9th International Conference on Business and Economics Studies

October 17-19, 2024, Erzurum, Türkiye



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ISSN 2469-7540

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9th ICBES
CONFERENCE SCHEDULE

Face to Face

Thursday, October 17

1st SESSION		
11.30am–12.30pm	**Paper Title**	**Room**
Session Chair:	**Prof. Dr. Serap BEDİR KARA**	
Kadir İnan Duygu Tulan Tohumcu	Analysis of Studies on the Concept of Private Health Insurance with VOSviewer	A7 Hall
Sümeyye Gökçenoğlu Duygu Tulan Tohumcu	Measuring University Students' Rational Drug Use Knowledge Levels: An Application in Erzurum Province	A7 Hall
Oğuzhan Demir Dilek Özdemir	Green Taxes, White Future: The Path to Sustainable Development in the Visegrad Countries	A7 Hall
Emine Demet Ekinci Hamamcı Tuba Şahinoğlu	The Role of the Services Sector in Reducing Current Account Deficit in Türkiye: An Evaluation by Sub-Service Sectors	A7 Hall
12.30pm–12.45pm	**Coffee Break**	**Foyer Area**
2nd SESSION		
12.45pm–13.45pm	**Paper Title**	**Room**
Session Chair:	**Assoc. Prof. Dr. Mehmet Emirhan KULA**	
Kadir Deligöz Rabia Toksöz	The Impact of Consumer Minimalism on Consumer Innovativeness	A7 Hall
Muhammet Mutlu	The Mediating Role of Customer Complaint Management in the Effect of Electronic Negative Word-of-Mouth Communication on Customer Loyalty	A7 Hall

Kübra Kavalcı	Determinants of Consumers' Brand Preference; A Systematic Review Study	A7 Hall
Rıdvan Akın	Ethical Climate, Narcissism and Schadenfreude: The Role of Individual Differences in Banking Employees	A7 Hall
13.45pm–14.00pm	**Coffee Break**	**Foyer Area**
3rd SESSION		
14.00pm-15.00pm	**Paper Title**	**Room**
Session Chair:	**Prof. Dr. Hüseyin DAŞTAN**	
Özge Buzdağlı Elifnur Tığtepe	Convergence Analysis in the Fragile States Index: The Case of Türkiye And Neighbouring Countries	A7 Hall
Kerem Fırat Coşkun Dilek Özdemir	The Spillover Effect of Inflation on the Insurance Index in Türkiye	A7 Hall
Kadir İnan Deniz Erenel Serap Bedir Kara	The Relationship Between Human Capital Expenditures and Economic Growth in Türkiye's Regions	A7 Hall
Ayşe Çay Atalay	The Relationship Between GDP and Agricultural Productivity in Türkiye for the Period of 2004-2022: A Province-Level Cluster Analysis	A7 Hall
15.00pm–15.15pm	**Coffee Break**	**Foyer Area**
4th SESSION		
15.15pm–16.15pm	**Paper Title**	**Room**
Session Chair:	**Assoc. Prof. Dr. Esra Sena TÜRKO**	
Serpil Sumer Adin	A Review on Financial Therapy	A7 Hall

Muhammed Asım Kantar Hülya Diğer	Evaluation of the Financial Analysis Guide for Public Administrations: Ministry of Health Example	A7 Hall
Seda Ağgül	A Qualitative Study on The Perspectives of Certified Public Accountants in Erzurum on The Use of Artificial Intelligence in Accounting Practices	A7 Hall
Furkan Onat Mustafa Keskinkılıç	Review of Artificial Intelligence Literacy Studies	A7 Hall
Muhammet Talha Akgün	Investigation of Fractal Market Hypothesis for BIST Dividend Index	A7 Hall
16.15pm–16.30pm	**Coffee Break**	**Foyer Area**
5th SESSION		
16.30pm–17.30pm	**Paper Title**	**Room**
Session Chair:	**Assoc. Prof. Dr. Nurşen AYDIN**	
Arzu Tural Dikmen Serap Bedir Kara	The Relationship Between Fiscal Capacity and Public Health Expenditures: The Case of Türkiye	A7 Hall
Faruk Şahin Dilek Özdemir	The Role of Solid Waste Recycling in Environmental Sustainability: A Panel Data Analysis of the EU's Largest Economies	A7 Hall
Duygu Tulan Tohumcu Sümeyye Gökçenoğlu	Diabetes Risk Among University Students in Erzurum: An Application Using the Adult Dietary Scale	A7 Hall
Tuba Şahinoğlu Kerem Fırat Coşkun Cem Arık	Assessment of Migrant Flow to European Union Countries Applying Structural Break Unit Root Analysis	A7 Hall
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6th SESSION		
17.45pm–18.45pm	**Paper Title**	**Room**
Session Chair:	**Assoc. Prof. Dr. Emine Demet EKİNCİ HAMAMCI**	
Muhammed Kürşat Timuroğlu Dilan Ülker	The Relationship Between Occupational Burnout and Organizational Learning: An Application in the State Schools of Erzurum Province	A7 Hall
Cihan Genç Melek Demirkol Genç Ramazan Kıraç	Inequality in Health Services and Access Problems	A7 Hall
İkram Yusuf Yarbaşı Sefa Özdemir	A Study on the Determinants of Online Restaurant Services Usage in Türkiye	A7 Hall
Hilal Mola	The Impact of the Nudge Policy on Freeganism: Dissemination Strategies in Türkiye	A7 Hall
Ömer Takım Mustafa Keskinkılıç	Error Tracking in Microservices: Spring Boot 3 and Correlation ID Approach	A7 Hall

9th ICBES
CONFERENCE SCHEDULE

Online

Thursday, October 17

1st SESSION		
11.30am–12.30pm	**Paper Title**	**Link**
Session Chair:	**Assoc. Prof. Dr. M. Kürşat TİMUROĞLU**	
Fatih Karcıoğlu Elif Ketecioğlu	The Relationship Between Talent Management and Organizational Commitment: A Study on Atatürk University and Bayburt University Academicians	Click Password: irUm9BCH
Eda Ayvacık Hanife Bektaş	Determination Of Students' Sustainable Consumption Behaviors: Bayburt University Example	
Funda Öztürk	Metaverse and Human Resources: Bibliometric Analysis with VOSviewer	
Şerife Karagöz	E-Leadership and Artificial Intelligence: The Evolution of Leadership in The Digital Age	
Duha Kaçmaz Hüseyin Çiçek	Bibliometric Analysis of Mental Workload Studies in the Web of Science Database	
2nd SESSION		
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Session Chair:	**Asst. Prof. Dr. Halil PEÇE**	
Elif Esra Bilici	A Study on Employee Satisfaction in Human Resources in the Automotive Sector	Click Password: irUm9BCH
Emre Durmazpınar	The Effect of Ethical Climate and Organizational Control Mechanisms on Work Engagement: A Research in The Civil Aviation Sector	
Fatih Baltacı	Relationship Between the Dark Side of Personality and The Nepotism	
Büşra Demir	The Effect of Communication Climate and Nomophobia on Cyberloafing	
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Session Chair:	**Assoc. Prof. Dr. Kadir DELİGÖZ**	
Sefa Emre Yılmazel Nusret Yetim	Online Farmers: The Impact of Digital Literacy Levels on E-Commerce Intention	Click Password: irUm9BCH
Nazan Korucuk	Examination of Diderot and Zeigarnik Effects Within the Scope of Purchasing Behavior	
Fatih Bilici Nebi Seren	Fan Interaction and Change in Football Player Values: A New Perspective on Sports Marketing	
Fulya Gezer	Macro Determinants of Health Expenditures in Türkiye: ARDL Approach	
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Elif Esra Bilici	Performance-Based Bonus System and Key Performance Indicators (KPI's): Practice in the Automation Technologies Sector	Click Password: irUm9BCH
Nebi Seren Fatih Bilici	A Bibliometric Study on The Use of Rfid Technology in Marketing	
Feyza Selçuk	The Mediatory Role of Organizational Trust in the Effect of Organizational Support on Workplace Loneliness in Virtual Organizations	
Burcu Yaşar	Evaluation of The Changes Made in Capital Reduction with Law no. 7420	
Esra Pilgir	The Impact of Environmental Issues on Voting Behavior: The Case of Iğdır University Students	
Ensar Balkaya	The Examination of Informal Employment in Türkiye Based on Demographic Factors	

PREFACE

Complexities surrounding the globalization and the interconnectedness of nations are creating challenges for nation-states as well as other newly formed political structures. Innovative social, political, and economic structures are being formed and existing structures are being re-formed to adapt to the forces of globalization. With all these changes (and thus innovations), Researchers and practitioners are trying to understand how they fit within these complexities and what the future will be like if we do not respond effectively.

Through this conference we brought experts from around the world to share their research and experiences in humanities and educational research. Our conference sparked some exceptional conversations around the very meaning of culture and cultural competencies.

Here, we present some of our Researcherly discussions that took place during our conference in a more detailed manner, which the sessions during the conference would not allow. We hope that these Researcherly conversations continue and we all inform each other, work towards uniting the already globalize world so that we can celebrate this unity.

LEGAL DISCLAIMER

* The research being published should have been conducted in an ethical and responsible manner and should comply with all relevant legislation.
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THE RELATIONSHIP BETWEEN FISCAL CAPACITY AND PUBLIC HEALTH EXPENDITURES: THE CASE OF TÜRKİYE

Arzu Tural Dikmen[1] & Serap Bedir Kara[2]

Abstract

Health is one of the most fundamental elements of economic growth and social development, contributing to more efficient and productive societies by improving the quality of human capital. However, health services are generally costly, and the financing of these services is mostly provided by the public and private sectors. In line with the 2030 Sustainable Development Goals (SDGs) on healthy lives and well-being (SDG3), governments aim to ensure that everyone has access to essential health services without experiencing financial hardship and to strengthen health systems. In this context, countries; fiscal capacities play a critical role in determining the most appropriate level of health spending and the financial sustainability of health systems. The study analysed the impact of fiscal capacity on public health expenditure in the Turkish economy, using data from the period 1980-2022. The short-run and long-run relationships between the series were estimated using the ARDL bounds test method, and it was concluded that the error correction mechanism worked in the short run. In the long run, fiscal capacity (measured as the ratio of tax revenue to GDP or the ratio of public final consumption expenditure to GDP) was found to have a positive effect on public health expenditure. This shows that an increase in fiscal capacity increases the resources allocated by the government to the health sector. The study highlights that if the government continues to prioritise the health sector in the national budget to achieve SDG3, this will have a positive impact in the long term.

Keywords: Fiscal Capacity, Public Health Expenditures, Türkiye, ARDL Method.

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THE RELATIONSHIP BETWEEN GDP AND AGRICULTURAL PRODUCTIVITY IN TÜRKİYE FOR THE PERIOD OF 2004-2022: A PROVINCE-LEVEL CLUSTER ANALYSIS

Ayşe Çay Atalay[1]

Abstract

This study examines the relationship between the increase in gross domestic product (GDP) and growth in the agricultural sector in Türkiye from 2004 to 2022 by using the method of cluster analysis. Data used in this study were obtained from the Turkish Statistical Institute (TÜİK), and provinces lacking complete data were excluded from the analysis. A total of 77 provinces were analyzed over an 18-year period, considering agricultural production data, regional differences, and annual changes. Cluster Analysis is a data analysis method aiming to group observations in a dataset (such as individuals, objects, or situations) according to specific similarity criteria. The primary objective of this method is to include each observation in a cluster with other similar observations, ensuring that observations within the same cluster are closer to each other, while those in different clusters are more distant. The present study identified regional productivity disparities and performance variations over the years in the agricultural sector, using clustering techniques. Variables of GDP (USD) and total cultivated agricultural area (hectares) were employed. The Classical K-Means technique was utilized in the cluster analysis, which was conducted by using SPSS software. As a result of the cluster analysis, the provinces were divided into six clusters, with the number of provinces in each cluster determined to be 36, 7, 1, 30, 1, and 2, respectively.

Keywords: Türkiye, Agricultural Productivity, Cluster Analysis, Classical K-means.

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EVALUATION OF THE CHANGES MADE IN CAPITAL REDUCTION WITH LAW NO. 7420

Burcu Yaşar[1]

Abstract

The profits obtained by corporate entities are subject to corporate tax withholding as corporate income. When these profits are later distributed to shareholders as dividends, they will be subject to income tax withholding. This situation, commonly referred to as double taxation in practice, increases the tax burden on dividends. To reduce this tax burden, companies have resorted to capital reduction since it is not subject to income tax withholding. Before the changes made by Law No. 7420 regarding the order and taxation of capital reduction, there was no regulation related to this issue in our legal system. If a company, by reducing its capital as an exception to the prohibition on the return of capital set forth in the Turkish Commercial Code, makes a return to the shareholder, is this considered income and should it be subject to tax? The uncertainty in the answer to this question has led companies in practice to opt for capital reduction to receive tax-free distributions. The reduction of capital raises the question of whether there is a value outflow from the company and a corresponding value inflow to the shareholder, along with the uncertainty of whether this situation is subject to income tax. This has created an impression that this practice is, in fact, a disguised profit distribution in corporate entities. Indeed, tax authorities have attempted to resolve this uncertainty in their rulings by stating that reductions should be arranged from the sources that are taxed the most to those that are taxed the least. In our legal system, the principle of legality in taxation is valid. Article 73/3 of the Turkish Constitution states: "Taxes, fees, duties, and similar financial obligations are imposed, amended, or abolished by law" thereby establishing that only the legislative body has the authority to impose, change, or abolish taxes. Therefore, attempts by tax authorities to fill this gap through private rulings violate our constitution. As a result of these discussions, Law No. 7420 has regulated the order in which capital reduction should be carried out. According to this change, a binary distinction has been made based on whether five full years have passed since the inclusion of the resources into the capital. If less than five full years have passed since the inclusion of an equity item into the capital, it is now considered that this resource has been withdrawn from the company, and the reduction starts from the equity items that are subject to the highest taxation. If five full years have passed since the inclusion of an equity item into the capital, the reduction will be carried out using the proportionality method based on the view that equity items have integrated with the capital. The proportion of equity within the capital will be determined, and each source will be subject to reduction in accordance with this ratio. This binary

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distinction also introduces a third distinction, where some equity items have passed five years while others have not. In such a case, the equity items that have not completed five full years will be reduced first, followed by those that have.

Keywords: Capital Reduction, Taxation of Capital Reduction, Principle of Legality in Taxation, Amendment of Law No. 7420.

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THE EFFECT OF COMMUNICATION CLIMATE AND NOMOPHOBIA ON CYBERLOAFING

Büşra Demir[1]

Abstract

With the increase in the use of smartphones, new problems have emerged within the institutions that have not been seen before. With digitalization, virtual life and what it brings sometimes cause cyberloafing, which is not positive, even if it is the desired situation for institutions. Therefore, in this study, it is aimed to determine the relationship between cyberloafing and the concept of nomophobia, which is thought to be affecting it, and the communication climate in institutions. For this purpose, the research was carried out on 253 teachers working in official education institutions affiliated to the Erzurum Ministry of National Education. According to the findings of the research, it is seen that the defensive communication climate, which is the sub-dimension of the communication climate, affects the important and unimportant cyberloafing, which is the sub-dimension of cyberloafing, in a meaningful and positive way, while the supportive communication climate, which is the other sub-dimension, affects the significant cyberloafing negatively, but does not affect the insignificant cyberloafing. While disruption in daily life and tolerance, which are sub-dimensions of nomophobia, affect cyberloafing, no relationship was found between other sub-dimensions and cyberloafing. While a significant relationship was found between the defensive communication climate and the sub-dimensions of nomophobia, it was observed that there was no significant relationship between the supportive communication climate and the sub-dimensions of nomophobia.

Keywords: Cyberloafing, Nomophobia, Communication Climate, Supportive Communication Climate, Defensive Communication Climate.

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INEQUALITY IN HEALTH SERVICES AND ACCESS PROBLEMS

Cihan Genç[1] & Melek Demirkol Genç[2] & Ramazan Kıraç[3]

Abstract

Health services are important services provided to protect and improve the well-being of individuals and society. In order to provide these services efficiently, good planning is required. The quality of health services is directly affected by the fact that they are appropriate to the needs of individuals, timely and accessible. Health services are not equally accessible everywhere due to reasons such as economic conditions of the region where they are provided, geographical transportation problems, financial problems, lack of education and awareness. For these reasons, there may be inequality in health service delivery. Inequity in health services refers to differences in access to services, utilization of services and health outcomes. Problems in access to health services are generally caused by various factors such as income level, education level, ethnicity and gender. The aim of this study is to identify inequality and access problems in health service delivery and to develop alternative solutions. Literature review and policy analysis were used to conduct the study. As a result, low-income groups, individuals living in rural areas, disadvantaged groups and ethnic minorities are among the segments most affected by these inequalities. While access to health facilities is difficult in rural areas, the density in big cities can also reduce the quality of services. In addition, problems such as lack of health infrastructure, insufficient health personnel and high costs create major barriers to access to health services. Strategies such as universal health coverage, mobile health services, telemedicine and education campaigns are being developed to address these problems. Universal health coverage ensures that all individuals have access to basic health services, while digital health technologies alleviate access problems, especially in rural areas. Education campaigns aim to improve individuals' ability to protect their own health by increasing health literacy. Addressing inequalities in access to health services is critical both to protect individuals' rights to health and to improve health in society as a whole.

Keywords: Health, Health Inequality, Health Services, Access to Health Services.

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DIABETES RISK AMONG UNIVERSITY STUDENTS IN ERZURUM: AN APPLICATION USING THE ADULT DIETARY SCALE

Duygu Tulan Tohumcu[1] & Sümeyye Gökçenoğlu[2]

Abstract

This study was conducted to investigate the nutritional knowledge of university students and to determine the relationship between this knowledge and the risk of developing diabetes. In the literature, similar studies have generally focused on obesity. What is unique about this study is that the relationship between diabetes and diet was investigated using the Nutrition Knowledge Scale for Adults. A questionnaire with multiple-choice questions on demographic characteristics, the 404 students who participated in the study were asked about their anthropometric measurements and dietary habits and completed the "Nutrition Knowledge Level Scale for Adults". The data was analyzed using SPSS 21. Chi-square analysis and Pearson correlation were used to analyze the data. Qualitative variables were expressed as frequency (n) and percentage (%), while quantitative variables were expressed as mean and standard deviation (x±SD). According to the results of the study, 264 of the participants were female and 140 were male. Of the participants, 93.1% were single, 6.4% were married and 0.5% were divorced. While 253 students were of normal weight, 68 students were underweight and 68 students were overweight. 30 students were obese, 1 student was severely obese and 1 student was morbidly obese. Of the participants, 49.3% had poor basic knowledge about nutrition, 40.8% had moderate knowledge, 8.4% had good knowledge and 1.5% had very good knowledge. In addition, 66% of the participants had poor dietary habits, 25% had moderate habits, 6.2% had good habits, and 2% had very good habits. According to the chi-square analysis, no significant relationship was found between the Basic Nutrition Scale (p=0.300), Food Preference (p=0.201), and BMI (p>0.05). The relationship between participants' Basic Nutrition Scale scores (Mean=1.62, SD=0.70) and Food Preference scores (Mean=1.43, SD=0.69) was measured using Pearson correlation. A moderate positive significant relationship of 0.410 was found between these variables (r(400)= 403, p<0.05).

