəmizin birinci hissəsini yerinə yetirək – torpağımızı azad edək, geri qayıdaq, sonra şəxsi problemlərimizi də həll edərik. Bu, bizim vəzifəmizin ikinci hissəsi olacaq. İndi şəxsi işimlə bağlı danışmağın zamanı deyil" (4, səh. 56-57).

Misri ön cəbhəyə gedən dərman, su, sarğılarla təchiz olunmuş ilk sanitar qrupunun komandiri olaraq odun-alovun içinə yollanır və günlərin birində yaralıları daşıdığı xərəkdə onu gətirirlər. Bədəninin bir neçə yerindən qəlpə yarası almış Misri ağır vəziyyətdə olur. Cəbhədiklər onun yaralı halda da başqalarına tibbi yardım göstərdiyini söyləyirlər. Hospitalın rəisi hətta mümkün olmayanı da etmək bahasına onun həyatını xilas etməyi əmr etsə də, əcəl Misriyə rəhm etmir.

Daha sonra ucsuz-bucaqsız Misiri qucaq dolusu sevən Misrini qara tabutda kəndə gətirirlər. Ən acınacaqlısı isə onun könüllü olaraq hərbi xidmətə yollanıb, orada başqalarının gözündə yüksəlmək üçün özünü omdanın oğlu kimi təqdim edərək yalan danışdığı bəyan edilir. Şəhid Misriyə yalançı damğası vurulur...

Müəllifin sırf müharibə mövzusuna həsr olunmuş "Bəlağətli kəndlinin müharibə haqqında dedikləri" əsəri isə tamam başqa səpkidə, fərqli tərzdə işlənmişdir (5). Uzaq kənddə hamı düşmən təyyarələrinin Əbu Zaabal yaxınlığındakı zavodu bombalaması, çox sayda ölən və yaralanan olması xəbərindən danışır. Müəllif bombalanan zavoddan uzaqda, kənddə yaşananları - müharibənin acılarını çox ustalıqla, vətəndaş təssübkeşliyi ilə, siyasi oyunların tərəflərini açmaqla təsvir edir. Bəzi kəndlilər Əbu Zaabalın kəndə nə qədər yaxın və ya uzaq olduğunu belə bilmir, onları ancaq müharibənin nə qədər yaxın olması narahat edir. Salebin qəhvəxanasına toplaşanlar isə həmkəndliləri, bombalanan zavodda işləyən Əhməddən danışırlar. Hələ ötən gün salamlaşıb hal-əhval tutduqları insanın bu gün taleyi naməlumdur. İnsanlar müharibə səbəbindən dünən var, bu gün yox olan insanların acısını çəkirlər və bu,

onları qorxudur: "Ani olaraq hamı gecə yarısı və səhər tezdən kəndin üzərindən uçan təyyarələri düşündü. Yüksəklikdə uçan bu təyyarələri xatırlayınca bir çoxunun tükü biz-biz oldu. Təyyarənin uğultusunu eşidərkən hər kəs başını qaldırıb mavi səmada həmin təyyarələri uzun müddət seyr etmişdi. Onlar üçün səmadan müqəddəs heç nə yox idi. Axı, həmişə, xüsusən çətin anlarda, əllərini göyə uzadıb ürəklərindən gələn sözləri-duaları səsləndirirdilər. Xeyir-bərəkət verən bu sakit mavi ənginlikdən qəflətən ölüm gəlməsini onların şüurları heç cür dərk etmirdi. Bunu dərk etməyə acız olan kəndlilərin yalnız "Allah, sən qoru bu bəladan" deyə pıçıldamaqdan başqa çarələri qalmadı" (5, səh. 199).

Bir neçə il öncə müharibə başlayarkən (5 iyun 1967-ci il Ərəb-İsrail müharibəsi nəzərdə tutulur) doğma yurd-yuvasını tərk etməyə məcbur qalaraq bu kənddə məskunlaşan, bu səbəbdən hamının Qərib çağırdığı Zeyn Əl-Abidin isə qəhvəxanadakılara müharibədən danışır: "O, bombardmandan danışır, necə evlər dağılır, içi-çölü bir-birinə qarışır, bir vaxtlar yataq otağı, mətbəx olan otaqların yalnız divarları qalır, üzərində keçmiş həyatdan bəzi izlər, ləkə, uşaqların cızdıqları yazı, şəkil... O, kişi, qadın, qoca və uşaqların bir anın içində necə ölməsindən, bombalanma xəbərdarlığı verən həyəcan siqnalı çalınca əvvəlki həyatın necə yox olmasından və qorxunun bərqərar olmasından danışır: işıqlar kəsilir, hamı qaçır, dəhşətdən hamı başını itirib, bir an öncə insanları bir-birinə bağlayan bağlar qopur, bütün dəyərlər itir və hər kəs yalnız öz canını qurtarmağı, xilas olmağı, sağ qalmağı düşünür" (5, səh. 199).

Söhbətin acısı, ağırlığı hamını sarsıdır, söhbət bitər-bitməz Saleb ortamı dəyişmək üçün müştərilərə çay, qəlyan təklif edir. Axşamın qaranlığında hamı qəhvəxananı tərk edincə isə Saleb bu gün qəhvəxanada alverdən əldə etdiyi pulu haqq-hesab edib düşünür ki, zavodun bombalanması onun üçün uğurlu olub. Belə ki, bu gün qəhvəxanaya daha çox müştəri gəlib və o, daha çox pul qazanıb.

Zavodun bombalanması xəbəri kəndin başqa bir sakini Şeyx Vaxdanda müharibədə şəhid olmuş qardaşı Fuadla bağlı xatirələri bir daha oyadır. Şeyx zavodda həlak olanların doğmalarını düşünür. Zavodda həlak olanlar da qardaşı Fuad kimi, doğmaları ilə görüşmədən, halallaşmadan, bir kəlmə söz demədən gözlənilmədən bu həyatdan köçüb getmişlər və arxalarında acı göz yaşları buraxmışlar. O, qardaşını itirəndən sonra həyatda hər şey ona mənasız, darıxdırıcı gəlir, heç nə ilə təsəlli tapa bilmir. Qardaşını itirən şeyx öz övladlarına həsrətlə baxır, onları hər an itirmək qorxusu onu sarır, oğlu kimi sevdiyi kiçik qardaşının ölümündən sonra oğullarını tamam başqa bir məhəbbətlə, fani dünya hissi ilə sevir.

Qardaşının cəbhədə qəhrəmancasına şəhid olması xəbərini alan şeyx paytaxtda onun təntənəli dəfn mərasimində də iştirak edir, amma qardaşının ölümünü qəbul etmək onun üçün yenə çətindir. Kənddə qəbir qazdırıb üstünü açıq saxlayır, paytaxtda dəfn olunan qardaşının ruhunun doğma yerlərə dönməsini, kənddəki məzarlıqda rahatlıq tapmasını, uyumasını istəyir. Hər səhər açıq qəbirin başında durub fatihə oxuyur. Qarşıdan gələn bayramı isə o, qeyd etməyəcək, uşaqlara libas almayacaq, evə gələn qonaqlardan başsağlığı qəbul edəcək. Axı, bu, Fuadın ölümündən sonra onsuz keçən ilk bayramdır – qara bayram.

Beləcə, müəllif bir kəndin, bir ailənin timsalında müharibənin yaşatdığı acıları çox təsirli ifadə etmiş, "müharibə bayramları qaraldır, həyatları söndürür" ideyasını çatdırmışdır.

Həmin əsərdə müharibənin başqa bir dəhşətini isə Əl-Quayyid oğlunu itirmiş ananın faciəsində ifadə edir - oğlunun ölüm xəbəri ilə barışmayıb müharibədən qayıtmasını gözləyən Umm Lamlumun acı taleyi. Ərini hələ gənc yaşlarında itirib dul qalan Umm Lamlumun həyatda yaşamaq üçün tək səbəbi oğludur. Artıq bir ildir oğlundan xəbər almayan qadın onun ölümünü qəbul edə bilmir. Üç ilə qədər ölümü rəsmi təsdiqlənmədiyi halda övladı itkin düşmüş sayılır və qadın itkin düşmüş statusuna görə ona verilən müavinəti toplayıb, oğlu

hərbi xidmətə getməzdən öncə könül verdiyi qızın qapısına elçi gedir, hədiyyələr alır, toy tədarükünə başlayır (5, səh. 204).

Əsərin sonunu isə müəllif simvolik bitirir. Kəndin gəncləri – Misirin sabahı, Vətənin bugünü üçün təşviş keçirirlər. Kimiləri sadəcə müzakirə, boş söhbətlərlə kifayətləndiyi halda, onlardan biri Fəthi Mustafa könüllü olaraq cəbhəyə getmək qərarı qəbul edir.

Müəllif bütün əsər boyu savaşların pərdə arxasında böyük dövlətlərin maraqlarının toqquşduğunu, siyasi oyunlar aparıldığını qeyd edir, "müharibə oyunlarında" həmişə xalqın oyuncaq və qurban olduğunu vurğulayır.

Əl-Quayyidin "Rəbbab rəsm çəkməkdən imtina edir" əsərində isə Misir gündəmi və müharibə reallıqları balaca qızçığazın çəkdiyi rəsmlərin köməyi ilə simvolik ifadə olunmuşdur (5). Rəsmlərdə vəzifə kürsüsü, katibə, rahatlığını düşünən məmur, xalqı əzən feodal, ona müti şəkildə tabe olan təbə arzulayan hökmdar, düşünmək qabiliyyətinə malik olduğu üçün həbsə atılan zümrə və əsgər var. Əsgərin missiyası Vətənin işğal altında olan torpaqlarını azad etmək, düşməni sərhədlərdən rədd etməkdir. Əlində silah olan, Vətən eşqi ilə ürəyi döyünən əsgər rəsmdə çəkilmiş televizorda rəqqasənin oynadığını, müharibənin isə dayandırılmasının elan edildiyini eşidir. Halbuki, torpaqlar hələ də işğal altındadır. Komandirlər isə əsgərlərə atəşi dayandırmağı əmr veriblər. Əsgər o zaman çaşır, silahı nə üçün daşıdığını, məqsədini bilmir: "Qarşısında məqsədi, hədəfi olmayan silah ikiqat təhlükəlidir" deyə o, xəbərdarlıq edir. Əsərin sonunda rəsmdəki əsgər "Silah varsa, atəş açılmalıdır" deyib, Rəbbabın qardaşını güllələyir.

Nəticə olaraq bu qənaətə gəlmək olur ki, Əl-Quayyid daim əsərlərində müharibələrin böyük dövlətlərin maraqlarına görə başlayıb-bitdiyini, bunun fəsadlarından isə günahsız xalqın əziyyət çəkdiyini doğru olaraq qeyd etmiş, buna diqqət çəkmişdir.

Bu "yeni dalğa" yanaşmasını eyni ilə başqa bir misirli yazıçı Bahə Tahirin "Sürgündə məhəbbət" (1995) əsərində də müşahidə etmək olar. Burada məhəbbət süjeti ilə paralel olaraq yazıçı çox böyük məharətlə qanlı-qadalı müharibə səhnələrini, viran qalmış yaşayış məskənlərini, qalaqlanmış insan cəsədlərini, aclıq və səfalət çəkən günahsız insanları real tarixi fakt və coğrafi məkanlar daxilində təsvir etmişdir (1). B.Tahir müharibənin acı həqiqətlərini, səhnə arxasındakı əsl baiskar simaları ifşa etmiş, ədalətsizliyi, insanların "növlərə" bölünməsini pisləmişdir.

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SIGNIFICANCE OF THERMAL RADIATION ON MHD FLOW OF HYBRID NANOFLUID OVER A STRETCHING SURFACE

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Abstract
The central objective of this research is to address the boundary layer analysis of three-dimensional hybrid nanofluid flow over a stretching sheet. Thermal radiation and magnetohydrodynamic analysis are featured in this work. Nonlinear differential equations representing flow expressions are numerically solved using Runge-Kutta-based shooting technique. The influence of several physical parameters on the flow profiles are discussed graphically and in tabular form. Similarity solutions are witnessed for nanofluid and hybrid nanofluid cases. The significant outcome of the current investigation is that the increment in nanoparticle volume fraction improves the heat transfer rate of both solutions. Also, the velocity field lines are declined due to the strengthening of Casson fluid parameter. Furthermore, rise in thermal radiation parametric values develops the thermal profiles and enhances the thermal transfer rate. Thermal transfer performance of hybrid nanoliquid is highly influenced for various physical parameters than normal nanofluid.

Keywords: Stretching sheet, Casson fluid model, hybrid nanofluid, thermal radiation, non-uniform heat source/sink.

EVALUATION OF ANTIOXIDANT EFFECTIVENESS OF GINGER EXTRACT IN BIODIESEL

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Abstract
Due to the increasing energy demand and the decrease in fossil fuels in recent years, researchers have turned to new alternative fuels. Biodiesel fuels are a candidate to meet this requirement directly. Biodiesel fuels can be produced from vegetable seed oils, animal fats and waste frying oils. Determining the shelf life of the produced biofuels is an important parameter in evaluating their usability. Especially in biofuels, oxidation products originating from temperature changes cause malfunctions in engines and equipment. For this reason, oxidation stability is one of the most important parameters that determine the quality of biodiesel fuels and directly affects the stability of biodiesel. For this purpose, the antioxidant activity of ginger extract on biodiesel obtained from waste cooking oil was investigated in this study. Ginger extract is a natural and easily available substance with antioxidant properties. The presence of phenolic compounds in ginger extract was determined by Fourier Transform Infrared Spectroscopy (FT-IR). In order to determine the antioxidant properties of ginger extract, it was added to biodiesel at different concentrations of 1000, 2000 and 3000 ppm, and the results were compared with the synthetic antioxidant butyl hydroxy toluene (BHT). Differential Scanning Calorimetry (DSC) technique was used to determine the crystallization points (Tc) of the samples in order to evaluate the oxidation stability of the samples. At the end of the study, it was shown that the antioxidant activity of 1000 ppm ginger extract has the equivalent activity of 1000 ppm BHT. These studies concluded that synthetic antioxidants and natural antioxidants can be replaced in the future for the preservation of biodiesel.

Keywords: Antioxidant, DSC, FT-IR, Ginger extract, Oxidation Stability, Waste Cooking Oil

INTRODUCTION

Recently, the requisition for eco-friendly, sustainable, economical, and renewable energy sources have increased (Avila Orozco et al. 2020). The primary causes for the growing request are the restricted fossil fuel resources and the detrimental emissions ejected by available energy resources to the environment (Pandey et al. 2019). Emissions of traditional fossil fuels bring along many environmental problems such as air pollution, global warming, and climate change (Mirnezami, Zahedi, and Shayan Nejad 2020). Alternative fuels which have enormous characteristics such as sustainability, cleanliness, and eco-friendly are a new awareness tool to reduce the negative effects of conventional fuels. In this context, the use of biodiesel in diesel engines has come to the focus (Devi, Das, and Deka 2019). Biodiesels fuels exist from the methyl esters of unsaturated fatty acids. The methyl esters of unsaturated fatty acids (FAME) causes autoxidation in air atmosphere. Therefore, oxidation stability is one of the fundamental parameters have to determine for its quality (Yang et al. 2017).
The iodine value (IV), peroxide value (PV), oil stability index (OSI), and induction period (IP) values of biodiesel provide information about the oxidation stability of biodiesel (Supriyono et al. 2015). The major practices used to define these values are Rancimat, PetrOXY, and EN14112 (Pardauil et al. 2011). In addition to all these methods, Differential

Scanning Calorimetry (DSC) and Fourier Transform Infrared Spectroscopy (FT-IR) are cheap and reliable methods used to determine oxidation stability of biodiesel. Antioxidants are generally used as deoxidizers due to their mechanisms. Recently, the usage of natural additives in industrial products such as food, medicine, cosmetics, and fuel has come to the fore. These natural additives are minimizing or reducing the efects of harmful substances are antioxidants used for the purpose. Antioxidants mainly consist of two categories as natural and synthetic. The traditional synthetic antioxidants such as tert-butyl hydroquinone (TBHQ), pyrogallol (PY), propyl gallate (PrG) butylated hydroxy anisole (BHA), and butylated hydroxy toluene (BHT) [10] have been used to improve the oxidation stability of biodiesel. Additionally, natural antioxidants such as tocopherols, gossypol, quercetin, catechin, curcumin, oregano, basil, and bilberry, have also been indicated to increase the oxidation stability of biodiesel (Gediz Uğuz 2021). Ginger, whose Latin name is *Zingiber officinale* Roscoe. It is a budded plant commonly grown in China. Ginger showed high antioxidant activity due to gingerol in terms of free radicals (Johnson et al. 2021). The schematic picture was shown in Figure 1.

Figure 1. The exhibition of ginger plant and powder.

In this study, oxidation stability is a significant biodiesel parameter that must be kept well within the desired limit to protect biodiesel grade. Therefore, this study aims to investigate the impact of ginger extract as natural antioxidant and compare with butyl hydroxy toluene (BHT) as synthetic antioxidant on the oxidation stability of biodiesel prepared from waste cooking oil methyl ester (WCOME) using Fourier Transform Infrared Spectroscopy (FT-IR) and Differential Scanning Calorimetry (DSC) techniques as cheap and fast methods to replace Rancimat method. Natural and synthetic antioxidants were doped at 3 different ratios of 1000, 2000 and 3000 ppm respectively. The influence of type and amount of antioxidants and the properties of biodiesel were also considered in this work. This work is believed to promote the application of FT-IR and DSC for future studies.

MATERIALS AND METHODS

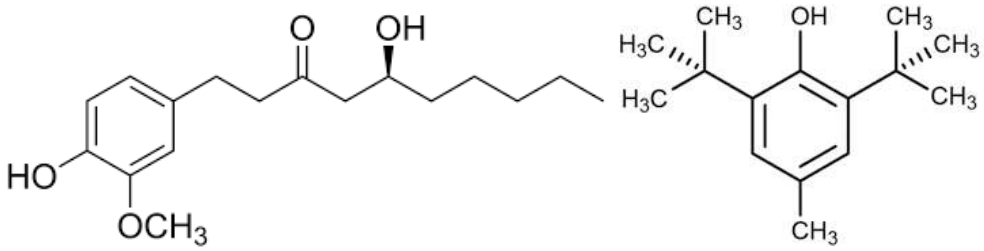
Materials

Waste cooking oil methyl ester (WCOME) was supported from Kolza Biodiesel Company in Turkey. The instrumental techniques for the determination of the biodiesel oxidative stability have been explained. Ginger extract was provided as natural antioxidant. Butyl hydroxy toluene (BHT) was provided as synthetic traditional antioxidant to compare with the effects of ginger plant.

Addition of natural and synthetic antioxidants to WCOME

Ginger extract was used as natural antioxidants in this study. Ginger exctract were obtained from Arifoğlu Company (İstanbul, Turkey). BHT was used as classical synthetic antioxidant to compare with ginger. Samples were mixed certain amount of natural and chemical antioxidant at different concentrations between 1000, 2000 and 3000 ppm by centrifuge

technique. The chemical formula of gingerol in ginger and BHT is shown in Fig. 2. Antioxidants were added with WCOME at different ratios: 1000, 2000, and 3000 ppm. All antioxidants are dissolved in the WCOME biodiesel. Table 2 shows the prepared samples besides WCOME biodiesel (B100).