Keywords: Diabetes, Adult Nutrition Knowledge Level Scale, Erzurum.

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DETERMINATION OF STUDENTS' SUSTAINABLE CONSUMPTION BEHAVIORS: BAYBURT UNIVERSITY EXAMPLE*

Eda Ayvacık[1] & Hanife Bektaş[2]

Abstract

The main purpose of this study is to determine the behaviors of students studying at Bayburt University in terms of sustainable consumption. In addition to this main purpose, the aim of the study is to determine which behaviors students adopt the most in terms of sustainability and what kind of changes they make in their lives for sustainability. In line with these purposes and goals, it is planned to increase the awareness of especially young people, who are the future face of the society and constitute a large proportion of the population, on sustainability, environmental sensitivity, zero waste and recycling. The issue of sustainability is one of the most fundamental issues that constitute Türkiye's future vision. The dissemination of this vision to large masses, its adoption by everyone and its transfer to future generations is only possible by raising the awareness of children and young people. This study conducted on Bayburt University students serves an extremely important purpose in order to provide this awareness. In this direction, a survey was conducted on students studying at Bayburt University in the 2023-2024 academic year in order to determine their sustainability behaviors. In this way, it is aimed to determine the thoughts and awareness of students about sustainable consumption and to help academic studies to be conducted later. In the study, the sustainable consumption scale that Başar put forward in his study titled "Developing a Scale for Measuring Sustainable Consumption Behaviors of Households" in 2016 was used to determine the sustainable consumption behaviors of students studying at Bayburt University. Data were obtained by applying a questionnaire prepared in line with this scale to the participants. The questionnaire basically consists of two parts. The first part of the questionnaire includes questions on the demographic characteristics of the participants. The second part of the questionnaire includes questions prepared in five different subcategories to determine sustainable consumption behaviors. (Waste Generation and Recycling, Personal Transportation Preference, Domestic Energy Demand, Domestic Water Consumption, Environmentally Sensitive Food Preference). (Başar, E.E., 2016). The questionnaire was applied to 500 students studying in different departments of the university, and after deducting the incomplete and incorrect

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questionnaires, the research was completed with the data obtained from 412 questionnaires. While 221 of the students constituting the sample were female, 191 were male. When the results are examined in general, it is observed that Bayburt University students are sensitive about sustainable consumption, have knowledge and are interested in Zero waste, and are more conscious especially about water consumption.

Keywords: Zero Waste, Sustainability, Bayburt University, Consumption Behavior.

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A STUDY ON EMPLOYEE SATISFACTION IN HUMAN RESOURCES IN THE AUTOMOTIVE SECTOR

Elif Esra Bilici[1]

Abstract

This study analyzed the results of a survey on employee satisfaction in an automotive company using structural equation modelling (SEM). Three hundred forty-nine employees participated in the survey. The analysis revealed the effects of career management, culture and values, communication, and collaboration on employee satisfaction. It was determined that career management had a positive effect on both personal development ($\beta=0.294$, $p<0.001$) and human resources unit satisfaction ($\beta=0.196$, $p<0.001$). It was determined that the company's culture and values significantly and strongly affected many dimensions, such as personal development ($\beta=0.454$, $p<0.001$), operational efficiency ($\beta=0.734$, $p<0.001$), organizational change ($\beta=0.725$, $p<0.001$) and company image ($\beta=0.403$, $p<0.001$). In addition, effective communication and cooperation with unit managers has a robust positive effect on both employee satisfaction ($\beta=0.577$, $p<0.001$) and rewards and fringe benefits ($\beta=0.570$, $p<0.001$). It was revealed that personal development ($\beta=0.137$, $p=0.015$), rewards and fringe benefits ($\beta=0.258$, $p<0.001$) and job satisfaction ($\beta=0.391$, $p<0.001$) were determinants of sustainable commitment. Finally, the effect of top management support on job satisfaction ($\beta=0.313$, $p<0.001$) and the contribution of job satisfaction to sustainable commitment ($\beta=0.391$, $p<0.001$) was found to be significant. In summary, it was determined that company culture, career management and communication play a critical role in increasing employee satisfaction and sustainable commitment. These results revealed the importance of businesses focusing on identified areas to increase employee satisfaction and loyalty.

Keywords: Employee Satisfaction, Structural Equation Model, Job Satisfaction.

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PERFORMANCE-BASED BONUS SYSTEM AND KEY PERFORMANCE INDICATORS (KPI'S): PRACTICE IN THE AUTOMATION TECHNOLOGIES SECTOR

Elif Esra Bilici[1]

Abstract

Today, industrial automation technology companies implement performance-based bonus systems to optimise employee performance and adapt to dynamic and competitive market conditions. This study analysed and grouped the key performance indicators (KPIs) used in the performance-based bonus system developed for a newly established automation technology company according to business, employee, team and customer dimensions. The system is designed in line with the company's overall strategic goals. This system, evaluates employees' knowledge and skills, their performance by quality standards and their productivity. Critical success factors are the ability of employees to complete their work on time and use resources effectively. Factors such as being proactive, planning, individual motivation and openness to change are addressed in the employee dimension. In contrast, adapting quickly to changes is an important KPI that increases competitiveness in the modern automation technologies sector. Predisposition to teamwork and willingness to assume responsibility are other essential performance criteria evaluated in the team dimension. Companies' bonus systems aim to increase team cohesion and cooperation and strengthen employee coordination. In the customer dimension, customer orientation, representation, and communication competence are among the key elements that play a critical role in performance measurement, as the quality of the relationships that employees establish with customers directly impacts customer satisfaction and loyalty. This model enables detailed monitoring and evaluation of performance in each dimension and provides concrete and measurable criteria for rewarding individual and team success.

Keywords: Key Performance Indicators (Kpı), Performance-Based Bonus System, Automation Technologies, Employee Motivation.

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THE ROLE OF THE SERVICES SECTOR IN REDUCING CURRENT ACCOUNT DEFICIT IN TÜRKIYE: AN EVALUATION BY SUB-SERVICE SECTORS

Emine Demet Ekinci Hamamcı[1] & Tuba Şahinoğlu[2]

Abstract

The current account deficit problem, added economic agenda of Türkiye since the 1980s, has increased exponentially in the 2000s, and become one of the main chronic problems of the Turkish economy. The foreign trade deficit, an important sub-item of the current account, plays a significant role in the basis of this chronic problem, whereas the balance of services in this account helps Turkish economy to eliminate the negativities, caused by the foreign trade. Especially the travel item, including tourism revenues, plays a dominant role in this regard. However, a detailed analysis of international services, classified under twelve sub-items in the balance of payments, reveals that the income advantage captured in the travel item is not available for all other items. Therefore, instead of evaluating the balance of services as a whole, which is an important factor in the fight against the current account deficit, it is considered that taking into account the balance of services in sub-items will help to reach more concrete results for the success of future policies.

This study aims to determine the international competitiveness of the service sector, classified into twelve sub-items according to the Extended Balance of Payments Services Classification (EBOPS). In the study, it is calculated the international competitiveness of the sub-items of the services sector by using Revealed Comparative Advantage Index (RCA), The Relative Trade Advantage Index (RTA) and Relative Competitive Advantage Index (RC). The study has included annual export and import data for the years 2011-2023, obtained from the UNCTAD database. According to the index results, Türkiye has an international competitive advantage in the travel and transportation sectors in all years. However, there is an international competitive disadvantage in other sectors, defined as Insurance and pension services, Financial services, Charges for the use of intellectual property, Telecommunications, computer and information services, Other business services, Personal, cultural and recreational services.

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Keywords: Current Account Deficit, Services Sector, International Competitiveness, Revealed Comparative Advantage Index, Relative Trade Advantage Index, Relative Competitive Advantage Index, Türkiye.

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THE EFFECT OF ETHICAL CLIMATE AND ORGANIZATIONAL CONTROL MECHANISMS ON WORK ENGAGEMENT: A RESEARCH IN THE CIVIL AVIATION SECTOR

Emre Durmazpınar[1]

Abstract

It is noted that the aviation industry plays a significant role in the growth of international trade. In addition, the aviation industry offers important benefits in terms of sustainable development, social, political, environmental, and economic factors. In particular, as a service sector, the success of the aviation industry is mainly due to human resource efforts. Employees who are committed to their work and even engaged going beyond are therefore considered to make an important contribution to their organisations. The aim of this study is therefore to find out how the ethical climate and organisational control mechanisms affect work engagement. To achieve this goal, a survey was conducted to collect data from 387 employees of a major corporation of Turkish airways. The results of the analyses conducted show that the ethical climate dimensions, especially the benevolence and principledness climate dimensions, have a significant and positive impact on work engagement, while the egoistic climate has a significant and negative impact. On the other hand, organisational control dimensions, especially input control and behavioral control, were found to have a significant and positive impact on work engagement. Output control, on the other hand, did not have a significant impact on work engagement.

Keywords: Ethical Climate, Control Mechanisms, Work Engagement, Aviation Sector.

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THE IMPACT OF ENVIRONMENTAL ISSUES ON VOTING BEHAVIOR: THE CASE OF IĞDIR UNIVERSITY STUDENTS

Esra Pilgir[1]

Abstract

Environmental issues have increasingly gained importance in the public agenda since the Industrial Revolution. Global environmental problems such as resource depletion, climate change, and ecosystem destruction not only threaten ecological balance but also pose significant risks to human health and societal well-being. While states have engaged in international cooperation and treaties to address these issues, local-level awareness and the lack of political will make the resolution of environmental problems more challenging. In particular, environmental concerns have become a critical factor influencing political attitudes and voting behavior, especially in developed democracies. This study aims to analyze the attitudes of Iğdır University students towards environmental issues, their level of awareness, and how environmental concerns affect their voting preferences. Understanding the impact of local environmental policies on young people in smaller cities like Iğdır provides a valuable reference for shaping future policies. A face-to-face survey was conducted with 532 university students, and the collected data were analyzed using various statistical methods. The results of the analysis reveal that while young people show a high level of concern about environmental issues, they also express distrust towards the environmental promises made by politicians. This suggests that young voters approach political commitments related to environmental issues with skepticism, and environmental policies do not play a decisive role in their voting preferences.

Keywords: Environmentalism, Voting Behavior, Political Participation, Ecological Citizenship, Political Apathy.

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THE ROLE OF SOLID WASTE RECYCLING IN ENVIRONMENTAL SUSTAINABILITY: A PANEL DATA ANALYSIS OF THE EU'S LARGEST ECONOMIES

Faruk Şahin[1] & Dilek Özdemir[2]

Abstract

The growing urban population following the Industrial Revolution has led to numerous social, economic, and environmental challenges. One of the most significant issues is inadequate and unplanned waste management. Effective waste management prevents waste from contaminating the environment by ensuring it does not mix with natural ecosystems. Recycling and composting methods generate new resources from waste, while various other techniques allow for the extraction of energy from waste. In this way, the negative impact on natural resources and the environment can be reduced. This study aims to examine the impact of solid waste recycling, which has substantial economic and environmental effects, on the load capacity factor, the most comprehensive indicator of environmental quality. A panel data analysis was conducted for 14 EU member states with regularly available data for the period 1995–2021. In the analysis, LCF is used as the dependent variable, while the solid waste recycling rate, income, renewable energy, and urbanization are used as explanatory variables. The analysis revealed a significant positive relationship between solid waste recycling, renewable energy, and LCF. While there is a significant negative relationship between income, which is used as a control variable, and LCF, the urbanization rate is not significant for the entire panel group. However, it was found that the urbanization rate has a significant positive effect at the country level. This result indicates that urban dynamics and policy practices may vary from country to country, and the effectiveness of local governments' energy and environmental policies may differ. Increasing the rates of solid waste recycling and renewable energy utilization plays a critical role in enhancing both energy efficiency and environmental sustainability. In this context, the decisions made and policies implemented by policymakers in these areas will contribute to achieving the Sustainable Development Goals (SDGs) targets.

Keywords: Environmental Quality, Waste Recycling, Panel Data.

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RELATIONSHIP BETWEEN THE DARK SIDE OF PERSONALITY AND THE NEPOTISM

Fatih Baltacı[1]

Abstract

This study aims to investigate the potential relationship between dark personality traits exhibited by managers and nepotism (favoritism in hiring, favoritism in promotion, and procedural favoritism), as well as to explore how Machiavellianism, psychopathy, and narcissism, which are dark personality traits, impact nepotism. Within the scope of the research, data were obtained through the survey technique to measure the relationship between nepotism and the manager's dark personality traits. A total of 181 valid responses were included in the analysis, collected from employees working in star-rated hotels at the Palandöken Ski Resort in Erzurum province. It has been determined that Machiavellianism significantly and positively influences favoritism in promotion (r= 0.616, p=0.000) and favoritism in hiring processes (r= 0.698, p=0.000). Additionally, narcissism has been observed to significantly and positively impact favoritism in promotion (r= 0.421, p=0.000) and favoritism in hiring processes. Through the analysis of the data obtained from the research regarding employees' perceptions, it has been observed that managers' Machiavellian and narcissistic personality traits increase favoritism practices in the hiring and promotion processes.

Keywords: Nepotism, Dark Personality Traits, Narcissism, Machiavellianism, Psychopathy.

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THE RELATIONSHIP BETWEEN TALENT MANAGEMENT AND ORGANIZATIONAL COMMITMENT: A STUDY ON ATATURK UNIVERSITY AND BAYBURT UNIVERSITY ACADEMICIANS*

Fatih Karcıoğlu[1] & Elif Ketecioğlu[2]

Abstract

Factors such as globalization, changes occurring in technology, in information becoming easily accessible have paved the way for the emergence of a new era in today's world, and with this new era, it has become an important situation for organizations to ensure their permanence in a tough competitive environment. The important point here is matter of the selection and management of talented individuals who are in the nature of ore with this new age that is developing and changing. As a matter of fact, human resources are an important element at the point of ability to make a difference in market conditions. Previously seen as a cost element, "human resources" have gained value as the most important capital source today and the management of this resource has begun to be seen as a critical success factor. In order for organizations to be successful in market conditions and achieve their goals, the important issue in this context is to have a qualified workforce and to ensure the organizational commitment of this workforce. In this context, in this study, a field study was conducted with the participation of academicians working at Atatürk University and Bayburt University in order to determine the relationship between the concept of talent management and organizational commitment. In the study, the relationship between these two variables was revealed by correlation analysis. The data obtained from the participants were analyzed using the SPSS 22 package program. As a result of the study, it was concluded that there was a positive relationship between the concepts of talent management and organizational commitment. In the comparison made according to demographic characteristics, while the perceptions of talent management of female academicians were higher than those of male academicians, it was determined that the perceptions of organizational commitment did not differ according to gender.

Keywords: Talent, Talent Management, Commitment, Organizational Commitment.

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* This study was prepared by compiling from the Research Start Support Project titled "The Relationship Between Talent Management Perceptions and Organizational Commitment of Academicians: An Application on Atatürk University and Bayburt University Academicians" numbered SAB-2022-11124 carried out by Prof. Dr. Fatih Karcıoğlu.

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THE MEDIATORY ROLE OF ORGANIZATIONAL TRUST IN THE EFFECT OF ORGANIZATIONAL SUPPORT ON WORKPLACE LONELINESS IN VIRTUAL ORGANIZATIONS

Feyza Selçuk[1]

Abstract

Virtual organizations, in contrast to traditional organizational structures, offer flexibility by minimizing time and space constraints. But working in a virtual environment also presents additional difficulties for staff members, like language barriers, cultural differences, and workplace loneliness. This study's main goal is to ascertain how organizational support affects workplace loneliness in virtual organizations and how organizational trust mediates this impact. In this instance, 202 workers of two globally operating virtual companies with headquarters in Türkiye provided data via a survey method. Regression analysis was performed on the collected data, and the results indicate that organizational support promotes social companionship and reduces emotional deprivation. Furthermore, organizational support has a major and favorable impact on organizational trust in virtual companies. Furthermore, the effect of organizational support on social companionship and emotional deprivation was fully mediated by organizational trust. Based on the study's findings, virtual organizational structure recommendations are given.

Keywords: Virtual Organizations, Organizational Support, Workplace Loneliness, Organizational Trust.

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MACRO DETERMINANTS OF HEALTH EXPENDITURES IN TÜRKİYE: ARDL APPROACH

Fulya Gezer[1]

Abstract

All expenditures made for the protection, development and continuity of human health, as well as for the treatment of existing diseases are considered within the scope of health expenditures. Health expenditures are one of the main indicators of development and are of great importance for national economies. Especially after the 2020 COVID19 pandemic, interest in this issue has gradually increased due to increasing health expenditures. The empirical literature on health expenditures has often focused on the relationship between health expenditures and economic growth. However, it is important to determine the macro indicators affecting health expenditures in order to determine in which areas savings measures can be taken and what can be done to provide more effective and quality health services at lower costs. In this study, the macro determinants of health expenditures in Türkiye are investigated with the Autoregressive Distributed Lag (ARDL) approach. The ARDL bounds test approach has some advantages over other cointegration tests. The first advantage is that it can be applied regardless of whether the underlying regressors are fully I(0), fully I(1) or mutually cointegrated. Another important advantage of the ARDL bounds testing approach is that it provides robust and efficient results in small samples. In this framework, the short and long-run effects of the main macro indicators that affect health expenditures and that are thought to affect health expenditures on health expenditures are analysed using the current data set. This study is expected to shed light on future health policies for more efficient and quality health services at lower costs.

Keywords: Health Economics, Health Expenditures, Cointegration, ARDL.

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A STUDY ON THE DETERMINANTS OF ONLINE RESTAURANT SERVICES USAGE IN TÜRKİYE

İkram Yusuf Yarbaşı[1] & Sefa Özdemir[2]

Abstract

With the acceleration of digitalisation, wide internet access and widespread use of smartphones, the online food ordering sector has shown significant growth in recent years. Factors such as the increase in the number of people living alone and their preference for fast food instead of cooking, the preference of working individuals for fast and practical meals due to their busy work schedule, and the fact that online food ordering applications allow people to reach the food they want quickly and effortlessly can be shown as the main factors affecting the growth of the online food sector. However, some sanctions such as lockdowns and social distancing rules during the COVID-19 pandemic have forced restaurants to provide online services and at the same time increased the demand for online food orders. The current study investigates the determinants of online restaurant service preferences in Türkiye. For this purpose, the Micro Data Set of the Household Information Technology Usage Survey conducted by TurkStat in 2023 is utilised. The study covers 8835 individuals in Türkiye who responded to the question of ordering from restaurants, fast food chains, catering companies using a website or mobile application. In the study, the relationships between variables were investigated by using binary logistic regression model. According to the results obtained, it was determined that household income and education level, region of residence, household size, age of the individual, e-mail usage, searching information about goods and services on the internet, making sales, performing banking transactions, using Facebook, Instagram and X platforms, encountering problems such as defective goods delivery, slow delivery time and excessive costs are effective on whether individuals benefit from online restaurant services.

Keywords: Digital Marketing, Online Food Ordering, Restaurants, Binary Logistic Regression.

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THE IMPACT OF CONSUMER MINIMALISM ON CONSUMER INNOVATIVENESS

Kadir Deligöz[1] & Rabia Toksöz[2]

Abstract

The ability of businesses to survive or gain a competitive advantage in a highly competitive environment largely depends on the innovations they undertake. Today, societal habits and values are changing rapidly, which increases the complexity of consumer behavior and makes research in this area even more critical. Rising concerns about sustainability, coupled with technological advancements, are prompting consumers to redefine their preferences. When consumers encounter new and improved products, they tend to meet their needs more effectively. The ease with which consumers can access desired products or information, along with the ever-expanding range of available products, intensifies market competition. Innovation is often associated with technological change, and the rapid pace of technological advancement is transforming many fields. For instance, the fact that consumers do not always prefer the same products plays a significant role in driving technological innovation. Each innovation that evolves alongside technology reshapes consumer desires and expectations. In this global environment, where technology continues to progress, innovation is seen as a critical force for maintaining competitiveness and ensuring the sustainability of customer relationships. Consequently, many businesses are investing heavily in the creation of innovative brands to stay competitive. Innovation not only helps businesses meet evolving consumer demands but also enables them to differentiate themselves in an increasingly crowded marketplace. Companies that can successfully integrate new technologies into their products and services often gain a distinct advantage, enhancing customer satisfaction and loyalty. Furthermore, as consumer preferences shift towards sustainability and environmental consciousness, businesses are also under pressure to innovate in ways that address these concerns. Thus, innovation is not only about technological advancement but also about adapting to societal values and trends. In this context, businesses that embrace innovation as a core strategy are more likely to thrive, as they can offer consumers unique value propositions that align with current and future demands. The dynamic interplay between innovation, technology, and consumer behavior underscores the importance of continuous research and development efforts. By staying ahead of technological trends and understanding shifting consumer preferences,

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companies can enhance their competitiveness and build stronger, more sustainable relationships with their customers.

Consumer minimalism emphasizes simplicity and sustainability, advocating for reduced consumption, while consumer innovativeness relates to the introduction and adoption of new products or services by consumers. This study aims to highlight the positive impact of consumer minimalism on consumer innovativeness. In light of the complexities of modern consumption culture and the growing sustainability challenges, this research offers valuable contributions to the field. By exploring the influence of reduced consumption behaviors on attitudes toward new products, businesses can gain insights into shaping strategies that effectively influence consumer behavior. The study's findings demonstrate that consumer minimalism has a significant positive effect on consumer innovativeness. This supports the hypothesis that minimalist consumers, while seeking to reduce unnecessary consumption, still exhibit a tendency to embrace new products, especially those that resonate with their values of sustainability, quality, and environmental responsibility. These results suggest that minimalist consumers are not necessarily resistant to innovation but are more selective in their choices, favoring products that align with their minimalist ethos. For businesses, this insight can be crucial in developing tailored marketing strategies. By offering innovative products that prioritize sustainability, quality, and thoughtful design, companies can appeal to minimalist consumers who seek to balance reduced consumption with the adoption of new, meaningful products. This approach not only aligns with consumer values but also fosters long-term relationships based on trust and shared priorities, ultimately enhancing brand loyalty. Moreover, understanding these dynamic enables businesses to create targeted product innovations that satisfy both the minimalist desire for simplicity and the broader trend toward sustainability in the marketplace.

Keywords: Consumer Innovativeness, Consumer Minimalism, Sustainability, Reduced Consumption.

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THE RELATIONSHIP BETWEEN HUMAN CAPITAL EXPENDITURES AND ECONOMIC GROWTH IN TÜRKİYE'S REGIONS

Kadir İnan[1] & Deniz Erenel[2] & Serap Bedir Kara[3]

Abstract

Education and health expenditures as significant components of human capital are considered long-term investment expenditures due to the positive externalities generated. Effective utilization of these expenditures is of vital importance, particularly in developing countries. These expenditures, also known as human capital expenditures, can also be utilized as a powerful tool in reducing regional inequalities. This study examines the causal relationship between human capital expenditures and economic growth by applying the Kónya (2006) Bootstrap Panel Granger causality test using annual data from the 2004-2022 period for Türkiye's NUTS-1 regions. The empirical findings indicate a bidirectional causality between education expenditures and economic growth, as well as between health expenditures and economic growth in Istanbul (TR1), one of the developed regions. In Western Marmara (TR2) region, a unidirectional causality is observed from economic growth to education expenditures and from health expenditures to economic growth. In Eastern Marmara (TR4) and Mediterranean (TR6) regions, unidirectional causality runs from economic growth to education expenditures. Among the developing regions, only Western Black Sea (TR8) and Southeastern Anatolia (TRC) regions exhibit a unidirectional causality from education expenditures to economic growth. The findings generally support a significant relationship between education expenditures and economic growth. The average education expenditures in Western Black Sea (TR8) and Southeastern Anatolia (TRC) regions is higher than in other developing regions during the period is consistent with the results. In conclusion, education expenditures should be emphasized as a crucial policy tool in reducing regional inequalities and achieving sustainable growth and should be prioritized in development programs.

Keywords: Human Capital Expenditures, Education, Health, Regional Inequality, Türkiye.

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THE SPILLOVER EFFECT OF INFLATION ON THE INSURANCE INDEX IN TÜRKİYE

Kerem Fırat Coşkun[1] & Dilek Özdemir[2]

Abstract

Financial markets are susceptible to changes in economic conditions. Particularly, macroeconomic variables such as inflation are among the key factors that significantly influence the behavior of market participants, their investments, and risk management strategies. In developing countries like Türkiye, the effects of inflationary pressures on the economy are widespread, and the reflections of these effects on the insurance sector are also noteworthy. Inflation leads to increased uncertainty in financial markets and rising costs, directly affecting the performance of companies operating in the insurance sector. In this context, the Insurance Index (XSGRT), which represents the insurance sector in Türkiye, is significantly affected by inflationary pressures and serves as an indicator of the fluctuations within the sector. In this context, the study aims to examine the effects of changes in inflation rates on the insurance index in Türkiye. Within the scope of the study's purpose, the Dynamic Correlated Multivariate Stochastic Volatility (DC-MSV) model was used as the analysis method to examine the monthly Consumer Price Index (CPI) and BIST Insurance Index data for the period from January 2003 to August 2024. According to the results obtained, a one-way interaction was identified from inflation to the insurance index. It has been determined that the volatility in both variables is predictable and that the variability in volatility is at a low level. Additionally, there is a strong positive time-varying correlation structure between the two variables.

Keywords: Inflation, BIST, Insurance, Volatility Spread.

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EVALUATION OF THE FINANCIAL ANALYSIS GUIDE FOR PUBLIC ADMINISTRATIONS: MINISTRY OF HEALTH EXAMPLE

Muhammed Asım Kantar[1] & Hülya Diğer[2]

Abstract

Financial analysis is performed to evaluate the financial status and activity results of a business or institution. In financial analysis, the status of the business or institution is tried to be revealed by establishing relationships between various items in the financial statements. In many sources, businesses are discussed when explaining financial analysis, but there are differences in the financing and statements of businesses and public institutions. For this reason, the ratios used in the financial analysis conducted for public institutions should also be different. In this direction, the "Financial Analysis Guide for Public Administrations" was prepared by the Directorate General of Accounting of the Ministry of Treasury and Finance of the Republic of Türkiye and published on 21/02/2019. The purpose of this study is to measure the adequacy of this guide in the financial evaluation of public institutions. This measurement was carried out using the financial tables and financial data of the Ministry of Health of the Republic of Türkiye. According to the results obtained, it was determined that public institutions could be evaluated more effectively in financial terms by adding a few ratios to the ratios in the guide.

Keywords: Financial Analysis, Public Institutions, Financial Performance, Ratio Analysis, Ministry of Health.

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THE MEDIATING ROLE OF CUSTOMER COMPLAINT MANAGEMENT IN THE EFFECT OF ELECTRONIC NEGATIVE WORD-OF-MOUTH COMMUNICATION ON CUSTOMER LOYALTY

Muhammet Mutlu[1]

Abstract

Customer complaints are a significant form of communication that arises when consumer expectations are not met. These complaints can transform into negative electronic word-of-mouth communication through the sharing of negative experiences. Electronic negative word-of-mouth enables dissatisfied customers to quickly disseminate their negative opinions to a wide audience, potentially threatening a business's reputation. Effective complaint management plays a critical role in addressing customer dissatisfaction and resolving issues, as acknowledging customer complaints can enhance their loyalty. The aim of this study is to investigate the mediating role of complaint management in the effects of electronic negative word-of-mouth communication on customer loyalty. To achieve this goal, data were collected from 390 participants through an online survey. The analysis of the data was conducted using the SPSS software package, including reliability analysis, exploratory factor analysis, descriptive analyses, correlation, and mediation analysis. The results of the analysis indicated that electronic negative word-of-mouth communication has an impact on both complaint management and customer loyalty and that complaint management influences customer loyalty. Furthermore, it was found that complaint management plays a mediating role in the effects of electronic negative word-of-mouth communication on customer loyalty.

Keywords: Electronic Negative Word of Mouth Communication, Complaint Management, Customer Loyalty.

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INVESTIGATION OF FRACTAL MARKET HYPOTHESIS FOR BIST DIVIDEND INDEX

Muhammet Talha Akgün[1]

Abstract

Price movements in financial markets are shaped by the interaction of investor behavior and economic factors, and this process is quite dynamic. Researchers globally frequently examine this dynamic process, and hypotheses are put forward on market efficiency. The Fractal Market Hypothesis (FMH) posits that financial markets exhibit self-similar patterns across different time scales, indicating that both short-term fluctuations and long-term trends coexist in influencing market behavior. This study aims to determine the fractal characteristics inherent in the Borsa Istanbul Dividend Index (XTMTU)'s price movements. For this reason, to detect the validity of the FMH, Hurst Exponent was calculated as the main analytical metric for the index by analyzing 1,024 daily returns data from September 11, 2020, to October 14, 2024. The analysis reveals a Hurst exponent significantly above 0.5, indicating a strong tendency for the index to follow persistent trends over the analyzed period. These findings substantiate the applicability of the FMH to the XTMTU index, suggesting that market participants exhibit behaviors consistent with fractal patterns. The findings have important implications for market participants, indicating that understanding the fractal dynamics can enhance investment strategies and risk management. Furthermore, this study enriches the existing literature on market efficiency by emphasizing the significance of considering patterns in price movements.

Keywords: Financial Markets, Market Efficiency, Fractal Market Hypothesis, Borsa Istanbul Dividend Index.

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GREEN TAXES, WHITE FUTURE: THE PATH TO SUSTAINABLE DEVELOPMENT IN THE VISEGRAD COUNTRIES

Oğuzhan Demir[1] & Dilek Özdemir[2]

Abstract

The Visegrad countries (Czech Republic, Hungary, Poland and Slovakia) have emerged as a dynamic regional bloc, rapidly transitioning to market economies after the dissolution of the Soviet Union and achieving economic integration through membership of the European Union. As these countries moved from transition economies to mature market economies, they faced the challenge of balancing economic growth with environmental sustainability. The Visegrad countries have attracted attention for their use of environmental taxes to mitigate the ecological impacts of their economic development processes. Due to their geographical location and strategic importance, these countries not only adopt policies oriented towards Western Europe, but also influence environmental management approaches in Eastern Europe. Accordingly, this study analyses the impact of economic growth, environmental taxes and energy consumption on environmental quality in the Visegrad countries. Using annual data from 1995 to 2022, the study models the Load Capacity Factor (LCF) as a dependent variable representing environmental quality, while real GDP per capita, tax revenue and energy consumption are included as independent variables. The results of the econometric analyses indicate that both economic growth and energy consumption have a negative impact on environmental quality, while environmental taxes have a positive impact on improving environmental quality. These results underline the importance of environmental taxes as a key instrument to achieve sustainable development. In conclusion, the Visegrad countries should continue to exploit the positive impact of environmental taxes on environmental quality by expanding them and applying them more effectively. Revenues from these taxes should be used for investments in renewable energy and energy efficiency projects to further reduce the negative environmental impacts of energy consumption. In addition, increased investment in green technologies and the promotion of sustainable production processes are essential to mitigate the negative effects of economic growth on the environment.

Keywords: Environmental Quality, Environmental Taxes, Visgrad Countries.

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CONVERGENCE ANALYSIS IN THE FRAGILE STATES INDEX: THE CASE OF TÜRKİYE AND NEIGHBOURING COUNTRIES

Özge Buzdağlı[1] & Elifnur Tığtepe[2]

Abstract

The fragility of a state refers to the situation where the state's capacity to perform basic governance functions is weak and it lacks the ability to develop constructive mutual relations with society. A state may be considered fragile when it is unable to provide its citizens with the basic human security they require, or to create the public goods and conditions that are necessary for human development. In other words, fragility can be defined as a lack of capacity and poor state performance in terms of security and development. Those states classified as fragile are more vulnerable to internal and external shocks, such as economic crises or natural disasters. In comparison to other low-income countries, fragile states are distinguished by a slower rate of economic growth, a higher rate of poverty, and a persistent inequality. Citizens of weak and failing states face higher levels of poverty, malnutrition, lower life expectancy, greater gender discrimination, and restricted access to essential infrastructure and social welfare facilities.

The fragility levels of states can be measured with the Fragile States Index, a comprehensive index calculated by the Fund for Peace. The index is comprised of four subcomponents, namely economic, political, social and cohesion indicators. A high score on the index indicates a high level of fragility, whereas a low score indicates a low level of fragility. It seems reasonable to posit that fluctuations in the fragility of a given state will have an impact on the fragility of other members of the same political and economic integration, as well as its neighbouring states and other countries with which it engages in trade. In this context, the study investigates whether Türkiye and its neighbouring countries exhibit a convergence in the fragile states index. In the study covering the period 2006-2023, the panel TAR unit root test was employed. In this test, the linearity of the panel data was initially examined and it was determined that it was not linear. Subsequently, the existence of convergence was investigated in the first regime representing 60% of the sample and in the second regime representing 40%; it was found that there was convergence in both regimes. The transition country between regimes was identified as Iran. Finally, the nature of convergence was examined revealing that there was conditional convergence in both regimes. Based on this result, it can be posited that Türkiye and neighbouring countries should implement common policies to

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mitigate their vulnerabilities, but they should also take into account the structural dissimilarities of the countries.

Keywords: Fragile State Index, Convergence, Türkiye, Panel TAR Unit Root Test.

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ETHICAL CLIMATE, NARCISSISM AND SCHADENFREUDE: THE ROLE OF INDIVIDUAL DIFFERENCES IN BANKING EMPLOYEES*

Rıdvan Akın[1]

Abstract

Ethical climate refers to the shared perceptions of what is considered right and wrong within an organization, shaped by common values and norms. Narcissism is defined as an individual's excessive self-admiration and sense of superiority, while schadenfreude denotes the tendency to derive pleasure from the misfortunes of others. This study aims to investigate the impact of individual differences on ethical climate perceptions, levels of narcissism, and tendencies towards schadenfreude. The ethical climate dimensions examined include egoistic climate, benevolent climate, and principled climate. Data were collected from 332 participants working in bank branches in Erzurum through online and face-to-face surveys. The analysis of the obtained data revealed significant differences in participants' perceptions of egoistic climate and levels of narcissism based on gender, with female employees reporting higher levels than their male counterparts. Furthermore, single participants exhibited higher ethical climate perceptions and levels of narcissism compared to married participants. Evaluating by education level, it was found that both undergraduate and graduate employees had significantly higher levels of narcissism compared to those with a high school education. Additionally, among different age groups, participants aged 21-30 showed significantly higher narcissism levels than those aged 31-40. However, individual differences did not significantly affect schadenfreude tendencies.

Keywords: Organizational Behavior, Ethical Climate, Narcissism, Schadenfreude.

* This study is derived from the master's thesis titled "Investigation of the Effect of Ethical Climate and Narcissism on Schadenfreude Tendency," prepared by Rıdvan Akın at Erzurum Technical University, Institute of Social Sciences.

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A QUALITATIVE STUDY ON THE PERSPECTIVES OF CERTIFIED PUBLIC ACCOUNTANTS IN ERZURUM ON THE USE OF ARTIFICIAL INTELLIGENCE IN ACCOUNTING PRACTICES

Seda Ağgül[1]

Abstract

The aim of this study is to reveal the perspectives of active certified public accountants registered to the Erzurum Chamber of Certified Public Accountants (owning an office, actively practicing the profession) on the use of artificial intelligence-based programs in accounting practices. For this purpose, some qualitative data analysis methods, such as theme analysis, descriptive analysis and content analysis were used. In this sense, the expressions most frequently used by the participants while answering the questions, their answers related to the subject and finally some comments about the research are included.

As a result, it was revealed that the public accountants who participated in the research actually used basic artificial intelligence-based programs. Still, many of them, especially the middle-aged and older group, did not purchase any artificial intelligence accounting programs specifically and found it more reasonable to carry out their practices by traditional methods, and even had security concerns against digitalization and the carrying out of accounting practices with artificial intelligence programs, and were prejudiced and uneasy about this issue for various reasons. In addition, most participants expressed their thoughts about the risks that full digitalization in accounting would bring and stated their concerns about this issue. However, some of the participants stated that keeping up with digitalization and artificial intelligence programs is an inevitable ending and that artificial intelligence programs will provide many advantages in the long run, especially in terms of error detection, unfair competition, estimation, automation and data analysis.

Keywords: Artificial Intelligence, Accounting, Certified Public Accountant.