(a) **(b)**

Figure 2. Chemical Structure of antioxidants a) gingerol (Johnson et al. 2021) and b) BHT(Gediz Uğuz 2021)

Table 2. The codes and contents of the prepared test samples for the study

Code	Concentration (ppm)	Content
W	0	0 mg antioxidant / 1 L WCOME
B1	1000	1000 mg BHT antioxidant / 1 L WCOME
B2	2000	2000 mg BHT antioxidant / 1 L WCOME
B3	3000	3000 mg BHT antioxidant / 1 L WCOME
G1	1000	1000 mg Ginger antioxidant / 1 L WCOME
G2	2000	2000 mg Ginger antioxidant / 1 L WCOME
G3	3000	3000 mg Ginger antioxidant / 1 L WCOME

Biodiesel characterization

In this study, W, B1, B2, B3, G1, G2 and, G3 were characterized by using Perkin Elmer Fourier transform infrared spectrometer (FT-IR). FT-IR spectra were obtained in the range of 4000–650 cm-1 and processed with a computer software program Spectrum Two. Sample amount is 0.5 mL, and ethanol was employed to clean the analysis surface for cleaning before the background collection. W, B1, B2, B3, G1, G2 and, G3 were analyzed by TA Q-2000 DSC under the fow of nitrogen (N_2). The DSC curves were obtained in a calorimeter model DSC Q20 with RCS90 coupled with a cooling system, both from TA Instruments. The analysis conditions are exhibited in Table 2. Each DSC analysis took approximately 15 min. All DSC thermograms were evaluated with the help of TA Orchestrator Version V7.2.2.1.

Table 3. The operation conditions for DSC analysis

Parameter	Conditions
Sample amount	3 ± 0.5 mg
Gas	Nitrogen (N_2)
Flow rate	50 ml/min
Temperature range	−80–+20 °C
Ramp rate	10 °C/min

RESULTS and DISCUSSIONS

FT-IR Spectra

The presence of phenolic compounds in ginger extract was determined by Fourier Transform Infrared Spectroscopy (FT-IR) in Figure 3. The assignments of data were presented in Table 4. The broad O-H peak were shown at nearly 3298 cm^{-1} due to crystal water.2925 and 1638 cm^{-1} wavenumbers are about CH_2 and C-O peaks, respectively. Aromatic C-H peaks were shown at nearly 1456 and 1365 cm^{-1}. C-O-C peak vibrations were presented nearly at 1246, 1152 and 1076 cm^{-1}. The characteristic C-H peaks were exhibited in nearly 1000, 862 and 766 cm^{-1} wavenumbers.

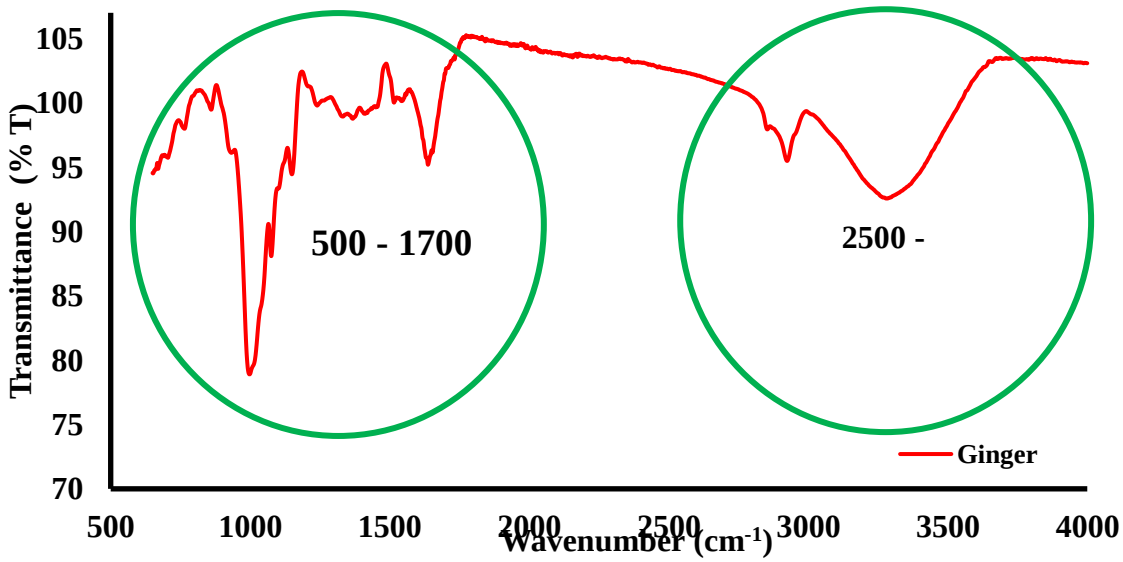


Figure 3. IR spectra of ginger

Table 4. The assignments of ginger from IR spectra.

Wavenumber (cm^{-1})	Assignments
3298	O-H cyrstal water
2925	CH_2
1638	C-O
1456	Aromatic C-H
1365	Aromatic C-H
1246	C-O-C
1152	C-O-C
1076	C-O-C
1000	C-H
862	C-H
766	C-H

DSC Thermograms

The crystallization onset temperatures of W, B1 and G1 under N_2 atmosphere were studied using DSC and are presented in Figure 4. The results show that the crystallization onset temperatures for W, B1 and G1 were −4.19,−9.12, and −9.20 °C respectively. W sample

crystallizes lower than B1 and G1, hence the natural and synthetic antioxidant effects. The supporting of antioxidants to biodiesel decreases the concentration of saturated methyl esters which leads to a reduction in the crystallization onset temperature (G. Uğuz et al. 2019).

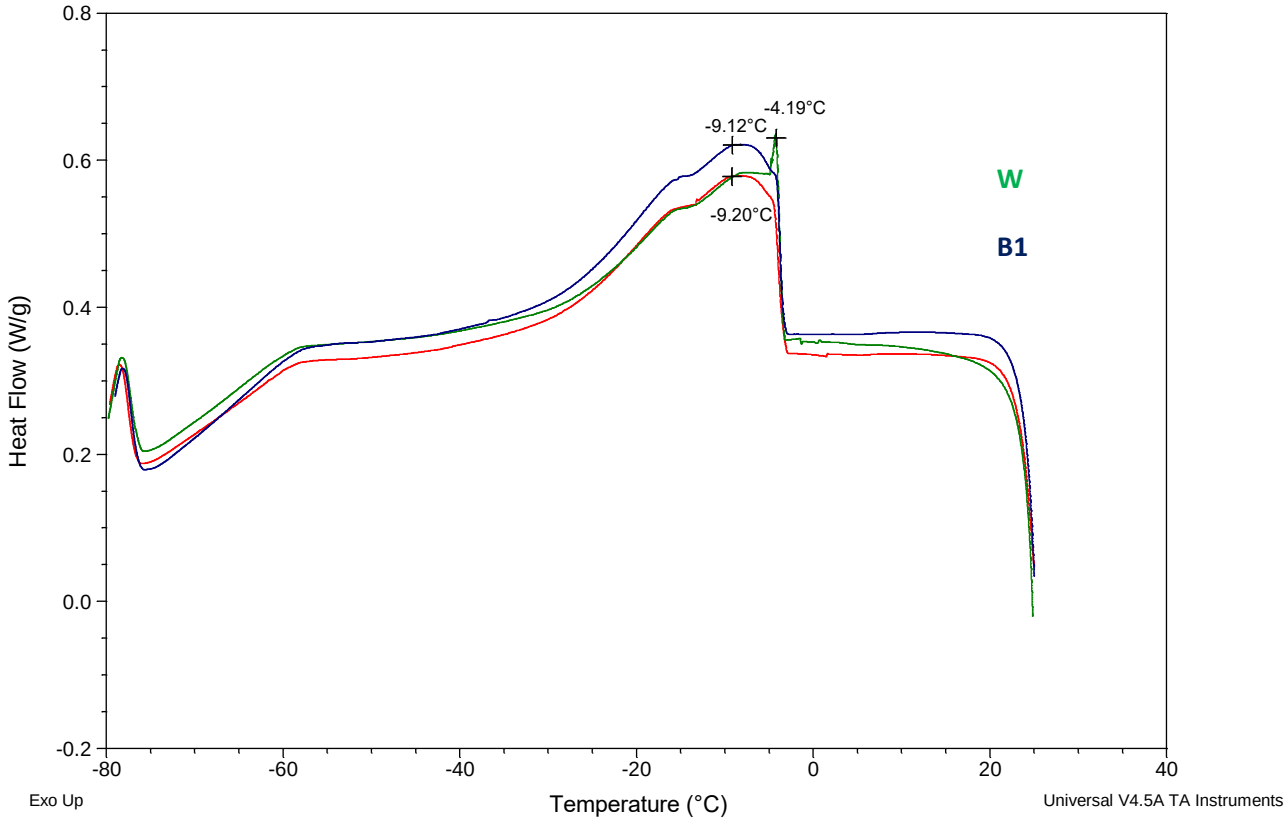


Figure 4. DSC thermogram of W, B1 and G1.

CONCLUSIONS

Ginger extract proved antioxidant activity for waste cooking oil biodiesel at 1000 ppm. Oxidation stability has increased by increasing both natural and synthetic antioxidant concentrations. All samples were analyzed; B1 and G1 exhibited the highest and same antioxidant performance. It was concluded that ginger can be added into biodiesel as natural antioxidants at 1000 ppm. The results showed that the ginger plant has potential for replacement of synthetic antioxidant. In addition, the low cost of natural antioxidant substances facilitates the usage.

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MAGNETOHYDRODYNAMIC FLOW OF CASSON HYBRID NANOLIQUID ABOVE A SLENDERING SURFACE WITH SLIP EFFECTS

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Abstract
In this paper, we studied the 3D free convection flow of electrically conducting hybrid nanofluid past a slendering surface of non-uniform thickness in the presence of slip effects. We pondered aluminum alloys of AA7072 and AA7072+AA7075 in methanol liquid. The aluminum alloys amalgamated in this study are uniquely manufactured materials, possessing enhanced heat transfer features, AA7072 encompassed with 98% Aluminum and 1% of Zinc with the additives such as Si, Fe and Cu. Similarly, AA7075 comprises 90% Aluminum, 5–6% Zinc, 2–3% Magnesium, 1–2% Copper with the additives such as Si, Fe and Mn. In this study, R-K and Newton's methods are employed to obtain the numerical results. Impact of physical parameters on the distributions of temperature, microrotation and velocity are analyzed with the aid of plots. Results ascertain that, heat transfer rate in methanol based AA7072+AA7075 nanofluid is significantly high as compared with methanol based AA7072 nanofluid. And also, the wall thickness parameter has a tendency to improve heat transfer rate of both the nanofluids.

Keywords: Slendering stretching sheet, hybrid nanoliquid, MHD, Slip effects.

TARAXACUM OFFICINALE IS A PROMISING SOURCE OF HYDROXYCINNAMIC ACID DERIVATIVES

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Abstract
Hydroxycinnamic acids (HCAs) and their derivatives (caffeic, chlorogenic and ferulic acids) act as powerful antioxidants. These polyphenols can be found in fruits, vegetables and beverages. *Taraxacum officinale* (TO) exhibits many promising actions, antioxidant too.
To assess the total content of HCAs and their derivatives in TO leaves and roots ethanolic extracts.
Taraxacum officinale F. H. Wigg roots (TOR) and leaves (TOL) were harvested in 2018 from the spontaneous flora of the Republic of Moldova. After drying in the lab conditions during 2 weeks at room temperature, were made three series of roots and leaves ethanolic extracts (20, 50 and 80%). The total content of HCAs (chlorogenic acid (CGA), chicoric acid (CA) and caffeic acid (CAF)) was determined by HPLC (Agilent1260) in the Scientific Center of Medicine, SUMPh „Nicolae Testemitanu".
In case of TOL extracts made on ethanol of 20%, HCAs derivatives were determined as follow: CGA – 0.440 mg/ml; CA – 11.9 mg/ml and CAF - 16.9 mg/ml. The same poliphenols in case of TOL extracts made in alcohol of 50% were evaluated as: CGA – 0.582 mg/ml; CA – 17.5 mg/ml and CAF – 24.4 mg/ml. HCAs in TOL extracts made with ethanol of 80%: CGA – 0.143 mg/ml; CA – 1.13 mg/ml and CAF – 2.48 mg/ml.
HCAs content in case of TOR extracts made on alcohol of 20%: CGA – 0.013 mg/ml; CA – 0.081 mg/ml and CAF – 0.21 mg/ml. In case of extracts made on ethanol of 50%: CGA – 0.081 mg/ml; CA – 0.668 mg/ml and CAF – 0.997 mg/ml. HCAs in TOR extracted with alcohol of 80%: CGA – 0.269 mg/ml; CA – 0.810 mg/ml and CAF – 1.57 mg/ml.
TO exhibit a strong antioxidant activity, which depends of ethanol concentration and plant's part. Highest amount of HCAs was determined in case of ethanols of 50% (TOL) and 80% (TOR). Additional studies are needed to evaluate the mechanisms of action of these extracts.

Key words: Taraxacum officinale, hydroxycinnamic acids, antioxidants.

ON THE LACK OF WESTERN MEDITERRANEAN AND ATLANTIC EURAFRICAN PREHISTORY: *Middle East demic diffusion does not exist in Iberia*

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Abstract
Greeks have a Sub-Saharan gene input according to HLA and other autosomic markers. Iberians, Canarians, and North Africans show a close genetic relatedness. There is a genetic kinship between both Atlantic Euro Africans and Noth African/Arabic people. This is concordant with a drying humid Sahara Desert, which may have occurred about 6,000 years BC, and the subsequent northwards emigration of Saharan people may have also happened in Pharaonic times. This genetic input into Atlantic and Mediterranean Europe/Africa is also supported with Lineal Megalithic Scripts in Canary Islands (as well as in Iberia) together with simple Iberian semi-syllabary rock inscriptions both at Canary Islands and Ti-m Missaou (Algeria, central southern Sahara). Lineal African/European scripts are found in some language scripts like Berber/Tuareg, Iberian, Runes, Etruscan, Bulgarian (Sitovo and Gradeshnitza, 6,000 years BP), Italian Old Scripts (Lepontic, Venetic, Raetic), Minoan Lineal A and Vinca scripts (Rumania, Servia, Greece, Bulgaria, about 4,000 years BP). The possibility that Megalithic Lineal Scripts have given rise to these languages lineal writing is feasible because admixture of languages rock scripts and Megalithic Lineal Scripts may be found. Thus, resistance of Canarian aborigines (Guanches) to Cartago, Rome and Arabs left a bulk of Canarian-Saharan information which is used to study both Saharan and Canarian Prehistory, and also Atlantic and Mediterranean beginning of European and other civilizations: this preserved prehistoric inheritance may be named the "Saharo-Canarian Circle" of prehistoric knowledge. Also, linguistics- epigraphy, physical anthropology, archaeology, and domesticated cattle shows a close North Africa-Iberia Mesolithic/Neolithic relationship and demonstrates that the demic diffusion model does not exist in Iberia. Also, Tassili Sahara paintings of domesticated cattle appear 1,000 years before those agricultural practices started at Middle East.

Keywords: Sahara, Usko-Mediterranean, Basque, Berber, Celts, Iberian, Etruscan, Canary Islands, Megalithic, Greeks, Romans, Africa, Europe, Canary Islands, Linear Scripts, Demic diffusion.

INTRODUCTION
Prehistory of western Mediterranean and African-European Atlantic façade has often been neglected (Encyclopedia Brittanica, 2021). In fact, Rome and Greece seem to have been the only actors in Mediterranean History and Anthropology with blurred links with Egypt, not firmly considered by all authors (Encyclopedia Brittanica, 2021; Cunliffe, 2017). However, some points remain unexplained with this simplistic assumption. Megalithic Euro-African monuments are dated at least 2,000 years before classical Giza (El Cairo, Egypt) pyramids are

dated, particularly those of Southern Iberia (i. e.: 7,000 years BP) (Arnaiz-Villena et al., 2013); it does not mean that older dating may be found elsewhere. Megalithic construction technology is much debated but a strong society ties and structure must have existed (Trump, 2002). These types of constructions have been found around Mediterranean Sea and Northern Africa, including nowadays Sahara Desert (Arnaiz-Villena et al., 2019a; 2020). Obviously, these buildings found in Desert were most probably constructed in a greener Epoch, when Sahara was humid before 6,000 years BC (Arnaiz-Villena et al, 1999; 2020; 2021a). In addition, cart-ruts there exist: they are rock-carved channels and crests that cannot be made by cart wheels because of frequent non-parallel and unusual unexpected bends which are impossible to carts for circulating. These are particularly abundant in Malta (Trump, 2002) and ascribed to Bronze Age and Megalithic times, but are found all around Mediterranean area, including Azores Islands and Lanzarote Island (Canary Islands) at Atlantic Ocean (Arnaiz-Villena et al., 2017; 2018; Bonnici, 2007). A European Union grant spent a substantial fund to study cart-ruts and only descriptive results were obtained (Arnaiz-Villena et al., 2018; Bonnici, 2007); our proposal is that they may be useful for measuring time and space in relationship with Sun and other stars, and dating is from Megalithic Malta times (Arnaiz-Villena et al., 2019b), but not all cart-ruts may belong to the same Epoch (Arnaiz-Villena et al., 2019b). These structures are overlooked by most archaeologists.

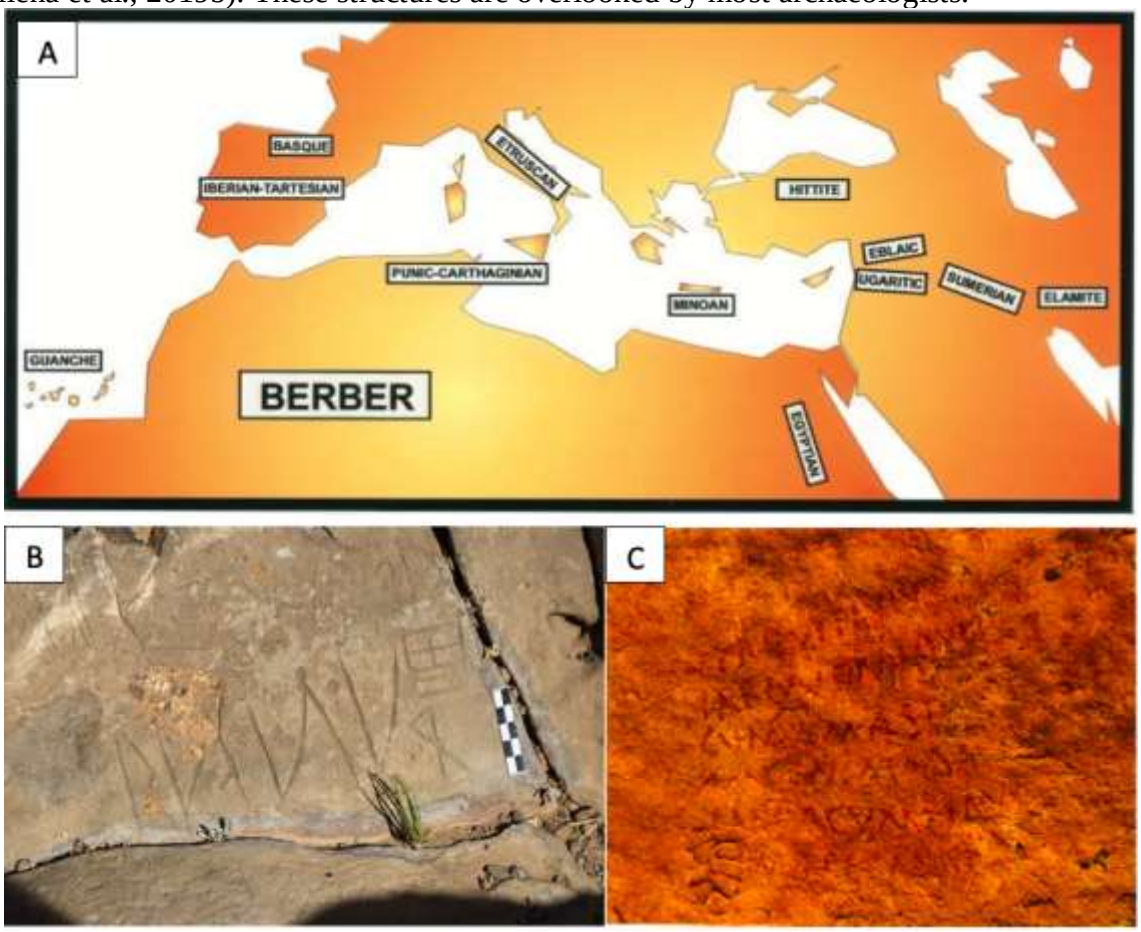

Figure 1.A) Usko-Mediterranean living (Basque and Berber) and dead languages; B) Iberian-Guanche rock scripts found in Mt. Tenezara, Lanzarote Island, Spain, previously classified as "Latin" scripts; C) Iberian-Guanche incise and painted characters found in Ti-m Missaou Rock Shelter (Soutthwest Sahara, Algeria). (See Arnaiz-Villena et al., 2020; 2021b; Gómez-Moreno, 1949; 1962).

Also, similar Megalithic type paintings are found in Tassili, Tibeti and other Sahara Desert areas, and in Iberian Peninsula like Alpera Cave paintings at East Iberia (Figure 1C) (Arnaiz-Villena et al., 2019a). These archaeological/artistic manifestations were studied by us long ago (Arnaiz-Villena et al., 1999). Genetics (see below), Physical Anthropology, and other cultural traits did not support that people or culture coming from Middle East replaced autochthonous western Mediterranean culture. First, Iberian Mesolithic/Neolithic transition skeletons do not support the postulated Middle East western demic replacement (Meiklejohn et al., 1984; Lubell et al., 1994; Jackes et al., 1997; Cavalli-Sforza, 1996). In addition, Cardial pottery with similar decoration was present at early Neolithic both in Western Mediterranean Europe and in the Maghreb (North Africa). Moreover, predominant El-Badari culture from Egypt (4,500 years BP) is very similar to that of southern Iberia (Escacena-Carrasco, 1996) Neolithic uses on pottery and animal domestication.

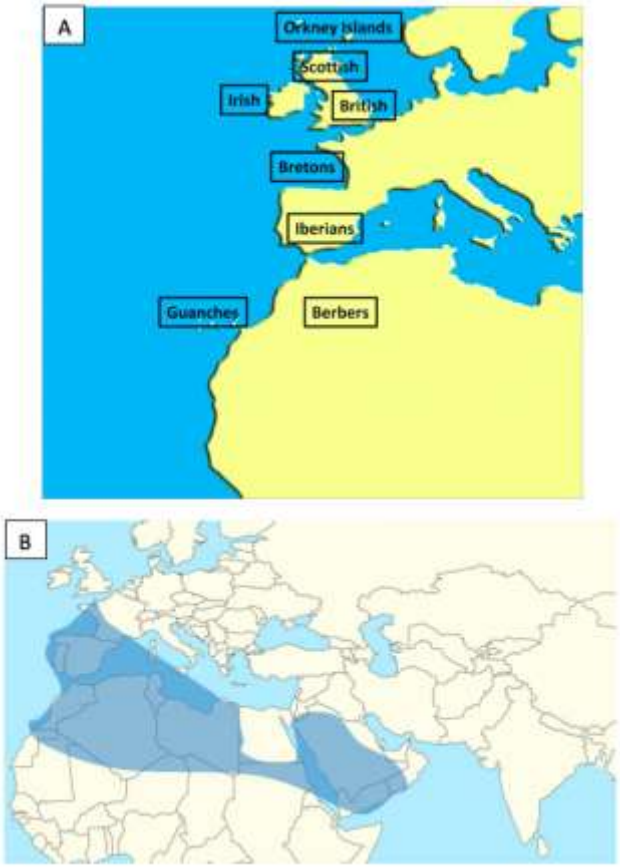

Figure 2. A) Map of West Europe and North West Africa with populations who may have been originated from ancient Celt-Iberian populations; B) North African and South-West European genetic and cultural bidirectional influence (See Hajjej et al., 2018; Arnaiz-Villena et al., 2017a).Populations included in blue area are also genetically related according to HLA autosomal genes.

On the other hand, language was found to be similar in ancient Mediterranean: Basque language is similar to Iberian, Etruscan, Minoan Linear A, Guanche, Berber, Eblaic and Hittite among others: these are the so called Usko-Mediterranean languages (Figure 1A) (Arnaiz-Villena et al., 1999; 2000; 2001; 2002).It was also found that all Canary Islands contained rock scripts belonging to Iberian semi-syllabary that are funerary and religious inscriptions (Figure 1B) (Arnaiz-Villena and Alonso-García, 2001) which were also present in Sahara Desert (Figure 1C) (Arnaiz-Villena et al., 2021a). It is also important to note that

Megalithic/Neolithic constructions like pyramids, cart-ruts, and la "Quesera" de Zonzamas as a lunisolar megalithic calendar found at Canary Islands (Arnaiz-Villena et al., 2018) drove us to defining the Saharo-Canarian Circle of Prehistoric Culture (Arnaiz-Villena et al., 2021a; 2021b). In the same context, it is proposed that most Mediterranean/European lineal scripts come from this Saharo-Canarian Circle: runes, Minoan Linear A, Venetic, Lepontic or Raetic, together with Bulgarian Sitovo and Gradeshnitza writings (the last 2 ones are older than 3,000 years BC). Iberian semi-syllabary writing appearance in Iberia and southern France is conventionally attributed to the 1st millennium BC (Arnaiz-Villena et al., 2021b; Gómez-Moreno, 1949; 1962); however, Strabo said that Iberians had writing for more than 6,000 years BC (Strabo, 1998). This subjective Iberian scripts age may have been established just in order to place it after Phoenicians arrival to the West.

Finally, we wish to state that Genetics cannot be an absolute value to define a population: it must be taken together with other Anthropology and Archaeology data. Also, artifacts when only one crucial population is left out for the genetic analyses appear and confuses any interpretation and different genetic methods give different results that may be interpreted in many different ways. In summary, genetics is not an absolute identity tool for single out populations when using without any other traits. However, gene flow between Europe and Africa across Gibraltar Strait area has been established since Prehistory firstly by us(Figure 2A) (Arnaiz-Villena et al., 1999) and later by Sanchez-Mazas, Barbujani and Bertranpetit groups (Currat et al., 2010; Botigue et al., 2013; González-Fortes et al., 2019). Thus, discussing on Guanche origins (Canary Islands First Inhabitants) only on genetic bases is useless since Iberians and North Africans are difficult to distinguish when focusing only on Genetics (Arnaiz-Villena et al., 2019a). It is also important to point out the artificial distinction between Celts that spoke Celtic language in Iberian Peninsula but wrote in Iberian (Figure 2). A confusion of ancient historians about origin of Danube River ("Ister" River) occurred: they wrote that Celts inhabited further up this river fountains which were believed to start at Pyrenees and not at Black Forest in Germany, as they really do: thus, Celts inhabited in Iberia and also where Celtic or Gaelic language is spoken i. e.: British Isles or French Brittain (Oppenheimer, 2007; Arnaiz-Villena et al., 2017). Also, in the last years an extensive study gathering many published genetic data has been done and genetic relatedness is detected by autosomal well-defined HLA genes in people from Arabic Peninsula to French Brittain, including all in-between southern Mediterraneans and Iberians (Figure 2) (Hajjej et al., 2018).

Moreover, it is proved that the diffusion model of farmers bearing new technologies from Middle East to western Mediterranean does not exist (Cavalli-Sforza, 1996). It is also necessary to stress that displacement of a densely populated area that emigrated from a green area because of a deserting Sahara and occurred after 10,000 – 6,000 years BC. This people carried out a culture that was common to many ancient Mediterranean cultures, like it is reflected in related languages and lineal writing systems (Arnaiz-Villena et al., 2001): Basque, Guanche, Iberian, Minoan Linear A, Eblaic, Hittite, old Egyptian, and Caucasian. Also, genetics is common to Atlantic façade Euro- African populations and Northern Africa and Arabic Peninsula (Arnaiz-Villena et al., 2017; Hajjej et al., 2018). It is inferred that circum-Mediterranean contacts during thousand years constructed Mediterranean cultures from Canary Islands to Ancient Persia (Arnaiz-Villena et al., 1999; 2021a) and this is the origin of Classical Mediterranean cultures that was later exclusively attributed to Rome and Greece (Figure 3).

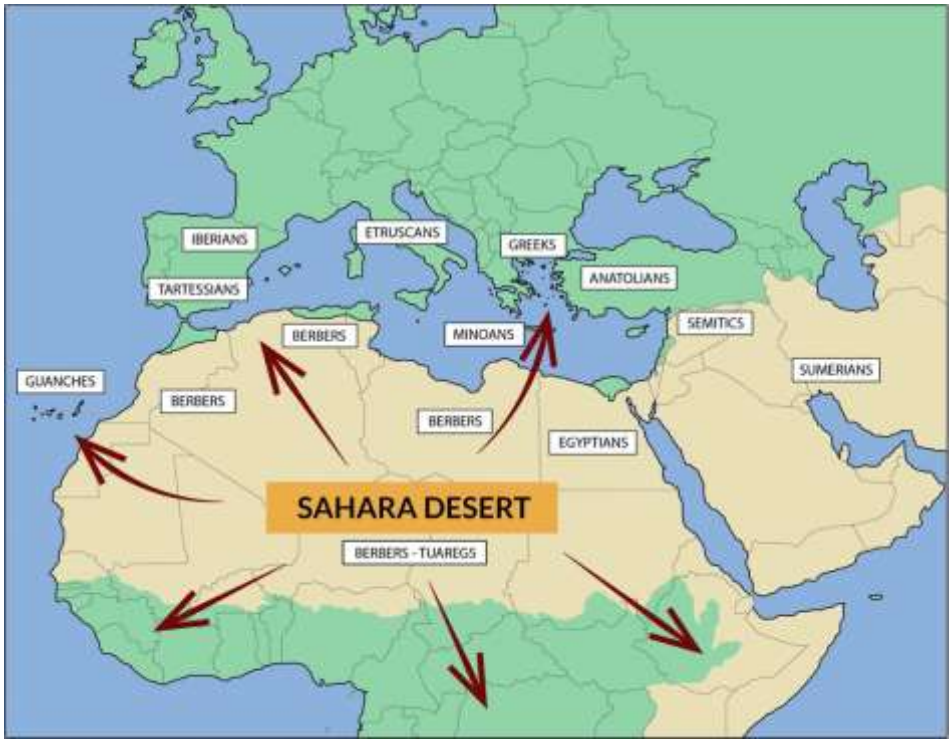

Figure 3. Mediterranean area showing classic populations (squares). Arrows represent population movements before 3,000 years B. C.

CONCLUSIONS

1) A continuous flow of genes, culture and people has occurred between Africa and Iberia in both directions through Gibraltar Strait during Prehistory.

2) Mediterranean culture is constructed by interactions of both Africans and Europeans living together during thousands of years between North European Ices and Sahara Desert.

3) Prehistory of Western Europe, Western Africa Atlantic façade, British, Canary, and other Islands, and Sahara Desert has plainly been ignored.

4) Greek admixture with Africans is also genetically detected and may have occurred either in Sahara desertification times or later (Danao´s Daughters in Aeschylus "Danaids" book) (Arnaiz-Villena et al., 2021b).

5) Celts may be a part of Iberians or overlapped with Iberians. Some classic authors used 'Celtiberians' to refer to Iberian Peninsula inhabitants probably confused by both of these ethnonyms (Arnaiz-Villena et al., 2017).

6) Agricultural/domestic cattle and human diffusion model from Middle East to West Europe and Iberia does not exist. It was most likely a product of strong interaction among Sahara, Iberia, and North Africa in both Mediterranean and Atlantic sides: domestic cattle are shown in Sahara paintings 1,000 years before it occurred in Middle East (Arnaiz-Villena et al., 2021a; 2021b).

7) Old Mediterranean languages are not Indoeuropean and are all related, Berber and Basque being the living ones and possibly some Caucasian ones like Armenian and Georgian: the Usko-Mediterranean languages (Arnaiz-Villena et al. 1999; 2000; 2001).

8) Origin of lineal writings is possible to have occurred in the Saharo-Canarian Prehistoric Circle of Culture: runes, Iberian semi-syllabary, Etruscan, Old Berber/Tuareg, Old Italian (Lepantic, Raetic, Venetic), Minoan Linear A, Bulgarian Sitovo and Gradeshnitza (3,000- 4,000 years BC), Serbian Vinca language, and others (Arnaiz-Villena et al., 2021a; 2021b).

9) These lineal African/European writings may have been a natural evolution of the Lineal Megalithic Writings found in Iberia, Africa, and Canary Islands either on rocks or on megalithic monuments (Arnaiz-Villena et al., 2021a; 2021b).

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CONFLICT OF INTEREST
The authors declare no conflict of interest.

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HEPATOPROTECTOR ACVITY OF *COMMELINA BENGHALENSIS* LINN. IN CADMIUM INDUCED WISTER RATS

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Abstract
Cancer occurs due to different types of intrinsic and extrinsic factors. Cadmium is toxic element body via a number of routes including food, water, air and by cigarette smoke. One cigarette contains approximately 1-2 µg of cadmium. The cadmium may inhibit lipogenesis by binding with the thiol group (SH) of coenzyme A Metallotheinine is the cysteine rich, metal binding low molecular weight protein binds with cadmium and carries it with liver to kidney. *Commelina benghalensis* is a perennial herb which has been reported to have a wide range of pharmacological properties. In the present study, methanol extract of *Commelina benghalensis* leaves was investigated to evaluate hepatoprotector activity. The *Commelina benghalensis* having the macrophage activating property. The activated macrophages recognize tumor from non-tumor cells. By this, *Commelina benghalensis* acts as both anti tumor and cytotoxic activity.
The Biochemical and Histopathological changes of liver after administration of Cadmium revealed congestion of central vein, vacuoles representing the changes and variation in shape and size of the nucleus in vacuolar degenerated hepatocytes, dilation of sinusoids indicates the impact of cadmium in causing hepatic damage. Clean sinusoidal spaces and normal hepatic nuclei were observed in the *Commelina benghalensis* treated rats.

Key words: Hepatoprotector, Liver, *Commelina benghalensis*, Cadmium.

ASSESSMENT OF THE PROXIMATE, MINERALS AND MINERAL SAFETY INDEX OF FIVE SPECIES OF EDIBLE INSECTS CONSUMED IN NIGERIA

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Abstract
Insects form a class of animals within the arthropod group. They are among the most diverse group of animals found in nearly all environments including the oceans. Proximate composition, proportions of energy contribution and utilizable energy due to protein from proximate composition, total energy determination, mineral composition and their calculated ratios and mineral safety index were determined in five edible insects: bee brood, snout beetle, soldier termite, silkworm larva and silkworm pupa. Proximate analysis revealed moderate to relatively high levels of the following in the samples (g/100g dry weight): total ash, 4.06 - 8.78; crude protein, 18.2 - 20.3; crude fat, 11.8 - 49.0. Total energy contributed ranged from 1567-2369 kJ/100g. Proportion of total energy due to fat was highest in bee brood (B_2) (76.5 %), silkworm larva (SWL) (50.3 %) and silkworm pupa (SWP) (53.3 %) whereas snout beetle (P_2) (51.2 %) and soldier termite (T_2) (53.5 %) had the highest proportion due to carbohydrate. The utilizable energy due to protein values were close at values of 8.05 - 11.8. Bomb calorimeter energy determination was better than the calculated energy in most of the samples. The samples were high in Na, K, Mg and P. Among the trace metals, Zn (24.5-38.1) and Fe (9.26-31.2) were high. The following mineral ratios were high: Zn/Cd (22 – 323); Fe/Cu (51.2 – 128); Zn/Cu (88.0 – 323) but low in Ca/Mg, Na/K, Na/Mg and [K/ (Ca + Mg)]. Most of the mineral safety index values were within the non-deleterious levels. Generally, the samples are rich in crude fat and crude protein. The high levels of cadmium in most of the samples might be due to an onset of pollution.

Keywords: Edible insects, proximate composition, mineral composition, mineral safety index.

Introduction
Insects form a class of animals within the arthropod group that have a chitinous exoskeleton, a three-part body (i.e. head, thorax and abdomen), three pairs of disjointed legs, compound eyes and a pair of antennae. They are among the most diverse group of animals. Insects may be found in nearly all environments including the oceans and there are over one thousand and four hundred recorded edible insects (FAO, 2008). Insects are the only winged invertebrates, cold-blooded, produced quickly and often do not have parental care. A number of insects or their products were used in the past and are to a certain extent still eaten by some West African tribes, as tit-bits, or exclusively by children. A honey bee (*Apis mellifera*) is any member of the genus *Apis*, primarily distinguished by the production and storage of honey and the construction of perennial, colonial nest from wax. Soldier termites are defensive specialists. They have anatomical and behavioural specialisations and their sole purpose is to defend the colony. Mopane worm (*Imbrasia belina*) is arguably the most popular among the moths. About

9.5 billion mopane caterpillars are harvested annually in Southern Africa (Ghazoul, 2008).

Most of these insects are readily available especially in the rural areas but they are underutilized. The objective of this study therefore is to reveal the proximate and mineral composition of the commonly eaten insects and provide useful information that can further suggest their consideration as alternative sources of nutrients particularly protein.

Materials and Methods

Sample Collection and Preparation

The insect samples were obtained from farms and markets around Ekiti state. They were screened to eliminate the defective ones. The samples were then dried in an oven at 45°C and dry milled separately to fine powder, stored in a dry, cool place prior to use.

Sample Analysis

The proximate analysis of each of the five insect samples was carried out following the methods described by AOAC (2005). The calorific values in kilojoules (kJ) were calculated by multiplying the crude fat, protein and carbohydrate by Atwater factor of 37, 17 and 17 respectively. Proportions of total energy due to fat (PEF), protein (PEP), carbohydrate (PEC) and the utilizable energy due to protein (UEDP) were also calculated. Determinations were in duplicate.

Total Energy Determination Using Bomb Calorimeter

Between 0.1 and 0.2g of the sample was ignited electrically in a Ballistic Bomb Calorimeter (Gallenkamp, CBB-330 - 010L) and burned in an excess of oxygen (with the recommended oxygen pressure of 25 atmospheres) in the bomb. The maximum temperature rise of the bomb was measured with the thermocouple and galvanometer system. The rise in temperature obtained was compared with that of benzoic acid to determine the calorific value of the sample using the following formula:

Calorific value of sample = (Q2-Q1) Y/Z kcal/g.