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ONLINE FARMERS: THE IMPACT OF DIGITAL LITERACY SKILLS ON E-COMMERCE INTENTION AND BEHAVIOR

Sefa Emre Yılmazel[1] & Nusret Yetim[2]

Abstract

The aim of this study is to determine the digital literacy levels of farmers and to investigate its impact on their intention and behavior to engage in e-commerce. To this end, data were collected from 351 farmers in 20 villages in Bayburt. Information was collected for six observed variables (communication and collaboration skills, creativity skills, critical skills, information skills, problem solving skills, problem solving skills, technical skills) for one latent variable (digital literacy) and two observed variables (behavioral intention, usage behavior) to reveal their e-commerce intentions. The results of the study showed that communication, creativity, knowledge, critical, and technical skills had a significant effect on farmers' e-commerce intention. Only problem-solving skill has no effect on e-commerce intention. In addition, e-commerce intention significantly affects farmers' e-commerce behavior. Therefore, farmers' digital literacy needs to be increased. Since the communication skills of farmers are low, their intention to engage in e-commerce is also low. Therefore, they need to learn communication skills (such as WhatsApp, Messenger, Google Drive, Dropbox, e-banking, e-governments, e-hospitals, online payment). Like communication skills, another element that farmers need to develop is creativity skills. Since their ability to create documents using digital tools is low, farmers' intention to engage in e-commerce also decreases. Therefore, farmers should be trained to create user accounts on e-commerce sites and upload products there. Critical skills are another digital skill that farmers need to develop. For this, training should be provided to improve their security and privacy skills. In order to develop information skills, skills such as uploading files, saving information correctly, retrieving, classifying, backing up, using cloud technologies, using anti-virus programs, etc. should be developed. Among the digital skills, problem solving skills were not found to be meaningful for farmers as they require a high level of knowledge. Being able to produce solutions at a basic level rather than problem solving may increase their e-commerce intentions. In order to improve technical skills, it is necessary to identify the institutions where they can get help for technical support and to inform them about the use of youtube videos and other information on the internet. Finally, their intention to engage in e-commerce directly and strongly influences their behavior. Therefore, increasing the digital skills of farmers will have a significant impact on their e-commerce behavior.

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Keywords: Digital Literacy, Sustainable Agriculture, E-Commerce İntention, E-Commerce Behavior.

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A REVIEW ON FINANCIAL THERAPY

Serpil Sumer Adin[1]

Abstract

Studies have been conducted on financial literacy in recent years, and the importance of financial literacy has been emphasized more. However, learning financial literacy skills alone is insufficient unless it turns into financial behavior. Financial knowledge alone is insufficient to solve personal financial problems. For financial knowledge to be applied, it can be achieved by changing the financial patterns that have settled in the individual. However, if the individual is not psychologically ready to change his/her lifestyle financially, resistance will occur during the application of financial behavior. Financial therapy is used to address the psychological, emotional, and behavioral components in the process of learning and using financial literacy skills. The subject of financial therapy, which includes methods used to facilitate the application of financial literacy, has not been studied much in the literature. In this study, the aim was to examine the studies conducted with the keyword "financial therapy" in the Web of Science database. As a result of the literature review, a total of twenty-two articles were published between 2011-2024. Studies have emphasized that financial therapy is very important in achieving financial well-being and freedom. In addition, it is seen in the literature that studies have been conducted on the five-step model of financial therapy models. The five-step model consists of the stages of want, need, have, do, and plan. In addition, the financial therapy model has been conducted on family members, couples, individuals, and different groups in the studies conducted. With this study, studies in the current literature on the subject of financial therapy, which is important in the application of financial literacy skills, are included and it is expected that the study in question will be a source for other studies to be conducted on the same subject in the future.

Keywords: Finance, Financial Literacy, Financial Improvement, Financial Therapy.

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MEASURING UNIVERSITY STUDENTS' RATIONAL DRUG USE KNOWLEDGE LEVELS: AN APPLICATION IN ERZURUM PROVINCE

Sümeyye Gökçenoğlu[1] & Duygu Tulan Tohumcu[2]

Abstract

The concepts of health and equality in access to health, which the World Health Organisation (WHO) expresses as a human right, have led to the need to include accessibility to medicines in health policies. Easy accessibility to medicines leads to the use of wrong, unnecessary, ineffective and high-cost medicines all over the world. This leads to an increase in morbidity and mortality rates, an increase in the risk of side effects of drugs, a decrease in accessibility to even essential drugs as a result of improper consumption of resources, and an increase in the economic and social cost of treatment based on the resistance that may develop against emergency and essential drugs. All these reasons have led to the search for various solutions in the world. In this direction, 'Rational Drug Use (RUD)' studies have been initiated worldwide. The first step of these studies was taken in 1985 when WHO defined Rational Drug Use in Nairobi as 'the ability of people to easily access the appropriate drug according to their clinical findings and individual characteristics, at the appropriate time and dose, at the lowest cost'. The population of the study consists of students enrolled in formal education at Atatürk University and Erzurum Technical University. In this context, a questionnaire consisting of 41 questions was applied to 400 students. The first 20 questions refer to demographic information and RUD behaviours, and the next 21 questions refer to the 'Rational Drug Use Scale', the validity and reliability of which was proven by Demirtaş et al. The scale is used to measure the level of RUD knowledge of individuals. A maximum score of 42 and a minimum score of 0 is obtained from the scale. The predictive value of the scores obtained from the scale is 34, and the knowledge of rational drug use of individuals with a score of 35 and above was accepted as adequate. The data were analysed with SPSS-29 and percentage, mean and standard deviation were used for descriptive statistics and Chi-Square Test was used for comparative analyses to compare the measurement values of two independent groups. According to the results of the analysis, 47.7% of the participants scored below 35 points and 52.3% scored above 35 points. 50.6% of the participants obtained their medicines from the pharmacy with a prescription, 46.6% used the medicines prescribed by the physician until their complaints were over, 76.4% checked the expiry date before using the medicines, and 43.3% stated that they did not finish all the medicines because they thought that the symptoms of the disease had passed. In

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addition, it was found that the scale scores of individuals with chronic diseases and who regularly use medication were higher, and the scale score increased as the income level increased and access to health services increased. Another result obtained from the analyses is that individuals with health insurance have lower scale scores than those without health insurance.

Keywords: Health, Health Economics, Rational Drug Use, Erzurum.

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E-LEADERSHIP AND ARTIFICIAL INTELLIGENCE: THE EVOLUTION OF LEADERSHIP IN THE DIGITAL AGE

Şerife Karagöz[1]

Abstract

In the era of digital transformation, leadership concepts and practices have undergone a significant transformation. In this context, e-leadership and artificial intelligence (AI) are two key concepts that shape the dynamics of modern organizations. E-leadership refers to the effective management of virtual teams through the use of digital communication tools and technologies, while AI is defined as computer systems capable of human-like thinking and problem-solving abilities. The interaction between these two concepts presents new opportunities and challenges in leadership practice. E-leadership plays a critical role in enhancing the motivation of remote teams and managing their performance. On the other hand, AI strengthens leaders' decision-making processes by utilizing data analysis, machine learning, and automation. By analyzing large data sets, AI assists leaders in making more informed decisions and achieving strategic goals. The purpose of this study is to examine the relationship between e-leadership and AI, revealing the impact of this interaction on organizations' digitalization processes. The study demonstrates a synergistic relationship between e-leadership and AI, whereby AI enables leaders to make data-driven decisions, thereby accelerating the process of reaching strategic goals and enhancing organizational efficiency. This situation helps e-leaders better analyze the needs of their employees and develop appropriate strategies. As a result, the integration of AI technologies into e-leadership practices not only enhances the current performance of organizations but also shapes future leadership practices. Future research is expected to provide new perspectives on the in-depth exploration of the interaction between e-leadership and AI. In this context, recommendations such as the integration of training programs and AI-based tools are believed to assist e-leaders in becoming more effective in their digital transformation processes.

Keywords: E-leadership, Artificial Intelligence, Digital Transformation, Remote Work.

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ASSESSMENT OF MIGRANT FLOW TO EUROPEAN UNION COUNTRIES APPLYING STRUCTURAL BREAK UNIT ROOT ANALYSIS

Tuba Şahinoğlu[1] & Kerem Fırat Coşkun[2] & Cem Arık[3]

Abstract

In recent years, as migration flows have intensified, affluent European Union countries have emerged as the primary destinations for migrants due to the economic opportunities and social advantages they provide. Therefore, evaluating the impact of these countries' policies on migration flows is essential for the development of Europe's geopolitical, economic, social, and environmental strategies. The current issues, including the Ukraine-Russia conflict, continuing tensions in Syria, and Israel's attacks in Gaza and Lebanon, have increased the anticipation of intensified migration flows to European countries over the next decade. In this context, the European Union has established a number of legislations to put restrictions on migrant flows, while simultaneously allowing it to pursue policies that encourage migration due to the slowdown in natural population growth. This study aims to quantitatively assess the effects of migration policies enacted in European Union countries. Migration flow statistics from 1998 to 2022 for 18 EU countries (Austria, Denmark, Estonia, Finland, Germany, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, and Sweden) were used for this purpose. Migration flow statistics from 1998 to 2022 for 18 EU countries (Austria, Denmark, Estonia, Finland, Germany, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, and Sweden) were used for this purpose. Stationarity analysis was conducted using SURADF, CADF, and Structural Break Panel KPSS tests. According to the findings obtained from the analysis, under structural breaks, the immigration flow data for Finland, the Netherlands, Slovakia, Slovenia, and Switzerland contain unit roots, while it has been determined that the other countries are stationary. It can be deduced that in countries demonstrating stationarity following structural breaks, policies concerning legal entry, residence, work permits, and integration have impacted migration flows returning to average levels.

Keywords: International Migration, Migration Policies, European Countries, Unit Root Test.

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REVIEW OF ARTIFICIAL INTELLIGENCE LITERACY STUDIES

Furkan Onat[1] & Mustafa Keskinkılıç [2]

Abstract

New technologies are becoming more and more present in every aspect of our lives day by day. Today, among the most important of these technologies is artificial intelligence (AI). AI, which continues to be rapidly integrated into most applications we use in daily life, is a technology that many end users use without realising it. In addition to its use in daily life, AI, which is used effectively in various business areas, can be considered among the effective technologies of today and the future in this respect. This situation reveals the importance of AI literacy skill. In this study, in order to contribute to the literature, 25 articles published between 2020-2023 in the field of AI literacy were analysed from various aspects. According to the results obtained, interest in studies in the field of AI literacy is increasing. It was concluded that the studies for K-12 level students were in the majority in the analysed studies. In addition, curriculum studies in the field of AI literacy stand out. It was concluded that quantitative method was mostly preferred in the analysed studies. It is seen that questionnaire stands out as a data collection tool among quantitative studies. This study is expected to shed light on future studies.

Keywords: Artificial Intelligence Literacy, Artificial Intelligence, AI Literacy, AI, Literacy.

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ERROR TRACKING IN MICROSERVICES: SPRING BOOT 3 AND CORRELATION ID APPROACH

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Abstract

In today's rapidly evolving software technologies, software architecture has shifted from a monolithic structure to a microservice-based structure. The microservice architecture makes managing, developing, and scaling large and complex software systems easier. Unlike traditional monolithic architecture, microservices can be deployed and scaled independently.

Businesses are rapidly transitioning to microservices architecture. While managers request the separation of business services, it has been observed that the conveniences provided by microservices can sometimes complicate the structure and lead to security vulnerabilities. One of the biggest security concerns is the violation of DTO (Data Transfer Object) principles, which can cause all data to become visible on front-end screens.

As microservice architecture has evolved, certain challenges have emerged. The inability to track error logs and the difficulty of monitoring requests from multiple services are particularly notable. This article examines how these issues can be addressed in a microservice architecture developed with Spring Boot.

In this context, the article explains how to integrate Correlation IDs into a Spring Boot 3 application. This integration will enable the tracking of every incoming request and any errors generated as a result of those requests. The differences between monolithic and microservice architectures are discussed, and the importance of assigning a unique ID to track requests and detect errors within microservices is highlighted.

To test this integration, a backend application was developed using Java Spring Boot and tested with Postman. Simultaneous requests were sent to each microservice, and the system generated unique IDs for each request. These IDs allowed the tracking of requests and errors.

Keywords: Correlation Id, Microservice, Monolithic Structure, Trace Id.

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THE RELATIONSHIP BETWEEN OCCUPATIONAL BURNOUT AND ORGANIZATIONAL LEARNING: AN APPLICATION IN THE STATE SCHOOLS OF ERZURUM PROVINCE

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Abstract

The purpose of this study is to determine the relationships between occupational burnout and organizational learning. The study was applied to 209 teachers working in Erzurum State Schools. The study consists of two main parts. The first part consists of the theoretical framework explaining the concepts of occupational burnout and organizational learning. The second part consists of the research section. The research model consists of two main variables. Both variables have three dimensions. The sub-dimensions of occupational burnout are emotional exhaustion, desensitization and low sense of personal accomplishment. The other variable, organizational learning, has sub-dimensions such as individual level learning, group level learning and organizational level learning. The survey method was preferred as the data collection method in the study. The analysis was conducted on the answers received from 209 participants who participated in the study and were found suitable. SPSS 16 statistical program was used in the analysis of the data. As a result of the study, it was found that occupational burnout and its sub-dimensions are negatively related to organizational learning. In this context, any application made to reduce occupational burnout increases the level of organizational learning. As a result, it is thought that this research will open the door to more comprehensive research and the results obtained as a result of the research will be useful in schools.

Keywords: Burnout, Learning, Occupational Burnout, Organizational Learning.

Introduction

Burnout syndrome is a phenomenon that includes feelings of dissatisfaction and hopelessness in individuals, disappointment in the profession, and negative behaviors towards work and colleagues. Emotionally exhausted individuals withdraw into themselves and isolate themselves from their surroundings in order not to wear themselves out even more. An individual who engages in such behavior loses sensitivity to his/her surroundings after a certain point, and at the same time

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thinks that striving for success is meaningless. Such behaviors are an indication that individuals are experiencing significant levels of burnout.

Burnout syndrome is especially seen in occupational groups that require close relationships with people. Therefore, when evaluated in terms of human relations, it can be said that teachers tend to be more burnout. Teachers can experience burnout for many reasons. Low wages, limited opportunities for advancement, student discipline problems, students' disinterest in lessons, overcrowded classrooms, student-teacher and school-family conflicts are considered among the reasons that lead to burnout in teachers. As a result, teachers experience decreased job performance, absenteeism, psychological health problems and negative feelings towards their work. The burnout experienced by teachers does not only affect teachers, but also extends to students, families and schools. As a result of the burnout experienced by teachers for various reasons, the quality of education provided decreases and in addition, it negatively affects students' mental health. As a result, most teachers who experience all these problems and cannot overcome them choose to leave the profession.

Today, there is rapid change in every field. In the face of this rapid change, organizations need to adapt to this change in order to continue their existence. This can be achieved by creating a sustainable learning environment in organizations. Accordingly, organizational learning is the process of developing knowledge, values and norms together within the organization rather than acquiring knowledge through education or experience. Therefore, organizational learning is based on common norms and decisions within the organization (Arslantaş, 2006: 155). With the acceleration of environmental change, the meaning attributed to schools has changed and expectations from teachers have increased. Today, schools' ability to provide quality education depends on their ability to constantly renew themselves. At this point, organizational learning has central importance.

The creation of a continuous and learning environment in organizations encourages research, facilitates communication between individuals, helps individuals create a vision, accelerates the process of adapting to change and satisfies the individual's need for self-actualization. Therefore, professionally exhausted teachers have low desire and motivation to learn because they are emotionally exhausted, hopeless and feel unsuccessful. In this context, this study aims to determine the relationship between teachers' job burnout and their organizational learning levels.

1. Occupational Burnout

The concept of burnout, expressed in English as “job burnout”, “staff burnout” or “exhaustion”, appears in Turkish as “burnout syndrome” or “professional burnout” (Arı and Bal, 2008: 131). The dictionary meaning of the concept of burnout is; “loss of power, state of not making an effort, exhaustion, powerlessness” (www.tdk.gov.tr).

Burnout is related to daily chronic stress rather than occasional events. The concept of burnout emerged among professions that require excessive interaction with people with physical and emotional needs (Artal and Cabrera, 2013: 15). The concept of burnout was first used in Greene’s

novel “A Burn-Out Case” in 1961, which tells the story of an architect who is mentally tortured, quits his job and starts living in the African forests. The first studies in this field were Freudenberger and Maslach Maslach et al., 2001: 398-399). Freudenberger defined burnout as "failing, wearing out or exhausting by creating excessive demands on energy, power and resources" (Freudenberger, 1977: 90). According to Pines, burnout is the result of a process in which highly motivated employees lose their spirit (Pines, 2003: 97). According to Droogenbroeck and his friends, burnout is a situation that prevents reaching professional goals, consumes coping resources and makes recovery difficult (Droogenbroeck et al., 2014: 99). Many definitions have been made on the concept of burnout. However, it is accepted that the most general and accepted definition belongs to Maslach (Aslan and Etyemez, 2015: 484).

According to Maslach, burnout is a syndrome of emotional exhaustion and cynicism that frequently occurs among individuals who have to work face to face with other people. An important aspect of burnout syndrome is the increase in feelings of emotional exhaustion. Individuals think that they can no longer devote themselves to work psychologically because their emotional resources are exhausted (Maslach and Jackson, 1981: 99). Maslach and his friends examined burnout in three dimensions: emotional exhaustion, desensitization and low sense of personal accomplishment (Maslach and Leiter, 1988: 297). Emotional exhaustion is the depletion of energy or emotional resources (Bakker et al., 2000: 248). This dimension is seen as a component of stress. Fatigue, weakness, loss of energy and wear are the basic characteristics of emotional exhaustion (Schwarzer et al., 2000: 311). Desensitization refers to the cold, indifferent and rigid attitude that the individual develops towards other people and work. Workers may show detachment and emotionality from each other and may be cynical towards colleagues, customers and the organization. The use of derogatory language, the division of professional life into rigid compartments, and long breaks with coworkers can be considered as visible symptoms of this dimension (Cordes and Dougherty, 1993: 623). The last dimension of burnout is the feeling of low personal accomplishment. This dimension of burnout refers to a decrease in the person's sense of competence and a decrease in their relationship with others (Janssen et al., 1999: 75). The person tends to evaluate the work they do negatively and a feeling of inadequate self-confidence prevails (Bakker et al., 2000: 248). The feeling of low personal accomplishment is a "self-evaluation component." In general, reduced professional effectiveness, low morale and ability, and inability to cope with job demands are among the symptoms of this dimension (Schwarzer et al., 2000: 311).

There are many factors affecting burnout. In general, the factors affecting burnout are classified as individual and organizational factors (Demir, 2015: 13). Age, gender, marital status, number of children, commitment to work, performance, stress experienced in daily life, expectations, education and seniority, personality type, support received by the individual from his/her superiors, motivation, job satisfaction can be evaluated as individual reasons affecting burnout (Akten, 2007: 30). Organizational factors affecting burnout are; excessive work and role load, injustice, negative relationships between subordinates and superiors, inadequate wages, inability to participate in decisions, lack of job security, lack of communication, intense working

hours, sexual harassment in the workplace, role ambiguity and role conflict, lack of social support (Yılmaz, 2017: 12). As a result of burnout, a number of physiological, psychological and behavioral symptoms occur in the individual. While physiological symptoms are; fatigue, insomnia, headaches, loss of energy etc., psychological symptoms are; (Kaçmaz, 2005: 30). Behavioral symptoms include; decrease in work performance and continuity, incompatibility with colleagues, family conflicts, frequent crying spells, irritability, and constant desire for solitude (Opak, 2019: 11).