(where Q2 - Q1 = galvanometer deflection due to sample, Z = mass of sample in gramme and Y = calibration constant).

The minerals were analyzed from the solutions obtained after dry ashing the samples at 550°C to constant weight. All other metals were determined by means of atomic absorption spectrophotometer (Buck Scientific model 200 A/210, Norwalk, Connecticut 06855). Ca/P, Na/K, Ca/Mg, K/Na and the milliequivalent ratio [K/(Ca+Mg)] (Nieman et al., 1992) as well as the mineral safety index (MSI) of Na, Ca, Mg, Zn, Fe, Cu and P [26] were calculated. The calculated chi-square was compared with Table value setting the level of confidence at α = 0.05 (Oloyo, 2021).

Results and Discussion

Results

In Table 1, we have the proximate composition of the five insects on dry weight basis. The moisture content was low (4.32g/100g) in bee brood but high in other samples with value range of 9.56 - 11.3g/100g. The total ash was low to high with values of 4.06 - 8.78 g/100g showing that they might be good sources of minerals. The crude fat of 11.8 - 49.0g/100g showed the samples to be good sources of high dietary energy. Close values were observed in the crude fibre values having levels of 4.22 - 5.87 g/100g with mean value of 5.04 ± 0.63g/100g and coefficient of variation percent (CV%) of 12.5. Carbohydrate content was low in bee brood (14.0 g/100g) but high in other samples with values of 31.4 - 50.6 g/100g with high variation of 42.1 %. The energy values were high at 1567 - 2369 kJ/100g and they were reflections of the values of crude fat and carbohydrate in particular in the samples. The Chi-square analysis showed that signifi- cant differences occurred in the crude fat, carbohydrate

and energy values at α = 0.05 among the samples.

Table 1. Proximate Composition [g/100g] of the insect samples.

Parameter	B_2	P_2	T_2	SWL	SWP	Mean	SD	CV%	χ^2	Remarks
Moisture	4.32	9.56	11.1	11.3	10.4	9.34	2.89	30.9	3.57	NS
Total ash	8.78	6.81	4.06	8.29	6.92	6.97	1.84	26.4	1.94	NS
Crude fat	49.0	12.3	11.8	24.0	26.7	24.8	15.1	60.9	37.0	S
Crude protein	18.7	18.2	18.3	20.3	19.4	19.0	0.876	4.61	0.162	NS
Crude fibre	5.21	5.87	4.22	4.64	5.24	5.04	0.630	12.5	0.316	NS
Carbohydrate	14.0	47.2	50.6	31.4	31.4	34.9	14.7	42.1	24.6	S
Energy(kJ/100g)	2369	1567	1608	1767	1852	1833	321	17.5	226	S
Energy(kcal/100g)	566	375	384	422	443	438	76.7	17.5	53.8	S

B_2 = Bee brood; P_2 = snout beetle; T_2 = termite soldier; SWL = silkworm larva; SWP = silkworm pupa; SD = standarddeviation; CV% = coefficient of variation percent

The proportion of energy distribution due to fat, protein, carbohydrate and utilizable energy due to protein are depicted in Table 2. The contribution (in percentages) due to crude fat ranged from 27.2 - 76.5; for carbohydrate, range was 10.0 - 53.5; for protein, it was 13.4 - 19.7. The energies due to crude fat and carbohydrate contributions were each significantly different among the samples at α = 0.05. The utilizable energy due to protein appeared low at 8.05 - 11.8 %. The CV % for the parameters in Table 2 was low to high with values of 4.61 - 61.1.

Table 2. Proportions of energy contribution due to fat, protein, carbohydrate and utilizable energy due to protein.

Parameter	B_2	P_2	T_2	SWL	SWP	Mean	SD	CV%	χ^2	Remark
Total energy [kJ/100g]	2369	1567	1608	1767	1852	1833	321	17.5	3.57	NS
Energy[kJ/100g] [PEF%]	1813(76.5)	455(29.0)	437(27.2)	888(50.3)	988(53.3)	916	560	61.1	1368	S
E in kJ/100g [PEP %]	318(13.4)	309(19.7)	311(19.3)	345(19.5)	330(17.8)	323	15.0	4.64	2.75	NS
E in kJ/100g [PEC %]	238(10.0)	802(51.2)	860(53.5)	534(30.3)	534(28.8)	594	249	42.0	418	S
UEDP [%]	8.05	11.8	11.6	11.7	10.7	10.8	1.58	14.6	0.930	NS

PEF = Proportion of total energy due to fat; PEP = Proportion of total energy due to protein; PEC = Proportion of total energy due to carbohydrate; UEDP = Utilizable energy due to protein; χ^2= Chi-square; α = 0.05 df @ k-1; S = Significant; NS = not significant

The variation between machine (bomb calorimeter) total energy and calculated total energy of the insect samples and their corresponding percentage differences could be seen in Table 3. The results showed that 4/5 or 80 % of the samples had higher values as determined by the bomb calorimeter than by the calculation. However, the differences were low with the exception of snout beetle with value difference of 38.5% whilst others ranged from 0.216 - 1.04%. The only sample (silkworm larva) that had a negative difference of -8.0 kJ/100g (-0.50 %) also had the least values under both parameters: 1600 kJ/100g (bomb calorimeter) and 1608 kJ/100g (calculated).

Table 3. Variation between machine total energy and calculated total energy

Samples	Energy (Bomb cal)	Calculated energy kJ/100g	Difference	% difference
B_2	2394	2369	25.0	1.04
P_2	2549	1567	982	38.5
T_2	1600	1608	-8.00	-0.500
SWL	1772	1767	5.00	0.282

SWP	1856	1852	4.00	0.216

The various mineral components of the samples have been depicted in Table 4. High mineral values were observed in the samples as shown (mg/100g): Na (193 - 266), K (89.3 - 890), Mg (39.4 - 64.0) and P (618 - 1732) but low in Ca (7.26 - 13.0), all for the major minerals; high values in trace minerals were: Zn (24.5 - 38.1), Fe (9.26 - 31.2), Mn (1.26 - 9.09), Co (0.907-4.76) but low in Cu (0.00 - 0.433), Pb (0.00 - 0.09) and Cd (0.090 - 1.73). Whilst Phy was high at 16.1 - 98.8 mg/g, both Pp (4.53 - 27.8 mg/100g) and Pp % of P (0.262 - 4.47) were low. The CV % ranged from 15.4 - 222 coming from Na and Pb respectively. These minerals were significantly different among the samples at $\alpha = 0.05$: Na, K, Mg, Fe, Mn and P.

In Table 5, we have the calculated mineral ratios of the insect samples. The following ratios did not have full complement because some of the original concentration results had 0.00 mg/100g values. Such ratios were Zn/Cu (four samples), Fe/Cu (four samples), Ca/Pb (one sample) and Fe/Pb (one sample). The mineral ratios involving the trace minerals were high (for available results) in Zn/Cu (88 - 323), Fe/Cu (51.2 - 128), Ca/Pb (116), Fe/Pb (128) and Zn/Cd (22 - 323). The ratios were low in the major minerals: Ca/Mg (0.148 - 0.330), Na/K (0.299 - 2.12), Ca/K (0.015 - 0.114), Na/Mg (3.02 - 6.75), Ca/P (0.008 - 0.018) and [K/(Ca + Mg)] (1.31 - 1.68). except in snout beetle where the ratio was 17.0. In the Chi-square analysis, only Zn/Cd and [K/(Ca + Mg)] had significant values at $\alpha = 0.05$.

Table 4. Mineral content of the insect samples. Phy = phytate; Pp = phytin phosphorus

Parameter	B_2	P_2	T_2	SWL	SWP	Mean	SD	CV%	χ^2	Remarks
Sodium	193	266	199	197	189	209	32.2	15.4	19.9	S
Potassium	97.8	890	106	115	89.3	260	353	136	1915	S
Calcium	10.4	13.0	12.1	11.4	7.26	10.8	2.21	20.5	1.86	NS
Magnesium	64.0	39.4	61.4	57.2	49.0	54.2	10.0	18.5	7.43	S
Zinc	29.1	38.1	30.5	27.2	24.5	29.9	5.12	17.1	3.50	NS
Iron	11.5	31.2	10.0	12.0	9.26	14.8	9.24	62.4	23.1	S
Copper	0.090	0.433	0.000	0.182	0.181	0.177	0.162	91.5	0.590	NS
Lead	0.090	0.000	0.000	0.000	0.000	0.018	0.040	222	0.360	NS
Cadmium	0.090	1.73	0.152	0.182	0.091	0.449	0.717	160	4.58	NS
Manganese	1.26	9.09	2.12	1.82	2.09	3.28	3.27	99.7	13.0	S
Cobalt	1.80	4.76	1.74	0.727	0.907	1.99	1.62	81.4	5.30	NS
Phosphorus	622	1732	720	645	618	867	485	55.9	1085	S
Phy (mg/100g)	98.8	16.1	25.5	33.0	22.3	39.1	33.9	86.7	118	S
Pp (mg/100g)	27.8	4.53	7.20	9.31	6.28	11.0	9.54	86.7	33.1	S

Table 5. Calculated mineral ratios of the insect samples.

Parameter	B_2	P_2	T_2	SWL	SWP	Mean	SD	CV%	χ^2	Remarks
Ca / Mg	0.163	0.330	0.197	0.199	0.148	0.207	0.072	34.8	0.100	NS
Na / K	1.97	0.299	1.88	1.71	2.12	1.60	0.740	46.3	1.37	NS
Ca / K	0.106	0.015	0.114	0.099	0.081	0.083	0.040	48.2	0.077	NS
Na /Mg	3.02	6.75	3.24	3.44	3.86	4.06	1.53	37.7	2.32	NS
Zn / Cu	323	88.0	-	149	135	-	-	-	-	-
Ca /P	0.017	0.008	0.017	0.018	0.012	0.014	0.004	28.6	0.00001	NS
Fe / Cu	128	72.1	-	65.9	51.2	-	-	-	-	-
Ca / Pb	116	-	-	-	-	-	-	-	-	-
Fe / Pb	128	-	-	-	-	-	-	-	-	-
Zn / Cd	323	22.0	201	149	269	193	116	60.1	280	S

[K / (Ca + Mg)]	1.31	17.0	1.44	1.68	1.59	4.60	6.93	151	41.7	S

The mineral safety index (MSI) values of the samples can be seen in Table 6. The following minerals were within their standard levels: mineral (standard level): Na (4.80), Ca (10.0), Mg (15.0) and Cu (33.0) whilst Zn (33.0) had all the calculated values greater than 33.0; also, Fe (6.70) was higher in snout beetle (13.9) and P (10.0) was also higher in snoult beetle (14.4).
In Table 7, the concentration of Zn, Ca, Phy and calculated values of Phy: Zn, Ca: Phy and [Ca][Phy]/[Zn] molar ratios of the insect are shown. The various parameters determined were highly varied except in Zn and Ca where respective CV % values were 17.1 and 20.5 whereas other parameters have CV % range of 63.2 - 86.6.

Table 6. Mineral safety index (MSI) of the insect samples.

Minerals	**B_2**			**P_2**			**T_2**			**SWL**			**SWP**		
	TV	CV	D	TV	CV	D	TV	CV	D	TV	CV	D	TV	CV	D
Sodium	4.80	1.85	2.95	4.80	2.55	2.25	4.80	1.91	2.89	4.80	1.89	2.91	4.80	1.81	2.99
Calcium	10.0	0.087	9.91	10.0	0.108	9.89	10.0	0.101	9.90	10.0	0.095	9.91	10.0	0.061	9.94
Magnesium	15.0	2.40	12.6	15.0	1.48	13.5	15.0	2.30	12.7	15.0	2.15	12.9	15.0	1.84	13.2
Zinc	33.0	64.0	-31.0	33.0	83.2	-50.2	33.0	67.1	-34.1	33.0	59.8	-26.8	33.0	53.9	-20.9
Iron	6.70	5.14	1.56	6.70	13.9	-7.20	6.70	4.47	2.23	6.70	5.36	1.34	6.70	4.14	2.56
Copper	33.0	0.99	32.0	33.0	4.76	28.2	33.0	0.000	33.0	33.0	2.00	31.0	33.0	1.99	31.0
Phosphorus	10.0	5.18	4.82	10.0	14.4	-4.40	10.0	6.00	4.00	10.0	5.38	4.62	10.0	5.15	4.85

TV = Table, Value; CV = Calculated Value; D = Difference

Table 7. Ca: Phy, Phy: Zn and [Ca][Phy]/[Zn] molar ratios of the insect samples.

Parameter	**B_2**	**P_2**	**T_2**	**SWL**	**SWP**	**Mean**	**SD**	**CV%**	**χ^2**	**Remarks**
Ca : Phy[1]	1.73	13.3	7.81	5.69	5.36	6.78	4.25	62.7	10.6	S
Phy : Zn[2]	0.337	0.042	0.083	0.120	0.090	0.134	0.117	87.3	0.406	NS
[Ca][Phy]/[Zn][3]	0.0009	0.0001	0.0003	0.0003	0.0002	0.0004	0.0003	75.0	0.001	NS

[1]mg of Ca/MW (molecular weight) of Ca:mg of Phy/MW of Phy

[2]mg of Phy/MW of Phy:mg of Zn/MW of Zn

[3][mol/kg Ca] × [mol/kg Phy]/[mol/kg Zn]

The statistical analysis showed that only Ca: Phy was significant at $\alpha = 0.05$ in the samples.

Discussion

In Table 1, the moisture content showed that most of the samples had low keeping quality particularly where electricity is epileptic. The ash results compared well with the values of 4.9-6.6 g/100g in the heterosexual samples of African giant cricket [29]. The crude fat content of 11.8-49.0 g/100 g was higher than the value of 9.16 g/100g reported for *Anaphe infracta* (Adeyeye EI and Awokunmi, 2010). The crude protein values of 18.2 - 20.3 g/100g were all lower than in *A. infracta* (27.8 g/100g) (Adeyeye, 2008). They also fell below the recommended levels of 23 - 56 g/100g human daily requirement (NRC, 1989). Crude fibre is important in facilitating faecal elimination (Olaleye et al., 2013). In the present sample, the fibre levels of 4.22-5.87 g/100g would contribute reasonably to this fibre function. The fibre content could have come from vegetables (plants) consumed by the insects and the exoskeleton. The value of 47.2 g/100g (carbohydrate) was exactly similar to the value of 47.2 g/100g reported for *A. infracta* (Adeyeye, 2008). The value of 47.2 g/100g in the present samples came from snout beetle. The metabo- lisable energy values were high at 1576 - 2369 kJ/ 100g (375-566 kcal/100g) showing the samples to be concentrated sources of energy.

The results of the mineral content of the samples could be seen in Table 4. Both Cd and Pb were relatively low and with highest levels of CV % with values of 222 (Pb) and 160 (Cd). Both Cd and Pb are not useful to human beings biochemically and their presence could be due to the onset of pollution. Copper level was low whereas Co was much higher. The high Fe levels in the samples would make the insects good substitutes for conventional meat sources and would pre- vent anaemia. The values of Mn (1.26 - 9.09 mg/100g) were characteristically low in 80 % of the samples (1.26 - 2.09) as earlier observed in some foods consumed in Nigeria: 2.8 ± 0.01 mg/100g (cake) and 2.9 ± 0.01 mg/100g (moin-moin) (Adeyeye et al., 2012). The Zn values of 24.5 - 38.1 mg/100g in the samples were all higher than the Zn allowance of about 15 - 20 mg per day (Fleck, 1976). This meant that Zn could not be said to be a trace mineral in the insects just as we have in the Fe values. The major minerals recorded in the samples were Na, K, Mg, Ca and P. Out of the five samples, 4/5 or 80.0 % of the samples contained more Na than K with the exception being snout beetle (890 K versus 266 Na mg/100g); more Na than K is a characteristic of animal mineral content. Phosphorus is an essential component in nucleic acids and the nucleoproteins responsible for cell division, reproduction and the transmission of hereditary traits (Fleck, 1976). The Pp (mg/100g) ranged from 7.2-27.8 with corresponding Pp % of P of being 1.00 - 4.47 respectively. The implication of the Pp % of P showed that the P of the samples was only linked to Pp to the tune of1.00 - 4.47 which would not affect the utilization of divalent minerals and also would not render unavailable some essential amino acids.

The various calculated mineral ratios of the insect samples could be seen in Table 5. The following ratios were less than the ideal ratios: Na/K [ideal (id) = 2.50, values = 0.299 - 2.12], Na/Mg [id = 4.17, values = 3.02 - 3.86; except in snout beetle = 6.75], [K/(Ca + Mg)] [id = 2.2, values = 1.31 - 1.68; except in snout beetle = 17.0], Ca/Mg [id = 6.67, values = 0.163 - 0.330], Ca/P [id = 2.5, values = 0.008 - 0.018] and Ca/K [id = 4.00, values = 0.015 - 0.114]. The following mineral ratios: Zn/Cu, Fe/Cu (except in four samples), Ca/Pb and Fe/Pb have ratio values much higher than the ideal. Ideal [id = 500, values = 22 - 232] in Zn/Cd ratio. Toxic ratios are usually depicted by Ca/Pb, Fe/Pb and Zn/Pb. Balance in all phases of life is critically important to maintain health and this principle applies to mineral levels in animal analyses.

The implications of the MSI results could be that the human body would not be loaded deleteriously with Na, Ca, Mg, Fe (except snout beetle). Excess Zn would come from all the samples. The MTD for Zn is

500 mg or 33 times the RDA (Hathcock, 1985). High doses of Zn can decrease the amount of high-density lipoprotein (HDL) circulating in the blood, hence, increasing the risk of heart disease; also, excess Zn interacts with other minerals such as Cu and Fe thereby decreasing their absorption. Excess Zn can also decrease the functioning of the immune system and 3.5 mg/day Zn intake above the RDA decreases Cu absorption (Nieman et al., 1992). The molar ratios of the samples are shown in Table 7. Oberleas and Hearland (1981) showed that foods with a molar ratio of Phy: Zn less than 10 showed adequate availability of zinc and problems were encountered when the value was greater than 15. In Wise (1983) model, phytate precipitation is not complete until dietary Ca: Phy molar ratios attain a value of approximately 6: 1. At Ca: Phy lower than 6.1, phytate precipitation is incomplete, so that some of the dietary Zn remains in solution. Ellis (1987) and Davies and Warrington (1986) indicated that the ratio of Ca × Phy: Zn is a better predictor of Zn availability of Zn. In the present results, Ca × Phy: Zn values were lower than 0.5 mol/kg in all the samples meaning that all the samples would promote Zn bioavailability.

Conclusion

These results show that the five insect samples were good sources of fat, protein and energy whilst they were moderate in their values for utilizable energy due to protein. The samples

would supply adequate quantities of Na, K, Zn, Fe, Mn and P but low in Ca: the low level of Pp % of P is a dietary advantage. The mineral safety index values were of the indication that the minerals were not deleterious except in Zn; the [Ca][Phy]/[Zn] molar ratio values show that the minerals would be bioavailable. Work is ongoing to look at other nutrients in the insects under discussion.