Burnout has both individual and organizational consequences (Swider and Zimmerman, 2010: 501). Individual consequences can be summarized as anxiety, depression, insomnia, headache, psychotic disorders, muscle tension, hypertension, cold, and decreased self-confidence (Maslach and Leiter 2008: 499). Depression in particular is an important consequence of burnout (Glass et al., 1993: 153). In addition, burnout increases smoking, alcohol and drug use (Gaines and Jermier, 1983: 568). In addition, burnout negatively affects marriage and work life (Montgomery et al., 2003: 207). One of the organizational consequences of burnout is a decrease in job performance. Researchers emphasize that there is an inverse relationship between emotional exhaustion and job performance (Halbesleben and Buckley 2004: 866). While there is a negative relationship between burnout and organizational commitment, job satisfaction and participation, there is a positive relationship between burnout and job stress (Griffin et al., 2010: 246). In addition, burnout causes absenteeism and negative attitudes towards co-workers (Cordes and Dougherty, 1993: 638). Finally, coming to work late, leaving early, and taking sick leave are considered among the organizational consequences of burnout (Schaufeli and Enzmann, 1998: 29).

2. ORGANIZATIONAL LEARNING

Learning is the transformation of experience that occurs through various processes into knowledge, experience and attitude, and the permanent change that occurs in behavior more or less as a result of this experience (Jarvis, 1987: 2-8). Morris defined learning in his work as a process that results in a relatively permanent change in behavior or potential behavior through experiences or repetitions (Morris, 2002: 196). Learning can be examined at three levels: personal level, group level and organization level (Yang et al., 2004: 40). Personal level learning occurs when individuals acquire knowledge through education, experience or experimentation (Taylor, 2019: 128). Since organizations consist of individuals, personal learning is important for organizational learning. Organizations can learn independently of any specific individual, but cannot learn independently of all individuals (Kim, 1993: 37-50). The second level of learning is group learning. Group learning begins with dialogue. This refers to the capacity of members of a group to suspend their assumptions and engage in collective thinking. Group learning is important. Because in modern organizations, the basic learning unit is not individuals but groups. Without groups, organizations cannot learn (Senge, 1990: 10). Organizational learning includes incorporating individual and group learning into the non-human aspects of the organization, including systems, structures, procedures and strategies. Organizational learning enables organizations to use previous paths while discovering new ones (Bontıs et al., 2002: 444). In addition to these three levels of learning

mentioned, Marsick and Watkins also defined global learning. Global learning refers to the ability to transcend time, function and geographical boundaries. However, it requires thinking systematically and following the results of time and distance change. Therefore, organizations need to establish connections with their environment (Marsick and Watkins, 1999: 84).

Although many definitions have been made about organizational learning to date, these definitions have generally tried to explain how this concept emerged. Although it has been a concept that has been discussed for a long time, there is no consensus on the definition of organizational learning (Ayden and Aşağıcan, 2004: 122).

Organizational learning was first defined by Cyert and March, and later many authors expanded the concept (Lee et al., 1992: 24-25). According to Argyris, organizational learning is "the process of identifying and correcting errors" (Argyris, 1977: 116). According to Fiol and Lyles, organizational learning is the process of improving activities through better knowledge and understanding (Fiol and Lyles, 1985: 803). Other definitions made about organizational learning are as follows:

Organizations learn by transforming the inferences they obtain from the past into routines that guide behavior (Levitt and March, 1988: 320).

If an organization changes its various potential behaviors through information processing, it learns (Huber, 1991: 89).

Learning organizations are where individuals develop their capacities to create exactly the results they want (Senge, 1990: 14).

Organizational learning is a process in which organizations become aware of the nature, pattern and consequences of their experiences and develop mental models to understand these experiences (McGıll and Slocum, 1993: 67).

It is the capacity or process within an organization to develop or maintain performance based on experience (Dibella et al., 1996: 363).

Today, there is rapid change in every area of life. Increasing environmental change has forced organizations to be more flexible and sensitive. The key factor in adapting to environmental change is the development of learning capabilities of organizations. In this case, learning occurs as a result of the experiences of the individual and their spread to the organizational level through groups, whether in the work environment or not (Özgen et al., 2004: 176). It is thought that organizations, like individuals, are living organisms and that they have to learn constantly in order to continue their activities (Atak and Atik, 2007: 63). Learning and the accumulation of new knowledge always start with individuals. However, individual learning does not always have to lead to organizational learning (Umoh et al., 2014: 11). In order for organizational learning to occur, the knowledge possessed by members of the organization must be transmitted from one member to another and the knowledge must be integrated into the entire organization (Simon, 1991: 125).

"Learning; prepares the ground for businesses to solve their problems, develop their capabilities and determine their future." The aim of organizational learning is to protect and develop the organization's global competitiveness by increasing flexibility and efficiency in order to adapt to change. Learning also facilitates interpersonal communication and agreement in the organization (Aydınlı, 2005: 84-85). Businesses that can apply learning within the organization gain a significant advantage in determining their strengths and weaknesses with the information they acquire and completing their deficiencies (Demirel and Kubba, 2014: 138). While some behaviors are approved and reinforced thanks to learning, some behaviors are punished and extinguished because they are not accepted. Therefore, such reinforcement and extinguishing activities within the organization are important in order to talk about organizational learning (Ökmen, 2017: 60).

There are three defined types of organizational learning (Ayazlar, 2012: 65).

Single-Loop Learning: The purpose of single-loop learning is to detect errors and take corrective actions against these errors (Arslantaş, 2006: 156). Chris Argryis stated that single-loop learning can be compared to a thermostat. The thermostat turns the heat on and off when it is too hot or too cold. Since the thermostat receives information about the temperature of the room, it can perform this task and take corrective action (Argyris, 1977: 116).

Double-Loop Learning: It requires an organization to not only question their work practices and what they have learned, but also to learn how to ask questions (Mulholland et al., 2001: 4). In this type of learning, not only the problem is solved, but also the factors that cause the problem are taken into consideration and evaluated. In short, double-loop learning involves correcting and changing the practices that cause these errors after the errors are detected (Aksoytürk, 2008: 56).

Secondary Learning: The basic idea is to develop the learning ability of the organization. Secondary learning is a mental process aimed at understanding how organizations perform single and double loop learning or how they learn to learn (Tan, 2014: 199). In short, secondary learning is learning how to learn (Aydınlı, 2005: 88).

3.RELATIONSHIP BETWEEN OCCUPATIONAL BURNOUT AND ORGANIZATIONAL LEARNING

Proost and his friends examined the relationship between learning opportunities and emotional exhaustion in a study they conducted. The study was conducted on 420 teachers in a primary school in Belgium. According to them, learning opportunities can encourage open-minded, critical, effective and active learning. Thanks to these processes, employees can broaden their mindsets, which can help them cope with stressful situations. Continuing learning opportunities in the workplace can have a positive effect on employees by reducing the consequences of tension. Based on these findings, Proost and his friends suggested that learning opportunities are negatively related to emotional exhaustion in their study and concluded that emotional exhaustion is weakened when learning opportunities are high (Proost et al., 2012: 11-19).

Similarly, Ruysseveldt et al. stated that job resources, especially learning at work, reduce emotional exhaustion by encouraging personal development opportunities and conducted a study on 4589 people representing the Dutch working population for this purpose. They stated that emotional exhaustion occurs when learning opportunities are lacking or are lost as a valuable resource. Learning opportunities encourage both the use of existing skills and the development of new skills. The development of skills is associated with increased confidence and self-efficacy. This supports employees to persevere in the face of difficulties. In addition, learning can support the growth of personal resources such as organizationally based self-esteem or optimism. The more learning opportunities individuals have, the higher their psychological satisfaction levels. Therefore, as a result of this study, they reached the conclusion that not only learning opportunities but also variables such as skill use and job development are negatively related to emotional exhaustion (Ruysseveldt et al., 2011: 208-211).

Klusmann and colleagues conducted a study on 1,102 German primary school teachers and students, arguing that teachers' stress and burnout levels affect students' learning success. According to this study, emotionally exhausted teachers may behave differently in the classroom and have difficulty supporting students' learning. Teachers with higher levels of emotional exhaustion and depersonalization are less encouraging in response to students' success. As a result, students may feel less competent, exhibit lower levels of intrinsic motivation, and this reduces the depth of their learning. As a result of this study, it was concluded that emotional exhaustion is negatively related to student learning success (Klusmann et al., 2016: 1194-1200). Lages investigated the effect of mastery goal orientation on emotional exhaustion. The study was conducted on 740 people in the UK restaurant and fast-food industry. As a result of the study, it was concluded that mastery goal orientation was not related to emotional exhaustion, and in addition, both personal learning and mastery orientation were negatively but not significantly related to emotional exhaustion at the end of the study. It has been stated that personal learning is necessary but not sufficient to reduce the emotional exhaustion of employees (Lages, 2007: 209).

In order to investigate the effect of the learning environment on student burnout, Dyrbye and his colleagues conducted a study on 3080 fifth-year students in five medical schools in the USA in 2006. As a result of the study, it was concluded that the learning environment and factors related to the learning environment were completely related to student burnout, and therefore burnout had a negative effect on the learning environment. In addition, it was stated at the end of the study that additional studies were needed to create and maintain a learning environment that increased students' professional development and minimized their burnout (Dyrbye et al., 2009: 274-289).

Yavaş (2012) investigated the effects of burnout and self-efficacy perceptions on organizational learning in his thesis on learned helplessness, burnout and self-efficacy perceptions and organizational learning. The study was conducted on 1079 school administrators and 10,228 teachers working in public secondary schools in the Eastern Anatolia Region. As a result of the research, it was determined that burnout has a negative and significant effect on organizational learning. Accordingly, as the burnout perception of secondary school teachers decreases, their

organizational learning levels increase. Burnout has both indirect and direct effects on organizational learning. In addition, as a result of the research, it was found that the effect of burnout on organizational learning varies according to gender, marital status, length of service and task variability (Yavaş, 2012: 95-144).

Celep conducted a study in Edirne province in the 2000-2001 academic year in order to examine the relationship between learning culture in schools and professional burnout by applying a survey to 355 teachers in 10 primary schools. The three most important factors that play a role in the learning culture in schools are intrinsic motivation to learn, excellence in teaching and privileged treatment. As a result of the study, a relationship was found between these three dimensions of learning culture and professional burnout, thus it was revealed that learning culture and professional burnout negatively affect each other. It was also determined that the relationship between these two variables differed in terms of factors such as age, gender and education (Celep, 2002: 360-368).

Based on the above explanations, a negative relationship is expected between professional burnout and organizational learning in our study.

4.METHODOLOGY

4.1. Purpose of the Study

The main purpose of this study is to examine the relationship between the professional burnout of teachers working in public schools and their organizational learning levels. When teachers start experiencing burnout, they may exhibit more authoritarian and conflicting behaviors. As a result of burnout, a number of problems such as anxiety, depression, low motivation, absenteeism, job dissatisfaction, and communication disorders arise in teachers. All these problems not only concern teachers but also affect students, schools, and the immediate environment. In this case, the quality of education provided decreases, and the learning levels of students and teachers decrease. In addition, teachers who experience emotional burnout will decrease their desire to learn because they cannot psychologically devote themselves to their work. As a result, it is expected that this study will pave the way for more extensive research and that the results of the research will be useful in schools.

4.2. Research Method and Limitations

The survey method was preferred as the data collection method in the research. It was stated in the survey forms that the survey data used in the research would only be used in the research and would not be shared with anyone. Therefore, it is thought that the participants conveyed their true opinions. The research sample includes 244 teachers working in public schools in Erzurum province. 224 of these surveys applied to the teachers were returned. 15 of the 224 surveys were not included in the evaluation because they were answered incompletely or incorrectly. There are 209 surveys in total that were evaluated.

The first 22 questions in the survey form measure professional burnout. Questions 1-2-3-6-8-13-14-16-20 of these measure the emotional exhaustion dimension; questions 5-10-11-15-22 measure the depersonalization dimension; and questions 4-7-9-12-17-18-19-21 measure the low sense of personal accomplishment dimension. Questions between 23 and 43 in the survey form measure organizational learning. Of these questions, questions between 23 and 28 measure the learning dimension at the individual level; questions between 29 and 31 measure the learning dimension at the group level; and questions between 32 and 43 measure the learning dimension at the organization level.

4.3. Model, Scale and Hypotheses Used in the Research

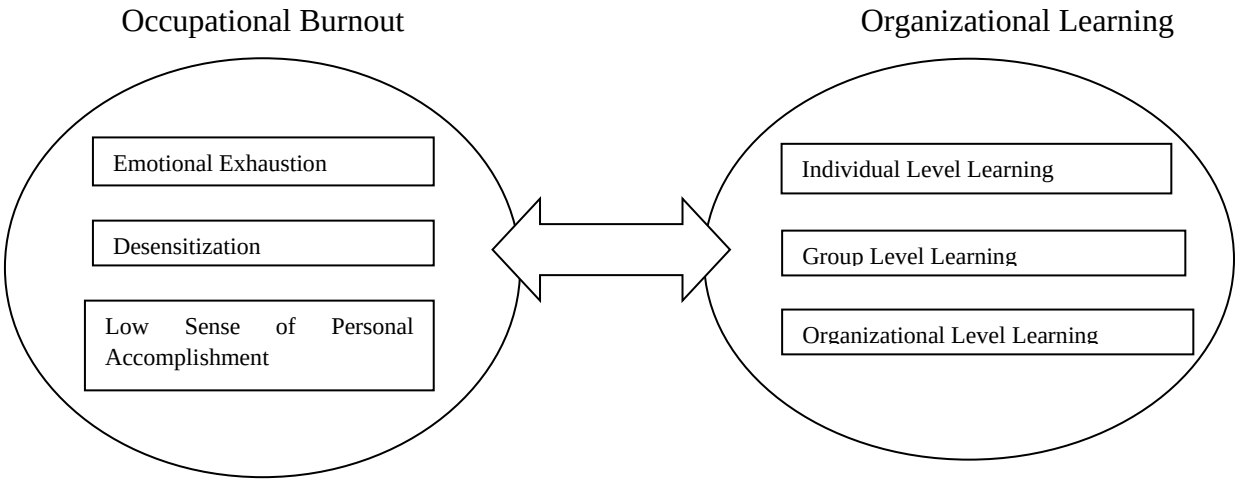
A 5-point Likert type was used to answer the scales used in this research. Participants chose one of the following options to evaluate the scales used: 1) Never 2) Very rarely 3) Sometimes 4) Often 5) Always.

Table 1. Scales Used in the Study

Scale Name	Number of Questions	Source
Occupational Burnout Scale	22	Maslach ve Jackson (1986)
Dimensions of Learning Organizations Scale	21	Marsickve Watkins (2003)

In measuring occupational burnout, the three-dimensional Occupational Burnout Scale, developed by Maslach and Jackson (1986) and used by Doğan (2013) in his research, was used (Doğan, 2013: 269). In measuring organizational learning, the Dimensions of Learning Organizations Scale, developed by Marsick and Watkins and used by Karabağ (2013) in his research, was used (Marsick and Watkins, 2003: 143; Karabağ, 2013: 63).

Figure 1. Conceptual Model of the Research



As seen in Figure 1, the research model consists of two main variables. Both variables have three dimensions. The sub-dimensions of occupational burnout, emotional exhaustion 9, desensitization 5, and low sense of personal accomplishment were measured with 8 questions. The other variable, the sub-dimensions of organizational learning, individual-level learning 6, group-level learning 3, and finally organization-level learning 12 questions were measured.

The hypothesis of the research;

h1: There is a negative relationship between occupational burnout and organizational learning.

5. Analysis and Evaluation of Data

Analysis was conducted on the responses received from 209 participants who participated in the study and were found suitable. SPSS 16 statistics program was used in the analysis of the data. The analyses performed are explained below in order.

5.1. Demographic Characteristics of the Participants in the Survey

In order to determine the demographic characteristics of the participants in the survey, their gender, age, education status, marital status and seniority were investigated. The information obtained in this direction is given in Table 2.

Table 2. Sample Characteristics

	n	**%**
Gender		
Women	121	57,9
Men	88	42,1
Marital Status		
Married	162	77,5
Single	47	22,5
Age		
20-25	18	8,6
26-30	41	19,6
31-35	55	26,3
36-40	40	19,1
40+ age	55	26,3
Experience		
1-5	138	66,0
6-10	42	20,1
11-15	18	8,6
16 + year	11	5,3
Education Level		

Associate degree	9	4,3
Undergraduate degree	172	82,3
Master's degree	28	13,4
Total	209	100

When the teachers participating in the study were examined in terms of gender, it was seen that 121 people, corresponding to 57.9% of the 209-person sample size, were female, and 88 people, corresponding to 42.1%, were male. When the level of education of the participants was examined; 9 people, corresponding to 4.3%, had an associate degree, 172 people, corresponding to 82.3%, had an undergraduate degree, and finally 28 people, corresponding to 13.4%, had a master's degree.

5.2. Determination of Validity and Reliability of Scales Used

In this study, Cronbach's Alpha values were examined in order to determine the occupational burnout and perception levels of organizational learning of teachers working in Erzurum state schools and the findings obtained are presented in Table 3.

Table 3. Reliability Levels of the Scales Used in the Study

Scale	Sub-dimensions	Cronbach's Alpha
Occupational Burnout	Emotional Exhaustion (9)	0,867
	Depersonalization (5)	0,680
	Low Sense of Personal Accomplishment (8)	0,736
Organizational Learning	Individual Level Learning (6)	0,920
	Group Level Learning (3)	0,829
	Organization Level Learning (12)	0,951
Occupational Burnout (22)		0,805
Organizational Learning (21)		0,966

As seen in Table 3, the reliability levels of all scales used in the study were generally high. When the reliability levels were examined in terms of occupational burnout sub-dimensions, alpha values were quite high in all sub-dimensions except for the desensitization sub-dimension. As a result of the analyses performed, it can be stated that this study is reliable when the Alpha values are examined in general.

5.3. Participants' Perceptions of Occupational Burnout and Organizational Learning

This study was created by considering the sub-dimensions of occupational burnout and organizational learning. The sub-dimensions of occupational burnout consist of three dimensions: emotional exhaustion, desensitization and low sense of personal accomplishment. Similarly, organizational learning was examined in three dimensions: individual-level learning, group-level

learning and organization-level learning. Table 6 includes the arithmetic means and standard deviations of the participants' perceptions of occupational burnout in terms of these variables.