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EXPLORING TALENT DEVELOPMENT ENVIRONMENTS IN NIGERIA: A CASE STUDY OF SPORT DEVELOPMENT FRAMEWORK IN ONDO STATE

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Abstract
Talent development environment is a key factor of successful talent identification and development in sports. Without effective talent development environment, athletes and their coaches would achieve little or no success in their quest to nurture sporting potentials into actual performance. Despite Nigeria's participation in international sporting competitions, sport development in the country suffers from certain functional barriers relating to the general framework for talent development. This study explored talent development environments in Nigeria, using Ondo State as a case study, in order to identify environmental barriers to effective talent development. The Talent Development Environment Questionnaire (TDEQ) was used for data collection among seven hundred and sixty-eight (768) athletes who participated in the study. Data analysis revealed that talent development environments in Ondo State were weak on long-term development focus (m=2.15); poor on quality preparation (m=4.26); strong on communication (m=2.09); poor on understanding the athletes (m=3.51); weak on support network (m=2.26); poor on challenging and supportive environment (m=3.44); and weak on long term development fundamentals (m=2.36). Findings were discussed in relation with the extant literature.

Keywords: Talent development environment, talent identification, sport development, sport performance.

INTRODUCTION

Sport development has become a key factor of nation building due to the potentials in sports for positive engagement of the youths, job and wealth creation, health promotion, as well as promotion of social cohesion. Besides, participation in competitive sports promotes the sense of national pride and identity (Phipps, Cooper, Shores, Williams, & Mize, 2015). Thus, many nations evolve evidence-based approaches to sporting talents development (Woods, Keller, McKeown, & Robertson, 2016). Previous research suggests that Nigeria is yet to advance a model for Talent Identification and Development (TID) to form a framework for identifying and developing sporting potentials among children and the youths (Elumaro, 2016), therefore, the nation's quest to occupy an enviable position among other sporting nations may remain a mirage for a long time. This study is aimed at evaluating the sporting-talent development environment in Nigeria, using Ondo State as a case study, in order to identify and disseminate environmental factors of successful sporting-talent development in the country. Though, Nigerian athletes and teams can be said to have performed relatively well in some international competitions in the recent time, it is clear that all is not well with the environment and procedure for talent development in sports in the country. Some of the

deficiencies with the process of athletes and sports development in Nigeria include poor implementation of national policy on sports, as well as the lack of infrastructure for sport participation and talent development (Toriola, Adetoro, Toriola, & Igbokwe, 2000). Other limitations identified with athletic development in the Nigerian context include issues with availability of, and access to sporting facilities across Nigerian communities (Elumaro, 2015).

Similarly, it appears that there are no clear pathways for sport development in Nigeria to guide athletes across sports in terms of their progression (Ajiduah, 2001). However, with her vast youthful population, Nigeria has the potential to raise more sporting talents than the country is currently doing, if the environment is supportive of TID in sports. Many of the top sporting nations like the United States of America, United Kingdom, Australia, and Jamaica have optimized their sporting achievements through evidence-based programmes for sports and athletes' development (e.g. Balyi & Hamilton, 2004; Baker, Côté, & Abernethy, 2003). Whereas, luck had played significant roles in the momentary victories achieved by Nigerian teams, and thus, such achievements were usually not sustained. Because many of the existing studies on TID were conducted in other cultures, and the evidence that sporting talent development is culturally specific (e.g. Bailey, 2007), it is imperative to study the talent development environment in Nigeria to unearth and minimize barriers to effective development, and to create opportunities for sustainable development in sports among Nigerians. Studies have highlighted effective Talent Development Environment (TDE) as a major determinant of athletic development (e.g. Côté, 1999). Environmental factors associated with effective sporting-talent development include long-term aims and methods; wide range of coherent supports; focus on appropriate development versus early success, as well as individualised and ongoing development (Martindale, Collins, Douglas, & Whike, 2013). Conversely, the process of sport development in Nigeria appears to be deficient in these highlighted features. National athletes are selected through national triers, some of which are held (sometimes) only months away from a major competition; and after such competitions, teams are disbanded without continuous training or follow up. As a result, there are no effective retention and succession. It is therefore not surprising that there are fluctuations in the performance trajectories of the sport sector in Nigeria because many of the occasional victories are based on 'luck' and not good preparation. Therefore, the current study is aimed at stimulating evidence-base practice in sporting-talent development in Nigeria by examining talent development environments in Ondo State, as a case study.

RESEARCH METHOD

Participants

A total of seven hundred and sixty-eight (768) athletes took part in the study; 439 (57.2%) males and 329 (42.8%) females. The age of participants ranged from ten (10) to forty-eight (48) years, while the average age of participants was eighteen years (18). Organisations participants played for included the Ondo State Sport council (n=412), Independent Coaches (n=239), and University or College Sport Teams (n=117). Twenty different sports were represented in the study.

Research instrument

The Talent Development Environment Questionnaire (TDEQ), developed by Martindale et al. (2008) was used for the study. The TDEQ is a 59-item inventory designed to assess the environments in which sport men and women develop their sporting careers to appraise environmental compliance to best practice as indicated by seven factors of the TDEQ including (a) Long-Term Development Focus, (b) Quality Preparation, (c) Communication, (d) Understanding the Athletes, (e) Support Network, (f) Challenging and Supportive

Environment, and (g) Long-Term Development Fundamentals. Martindale and colleagues (2010) highlighted a robust reliability and validity for the instrument. Similarly, in a later study, Butt, Maynard and Harwood (2014) demonstrated that the TDEQ possessed excellent ability for realistic assessment of talent development environments.

Procedure

Having secured institutional ethics approval for the study, three organisations were identified within Ondo State as formal talent development environments, because they possessed the facilities and personnel for talent development in sports. More importantly, this organisations have talent identification and development in sport as part of their core objectives, and in fact, they currently have athletes in various sports at different levels of development. The organisations included Ondo State Sport Council, Sport Teams run by Independent Coaches, and University/College Sport Units. Managers of the said organisations granted access to their athletes for the purpose of the study. Athletes were thereafter approached in clusters (i.e. according to their sports) with the help of their coaches, and only those who voluntarily indicated interest were recruited for the study. In each cluster, participants were given detailed information about the study and what their participation entailed. It was made clear to participants that they were free to withdraw from the study at any point; and that the data collected for the study will only be used as group average and so no participant will be identifiable from the data. Thus, no personal information was required; and that there were no right or wrong answers so participants could freely express their opinions. These measures were taken to ensure privacy and confidentiality of participants and to reduce social desirability. All participants gave informed consent to participate in the study. Also, for athletes below the age of eighteen years (n=281), the consent of their parents or guardian were obtained. The TDEQ was administered among participants (in clusters) in a quiet room inside training facilities of their organisation. The completed questionnaire forms were collected on the spot to forestall any loss or damage. In case of damage, the questionnaire was replaced on the spot. A total of 768 copies of the questionnaire were validly administered.

Data analysis

Martindale et al. (2008) coded responses to the TDEQ on a 6-point scale including 1 = strongly agree, 2 = agree, 3 = agree a little bit, 4 = disagree a little bit, 5 = disagree, and 6 = strongly disagree. This way, the lower the score reported by a participant, the higher the quality of experience being measured by each item on the TDEQ. Though other studies (e.g. Mill et al., 2014) reversed the scoring format such that higher scores on the TDEQ items related to higher quality of the experience being measured, the current study adopted the scoring format of Martindale and colleagues in which the lower the score, the higher the quality of experience. Also, in the current study, mean scores ranging from 1.00 to 2.00 were considered as strong scores, meaning that the environment is strong on such items. This is because the score '1' on the 6-point scale means strongly agree, and score '2' agree. Similarly, mean scores raging from 2.10 to 3.00 were considered as weak scores meaning that the environment is perceived positively but weak on items of the TDEQ that returns such scores; this is also because score '3' on the scale means respondents 'agree a little bit' to the statements made by such items. Finally, scores raging from 3.10 to 6.00 in the current study were considered as poor scores meaning that the environment is poor on such items, this is because scores between '3' and '6' on the 6-point scale are negative scores in which participants disagreed with the statements made by the TDEQ items. To begin with the analysis, Cronbach's alpha was used to measure the reliability of the TDEQ, and all the subscales recorded adequate alpha coefficient (Long-Term Development Focus, α= .77; Quality Preparation, α=.68; Communication, α=.75; Understanding the Athlete, α= .74;

Support Network, α=.73; Challenging and Supportive Environment, α=.66; Long Term Development Fundamental, α=.76). Following same procedure as Mills et al. (2014), the mean scores for the seven subscales of the TDEQ were calculated.

RESULTS

Table 8: Mean scores of the TDEQ factors

TDEQ Subscales	Mean	Confidence Intervals
Long-Term Development Focus	2.1564	Lower - 2.1257 Upper - 2.1871
Quality Preparation	4.2637	Lower - 4.1934 Upper - 4.3339
Communication	2.0981	Lower - 2.0555 Upper - 2.1407
Understanding the Athlete	3.5163	Lower - 3.4306 Upper - 3.6020
Support Network	2.2695	Lower - 2.2297 Upper - 2.3111
Challenging & Supportive Environment	3.4466	Lower - 3.4011 Upper - 3.4921
Long Term Development Fundamentals	2.3646	Lower - 2.3196 Upper - 2.4096

NB: Mean = 1-2.0 (strong), Mean = 2.10-3.0 (weak), Mean = 3.10-6 (poor)

On the whole, as shown in table I, talent development environments in Ondo State were weak on long-term development focus (M=2.1564, CI=2.1257-2.1871); poor on quality preparation (M=4.2637, CI=4.1934-4.3339); strong on communication (M=2.0981, CI=2.0555-2.1407); poor on understanding the athletes (M=3.5163, CI=3.4306-3.6020); weak on support network (M=2.2695, CI=2.2297-2.3111); poor on challenging and supportive environment (M=3.4466, CI=3.4011-3.4921); and weak on long term development fundamentals (M=2.3646, CI=2.3196-2.4096). Consequently, only one (i.e. communication) of the seven subscales of the TDEQ was perceived as good (i.e. strong) in the talent development environments in Ondo state, while the remaining six factors were either perceived as weak or poor on the quality of experience athletes have in the development process.

DISCUSSION

The aim of the current study was to evaluate talent development environments in Ondo State in a bid to identify the level of compliance with best practice and efficiency. More importantly, the study was intended to examine the specific factors of the TDEQ where the talent development environments in the state are either strong, weak or poor in order to be able to advise practitioners on how to improve practice. The study revealed that talent development environments in Ondo State were strong on Communication subscale of the TDEQ; weak on Long-Term Development Focus; weak on Support Network; weak on Long Term Development Fundamental; poor on Challenging and Supportive Environment; poor on Understanding the Athlete; and poor on Quality Preparation.

It is interesting that communication was ranked strong in the current findings because this has previously been reported as one of the positive features of talent development in the Nigerian context (Elumaro, 2016). The strong (i.e. positive) rating related to quality of relationship that exist between athletes and their coaches. The coach-athlete relationship encouraged athletes to keep investing efforts into their development despite the various obstacles that exist in the environment. Thus, this coaching behaviour is such that should be encouraged to foster effective talent development among Nigerian athletes. On the possible reason(s) while

athletes perceived their coaches positively among other factors of talent development environment, it is imperative to consider earlier report that talent development environments in Nigeria lacked the support framework necessary to facilitate effective talent development. For example, Elumaro (2015) reported that parents, who should be a source of support to youngsters were opposed to their children getting involved in talent development in sport. This is because parents believed that sport participation would have a negative effect on their children's academic performance. Parents' preference for academic achievement over talent development in sports had earlier been reported in other cultures (e.g. Côté, 1999), only that the emphasy may be more within the Nigerian population since education is seen as a veritable means to break through pervasive poverty in the Nigerian society.

Also, finance is another reason while parents would not support their children getting involved in sports. This is because supporting talent development in sports would have financial implications, thus, families preferred to focus on the basic needs of the household rather than spending on sporting kits, transportation to and fro training venues and other commitment that may be required. This negative posture of the average Nigerian family against talent development in sports negates the very important role allotted to the family since the early years of talent development research (e.g. Bloom, 1985; Woolger & Power, 1993). With the parents out of the support network, the coach knows that he/she has to develop a stronger relationship with their athletes. While efforts should be made to encourage a robust network of support for developing athletes in Nigeria, the existing supportive coach-athlete relationship should also be sustained.

Furthermore, the current study revealed that talent development environments in Ondo State were 'weak' on the Long-Term Development Focus subscale of the TDEQ. This aspect of the TDEQ relates with whether the environment prepares athletes for their overall long term development or only focused on what is achievable in the immediate. Athletes reported that they were written off before they had the chance to show their potential, meaning that immediate performance success received priority over long term development. Also, the environments did not encourage athletes to balance challenges with what have been achieved, thus, setbacks could have heavy implications for continued development. As a result, many potential talents never got to the podium. This corroborates existing findings that talent development environment in Nigeria does not provide support for long term development (Elumaro, 2015). Whereas, long term development focus is a key component of effective talent development environments (Martindale R. J., Collins, Douglas, & Whike, 2013). Stakeholders in sport development in Nigeria need to improve on this component of the environment by first encouraging the development of talent pathways across sports to serve as the framework within which athletes and their coaches could articulate their training programmes, so that there could be a trajectory for successful athletes. Similarly, the current discriminatory climate where athletes who do not achieve immediate success (e.g. performing well at national trials) are written off should be discouraged, talent development environments should provide equal opportunities for youngsters to develop their potential even when it takes a longer period to manifest talents.

Expectedly, the current findings rated talent development environments in Ondo State 'weak' on the Support Network subscale of the TDEQ. This element of the talent development environment is of a critical importance because it is directly linked to the connection between researchers and practitioners in sport science. Participants reported that they did not have access to professionals (e.g. physiotherapists, sport psychologists, strength trainers, nutritionists, lifestyle advisors etc.) to help their development. The call for integrating science

into the process of talent development in order to promote evidence-based practice is popular in the literature (e.g. Cushion, Ford, & Williams , 2012; Pankhurst & Collins, 2013; Collins, MacNamara, & Cruickshank, 2019). Therefore, poor access to professionals as reported in the current findings deserves attention from all relevant stakeholders in talent development in Nigeria; efforts should be made to create a support framework for talent development by encouraging coaches and these professionals to work as partners in helping athletes achieve their developmental goals. Creating a robust support network in the talent development environments will also promote a multidisciplinary approach to talent development. Previous research has decried the lack of multidisciplinary approach to talent development in sports (Phillips, Davids, Renshaw, & Portus, 2010; MacNamara & Collins, 2011; Collins, Burke, Martindale, & Cruickshank, 2015; Rees, et al., 2016;), as a result of which in many instances, coaches would focus all efforts on physiological training with little or no attention given to psychological development among their athletes, whereas, psychological aspect of development is as important as the physiological development. Therefore, to promote effective talent development environments in Nigeria, policy makers and practitioners in sport development should encourage a working synergy between these professionals (e.g. physiotherapists, sport psychologists, strength trainers, nutritionists, lifestyle advisors etc.), coaches and their athletes.

Similarly, Long Term Development Fundamentals subscale of the TDEQ was reported 'weak' in the three talent development environments in Ondo State involved in the current study. This element of the talent development environment is concerned with activities and efforts fundamental to focusing athletic development on long-term goals and not immediate performance gains. In the context of the current study, parents need to collaborate more with coaches to ensure that there are no conflicts between what the parent advises and what the coach wants athletes to do (Burgess & Naughton, 2010; Martindale, et al., 2010; Gledhill, Harwood, & Forsdyke, 2017). Athletes also need to be more involved in the decision making process concerning their development (Cushion, Ford, & Williams, 2012; Dohme, Backhouse, Piggott, & Morgan, 2017; Elferink-Gemser & Hettinga, 2017), and coaches should talk more to parents about what the athlete is trying to achieve so that parents are aware of all developmental expectations. This further stresses the role of parents and significant others in the process of talent development in sports. It is however noteworthy that Nigerian parents' behaviour towards sport development among their children had been highlighted among the challenges facing talent identification and development in sports in Nigeria (i.e. Elumaro, 2015). Therefore, significant efforts need to be invested into enlisting parents' interest in their children getting involved in athletic development. This may be achieved by mass education on perhaps the role of regular participation in physical activities through sports in the overall development (including educational development) of the child. Because, only when parents buy the idea of talent development in sports would they agree to work together with the coaches in providing an atmosphere congenial for effective talent development environment.

Talent development environments in Ondo State were rated 'poor' on the Challenging and Supporting Environment subscale of the TDEQ. This factor of the TDEQ is concerned with whether the environments expose athletes to adequate challenge to push them out of their comfort zones. Challenging environment is specifically important because previous research has emphasized the role of challenge in the development of psychological skills and abilities that are key to becoming top level performer in sports (Crust & Clough, 2011; Bačanac, Milićević-Marinković, Kasum, & Marinković, 2014; Foster, Maynard, Butt, & Hays, 2016; Pankow, Fraser, & Holt, 2020). Therefore, to achieve effectiveness, talent development environments need to strike a balance between the challenge and the support athletes receive.

The poor rating of this element of the talent development environment is partly because there is almost a complete disconnect between developing athletes and experts in their sports. Current evidence in the Nigerian context suggests that credible platforms for grassroot talent development in sports are near non-existent in most Nigerian communities (Jeroh, 2012; Tichaawa & Bob, 2015). In few instances where there are clubs (one club per state in most instances), these clubs do not run academies to serve the purpose of developing new talents. Instead, clubs rely on 'accidental recruitment method' in which there is no clearly defined pathway to becoming a club player, but athletes achieve this feat by chance. This structural gap is not unconnected with the fact that the existing national policy on sports development is said to lack expert opinions on talent development (Aibeku & Ogbouma, 2013). Thus, there have been calls for spirited investment into sport development both by the government and the private sector (Omuojine, 2013; Yazid, 2014; Targema & Ayih, 2017) to develop the business mindset towards sport development.

Likewise, talent development environments in Ondo State were rated 'poor' on Understanding the Athlete Subscale of the TDEQ. This factor comprises four items relating to whether athletes feel they are understood as a 'whole person' and not just as an athlete. Effective talent development environments are expected to provide athletes with experiences that enable them to grow, not just in sport, but also psychologically and socially, such that cognizance is given to the lives of athletes outside sport. Though the current findings revealed that the coach is a significant source of support to developing athletes, this factor of the TDEQ showed that coaches in Ondo State needed to develop a more inclusive relationship with their athletes. This is because whatever goes on in the lives of athletes outside sports like their state of mind, health, finance, and relationship could have a profound implication for their commitment towards talent development (Camiré, Trudel, & Forneris, 2012; Ronkainen, Ryba, Littlewood, & Selänne, 2018; Martin & Camiré, 2020; Marsollier, Trottier, & Falcão, 2020; Allan, Blair Evans, Latimer-Cheung, & Côté, 2020). For example, in this specific context, many athletes combined athletic development with education without the consent of their parents who supposed their children should not take part in sports. Thus, coaches have to be aware of this dynamics among athletes in order to be able to support them whenever it is necessary, and also to understand when athletes are passing through difficult challenges outside sport.

Finally, talent development environments in Ondo State were also rated 'poor' on Quality Preparation subscale of the TDEQ. This subscale was designed to assess talent development environment on the amount of quality planning and guidance athletes receive towards training and competitions, and whether there are clear directions on pathways in the development process. This finding is not surprising because it relates with the entire process of talent development in this context where there is little structure to guild the development process. For example, planning does not appear popular in the environment because planning relates with long term development focus, wherein the environment is already ranked low. Since talent development environments do not prioritize long term development, but rely more on the immediate performance gains, athletes did not receive encouragement for planning and quality preparation. Therefore, it is important that stakeholders in sport development, and particularly the government, encourage long term development agenda by creating structures and guidelines for talent development across sports.