Table 4. Participants' Perceptions of Occupational Burnout

DIMENSIONS OF OCCUPATIONAL BURNOUT	Mean	Standard Deviation
Emotional Exhaustion	2,3269	,82171
1. I feel drained from my job.	2,1818	1,10308
2. I feel mentally exhausted after work.	2,6411	1,11391
3. When I wake up in the morning, I feel like I can't handle another day of work.	1,8804	,98060
6. Dealing with people all day is exhausting for me.	2,6603	1,09386
8. I feel exhausted from my work.	2,2536	1,10410
13. I feel like my job is restricting me.	2,3541	1,15150
14. I feel like I work too much at my job.	2,8942	1,31449
16. Working directly with people stresses me out.	2,4928	1,06572
20. I feel like I've reached the end of my rope.	1,7703	,82171
Desensitization	1,8517	,75448
5. I realize that my job treats some people as if they were not human.	1,5789	,96314
10. I have become tougher towards people since I started this job.	2,0813	1,01815
11. I am afraid that this job is hardening me.	2,0431	1,11505
15. I don't care what happens to the people I encounter in my job.	1,4163	,88466
22. I feel that the people I encounter in my job treat me as if I created their problems.	2,2775	1,13490
Low sense of personal accomplishment	3,8230	,67386
4. I can immediately understand how people I encounter in my job feel.	3,4737	1,02400
7. I find the best solutions to people's problems in my job.	3,8038	,90127
9. I believe that I contribute to people's lives through my work.	3,9043	1,12251
12. I have the power to do many things.	3,8325	1,08117
17. I create a relaxed atmosphere with the people I encounter in my job.	3,8134	,97004
18. I feel invigorated after working closely with people.	3,6986	,95073
19. I have achieved many notable successes in this job.	3,6459	,89818

21. I approach emotional problems in my job with a calm mind.	3,7368	,96208
GENERAL OCCUPATIONAL BURNOUT	2,7788	,54652

As seen in the table above, the average of the general occupational burnout dimensions is 2.7788. The dimension with the highest average among the occupational burnout sub-dimensions is the low sense of personal accomplishment with 3.8230. The dimension with the lowest average is the depersonalization dimension with 1.8517.

Table 5. Participants' Perceptions of Organizational Learning

Organizational Learning Dimensions	**Mean**	**Standard Devation**
Learning at the Individual Level	3,6459	,98985
1. Our school employees help each other gain new knowledge and skills.	3,6411	1,10525
2. Our school employees are given time to support them in gaining new knowledge and skills.	3,5215	1,12693
3. Our school employees are encouraged to gain new knowledge and skills.	3,7081	1,12488
4. Our school employees evaluate each other openly and honestly.	3,4306	1,25431
5. Our school employees ask what others think while expressing their opinions.	3,4641	1,14770
6. Our school employees try to gain each other's trust.	3,7129	1,04416
Group Level Learning	3,5288	1,00681
7. In our school, teams are free to change their goals when necessary.	3,5865	1,09112
8. In our school, teams/boards review their ideas through group discussions.	3,5885	1,08887
9. In our school, teams are confident that their suggestions will be	3,4498	1,10445

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implemented by the school administration.		
Organizational Level Learning	3,6731	,90027
10. Whether the school is performing as expected is regularly evaluated.	3,7177	1,061144
11. In our school, it is ensured that all employees have access to newly learned information.	3,7751	1,08404
12. The results of the resources and time spent on education in our school are measured.	3,6364	1,05695
13. In our school, employees are supported to take initiative when necessary.	3,5933	1,07065
14. In our school, employees are given control over the materials/resources they use.	3,6029	1,12241
15. In our school, employees who take risks are supported.	3,3894	1,13243
16. In our school, employees are encouraged to think with a global perspective.	3,5550	1,04149
17. Our school cooperates with the environment to meet common needs	3,7560	1,08432
18. Opposing views are encouraged to be taken in solving problems in our school.	3,3732	1,13275
19. In our school, administrators provide guidance and consultancy to employees.	3,7416	1,14784
20. In our school, administrators constantly look for opportunities to learn.	3,6603	1,06265

21. In our school, administrators ensure that institutional values and activities are compatible.	3,8278	1,04651
GENERAL ORGANIZATIONAL LEARNING	3,6135	,89519

When looking at the table above, it is seen that the general average of organizational learning considered in three dimensions is 3.6135. It is seen that the highest average among these three dimensions belongs to learning at the organization level with 3.6731, and the lowest average belongs to learning at the group level with 3.5288.

5.4. Correlation Analysis for Determining Relationships

Table 6. Correlation Analysis for Determining Relationships

	Mean	Standard Deviation	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
1.Occupational Burnout	2,7788	,54652	1							
2.Organizational learning	3,6135	,89519	-,026	1						
3.Emotional Exhaustion	2,3269	,82171	,631**	-,255**	1					
4.Desensitization	1,8517	,75448	,594**	-,208**	,488**	1				
5. Low sense of personal accomplishment	3,8230	,67386	,307**	,-202**	-,017	-,101	1			
6. Learning at the individual level	3,6459	,98985	-,024	,786**	-,231**	-,206**	,-246**	1		
7. Group level learning	3,5288	1,00681	,026	,738**	-,184**	-,109	,-194**	,703**	1	
8. Learning at the Organization Level	3,6731	,90027	-,040	,854**	-,233**	-,179**	-,192**	,644**	,625**	

****: Correlation is significant at the 0.01 level (2-Tailed) p<0.01.**

In order to determine the type of analysis in this study, it was investigated whether the data were suitable for normal distribution. As a result of the research, since the data were not suitable for normal distribution, Spearman Rank Correlation coefficient was used in the correlation analysis.

It is seen that there is a weak and negative relationship between occupational burnout and organizational learning (p<0.01 r= -0.26). This result supports the h1 hypothesis. In addition, there is a weak, negative and significant relationship between emotional exhaustion and organizational learning, which are sub-dimensions of occupational burnout (p<0.01 r= -.255). There is a weak, negative and significant relationship between desensitization, which is the other sub-dimension of occupational burnout, and organizational learning (p<0.01 r= -.208). There is a weak, negative and significant relationship between the last sub-dimension of occupational burnout, the sense of low personal accomplishment, and organizational learning (p<0.01 r= -.202). When examined in terms of organizational learning sub-dimensions, a weak, negative and significant relationship is generally observed between organizational learning sub-dimensions and occupational burnout sub-dimensions.

Accordingly, the hypothesis result is shown in Table 7.

Table 7. Hypothesis Result

Hypothesis	r	p-value	Decision
h_1	-,026	P<0,01	Accepted

Conclusion and Recommendations

The purpose of this study is to examine the relationship between occupational burnout and organizational learning. In addition, this article aims to examine the relationship between the sub-dimensions of occupational burnout, namely emotional exhaustion, depersonalization and low sense of personal accomplishment, and organizational learning and its sub-dimensions. In this article, which aims to examine the relationship between occupational burnout and organizational learning, 209 surveys were analyzed and various results were reached.

As a result of this research, it was concluded that there is a negative and significant relationship between occupational burnout and organizational learning, and therefore the hypothesis determined for the research was accepted. It was revealed that there is a negative relationship between occupational burnout and organizational learning, which are the two variables included in the conceptual model. In general, it is seen that the relationship level is weak. The variable with the highest relationship strength is emotional exhaustion, which is a sub-dimension of occupational burnout, and organizational learning. According to the literature review, since emotional exhaustion indicates wear and loss of energy, it can be concluded that this situation will reduce the

desire to learn. In line with these explanations, it is revealed that there is a mutual relationship between occupational burnout and organizational learning. This result is consistent with the research results of Celep (2002) and Yavaş (2012). In particular, there is a significant relationship between emotional exhaustion, which is a sub-dimension of occupational burnout, and organizational learning. This result is consistent with the research results of Klusmann (2016) and Dyrbye (2009).

In light of the results obtained in the study, it would be beneficial to make some suggestions. First of all, reducing the lesson hours of teachers working in public schools, keeping the class sizes at a minimum, developing strategies to reduce student-teacher conflict, creating applications that will encourage student participation in the lesson, organizing programs that will ensure student-teacher-school integration, increasing communication with upper management, providing administrative support and guidance to teachers, and efforts to provide learning environments that increase their creativity will help reduce the professional burnout levels of teachers and will have positive effects on their learning levels as well as their job satisfaction and job performance. In addition to these suggestions, in both public and private schools, following the necessary procedures before starting this study or a study parallel to this subject and obtaining permission and approval from the authorized authorities will provide convenience to the people conducting the study.

When considering the limitations of this study, first of all, the results obtained from this study cannot be generalized due to the fact that the study was conducted only in public schools and the sample was small. In future studies, the results can be generalized by conducting them in different sizes and application areas. At the same time, in subsequent studies, analyses can be conducted using different variables in addition to these two variables. In general, it is thought that this study will contribute to the literature and will be beneficial for schools and teachers.

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www.tdk.gov.tr (Erişim tarihi: 04 Nisan 2019).

Dear participant,

Below is a survey form designed to be used in a research to investigate your attitudes towards your profession and the effect of these attitudes on the level of organizational learning. The answers you give to the survey will not be shared with anyone and will only be interpreted. We kindly request that you indicate how often you experience the situation specified in each item by marking an (x). Please be careful to answer all items. Thank you for your interest.

DEMOGRAPHIC INFORMATION

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Your gender: ( ) Female ( )Male

Your age: ( ) 20-25 ( ) 26-30 ( ) 31-35 ( ) 36-40 ( ) 40 and above

Marital Status: ( ) Married ( ) Single

Education status: ( ) Associate degree ( ) Bachelor's degree ( ) Master's degree ( ) Doctorate

School level you are working at: ( ) Primary school ( ) Middle school ( ) High school

Your service period at this school: ( ) 1-5 ( ) 6-10 ( ) 11-15 ( ) 16 and above

OCCUPATIONAL BURNOUT SCALE	Never(1)	Very rare (2)	Sometimes (3)	Most of the time	Always (5)
1. I feel like I'm losing interest in my job.					
2. I feel mentally exhausted after returning from work.					
3. When I wake up in the morning, I think I can't handle this job for another day.					
4. I immediately understand how the people I encounter in my job feel.					
5. I realize that I treat some people as if they were not human because of my job.					
6. Dealing with people all day long is really tiring for me.					
7. Due to the nature of my job, I find the most appropriate solutions to people's problems.					
8. I feel burnt out by my work.					
9. I believe that I contribute to people's lives through the work I do.					
10. I've become tougher on people since I started this job.					
11. I'm afraid that this job is making me harder and harder.					
12. I have the power to do many things.					
13. I feel restricted by my job.					
14. I feel like I work too hard at my job.					

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15. I don't care what happens to the people I encounter in my job.					
16. Working directly with people gives me a lot of stress.					
17. I create a relaxed atmosphere with the people I encounter in my job.					
18. I feel invigorated after working closely with people.					
19. I have had many notable successes in this job.					
20. I feel like I've reached the end of the road.					
21. In my work, I approach emotional issues with a calm mind.					
22. I feel like people I encounter in my job act as if I created some of their problems.					

DIMENSIONS OF LEARNING ORGANIZATIONS SCALE	Never(1)	Very rare (2)	Sometimes (3)	Most of the time	Always (5)
23. Our school staff helps each other acquire new knowledge and skills.					
24. Time is given to our school staff to support them in acquiring new knowledge and skills.					
25. Our school staff is encouraged to acquire new knowledge and skills.					
26. Our school staff evaluates each other openly and honestly.					
27. When employees at our school express their opinions, they ask what others think.					
28. Employees at our school try to gain each other's trust.					

29. Teams/boards in our school are free to change their goals when necessary.					
30. Teams/boards in our school review their ideas through exchange of ideas and/or group discussions.					
****031. The teams/committees in our school are confident that their suggestions will be implemented by the school administration.***					
32. Whether the school is performing as expected is regularly evaluated.					
33. In our school, all employees are provided with access to newly learned information.					
34. The results of the resources and time spent on education in our school are measured.					
35. Our school staff is supported to take initiative when necessary.					
36. Our school staff is given control over the materials/resources they use.					
37. Risk-taking employees are supported in our school.					
38. Our school staff is encouraged to think from a global perspective.					
39. Our school cooperates with the community to meet common needs.					
40. Opposing views are encouraged in solving problems in our school.					
41. In our school, administrators provide guidance and counseling to employees.					
42. Administrators at our school constantly seek opportunities to learn.					
43. Administrators in our school ensure that institutional values and activities are compatible.					

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BIBLIOMETRIC ANALYSIS OF MENTAL WORKLOAD STUDIES IN WEB OF SCIENCE DATABASE

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Abstract

Mental workload has emerged as a highly important concept for employees in many areas of work life today, and it is seen as something that employers need to take seriously. The increasing number of publications, especially in foreign literature in recent years, supports the importance of this concept. The aim of this studyis to examine the development of the literature in the field of mental workload between 2014 and 2024 through bibliometric analysis, using journals indexed by the Web of Science. The data from these analyses were mapped using the VOSviewer software package for visualization. A total of 796 articles were analyzed after filtering based on the field and time period from 4295 studies published in the Web of Science database. When examining the distribution of studies by country, the leading contributors to the literature were from the USA (234), China (133), Germany (71), France (60), the UK (52), and Canada (48). The majority of the studies were published in English. In terms of publication years, the highest number of publications occurred in 2022 with 99, followed by 2020 with 93, and 2019 with 90 publications. The lowest number of publications was in 2024, with 34 studies. According to the results obtained from the research. studies in this field began to intensify starting in 2014. Additionally, the most productive authors in this field were identified, areas of concentration were highlighted, and citation analyses were conducted.

Keywords: Mental Workload, Workload, Cognitive Load, EEG (Elektroencephalography).

Introduction

In today's world, where significant changes and transformations are experienced in the business environment, mental workload is considered an important concept in terms of individual and organizational performance. The emergence of this concept dates back approximately 40 years. However, as of 2014, the number of studies on this topic and the importance attributed to it have shown an increasing trend. Studies have been conducted in relation to many different fields and concepts. Traditionally, mental workload research has fallen under the domain of researchers in fields such as psychology, human factors, engineering, ergonomics, etc., and has primarily focused on applications known as "safety-critical," such as automotive, aviation, air traffic control, spaceflight, and defense (Alsuraykh et al., 2019). Over the last two decades, it has attracted

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increasing attention as the application of modern, complex technologies has placed more cognitive demands on workers in various occupational settings (Galy, 2018). The increasing number of studies on the effects of working life on human health has made the concept of mental workload even more significant (Akça et al., 2020: 676).

Mental workload, workload, cognitive load, and EEG (Electroencephalography**)** are closely related concepts and are mostly used to understand and measure elements such as work performance, attention, cognitive capacity, and stress. The relationship between these concepts becomes especially important when evaluating individuals' cognitive and mental processes in the workplace. Mental workload is a component of workload but specifically focuses on mental processes. As task complexity and attention requirements increase, so does mental workload. When cognitive demands increase, the workload rises depending on the individual's mental work capacity. Mental workload and cognitive load are similar concepts. While cognitive load is used in processes such as learning and problem-solving, mental workload is more related to job performance and task execution. The higher the cognitive load, the greater the mental workload. Electroencephalography (EEG) is widely used in clinics to obtain brain activity data to evaluate patients' cognitive behaviors and diagnose neuropsychiatric disorders (Barua et al., 2023: 2). Mental workload and cognitive load are assessed to understand how much difficulty an individual experiences in work processes and how effectively they use their resources. EEG, on the other hand, analyzes the neurophysiological basis of these processes, providing an objective perspective to subjective evaluations.

Mental workload encompasses different processes that involve perceptual, cognitive, and neurophysiological operations (Baldwin and Coyne, 2003). With technological advancements, while the physical demands expected from employees in various work environments are lower, the cognitive demands required by the task are higher. Thus, the impact of mental workload on efficiency is better understood, and its importance is increasing (Young et al., 2015: 1). If the amount of mental workload exceeds the limit of processing the required amount of information, there is a high tendency for errors, or it may lead to delayed information processing (Ryu and Myung, 2005: 2). Although a significant portion of the information obtained is directly related to a cognitive task, employees are often expected to perform physically demanding tasks simultaneously, which may require resource allocation (Didomenico and Nussbaum, 2011: 3). For this reason, the work systems of employees should be evaluated. During the evaluation, it is important to assess or control disruptions or interruptions that may increase the difficulty of tasks or hinder execution, both in the context of the employer and the employee.

Mental workload arises when the task at hand, its working conditions, and the organization's expectations exceed the employee's perception-comprehension capacity and abilities (Hart, 2006). Additionally, the significant levels of individuals' physical and cognitive activities can also increase mental workload. The effort to perform multiple tasks simultaneously depends on the complexity of each task; difficult or complex tasks require more effort than simple ones (Didomenico and Nussbaum, 2011: 4). The relationships between these complex tasks stem from the intensity of

information processing, situations that require constant attention, and cognitive demands such as problem-solving. Moreover, an individual's skill level, experience, and environmental factors can also increase the complexity of mental workload. Therefore, mental workload refers to a complex structure that encompasses the diversity, intensity, and difficulty of the tasks an employee undertakes mentally. According to Rubio-Valdehita et al. (2017) and Verwey (2000), mental workload is related to an individual's motivation and ability, the effort and methods required by the position they are in, and the employee's physical and emotional state. Zeilstra et al. (2017) stated that mental workload is the intersection of the goals and achievements required by the task, the employee's abilities and attention, and the characteristics of the organizational environment. There are strategies and methods used to effectively cope with the mentally and emotionally demanding work tasks. These include managing time efficiently, taking short breaks, breaking complex and large tasks into smaller parts, engaging in stress-relieving activities, seeking support, using technology, and adopting a healthy lifestyle, all of which help to alleviate mental workload.

In the literature, mental workload is examined from a broad perspective and is presented as a concept where detailed measurement studies have been conducted and evaluated. The concept has been addressed from different angles by combining it with various disciplinary concepts. Mental workload has found wide application in fields such as psychology, healthcare, ergonomics, occupational health and safety, work efficiency, management, and engineering. Studies on mental workload have emerged for various purposes, including measuring individuals' cognitive capacities in their working lives, understanding the impact of mental workload levels on employees, and analyzing its effects on organizational activities. Additionally, research has also been conducted in the context of organizational and employee well-being.

The primary goal of studies conducted in the field of mental workload is to measure and evaluate the mental workload that individuals are exposed to while working. Additionally, they aim to understand the cognitive demands individuals face in the workplace and optimize work performance by reducing the negative consequences of these demands. The core objectives of these studies include improving employee well-being, enhancing performance, improving the work environment, and preventing issues such as stress and burnout. In this context, the aim of this study is to examine the historical development of the mental workload concept over the last 10 years, identify the fields in which it is most popular, determine the most influential authors and publications, and reveal which other concepts are used in conjunction with mental workload. By considering future research, the study aims to support the trend of research on this concept, provide insights into which areas require more support, identify fields where further studies are needed, and contribute to prominent related concepts.