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TRANSFORMING THE PLANT STRUCTURE IN AGRICULTURE SECTOR: A CASE STUDY IN MEKONG DELTA, VIETNAM

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Abstract

The Mekong Delta, Vietnam, has a favorable position in terms of natural conditions and irrigation systems in agricultural cultivation, especially rice production. The focus on rice farming has contributed to the Mekong Delta owning the most extensive rice-growing land in Vietnam. The policies of the State and the region, together with the impact of climate change, have helped farmers in the Mekong Delta convert effective farming models on rice land, contributing to rising incomes for farmers, successfully implemented the Government's policy on restructuring crops and livestock. Research on crop transformation in agriculture – a case in Mekong Delta in Vietnam to generalize the situation and change the farming model on rice land of farmers. Research showed that farmers tend to change the structure of crops on inefficient rice land to adapt to climate change and bring high income to farmers.

Key words: Crop structure, conversion, rice land, farming model.

1. INTRODUCTION

Cultivation is considered the foundation in agricultural production to provide food and food for people as a processing material for industry. At the same time, it is also a source of agricultural exports that bring high economic value to Vietnam. According to the Department of Crop Production (2013), agricultural production must ensure a stable rice land area of 3.8 million hectares to maintain national food security. In terms of efficiency, rice production must ensure that farmers profit at least 30% of the cost in the context of falling rice prices, increasing input costs, and being increasingly affected by climate change. Vietnam's rice production industry has faced more difficulties recently when the world rice market is increasingly competitive and narrowed, and export rice prices have been continuously reduced. Moreover, the impact of the Covid-19 pandemic has caused a disruption in the supply chain of agricultural products in Vietnam. Therefore, Vietnam's rice export market is forecast to face many difficulties in the coming time. The income from rice farming of farmers will not bring about the expected efficiency.

Restructuring crops on rice land in the Mekong Delta can be considered a key and core solution in crop restructuring in the largest rice-growing region of Vietnam. This is regarded as a very practical issue for rice growers in the context that the following year's rice output is higher than the previous year's while the rice grower's profit remains unchanged. Moreover, the impact of climate change on the crop, pests, and diseases on rice cause more. The impact from saltwater intrusion, drought, and lack of water for rice cultivation is also necessary causes. It is needed to change the farming model on rice land to be more effective and adaptive. Restructuring crops on rice land can be understood as the arrangement of time and space-based on rice farming practices and production of crops and livestock such as shrimp, fish, crop rotation with rice so that the output more effective (Nguyen Van Luat, 2013). In

terms of time, it is to arrange a good season with weather, climate, soil conditions, and water sources. In terms of space, the layout is suitable for each ecological region and the area's ratio for each crop. However, to convert the crop structure on rice land with high efficiency and sustainability, it is necessary to have studies to assess the changing status of the farming model from which to propose solutions to convert entire crops, practical by region, local.

2. DATA COLLECTION AND ANALYSIS METHODS

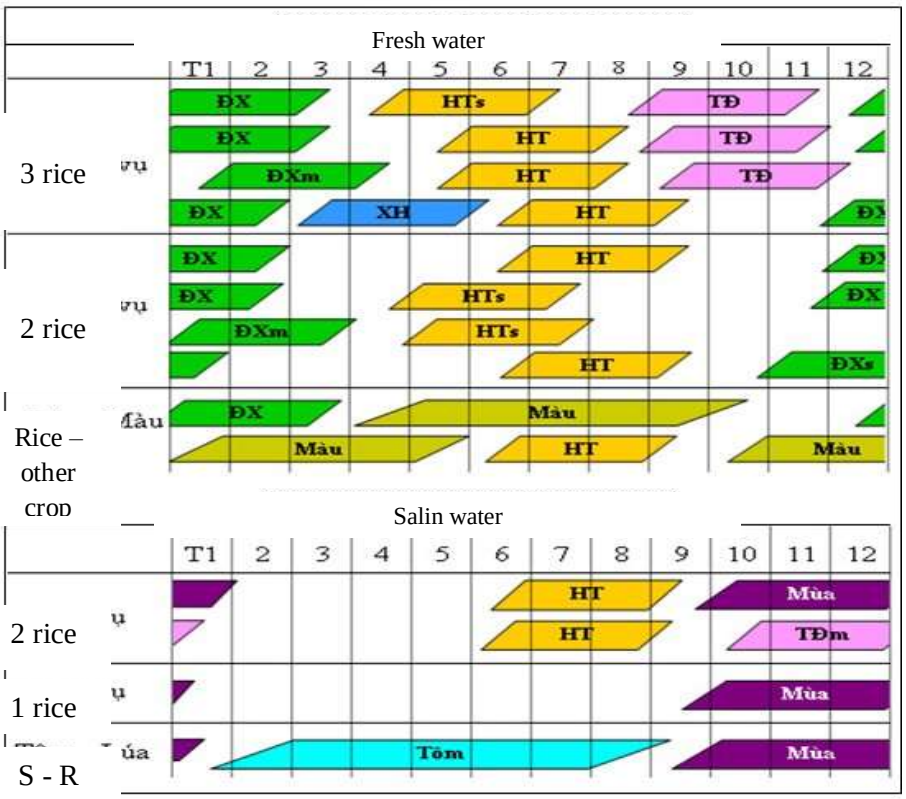
The research uses synthesis analysis from published studies and documents related to the research field, including Statistical yearbooks, Socioeconomic reports over the years of local government. The study outlines a picture of farmers' production transformation in the area to adapt to climate change and market trends.

3. RESULTS AND DISCUSSION

3.1 Seasonal structure in the Mekong Delta, Vietnam

Based on the primary crop structure distribution in the Mekong Delta, it can be divided into two large regions: fresh-water alluvial soil and saline air (Tran Thi Hien and Vo Quang Minh, 2014). For the fresh-water alluvial area, the main focus is on producing 2 and 3 rice crops due to the excellent canal system and freshwater for year-round irrigation. This region has the main production crop are Winter-Spring, Summer-Autumn, and Autumn-Winter. The 3 rice crops structure usually uses rice varieties with short growing time, suitable for flooded areas to produce 3 rice crops. This structure is commonly cultivated in flood-affected areas, concentrated in low-lying areas and alluvial areas between Tien and Hau rivers in Vinh Long provinces, Can Tho city, Hau Giang province, and Dong Thap province. The rice structure of 2 Winter-Spring and Summer-Autumn crops is concentrated in areas that are less affected by flooding or have a period of flooding until late after the Summer-Autumn crop has been harvested. For the early Winter-Spring and Summer-Autumn crops, there was a seasonal structure with an extensive production area in the Mekong Delta from 2000 to 2010. The structure of rice – other crop occupies a small area in production in the Mekong Delta. Distributed widely in the provinces, most concentrated in Long An and Vinh Long provinces, including the Winter-Spring, rice – other crop or the Summer-Autumn – other crop (Figure 1).

Figure 1: Typical seasonal structure of the two central production regions in the



Mekong Delta

Notes: ĐX: Winter-Spring; HT: Summer-Autumn; Màu: other crop, Mùa: seasonal rice

Source: Research data of Tran Thi Hien et al., 2014

For saline water areas affected by saline water, rice cultivation is mainly based on rain-water, including 1 crop of rice (seasonal rice), rice-shrimp, or suitable water retention conditions in some places. It is possible to cultivate 2 rice crops in a year are Summer-Autumn and Summer-Autumn, and Winter Later. The Summer-Autumn structure is mainly distributed in Ba Tri, Thanh Phu, and Tra Cu districts of Tra Vinh province, and the coastal districts of Soc Trang, Bac Lieu, An Bien, and Vinh Thuan districts Kien Giang province, and Tran Van Thoi district and a part of U Minh district, Ca Mau province. Rice – 1 cash crop with the most common structure is rice-shrimp in Can Guoc districts of Long An province, Binh Dai and Thanh Phu districts of Ben Tre province, Chau Thanh district, Cau Ngang district of Tra Vinh province, Hong Dan district, Phuoc Long, Gia Rai in Bac Lieu province and U Minh, Tran Van Thoi, Thoi Binh and Cai Nuoc districts of Ca Mau province.

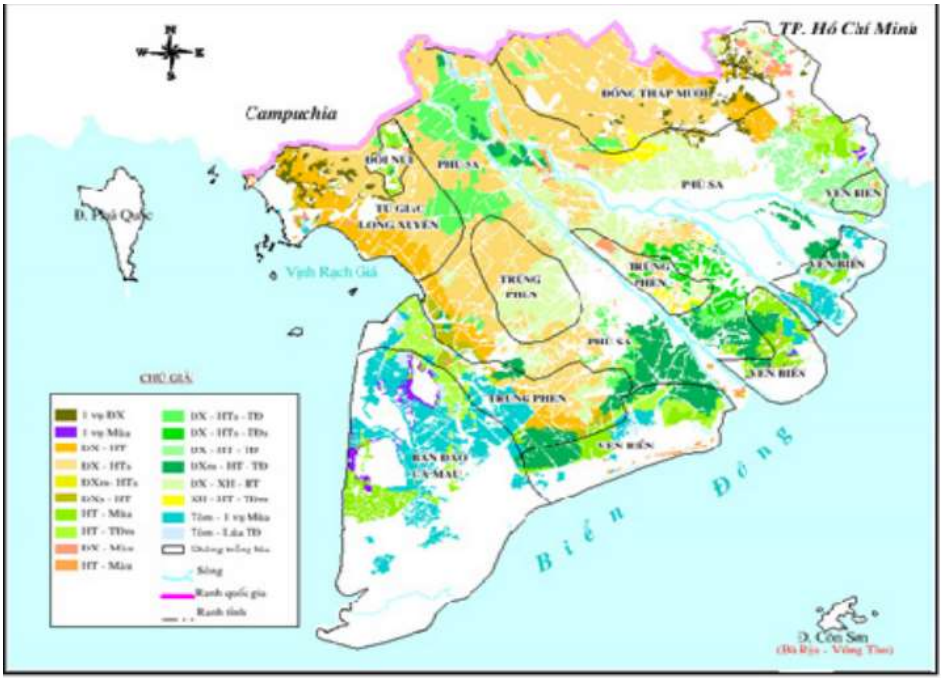


Figure 2: Crop structure in the Mekong Delta in 2000
Source: Research data of Tran Thi Hien et al., 2014

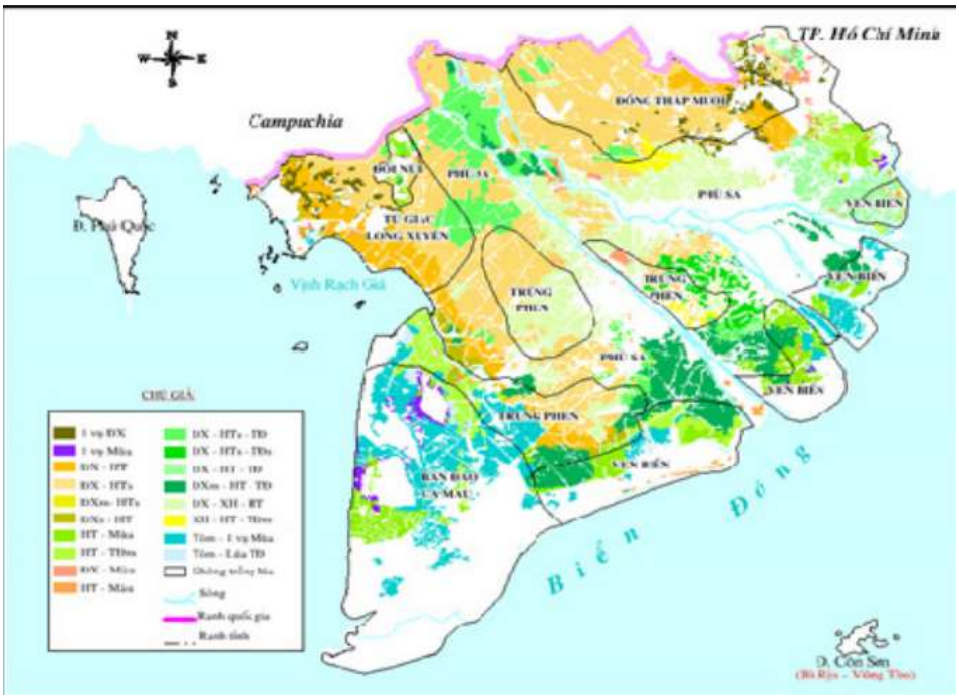


Figure 3: Crop structure in the Mekong Delta in 2010

Source: Research data of Tran Thi Hien et al., 2014

The crop structure in the Mekong Delta is markedly different between fresh-water alluvial and saline-water areas. In fresh-water alluvial areas, the distribution of crops and sowing time are affected by the intensity and duration of flooding. Therefore, the formation of the dike and irrigation system will change the distribution of the seasonal structure of this region. For saline-water areas, the rice cultivation area is not significant, and the rice-shrimp model is

mainly, the crop structure of this area is affected by saline intrusion and the beginning of the rainy season. The results of the analysis in the crop structure based on MODIS remote sensing images from 2000 to 2010 (Figure 2, Figure 3) showed that the seasonal system in the Mekong Delta was constantly changing. Change in sowing season between years or change to another structure.

Table 1: Area of crop structure in the Mekong Delta from 2000-2010

Unit: 1.000 ha

Season	Area										
	2000	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
1 vụ ĐX	82.8	93.5	79.1	74.3	58.8	51.9	56.9	57.9	55.2	53.6	48.9
1 vụ Mùa*	254.3	154.7	99.7	61.2	46.0	44.6	37.8	32.0	31.9	30.2	18.7
Rice 1 season	**337.1**	**248.2**	**178.8**	**135.5**	**104.8**	**96.6**	**94.8**	**89.9**	**87.1**	**83.8**	**67.6**
ĐX - HT	127.2	88.1	69.4	87.6	113.5	104.4	87.7	91.8	107.6	109.2	150.5
ĐX - HTs	635.8	474.7	288.0	630.9	693.5	670.5	826.1	866.3	788.0	662.6	712.5
ĐXm - HTs	162.5	338.8	450.5	116.5			30.1	20.8		181.8	
ĐXs - HT	150.2	140.9	137.9	118.2	93.1	102.7	87.9	82.4	72.4	52.5	27.8
HT – Mùa*	246.8	207.2	182.1	165.1	144.0	136.3	134.9	138.2	129.3	132.3	128.6
HT – TĐm*	55.4	59.8	85.8	88.1	124.2	119.7	117.5	117.6	120.2	106.2	101.2
Rice 2 seasons	**1377.9**	**1309.4**	**1213.7**	**1206.4**	**1168.3**	**1133.6**	**1284.1**	**1317.1**	**1217.5**	**1244.5**	**1120.6**
ĐX-HTs-TĐ	95.1	111.5	113.4	97.2	89.7	111.8	110.3	131.3	168.1	75.5	155.8
ĐX-HTs-TĐs	49.2	50.0	51.3	43.3	119.6	89.6	40.9	37.2	39.5	46.2	37.4
ĐX-HT-TĐ	82.7	90.3	85.1	80.2	96.2	81.4	67.2	28.1	83.2	97.7	67.2
ĐXm-HT-TĐ	27.6	13.8	46.5	67.8	25.5	35.9	50.4	109.7	62.7	162.2	198.5
ĐX-XH-HT	177.2	195.7	270.6	269.9	268.1	301.4	255.2	159.2	230.6	186.1	248.9
XH-HT-TĐm	1.4	2.9	4.5	14.6	24.4	30.0	20.5	17.5	19.2	22.9	23.3
Rice 3 seasons	**433.2**	**464.1**	**571.4**	**573.1**	**623.4**	**650.1**	**544.5**	**483.0**	**603.5**	**590.5**	**731.1**
Shrimp – Rice*	**14.6**	**35.1**	**74.4**	**81.4**	**147.3**	**145.4**	**189.4**	**197.9**	**217.6**	**240.2**	**225.4**

** Structures that are cultivated mainly in saline soils rely on rainwater for production*

Notes: ĐX: Winter-Spring; HT: Summer-Autumn; TĐ: Autumn-Winter; Mùa: seasonal rice

Source: Research data of Tran Thi Hien et al., 2014

Rice production is affected by weather characteristics. The rainy season in the Mekong Delta usually occurs from May to November (concentrated between the summer-autumn crop and the autumn-winter crop). The dry season is from December to April next year-end of the Season and Winter-Spring season), thus causing excess and shortage of water in each crop.

Besides, the flood season starts from June and July and peaks in September and October every year, thus affecting a large production area in the Mekong Delta (Nguyen Van Hoa, 2006). At the same time, the influence of saline intrusion in the coastal zone only ends when the rainy season begins, so the sowing depends a lot on the conditions of each region. The sowing at different times makes the Mekong Delta have a more complicated cropping system than other regions. The structure of this crop will change according to the ecological conditions of each region, the development of the agricultural economy, the irrigation system to provide irrigation water, the dike to prevent floods, and the situation of saline intrusion.

The results in Table 1 showed that for freshwater alluvial areas, the area of one-crop rice cultivation in the region, mainly the Winter-Spring crop, accounted for 82.8 hectares in 2000 and increased by 10.7 thousand hectares in 2001, reaching an area of approx 93.5 hectares. However, this area gradually decreased over the years, and by 2010 the location for 1 crop rice production decreased to only 67.6 hectares. The developed irrigation system creates favorable conditions for soil improvement, acidification, and salt washing, so most of the land under 1 rice cultivation has been converted to 2 and 3 rices cultivation. From 2000 to 2010, there was a fluctuation between the structure of 2 rice crops and the system of 3 rice crops in the direction of inverse proportion, the area produced for 2 crops of rice tended to decrease and vice versa for 3 crops of rice to increase. In 2000, the area of 2 rice crops was 1377.9 ha, and the area of 3 rice crops was 433.2 ha. Starting in 2001 and 2002, the 2 rice crops growing area changed to 3 rice crops, mainly Winter-Spring, Spring-Summer, Summer-Autumn because this was the 3 crops structure adapted for flood-affected areas. By 2006, 2007 the trend of fluctuations was opposite to that of previous years. Specifically, 3 rice crops from 650.1 ha (2005) decreased 544.5 ha (2006) and 483.0 ha in 2007 because the 3 rice crops growing area in An Giang province and a part in Can Tho has been re-cultivated 2 rice crops. The main crop for this change was that 3 rice crops cultivation for many years makes the soil poor in nutrients, and the profit in the Autumn-Winter crop was not high.

The analysis results showed that the Mekong Delta had a complex production crop structure with fluctuations in area. In fresh-water alluvial areas, the structure of 1 rice crop tends to change to the structure of 2 rice crops, and there was a structural change between 2 and 3 rice crops depending on the production conditions of each year. For saline-water areas, the change of crop structure was due to the influence of saline intrusion, the time of rain, and economic efficiency. In some places, due to economic profits, people switched to the shrimp-specializing model.

3.2 Area of crop structure conversion in some provinces and the Mekong Delta

+ Tra Vinh Province: Agricultural production played a vital role in the economic structure of the province. The area under rice cultivation in 2012 was about 230,000 hectares, and crops were planted each year on over 50,000 hectares. Restructuring crops on inefficient rice land, in which the model of putting products in the field was one of the province's top priority solutions. In 2012, the whole section rotated crops on 9,700 hectares of rice land, 2,592 hectares of rice combined with aquatic products, and 81 hectares of rice converted to fruit crops. Statistical results in Table 2 showed that the planted area of some crops decreased in 2012-2018. Specifically, maize increased by 1,600 hectares, and sweet potatoes decreased by 200 hectares.