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Conceptual Framework

Mental Workload

Since its emergence, there has been no universally agreed-upon or commonly accepted definition of the concept of mental workload, and various definitions have been proposed. Cain (2007) defines mental workload as a mental construct that reflects the mental pressure an individual experiences while performing a task, in relation to their ability to respond to task demands under specific environmental and operational conditions. Jex (1988: 7) explains mental workload as a process in which a person assesses the distribution of attention between the mental capacity required to complete a task and the task demands. Kalakoski and colleagues (2020) define this concept as an effort to align human-system interaction in the workplace with human cognitive capacities and limitations, considering human cognitive processes and the conditions that affect these processes (cited in Özkılıççı and Aytaç, 2022: 279). In another definition, mental workload has long been regarded as an important factor in human performance within complex interactive systems and is defined as the amount of cognitive capacity required to perform a specific task (Stasi et al., 2013: 2). According to Recarte and others (2008), mental workload is the result of the interaction between task demands and human characteristics, meaning that neither task characteristics nor human factors alone can explain mental workload (Marquart et al., 2015: 2855). Similarly, Hart and Staveland (1988) define mental workload as a hypothetical construct representing the cost incurred by workers to achieve a certain level of performance (i.e., workload is not the same as objective task demands).

Mental workload emerges in different ways across various sectors and working conditions. Certain factors must come together for mental workload to be felt. Employees who have good cognitive attention, work interactively toward organizational goals, choose the right strategies, and adapt to task complexity tend to experience the emotions associated with mental workload less intensely. Workload is often described using terms such as mental tension, mental effort, and emotional strain (Cain, 2007: 4-2). Gaillard (1993) argues that although mental workload is related to workload and stress, it lacks suitable and clear definitions.

Mental workload is associated with tasks that require intense use of cognitive processes such as information processing, decision-making, attention, and focus. Therefore, mental workload is a multidimensional structure that includes the characteristics of the task, the operator, and the environment in which the task is performed. It also incorporates psychosocial and organizational factors, as well as individual differences (Bru et al., 1996; Carayon et al., 1999; Young et al., 2015). It can be defined as an intermediary variable that adjusts the balance between the demands of the environment and the individual's capacity (Kantowitz, 2000). Technological developments, the digitization of work processes, and the continuous flow of information place significant mental pressure on employees. In this context, several important factors contribute to the increase in mental workload. These include being constantly reachable, exposure to excessive information, taking on multiple tasks, variable working conditions, and high-performance expectations. These

dynamics can lead to an increase in mental workload, resulting in negative outcomes such as burnout syndrome, stress, and reduced productivity. Therefore, managing mental workload is of great importance for both employees and employers.

Research Methodology

The aim of this study is to examine the studies related to mental workload published in the Web of Science through bibliometric analysis. The population of the research consists of studies published under the title of mental workload in the Web of Science database. The studies to be included in the analysis were selected from the WOS database on September 23, 2024. In the research, only 796 studies published in the last 10 years (2014-2024) were considered for evaluation. The studies were classified by publication year and subject area and then analyzed.

Creation of Data Set

In this study, the bibliometric analysis method was used for data analysis. According to Atra, Bhattacharya, and Verma (2006), "bibliometric analysis is the examination and evaluation of scientific literature using quantitative methods." This analysis method aims to measure scientific production and its impact by using numerical data on publications within a specific topic, field, or discipline. A total of 796 studies produced in the field of mental workload between 2014-2024 were included in the research after filtering by database, field, and date. The Web of Science (WoS) database was chosen because it is the world's largest scientific citation search database, one of the most preferred and widely accepted platforms, and provides access to a large amount of data. A total of 4,295 studies were initially retrieved using the keyword "Mental Workload" without any filtering. Subsequently, 796 publications were selected by applying filters based on the research aim, limiting by field and date. The obtained data were analyzed for citation counts, authors, institutions, keywords, and bibliographic coupling analysis of the authors.

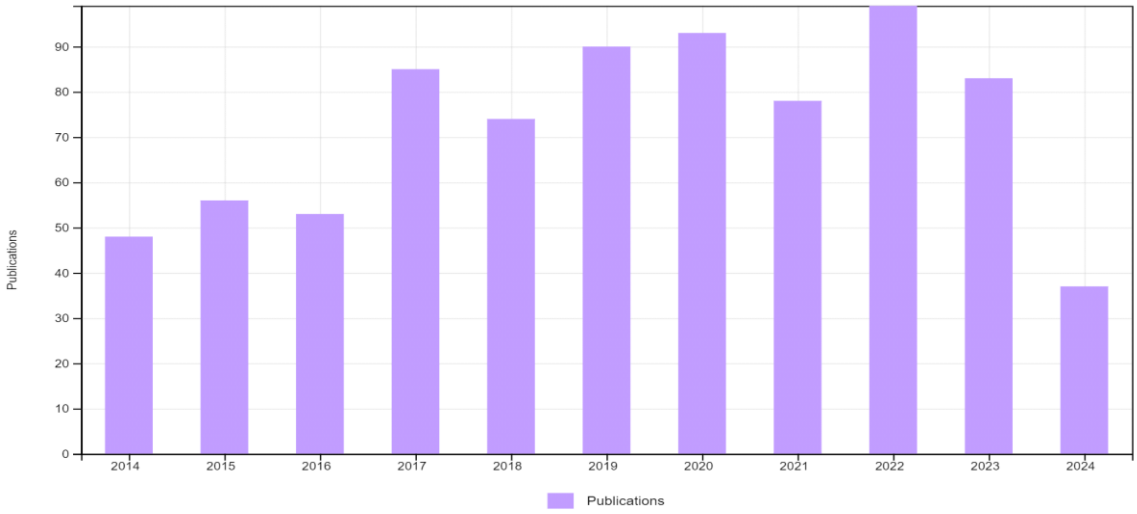
Findings and Discussion

General Characteristics of the Mental Workload Literature

The number of studies included in the research on mental workload is 796. Over the years, there has been significant development in the investigation of this concept. The highest number of studies per year was reached in 2022, with 99 studies. Out of the 796 studies, 576 are research articles, 201 are ongoing studies, 16 are conference abstracts, 6 are book chapters, 5 are editorial content, and 2 are books. The distribution and development of these studies over the years are shown in Graph 1.

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Graph 1: Number of Publications on Mental Workload by Year (N=796)



Graph 1 shows that there has been an increase in the number of studies since 2014, with the highest growth observed in 2020 and 2022. The peak was reached in 2022.

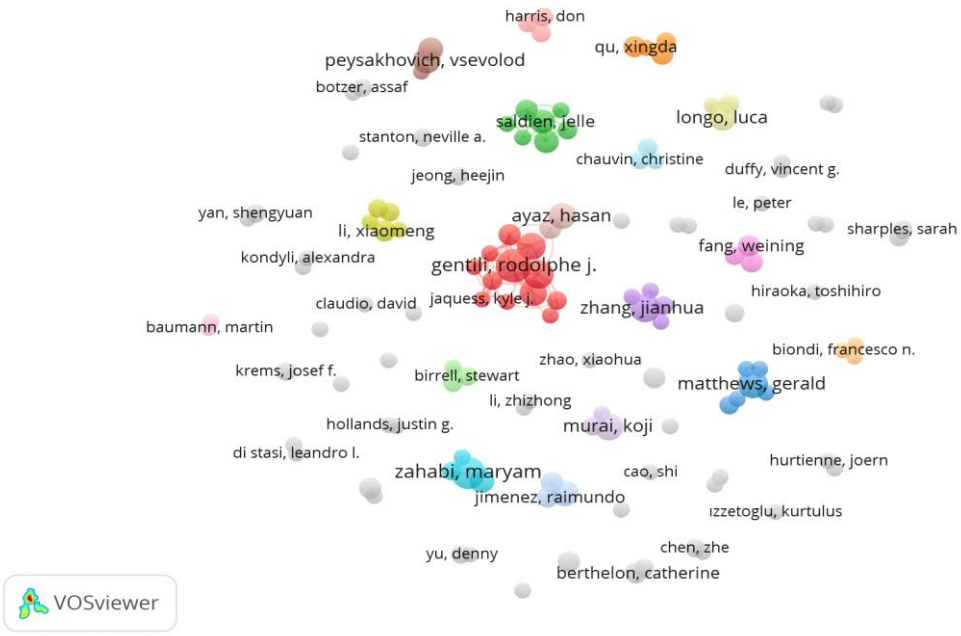
Bibliometric Findings on Mental Workload Studies

The study examined publications indexed by Web of Science between 2014-2024 in fields such as ergonomics, psychology, engineering, transportation, behavioral sciences, and management. A total of 796 publications meeting these criteria were retrieved, and their bibliographic data were downloaded. All visualizations and analyses in the study were conducted using the VOSviewer 1.6.20 software.

Co-authorship Analysis

In the first step of the analysis, "Co-authorship/Authors" analysis was conducted to reveal the co-authorship relationships of researchers working on mental workload, using a network map. The researcher with the most publications was found to be Rodolphe J. Gentili with 12 publications, followed by Maryam Zahabi with 11 publications. The highest citation count was received by Gerald Matthews, with a total of 412 citations for his 9 studies. The 796 studies included in the analysis were authored by 2,638 researchers. For the mapping of co-authors who worked together in the same studies, only researchers with at least three co-authored publications were considered. A total of 129 authors met these criteria.

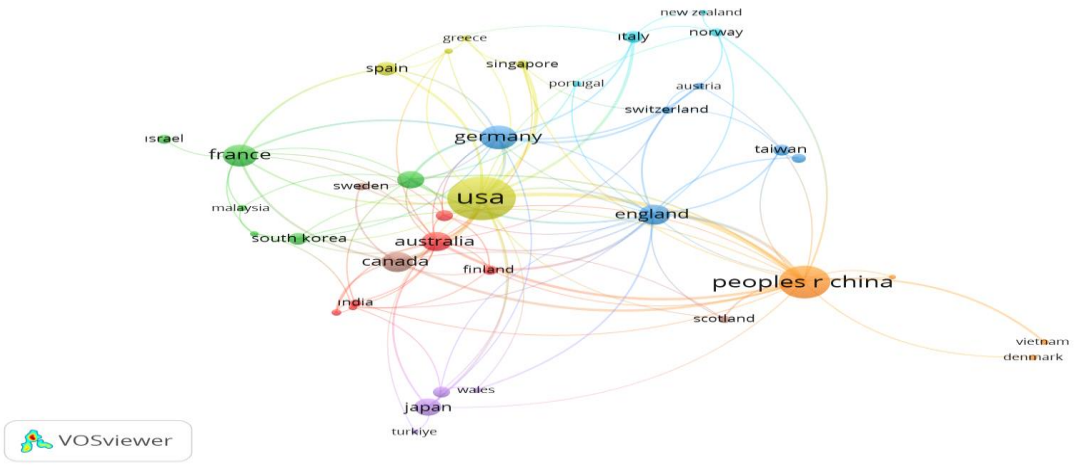
Figure 1: Network Analysis Showing Relationships Between Authors



As seen in Figure 1, there is significant clustering among the authors in their works. A total of 56 groups are identified. The cluster with the most authors is the one led by Rodolphe J. Gentili, with 12 authors. It is also observed that 21 authors have not collaborated on any co-authored publications.

Country Citation Analysis The publications included in the study were written by authors from 55 different countries. The number of countries appearing in at least three studies is 39. The country that appeared in the most publications is the United States, with 233 articles, followed by China with 133 articles, and Germany with 71 articles. The network analysis graph of the collaboration among authors from these 39 countries is shown in Figure 3.

Figure 2: Network Analysis by Country



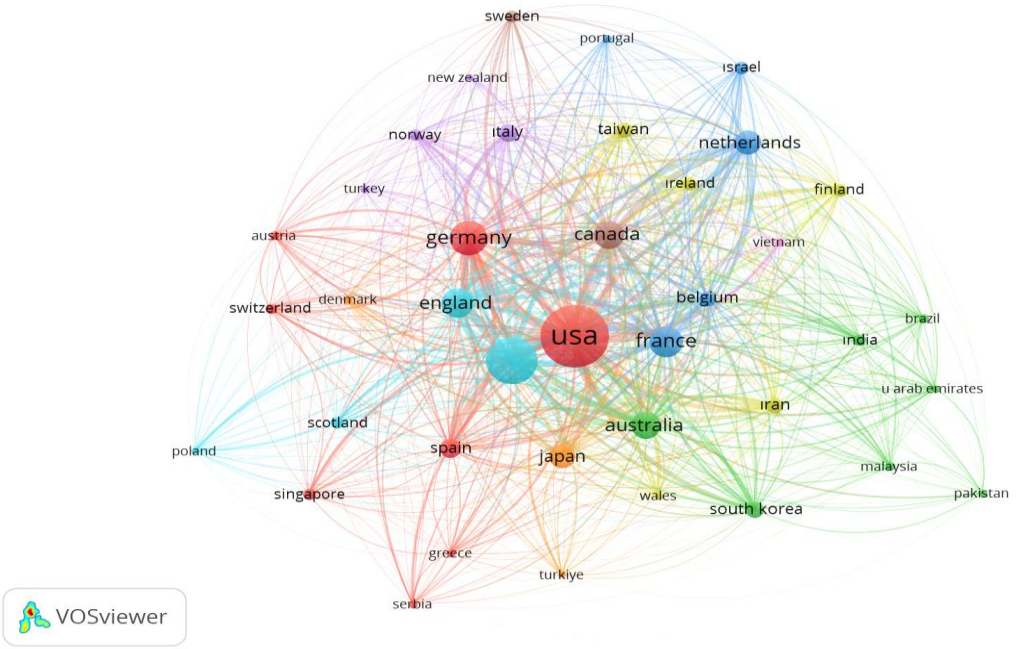
As seen in Figure 2, the countries with the highest level of collaboration in the included studies are the United States and China. The countries are divided into 8 clusters, and the countries within these clusters are presented in **Table 1.**

Table 1: Clusters of Countries

Cluster Number	Countries
1	Australia, Belgium, Brazil, Finland, India, Arab Emirates
2	France, Israel, Malaysia, Netherlands, Pakistan, South Korea
3	Austria, England, Germany, Ireland, Switzerland, Taiwan
4	Greece, Serbia, Singapore, Spain, USA
5	Iran, Japan, Turkiye, Wales
6	Italy, New Zealand, Norway, Portugal
7	Denmark, Peoples R China, Vietnam
8	Canada, Scotland, Sweden

When the publications produced by authors from these countries are grouped based on the common references used, it is observed that 9 clusters have formed.

Figure 3: Network Analysis of Countries Based on References in the Articles



These clusters have been formed as shown in Table 2.

Table 2: Clusters of Countries Based on References in the Articles

Cluster Number	Countries
1	Austria, Germany, Greece, Serbia, Singapore, Spain, Switzerland, USA
2	Ausralia, Brazil, India, Malaysia, South Korea, Arab Emirates
3	Belgium, France, Israel, Netherlands, Portugal
4	Finland, Iran, Ireland, Taiwan, Wales
5	Italy, New Zealand, Norway, Türkiye
6	England, Peoples R China, Poland, Scotland
7	Denmark, Japan, Türkiye
8	Canada, Sweden
9	Vietnam

According to Table 2, Türkiye (appearing as both Turkey and Türkiye in the articles) forms a cluster with Denmark and Japan, and it is observed that Italy, New Zealand, and Norway also share more frequent common references in the works of authors from these countries.

Institutional Citation Analysis

The publications included in the study were produced by researchers from 931 different institutions/universities. The number of institutions/universities mentioned in at least three publications is 140. Delft University of Technology is the institution most frequently mentioned, appearing in 21 articles. This is followed by the University of Central Florida with 20 articles, Texas A&M University with 18 articles, and the University of Maryland, College Park with 18 studies. The network analysis graph of institutions/universities is shown in Figure 4.

Figure 4: Network Analysis of Institutions/Universities

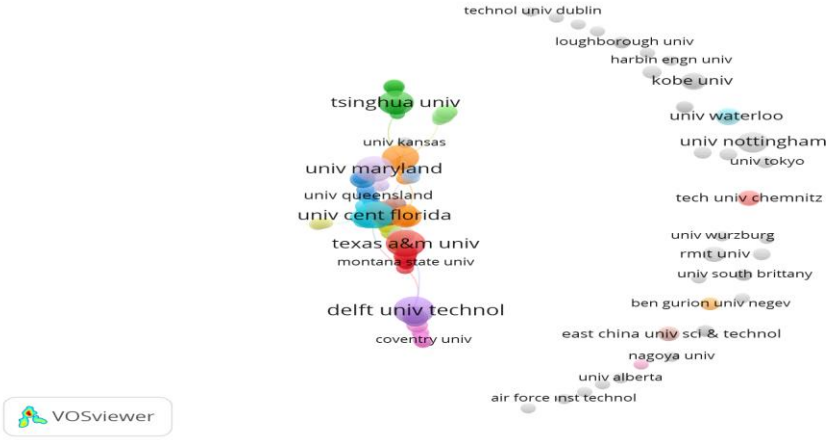
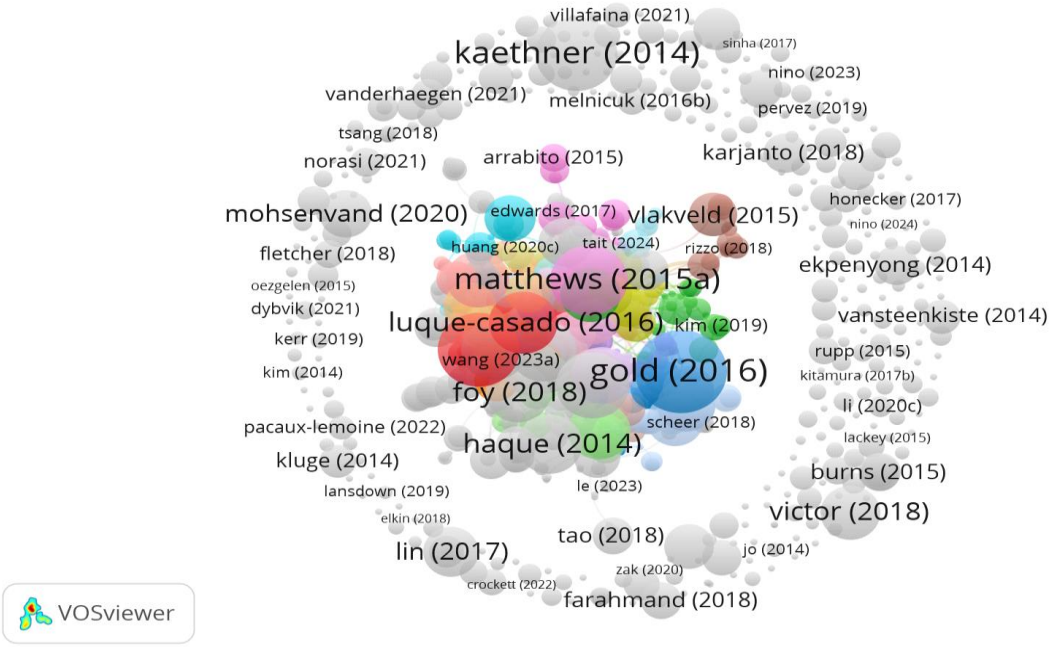


Figure 4 shows that, in terms of institutional/university partnerships, there are both group-working universities and a predominance of universities working individually. When grouped by institutions/universities, it is observed that 48 clusters have been formed. In 23 clusters, there is only one institution/university, while in 10 clusters, there are two institutions/universities.