Table 2: Cultivated area of rice and cash crops in Tra Vinh province in 2011-2018

Unit: ha

Crop	2012	2013	2015	2018
Rice	227.427	227.500	235.800	223.300
Corn	5.453	5.800	5.500	3.900
Sweet potato	1.755	1.850	1.400	1.200
Cassava	1.100	1.100	//	//
Kinds Vegetables	29.449	30.000	//	//

Source: Tra Vinh Provincial Agricultural Extension Center, 2018

+ Ben Tre Province: The province's rice production faces many difficulties due to the influence of saltwater intrusion, complicated weather conditions, and the production area of each household is small (on average 5,000m^2/household), so mechanization is required. There are many obstacles in production. The converted area of some crops in 2013 compared to 2010 was as follows: rice decreased by 4,000 hectares, coconut increased by nearly 7,000 hectares, vegetables increased by almost 300 hectares, aquaculture increased by more than 700 hectares, and shrimp farming in rice fields increased by more than 500 ha (Ben Tre Provincial Agricultural Extension Center, 2013). In 2016, the whole province converted 1,673.7 hectares of inefficient rice land to crops of high economic value. The converted vegetable growing area was 734.4 hectares (Ben Tre Province Department of Agriculture and Rural Development, 2017).

+ Bac Lieu province in 2012 had a total arable land area of 86,296 ha, the cultivated area was 178,649 ha, of which Winter-Spring rice was 54,605 ha, Summer-Autumn rice was 55,786 ha, and 1 rice season was 68,258 ha. The area under ineffective rice cultivation in 2012 was 2,630 ha, accounting for 1.47% of the cultivated area. The expected conversion area by 2020 was 6,854 ha, accounting for 3.84% of the elegant area and 7.94% of the sleek area.

+ Vinh Long province: Changing the structure of crops on rice land from monoculture of rice to a model of rice rotation with other crops was one of the helpful directions that has been replicated throughout the province. In which crops were objects selected for conversion due to suitable production conditions and high economic efficiency. However, depending on the farming conditions of each household, the capacity of each farmer, the labor resources in the household, and the consumption market, the type of color used for conversion was different (Vinh Long Provincial Agricultural Extension Center, 2013).

Statistical results of agricultural land in 2006-2012 showed that the land area for 3 rice crops decreased by 8,207 hectares, and the land area for 2 rice crops decreased by 1,163 hectares. Meanwhile, the land area for rotation of 2 rice crops - 1 cash crop increased 759 ha, 1 rice - 2 cash crops increased 7,459 ha (Table 3).

Table 3: Agricultural land use in Vinh Long province in 2006-2012

Unit: ha

Agricultural land	2006	2010	2012	Compare 2012/2006
Rice – cash crop	72,866	70,156	69,359	-3,507
3 Rice seasons	61,952	40,032	53,745	-8,207
2 Rice seasons	11,163	12,906	10,000	-1,163
Rice and other crop	**7,106**	**14,423**	**15,324**	**+8,218**
2 Rice seasons – cash crop	7,106	8,680	7,865	+759
1 Rice seasons – 2 cash crops	0	5,743	7,459	+7,459

Source: Vinh Long Agricultural Extension Center, 2013

3.3 Area of some typical upland crops in the Mekong Delta

Accelerating the transformation of crop structure to improve land-use efficiency, crop efficiency, promotion potential, competitive advantage, and market demand is one of the critical objectives in transforming crop structure in the Mekong Delta. The existence of some upland crops in the Mekong Delta has proven its effectiveness over the years. The Mekong Delta has favorable weather conditions for the development of maize. However, due to the arrangement of the crop structure, the crop structure is not suitable, so the increase in area is not commensurate with the region.

In Vietnam, corn is the second most important food crop after rice. It is an important crop grown in many different ecological regions, with diverse growing seasons and farming patterns on rice land. Table 4 showed the variation in corn planted area in the Mekong Delta from 1995 to 2018. The area of the whole region in 2018 was 33.0 thousand hectares, an increase of 12.8 thousand hectares compared to 1995 (20.2 thousand hectares).). In 2018, An Giang province had the highest corn planting area (7.4 thousand hectares), followed by Tien Giang province (4.7 thousand hectares), and the lowest was Bac Lieu and Kien Giang provinces (respectively. 0.2 and 0.1 thousand hectares). Particularly for Hau Giang province, the cultivated area increased from 1.7 times in 2005-2018 (Table 4).

Table 4: Area planted to maize in the Mekong Delta in 1995 - 2018

Unit: 1.000 ha

Provinces	1995	2000	2005	2010	2015	2018
Long An	0.1	0.4	3.2	5.2	4.2	1.3
Tien Giang	1.7	2.5	3.4	4.7	4.4	4.7
Ben Tre	1.2	0.8	0.8	0.9	0.7	0.5
Đong Thap	2.2	2.6	5.6	3.7	4.6	4.3
Vinh Long	0.7	0.6	0.8	1.3	1.2	1.6
Tra Vinh	1.7	2.6	5.2	5.2	5.5	3.9
Can Tho	1.0	1.1	0.8	1.0	1.0	1.1
Hau Giang			1.8	1.8	3.1	3.2
Soc Trang	2.4	2.7	2.8	3.7	4.1	4.2
An Giang	8.8	5.1	9.8	9.8	8.6	7.4
Kien Giang	0.0	0.0	0.0	0.0	0.1	0.1
Bac Lieu	0.2	0.3	0.5	0.1	0.1	0.2
Ca Mau	0.2	0.3	0.2	0.3	0.5	0.5
Total	**20.2**	**19.0**	**34.9**	**37.7**	**38.1**	**33.0**

Source: Statistical Yearbook for the years 1995, 2000, 2005, 2010, 2015, and 2018

Sweet potato was one of the food crops that plays an important role, contributing to poverty alleviation and helping to regulate the food balance of society in the years 1945. In the current period, crop structure has been transformed with growing sweet potatoes on rice land, bringing high economic efficiency to farmers. The area of sweet potato cultivation in the Mekong Delta increased from 11.5 thousand hectares (1995) to 23.9 thousand hectares (2018), an increase of 12.4 thousand hectares. The highest cultivated area in Vinh Long province was 14.7 thousand ha (2018), accounting for 61.6% of the area of the whole region (Table 5). However, the development of sweet potato plants also faces many risks due to erratic sunlight and rain, causing damage to farmers and unstable prices.

Table 5: Area of sweet potatoes in the Mekong Delta in 1995 - 2018

Unit: 1.000 ha

Provinces	1995	2000	2005	2010	2015	2018
Long An	0.0	0.0	0.1	0.1	0.1	0.01
Tien Giang	0.9	0.5	0.3	0.3	0.4	0.4
Ben Tre	1.3	0.4	0.3	0.2	0.1	0.1
Đong Thap	1.0	0.3	0.4	1.0	3.6	3.6
Vinh Long	1.9	2.5	5.2	5.8	11.3	14.7
Tra Vinh	1.8	1.8	1.9	1.8	1.4	1.2
Can Tho	1.3	0.5	0.0	0.0	0.0	0.04
Hau Giang			0.7	0.6	0.1	0.1
Soc Trang	1.4	1.5	1.4	2.6	1.9	1.5
An Giang	0.2	0.4	0.3	0.2	0.2	0.2
Kien Giang	1.0	0.9	0.6	1.5	1.5	1.4
Bac Lieu	0.3	0.2	0.5	0.6	0.5	0.5
Ca Mau	0.4	0.9	0.4	0.2	0.2	0.2
Total	**11.5**	**9.9**	**12.1**	**14.9**	**21.3**	**23.9**

Source: Statistical Yearbook for the years 1995, 2000, 2005, 2010 and 2018

The results showed that corn and sweet potato are two typical upland crops that farmers are interested in converting on rice land. This was especially true for the land that was not suitable for 3 rice crops cultivation due to lack of water, saline intrusion, degraded soil, etc.

4. CONCLUSION

Restructuring crops on rice land was an issue that was always concerned by local authorities at all levels. Many models had been effectively converted to farming on rice land and widely applied by people, including the model of 2 rice - 1 other crop, 1 rice - 2 other crops to adapt to climatic conditions, contributing to climate change increase income for farmers. The crop structure was markedly different in 2 ecological zones of fresh-water alluvial soil and saline-water. The area of the crop structure was other, and there were changes in each ecological region. The planted area of the Summer-Autumn crop increased continuously in 1995-2015. The crop had the lowest cultivated area in the crop structure in the Mekong Delta. Research results showed that planning to change the system of crops on rice land needed to be carried out methodically, avoiding wasteful investment when the agricultural land has not been produced for a long time. The need to change the crop structure of farmers tends to increase, but if it was left to farmers to change according to their needs, it was not easy to manage. In the planning work, in addition to the minimum area requirement, it was also advisable to consider the conversion scale of each household to encourage households to concentrate their land to achieve the goal of concentrated production.

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HYDROCHEMICAL CHARACTERIZATION OF WATER FROM A SOURCE IN AL HOCEIMA REGION – MOROCCO: WET AND DRY PERIODS

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Abstract
This study was conducted on the Ghis Nekor aquifer, located in the north of Morocco. This work aims to study the quality of groundwater in the region of Al Hoceima for human consumption, and their physicochemical and bacteriological characterization. As well as the determination of the primary sources of contamination for their protection and their preservation according to the Moroccan law on water, especially since these type of water is very requested by the inhabitants of the region. The deterioration of water quality in the groundwater of Ghis Nekor is due to an anthropogenic origin. It can also be related to the dissolution of minerals that make up the soil. To assess the bacteriological and physicochemical quality of groundwater in the Nekor watershed, major elements were analyzed in water samples collected from 17 sources dispersed along the basin. This investigation has revealed that the water samples are highly charged with very important mineralization (≥ 1400 mg/l). The Piper diagram allowed defining the dominant hydro chemical facies, show that most of the samples in chemical facies: Chloride sodium and potassium or sulfate sodium and Chloride and sulfate and calcium magnesium. Two major phenomena of mineralization were highlighted on the basis of the principal component analysis PCA and the analysis of the ratios of major elements, the dissolution of the rock due to its contact with water, and the contribution of nutrients and thus to the exchange and recharge of the aquifer. The use of the hierarchical analysis technique HCA leads to three homogeneous groups. The bacteriological evaluation of this water revealed a significant contamination by fecal germs.

Keywords: Aquifer, Ghis-Nekor, water quality, physico-chemical parameters, bacteriological parameter.

REVIEW OF AGRICULTURAL VALUE CHAIN ANALYSIS

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Abstract
Value chain research has great significance for the sustainable development of products, especially in the agricultural sector. Value chain analysis has a central role in determining the distribution of benefits of the participants in the chain. This role means analyzing profit and margin/product to determine who benefits from participating in the chain and which participants could benefit from more organization and support. Besides that, policymakers have timely recommendations to distribute benefits among actors fairer, create higher added value, and better support chain development.
The article reviews the research on agricultural product value chains in Vietnam and the world. Research focuses on analyzing value chain approaches Commodity Chain Analysis, Porter (1985), Global value chain and GTZ (2007), the number of actors in the value chain, profit distribution among actors participating in the chain, some popular tools in value chain analysis, and solutions to upgrade the chain.

The paper also points out the gaps in the current agricultural value chain research: 1) There is no combination of SCP analysis framework with other approaches; 2) Researchers have not analyzed the causes of the mark up through the actors or the market power of the actors; 3) There are few studies combine all three models: Porter's five forces, PEST and SWOT to have a complete basis for proposing solutions to upgrade the value chain.

Keywords: Actors, Agriculture, Profit Distribution, Value Chain.

1. INTRODUCTION

The value chain (VC) concept has been mentioned very early by many authors worldwide and is still widely applied. The value chain describes the full range of activities which are products or services through the different stages of production, delivery to final consumers (Kaplinsky and Morris, 2001). The principle-based VC approach considers each actor in the chain and the relationship one step forward, one step back, starting from producing raw materials to the final consumer. VC analysis has a central role in determining the distribution of benefits among the actors in the chain. Through analyzing margins on a product to determine who has benefited from participating in the chain and which participants could benefit from more organization and support.

There are many different approaches to analyzing VC: commodity chain analysis, Porter (1985), global value chain, and GTZ (2007). There are different tools for VC analysis in each approach. However, each VC approach has its advantages and is suitable for some specific VC. Therefore, it is not possible to have the most general or correct method for VC analysis. So, depending on each product and research objective, researchers will choose an appropriate

approach or use multiple approaches simultaneously, even combine some other factors into the analysis. For the above reasons, the paper "Review of agricultural value chain analysis" was conducted to present VC approaches as well as indicators and tools in the agricultural products' VC analysis. Also, it points out the gaps in the current agricultural value chain research.

2. METHODOLOGY

Review of agricultural value chain analysis is based on an integrated approach of concepts and methods of research. This article compares the strengths and limitations to point out the gaps in the current research.

There are numerous content and tools used in value chain research. However, this article focus on some critical contents and tools commonly used in agricultural value chain analysis as follows: 1) An overview of the value chain approach; 2) The number of actors in the value chain; 3) Profit distribution among actors in the value chain; 4) Some tools in value chain analysis; 5) Solutions to upgrade the value chain; 6) Gaps in value chain analysis.

3. REVIEW OF THE AGRICULTURAL VALUE CHAIN

3.1. An Overview Of The Value Chain Approach

According to Vo (2016), there are many different approaches to analyze VC. However, there are four popular approaches today: the commodity chain analysis (CCA) or "Filière", Porter (1985), global value chain, and GTZ (2007). Specifically, these approaches are presented as follows:

3.1.1. Commodity Chain Analysis Approach

The concept of “Filière” or commodity chain analysis, has been developed since the 1960s in France. This method is an analytical tool for agricultural sector research, two main directions of commodity chain analysis. The first direction focuses on an economic and financial assessment. That is mainly concentrating on analyzing how income is generated and distributed in the industry. It separates costs and income between components of local and international trade. Besides that, the framework analyzes the role of the industry in the national economy as well as its contribution to gross domestic product. While the second direction focuses on strategic analysis and simultaneously evaluates the mutual influence of goals, constraints, and results of each actor participating in the industry; develops individual and collective strategies.

Commodity analysis examines the structure of economic processes in agricultural commodities production and distribution systems. The approach aims to improve the efficiency of the value chain by improving agricultural commodities' functions, public marketing organizations, as well as reducing transaction costs associated with the activities of farmers (Raikes et al., 2000). The approach has the advantage of emphasizing the measurement of the relationship of inputs and outputs, prices, and value-added at different stages of the production process. So, this method is suitable for studying agricultural commodities and is controlled by the marketing system within the local and a country (Kaplinsky and Morris, 2001).

3.1.2 Porter's Approach

The value chain consists of series of activities conducted to produce a particular output in a firm (Porter, 1985). This approach is necessary to find a company's competitive advantage by

isolating its activities into many activities, and competitive advantages are found in these activities. Enterprise competition can be illustrated in Figure 1, which includes various detailed activities.

Figure 1 analyzes VC according to Porter's conceptual framework, mainly towards activities, management decision support, management strategies, and values companies. With this conceptual framework, the VC analysis is only within the company's scope activity, whose ultimate aim is to enhance the company's competitive advantage.

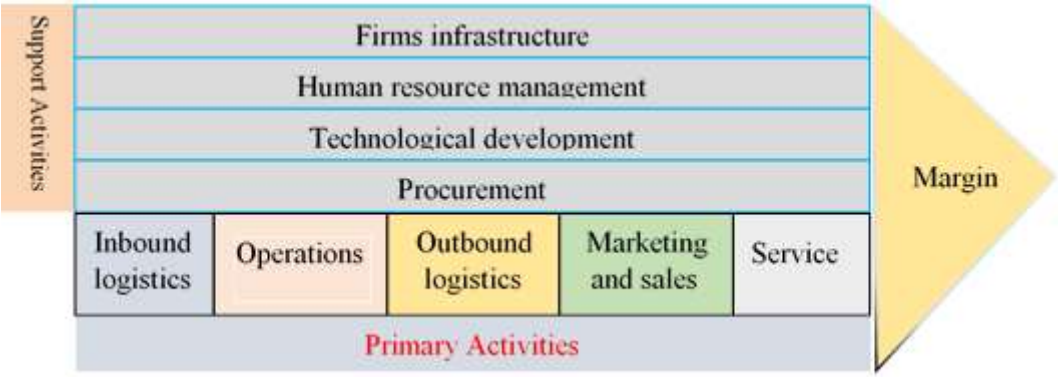

Figure 1. The value chain model Porter (1985)

3.1.3 Global Value Chain Approach

The global value chain analytical framework developed by Gereffi (1999), Kaplinsky (1999a, 1999b) has attracted considerable attention and is further developed by Kaplinsky and Morris (2001), Gereffi, and Memodovic (2003). The global value chain analysis provides a comprehensive view of how companies or countries are globally integrated and assesses the factors of the global income distribution. This framework allows us to understand the organization of the global industry by looking at the structure and activities of the different actors involved in a given industry.

As such, the global approach is a newer approach to how companies and countries integrate globally. Besides, it assesses the determinants of the division of labor, the global distribution of demand, split CGT's total income into rewards for chain actors, and finds out how companies, regions, and countries are linked to the global economy. Therefore, some value chain analysis has been implemented following this approach (Vo and Nguyen, 2020; Phan and Nguyen, 2017; Doan et al., 2015; Vo et al., 2015; Nguyen, 2015; Vo and Nguyen, 2011).

3.1.4. Valuelinks value chain approach of GTZ

According to GTZ (2007), the value chain is also understood as a series of businesses or operators performing functions or stages: production, processing, trading, and distributing a particular product. Thus, in the value chain, there are "stages" in the chain. The stages can be described in detail by "activities" to show each stage's work clearly. Actors in the value chain perform functions in the chain, such as suppliers of inputs production, production farmers, freight traders, as illustrated in Figure 2. In addition to actors, the value chain also has the organization's support for the value chain. The mission of the organization's support is to help grow the chain by facilitating upgrades value chain.

According to this approach, the value chain analysis will focus on two main contents: financial, economic analysis, and strategic analysis of the chain. The financial and economic analysis focuses on benefits analysis and distribution of benefits among actors in the chain. Meanwhile, strategy analysis concentrates on the relationships between actors and the

strategies specific to each actor in the chain. The analysis results will be the basis for influencing the chain to upgrade the value of that product chain. Therefore, this approach will be suitable for small-value agricultural products. The chain links are formed on a small scale, such as at the local or regional scale, to target development and poverty reduction. Therefore, many authors have analyzed the value chain of agricultural products according to the approach of GTZ (2007) (Nguyen and Mai, 2017; Doan et al., 2015; Vo et al., 2015; Nguyen, 2015; Nguyen and Le, 2013a, 2013b; Tran et al., 2012; Vo and Nguyen, 2011).

Based on GTZ's approach, the Asian Development Bank has introduced a practical handbook for value chain analysis titled "Making Markets Work Better for the Poor -M4P) (M4P, 2007). This approach is consistent with the value chain that has a high proportion of the poor at all stages of the chain, and the goal of pro-poor growth is achieved when the chain creates more jobs and higher incomes for the poor. This approach is appreciated by researchers for its suitability for agricultural products, especially those related to the poor. Therefore, the approach of M4P (2007) is also applied by researchers in value chain analysis of agricultural products (Nguyen and Mai, 2017; Vo et al., 2015; Nguyen and Nguyen, 2014; Nguyen and Le, 2013a, 2013b; Perez and Viana, 2012; Tran et al., 2012; Vo and Nguyen, 2011).

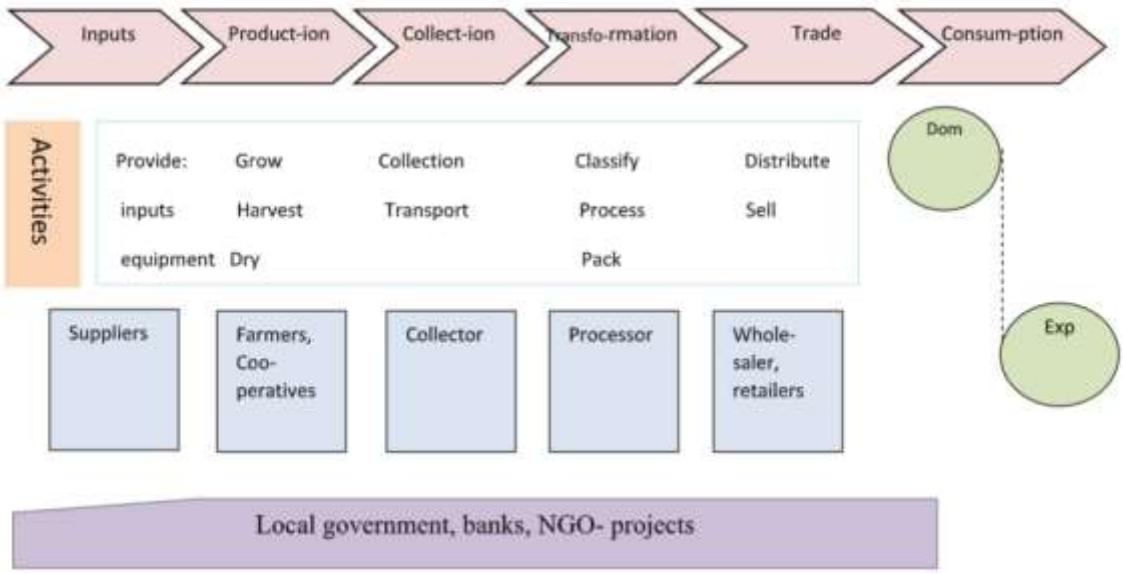

Figure 2. Map of GTZ's value chain (2007)

3.1.5. Another Approach In Value Chain Analysis

One of the other approaches to analyzing the value chain is the SCP model (Structure - Conduct - Performance) (Vo, 2016). Based on the SCP theory of market structure, market conduct and market performance developed from the theory of industrial organization and used for industry research (Waldman and Jensen, 1998). The SCP model is one of the standard frameworks applied in market analysis. In particular, the first factor (market structure) means the number and size of actors participating in the supply chain, product differences, and barriers to entry and exit. These factors will affect the nature of competition and pricing behavior in the market. The second factor (market conduct) concerns the coordination of the market and the pricing policy applied by actors in the value chain. These factors can affect market performance, which measures the relationship between price and output and measures the effectiveness of innovation and investment.

Figueirêdo Junior et al. (2014) and Jordaan et al. (2014) extended the SCP framework for application value chain analysis. This framework will highlight the types of structure, process, and performance for the value chain and provide an integrated approach to explore the interactions between these factors and devise strategies for some value chain. According to this analytical framework, the unit of analysis is not a company but part of a value chain in one locality, competing with another value chain elsewhere. Because of the characteristics mentioned above of the SCP model, several studies have applied this approach to analyzing the value chain of agricultural products and commodities (Kuguru, 2016; Huynh and Luu, 2016a, 2016b; Nguyen and Vo, 2014; Ngaruko and Mbilinyi, 2014; Truong, 2014; Luu, 2006, 2005; Mai, 2004).

In general, each of the above value chain approaches has its advantages and focuses on particular research objectives. Thus, it is impossible to have a general or the correct method for product CGT analysis. Therefore, researchers will choose an appropriate approach or use multiple approaches simultaneously depending on each product and research objective. Some studies combine Kaplinsky and Morris (2001), and GTZ (2007) approaches simultaneously (Nguyen, 2015; Doan et al., 2015; Nguyen et al., 2018). In contrast, Nguyen and Mai (2017), Nguyen and Nguyen (2014), Nguyen and Le (2013a, 2013b) combine two approaches GTZ (2007) and M4P (2007) in their studies. Besides, some studies have combined up to 3 approaches of Kaplinsky and Morris (2001), GTZ (2007), and M4P (2007) in research (Nguyen and Vo, 2019; Vo et al., 2015; Vo and Nguyen, 2011). They are even using more than three approaches, as value chain coffee of Vietnam and Cambodia (Perez and Viana, 2012), coconut Ben Tre (Tran et al., 2012).

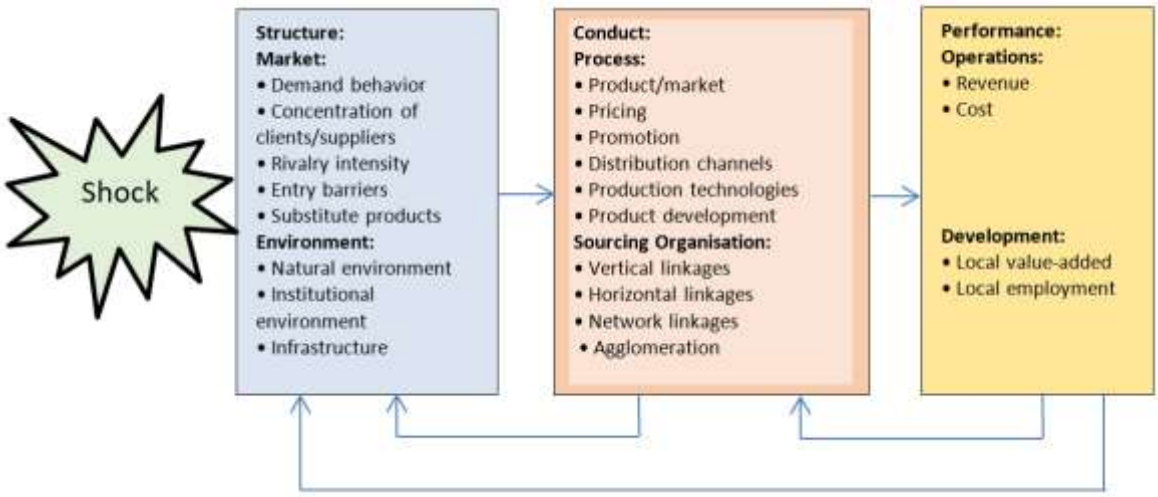

Figure 3. Expanded SCP value chain research framework

(Figueirêdo Junior et al. 2014)

3.2. The Number Of Actors In The Value Chain

The product value chain diagram depicts the connection, dependence, mutual understanding between actors in the chain and each actor's role. At each stage of the product circulation process, each actor in the product value chain has particular functions in operating the value chain: inputting, production, purchasing, processing, commercial, and consumption function. The number of actors depends on the operation of the chain and the size of the chain.

Nguyen (2012), analyzing the cassava value chain in Thua Thien Hue province, shows four main actors involved: cassava farmers, small collectors, traders, and processing factories in

the whole domestic consumption and export channels. The chili value chain in Dong Thap (Vo et al., 2015), cocoa in Ben Tre (Nguyen and Luu, 2014) also have similar results. Moreover, the number of actors is more than five, compared to the chains above that include retail actors in the domestic consumption channel. This result is illustrated in Ninh Thuan grape (Nguyen and Le, 2013a), tea in Moc Chau, Son La (Nguyen et al., 2015), and coffee in Oromia, Ethiopia (Assefa et al., 2018).

The value chain with the most actors is seven, including the tea value chain in India (Langford, 2021); the coffee value chain in the Central Highlands (Nguyen and Mai, 2017); the lotus value chain in Dong Thap (Vo and Nguyen, 2020); the rice value chain in the Mekong Delta (Vo and Nguyen, 2011); pineapple value chain in Tien Giang (Nguyen, 2015); apple value chain in Ninh Thuan (Nguyen and Le, 2013b) and the Ninh Thuan garlic value chain (Nguyen and Nguyen, 2014). In these value chains, the number of actors increases due to exporting companies or wholesalers and retailers outside the province.

3.3. Profit Distribution Among Actors In The Value Chain

Value chain research has great significance for the sustainable development of products or industries, especially in agriculture. Important role's value chain analysis determines the distribution of benefits between actors participating in the chain. Thus, it can provide appropriate and timely solutions or strategies to improve the distribution of profits among the chain actors.

Value chain analysis of tea in India indicated that the profits of small tea growers are higher than green leaf collectors were Rs. 2.63 and Rs. 1.86/kg of green tea leaves, respectively. Processors had the highest net income, follow retailers and wholesalers, and these were Rs. 20.00, Rs. 4.00 and Rs. 2.50/kg of made tea, respectively (Das and Mishra, 2019). In contrast, Nguyen et al. (2015) analyzed the distribution of profits/products among actors in the tea value chain in Moc Chau. The result presents that: Wholesalers have the highest profit percentage (30%) then traders (27%), tea farmers (16%), retailers (13%), and processing factories (12%). The rice value chain in the Mekong Delta (Vo and Nguyen, 2011) has the same results: wholesalers have the highest proportion of profit distribution, followed by retailers, farmers, households, and traders. Meanwhile, the apple value chain in Ninh Thuan (Nguyen and Le, 2013b) indicates that the actor with the highest profit distribution rate is the retailer (45-58%) then apple growers and traders.

Other studies show that farmers are the actor with the highest profit distribution rate in the value chain, specifically: Cassava value chain in Thua Thien Hue. Cassava farmers account for 70%, then the processor's factory and collectors (Nguyen, 2012). In the profit distribution of the chili value chain in Dong Thap, Vo et al. (2015) also show that farmers have the highest percentage in all channels, over 80%, followed by the traders, wholesalers, exporters only about 3.7%. In addition, households are the actors with the highest income distribution at 60% and 74%, in the value chain of Ninh Thuan garlic (Nguyen and Nguyen, 2014) and Ben Tre cocoa (Nguyen and Luu, 2014), respectively in the non-processing channel. In contrast, the analysis results of profit distribution on processing channels of the green apple value chain in Ninh Thuan (Nguyen and Le, 2013b), cocoa in Ben Tre (Nguyen and Luu, 2014), and Dong Thap lotus value chain (Vo and Nguyen, 2020) show that the processing company has the highest profit distribution (67-85%), as fellow farmers.

Thus, through the analysis of profit distribution of actors in the value chain, it shows no general rule for the distribution of profit ratio/product unit. The actors on different distribution channels also have different rates. This rate entirely depends on the number of actors on the channel and the operation of each channel.

The highest profit distribution ratio/product unit does not mean that the actor's average income/year or season is also the highest. When analyzing the distribution of profits on the export channel in the rice value chain in the Mekong Delta, Vo and Nguyen (2011) illustrated that farmers are the actors with the highest profit rate (36.5%). However, if calculating the profit index of each actor/year, rice farmers account for less than 0.01%, while exporting companies account for 88%. Similarly, the chili value chain in Dong Thap of Vo et al. (2015) also presents that, although chili farmers have the highest percentage in all channels, 80-90%. While the wholesalers only account for 5%-16%, but the average profit/year is the highest proportion (64.7%), and the farmer has only 2.3%. Research on the value chain of An Giang mango (Nguyen and Vo, 2019) and Dong Thap lotus (Vo and Nguyen, 2020) also give the same results.

Vo et al. (2015) illustrate profit distribution in the chili value chain because farmers' products/year is much lower than that of traders and wholesalers. Vo and Nguyen (2011) also illustrate that households grow rice on a small scale, and the production cycle lasts 3-4 months compared to other business actors in the chain. For example, traders can sell ten tons of rice/day. This research explains why the income and profit of the farmer/year are many times lower than other actors in the chain.

It can be seen that the profit distribution of the actors/year is quite different. Farmers are the actors with the lowest income/year in the chain due to the small production scale. Meanwhile, large traders, wholesalers, or processing and exporting companies are the actors with the highest income/year thanks to the advantages of scale and large consumption volume.

3.4. Some Tools In Value **Chain Analysis**

3.4.1. PEST Analysis Model

Analyze the PEST model (Political, Economical, Sociocultural, Technical) to see the advantages that will be considered as opportunities for actors participating in the value chain to have the opportunity to improve operational efficiency. The difficulties will be threats or challenges to the effectiveness of the actors in the value chain. These opportunities and challenges will be the input factors of SWOT analysis to find solutions to improve performance's value chain (Le, 2019).

3.4.2. Porter's Five Forces Analysis Model

Porter (1985) gave a theoretical framework to analyze the model of five forces competitive pressures of the industry and an enterprise. This model is considered a valuable and effective tool to devise a competitive strategy for an industry or firm. There are five analysis contents in this model, including 1) bargaining power of suppliers; 2) buyers' bargaining power; 3) threats of new entrants; 4) substitutes' threat; 5) competition of existing competitors in the industry. Thus Porter's five forces analysis model will indicate the advantages and disadvantages of the actors' production and business and the basis for strengths and weaknesses in SWOT analysis. Some value chain studies have used this model as a basis for proposing solutions to upgrade the chain (Nguyen and Vo, 2019; Le, 2019; Nguyen and Nguyen, 2014).

3.4.3. SWOT Matrix Analysis

SWOT analysis is the analysis of strengths, weaknesses, opportunities, and threats. Therefore, researchers have applied this method in value chain analysis to discover recommendations and upgrade strategies, focusing on leveraging strengths and opportunities to overcome weaknesses and threats. The SWOT analysis model is increasingly used by numerous in value chain analysis (Fonseca et al., 2020; Nguyen and Vo, 2019; Le, 2019; Vo et al., 2015; FAO,

2015; Nguyen and Luu, 2014; Nguyen and Nguyen, 2014; Nguyen and Le, 2013a, 2013b; Vo and Le, 2011).

3.5. Solutions To Upgrade The Value Chain

Value chain research has great significance for the sustainable development of products, especially in the agricultural sector. Kaplinsky and Morris (2001) emphasize: Value chain analysis has a central role in determining the distribution of benefits of the participants in the chain. This role means analyzing profit and margin/product to determine who benefits from participating in the chain and which participants could benefit from more organization and support. Besides that, policymakers have timely recommendations to distribute benefits among actors fairer, create higher added value, and better support chain development. Some studies have used different qualitative and quantitative analysis tools to develop solutions to improve the value chain's profits.

The first is a group of solutions related to strengthening horizontal and vertical links between actors in the chain for different purposes. The solution to enhance horizontal linking helps producers improve production efficiency, increase price bargaining, and promote product consumption (Fonseca et al., 2020; Nguyen and Vo, 2019; Phan and Nguyen, 2017; FAO, 2015; Nguyen, 2015; Nguyen and Nguyen, 2014). Besides, the horizontal linkage among farmers also reduces production costs (Nguyen and Mai, 2017; Vo et al., 2015; Vo and Le, 2011). Moreover, vertical links between actors, especially between coffee farmers, cooperatives and prosesors does present opportunities for producer upgrading (Vicol et al., 2018). These links will help distribution channels to reduce intermediary costs and increase income for the actors involved (Nguyen and Mai, 2017; Nguyen and Le, 2013b). Even the linkage between input suppliers and production households will reduce production costs for farmers (Nguyen and Luu, 2014).

The second is a group of solutions to improve product quality through strengthening agricultural extension. Agricultural extension activities include training on production, processing, and product preservation techniques to enhance productivity and quality of agricultural products (Tardzenyuy et al., 2020; Nguyen et al., 2015; Nguyen and Nguyen, 2014; Nguyen and Luu, 2014; Nguyen and Le, 2013a, 2013b; Dinh and Pham, 2011a). In addition, quality will also be improved by training and transferring production techniques according to VietGAP, GlobalGAP, UTZ, or 4C standards... The solution will respond to increasing demand for quality of the domestic market and technical barriers of export markets (Piao et al., 2019; Nguyen and Vo, 2019; Nguyen, 2015; Bui and Le, 2015; Dinh and Pham, 2011b; Vo and Le, 2011).

The third is the product development solution group, diversifying products to create products with high added value. If actors invest or upgrade processing and preservation technology, the seasonal problem of products will be solved. The product will be preserved longer, meet market requirements and reach further markets (Boaventura et al., 2018; Assefa and Habteyesus 2018; Nguyen and Mai, 2017; Nguyen, 2017; FAO, 2015; Nguyen and Luu, 2014; Nguyen and To, 2014; Nguyen and Nguyen, 2014; Perez and Viana, 2012; Tran et al., 2012).

The fourth is a group of solutions on building a system that provides market information for all actors participating in the chain. Access to market information can help farmers update new farming methods, improve product quality, get the latest price information, and enhance actors' bargaining power. Nguyen et al., 2015; Nguyen, 2015; Nguyen and Nguyen, 2014; Nguyen and Le, 2013a).

4. CONCLUSION

From the literature review above, gaps in value chain analysis in the agricultural sector include:

First, it can be seen that studies on the value chain of agricultural products use various approaches' value chain such as Kaplinsky and Morris (2001), GTZ (2007) ValueLink, (M4P, 2007), and the SCP analysis framework. Researchers can use one approach or a combination of approaches in the value chain analysis of agricultural commodities. However, papers using the approach between the extended SCP analysis framework and other approaches in value chain analysis are not widespread, especially in value chain analysis of agricultural products.

Second, studies focus on analyzing price, value-added, and profit among actors in the chain but have not yet analyzed the causes of mark-up through actors or market power in value chain analysis.

Third, most of the studies use the SWOT matrix analysis tool or combine it with Porter's five forces analysis to provide solutions to upgrade the value chain. However, scarce studies combine all three models of Porter's five forces, PEST, and SWOT models, to have a complete basis for proposing solutions to upgrade the chain.

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A DECADE OF FEDERALIZATION IN THE POST-CONFLICT SOMALIA

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Abstract
Somalia is a postcolonial nation in the African Horn, striving to rebuild the polity and governance since the militarist regime collapse and the central state failure in 1991. The regime collapse soon evolved into central state collapse, paving the way for the emerging centrifugal powers, which eventually effectively control certain territories and strive to rebuild government and administration at their local and regional levels with significant success, amidst a set of conditions that included civil war and international peace support. In that context, federalization was introduced as late as 2004, within the larger project of conflict resolution, peace building and state building promoted by the international community. State building efforts in Somalia have passed the transitional government phase (2000-2012) into the provisional constitutional government phase (2012 to present).

This paper deals with post-unitary federalization in Somalia, with a focus on the political developments of the last decade, including the adoption of the 2012 Provisional Constitution, the institutional design introduced therein, the constitution making and state building goals set therein, and the achievements accomplished so far. Accordingly, we identify the federalization experience in Somalia as *incomplete federalism*. Furthermore, with a reference to a conceptual framework of federalism in general and a comparative framework of federalism in Africa, we conclude that concepts like *post-conflict federalism*, *holding-together federalism*, *asymmetric federalism* are also conveniently applicable to the Somalia case.

Keywords: Somalia, federalism, state building, peace building, 2012 Provisional Constitution of the Federal Republic of Somalia.