Citation Analysis of Publications

When examining the citations received by the publications discussed in the study, the highest citations were for Gold (2016), with 234 citations. This is followed by Kaethner (2014) with 189 citations and Durantin (2014) with 185 citations. The highest connection in the citations of the publications is observed in Matthews (2015) with 49 connections.

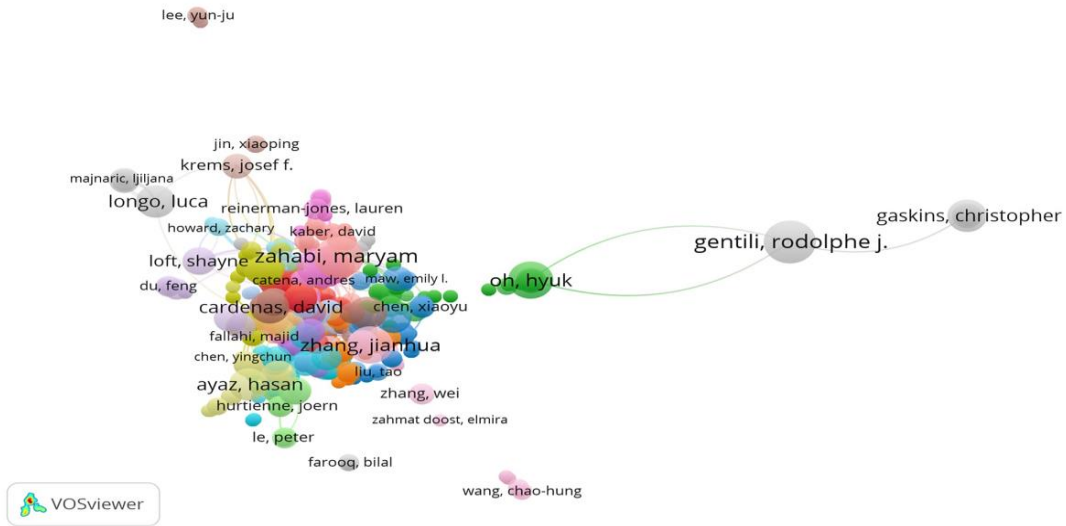
Figure 5. Network Analysis of Citations Received by Publications



Author Citation Analysis

To examine the network analysis of citations received by authors, 129 authors with at least three citations among the 2,638 authors were considered. The network analysis of the authors' citations reveals the formation of 32 clusters.

Figure 6: Network Analysis of Authors' Citations



Eighteen of these clusters are single-author clusters. The largest cluster consists of 22 authors, followed by clusters with 13 authors.

Keyword Analysis

To create the keyword co-occurrence network map related to Mental Workload studies, a "Co-occurrence/All Keywords" analysis was conducted. A total of 2,114 different keywords were used in the included publications. Among these, 212 appeared in at least three papers. The most frequently used keyword was "mental workload," which appeared in 244 documents. This was followed by "workload" in 60 documents, "EEG" in 35 documents, and "Cognitive Load" in 28 documents. In terms of total connection strength, the strongest variables were Mental Workload and Workload. Based on the relationships among 129 elements and the analyses conducted, a total of 10 clusters, 858 connections, and 1,351 total connection strength were identified. The largest cluster consists of 16 keywords.

Figure 7: Network Analysis of Used Keywords



Conclusion

Bibliometric analysis has gained significant popularity in recent years in business research (Donthu et al., 2020; Donthu, Kumar, Pattnaik, and Lim, 2021; Khan et al., 2021). Researchers use bibliometric analysis to uncover emerging trends in article and journal performance, collaboration patterns, and research components, as well as to understand the intellectual structure of a specific field for various reasons in the existing literature (Donthu et al., 2021; Verma and Gustav'san, 2020; Donthu et al., 2020). The purpose of the bibliometric analysis is to provide information about the general characteristics and citation status of the concept of mental workload in the literature. The concept of mental workload began to be researched in the early 1980s, which means it has a literature history of about 40 years. By using field and year parameters, a general overview of the studies conducted in the last 10 years was obtained, and a total of 796 studies were examined. The analyses revealed that the concept of mental workload has shown a tendency to become a more researched topic since 2014, demonstrating a consistent increase in the number of studies each year. The years with the highest research activity within the last decade are observed to be 2020 and 2022. In this context, if we evaluate the research trend between 2014 and 2024, it can be said that the interest in the concept of mental workload continues to grow. The data obtained from the WoS database were analyzed using the Vosviewer 1.6.20 software, resulting in a total of 796

studies authored by 2,638 authors. The main categories that emerged include Ergonomics (n=387), Applied Psychology (n=289), Industrial Engineering (n=277), Computer Science Artificial Intelligence (n=254), and Psychology (n=158). According to the results of the co-keyword analysis, the most frequently used keyword in the studies was "mental workload," appearing in 244 studies. This was followed by "workload" in 60 studies, "EEG" in 35 studies, and "cognitive load" in 28 studies.

In the context of the studies, the citation analysis results indicate that the most cited work is "Taking Control from Highly Automated Vehicles in Complex Traffic Situations: The Role of Traffic Density" by Gold et al. (2016), published in the *Human Factors* journal, with 237 citations. According to the results of the citation analysis conducted among countries, the United States ranks first with 233 studies and 3,237 citations, followed by the People's Republic of China with 133 studies and Germany with 71 studies. The concept of mental workload, which indirectly or directly affects employee health and well-being, productivity, and performance, is seen as a critical factor. Based on the positive developments demonstrated by mental workload in the literature, it is suggested that there should be a greater tendency towards this concept in order to better understand it, recognize the need for guidance in the workforce, and comprehend, support, and contribute innovative solutions to mental demands. It can be thought that increasing the number of publications on mental workload will lead to a better understanding of this topic, improving working conditions, and protecting employees' health. Furthermore, it is essential to increase the scientific knowledge base in this area to create a more efficient, balanced, and sustainable work environment. The physiological and psychological causes that lead to mental workload should be identified and supported through organizational and individual practices to contribute to the productivity and performance of employees.

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THE EXAMINATION OF INFORMAL EMPLOYMENT IN TÜRKİYE BASED ON DEMOGRAPHIC FACTORS

Ensar Balkaya[1]

Abstract

Although informal employment is a significant socio-economic problem worldwide, it is particularly prominent in developing countries like Türkiye. From the 2000s to the present, the informal employment rates in Türkiye have shown almost a one-third gap when compared to the EU average. Considering that some of the primary causes of informal employment are linked to social factors, this study aims to examine the relationship between demographic factors and informal employment. In this context, the 2022 microdata set of the Household Labor Force Statistics, conducted nationwide by TURKSTAT, has been used. Utilizing this dataset, statistical tables that present both informal employment rates and demographic factors were created and interpreted. According to these tables, it was found that women face a higher risk of informal employment compared to men, and the highest rate of informal employment is observed in the age group of 65 and over, which predominantly includes retirees. Other statistics reveal an inverse relationship between education level and informal employment, while informal employment is highest among individuals with the highest average income. Moreover, statistics indicate that informal employment is lower in the more socio-economically developed western regions compared to the eastern regions.

Keywords: Informal Employment, Demographic Factors, Turkish Labor Markets, Household Labor Force Surveys.

1. Introduction

Informal employment in Türkiye is significantly higher compared to developed countries, such as EU member states. According to TURKSTAT (2023) data, although the informal employment rate has shown a steady decline, it remains at a high level. In fact, while the informal employment rate in Türkiye exceeded 30% in 2023, the EU average remained below 10%. During a period when tax incentives and stricter inspection mechanisms are being implemented, the phenomenon of informal employment stands out as an issue that requires serious attention. Public institutions such as the Ministry of Treasury and Finance (2022) and the Ministry of Labor and Social Security (2023) have taken various measures and provided incentives to combat informality. For example, allowing electronic registration of employee entries and exits via the e-government platform, as well as offering social security incentives for the employment of youth, women, and people with

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disabilities, are notable practices. In addition, informal employment is a subject of focus in academic studies, with many researchers suggesting that social factors are among the key causes of informality (Korkmaz, 2003; Azaklı, 2009; İpek, 2014, etc.). This study aims to examine the relationship between demographic factors and informal employment. To this end, statistical tables that include informal employment and demographic factors were created using TURKSTAT's 2022 Household Labor Force Statistics. In the following sections of the study, the concept of informal employment is first explained, and then the situation of informal employment in Türkiye is analyzed both in general and specifically with reference to the data used, supported by statistical tables.

2. The Concept of Informal Employment

The concept of informal employment was first introduced by the International Labour Organization (ILO) in 1972 within the framework of a study titled *"Employment, Incomes, and Equality: A Strategy for Increasing Productive Employment in Kenya"* (Geneva, 1972), where it was referred to as the "informal sector." This term was used to describe the activities of poor workers that were neither recognized, registered, protected, nor regulated by public authorities. Since then, the term has appeared in many of the ILO's activities and documents. The informal sector was further defined by the ILO in another report as "economic activities carried out outside of institutionalized economic structures" (Daza, 2005:3). Informal employment, often considered within the context of the informal economy or the "informal sector," has been defined in various ways. It refers to employment that, although subject to taxation, is deliberately unreported to social security and tax authorities, among other institutions (Burgstaller et al., 2022:662).

Both in the literature and in practice, a range of terms such as black labor, black market activities, side jobs, illegal work, irregular employment, illegal employment, unregistered labor, hidden unemployment, the informal economy, and the shadow economy are used to describe the phenomenon of informal work either partially or completely. Regardless of the terminology, informal employment is defined as "any wage-earning activity that is, by nature, legal but not reported to public authorities, taking into account differences in regulatory systems of states" (Comaniciu, 2014:199). Another definition describes informal employment as "employment activities (production and services) that are not documented officially, and as a result, are not included in official records, thereby evading all obligations, including tax and mandatory social security obligations, and avoiding the oversight of financial and social security institutions" (Korkmaz, 2003:53).

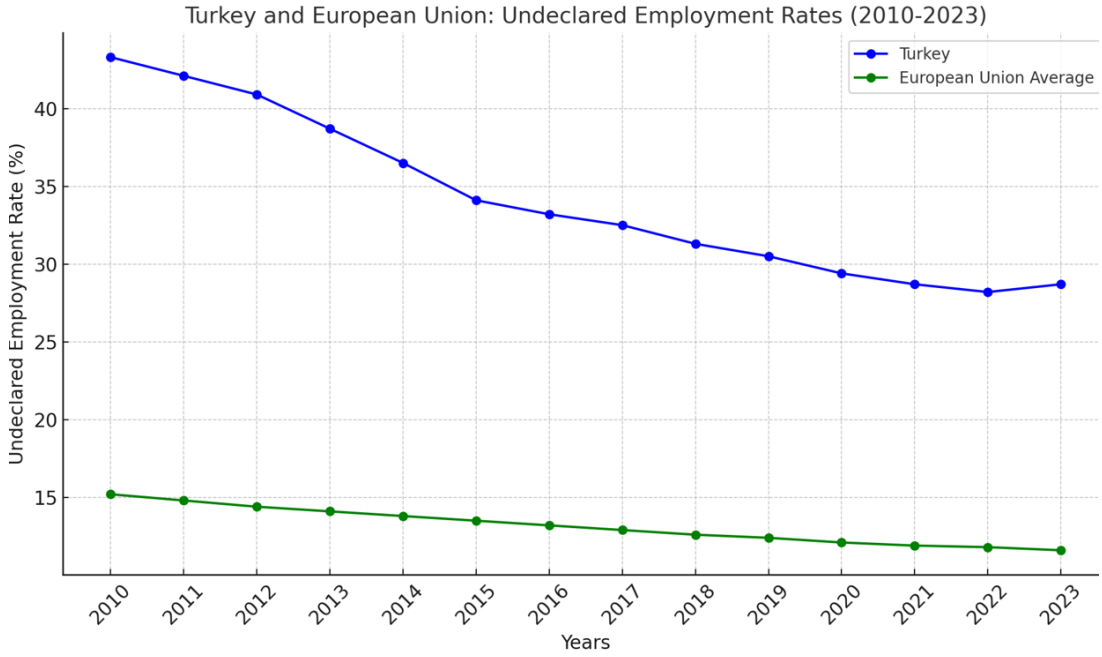
While the concept of informal employment/work can be defined in various ways, it generally refers to the non-reporting of key elements of employment activities, such as the number of working days and the wages paid to the worker, either partially or fully, to tax and social security authorities. Therefore, the primary actors in informal employment are not only wage-earning employees but also employers and self-employed individuals (Mahiroğulları, 2017:549). In this

study, the concept of informal employment encompasses not only wage earners but also employers, self-employed individuals, and others.

3. Informal Employment in Türkiye

The phenomenon of informal employment is a significant problem for Türkiye. At the macroeconomic level, it has the potential to negatively impact economic growth and, institutionally, the social security system. Although informal employment in Türkiye is lower than the average in other developing countries, it is considerably higher compared to developed economies. Figure 1 shows the informal employment rates in Türkiye and the European Union average between 2010 and 2023.

Figure 1. Informal Employment Rates in Türkiye and Europe



Source: TURKSTAT. (2023). Household Labor Force Statistics. Türkiye Statistical Institute and Eurostat. (2022). Undeclared Work in Europe.

When examining Figure 1, it is observed that the rate of informal employment in Türkiye is significantly higher than the European Union average. In 2010, for instance, the rate of informal employment in Türkiye was 43.3%, while in Europe, it was around 15.2%. However, the graph shows that both Europe and Türkiye experienced a substantial decline in informal employment rates between 2010 and 2023. One of the primary reasons for this decline is cited as the significant and consistent decrease in the agricultural sector's share of total employment in Türkiye since the 2000s (Dam et al., 2018: 304). Despite this decrease, informal employment rates in Türkiye remain quite high, indicating a significant problem for the national economy.

In the following two sections, statistics regarding the causes of informal employment in Türkiye will be presented. For this purpose, the 2022 Household Labor Force Statistics Microdata Set, obtained from TURKSTAT, has been utilized. This allows for the examination of informal

employment in relation to demographic and labor market factors. Although the total employment in the dataset is 221,578, this study includes 185,733 individuals who worked to earn income during the reference week. This inclusion primarily relates to the definition of employed individuals by TURKSTAT, which considers unpaid family workers as employed. However, these individuals often consciously and willingly work informally. The exclusion of the majority of unpaid family workers from relevant statistics reduces the impact of the agricultural sector, which has a significant weight in informal employment. According to TURKSTAT's definitions and data, the rate of informal employment was reported to be 29.5% in 2022, with this rate reaching 82.8% in the agricultural sector. Conversely, in this study, among those included in the sample who worked for profit during the reference week, the informal employment rate was calculated to be 24.13%, with 73.99% in the agricultural sector. This discrepancy stems from a focus on the reasons for informal work among income-earning individuals rather than purely quantitative differences. Indeed, the informal work of unpaid family workers is a socio-economic issue.

3.1. Demographic Factors in Informal Employment

This section presents demographic factors related to informal employment, utilizing data from the 2022 Household Labor Force Statistics. Indeed, it is stated that there is a strong relationship between informal employment and factors such as age, gender, education level, and region of residence (OECD, 2020). Table 1 contains statistics regarding informal employment based on gender derived from the dataset.

Table 1. Informal Employment by Gender

Gender	Formal		Informal		Total	
	Frequency	**Percentage**	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Female	38.566	74.95	12.891	***25.05***	51.547	27.70
Male	102.352	76.23	31.924	***23.77***	134.276	72.30
Total	140.918	75.87	44.815	***24.13***	**185.733**	**100**

When examining Table 1, it is observed that while the rates of informal employment are relatively close for both genders, the rate of informal employment among women is notably higher. This situation arises from women's increased responsibilities regarding domestic duties, such as child care and elder care, which necessitate flexible working hours, leading them to engage in informal and insecure jobs (ILO, 2018).

Another noteworthy observation is the low share of women in the labor force, which stands at 27.70%. This low level of participation in the labor force is one of the factors that increases women's risk of informal employment in Türkiye. Table 2 presents statistics regarding informal employment by age derived from the dataset.

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Table 2. Informal Employment by Age

Age Group	Formal		Informal		Total	
	Frequency	**Percentage**	**Frequency**	**Percentage**	**Frequency**	**Percentage**
15-29 Years (Youth)	33.766	81.69	7.569	***18.31***	41.335	22.26
30-64 Years (Middle-aged)	105,748	77.03	31.541	***22.97***	137.289	73.92
65 Years and Older (Elderly)	1,404	19.75	5.705	***80.25***	7.109	3.83
Total	140.918	75.87	44.815	24.13	185.733	100

The age classification used in Table 2 reflects the categorization of young, middle-aged, and elderly populations as defined by organizations such as the United Nations (2019) and the World Health Organization (2015). Analyzing Table 2 reveals that the rate of informal employment among youth is quite low (18.31%). It is suggested that the increase in educational levels among young people also stimulates the desire for registered employment. According to a report published by the OECD in 2020, youth are more inclined to work in formal jobs rather than engaging in informal work during their educational process. However, the challenges young people face in finding jobs may push some towards informal employment. Although not shown in Table 2, further categorization of youth reveals that the informal employment rate for the age group 15-24 is 23.71%, while for the age group 25-29, it is 12.29%. This indicates that inexperienced young individuals, particularly those with lower or medium education levels, have a higher risk of informal employment. Among middle-aged workers, the rate of informal employment appears to be relatively higher. Individuals in this age group may prefer informal work due to economic pressures, job insecurity, and concerns about making ends meet. A report published by the ILO (2018) states that middle-aged individuals are often responsible for family income and tend to prefer informal work, especially in situations of increasing job insecurity. Conversely, informal employment is remarkably high (80.25%) among elderly individuals. This situation is related to the inadequacy of economic security post-retirement and the need for additional income to maintain living standards. There is frequent mention of the insufficiency of pension payments in Türkiye. Additionally, the difficulty in finding formal jobs for this age group also increases the risk of informal employment. Statistics related to informal employment based on educational status are presented in Table 3.

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Table 3: Informal Employment by Educational Status

Age Group	Formal		Informal		Total	
	Frequency	**Percentage**	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Low Education	30,506	53.63	26,379	***46.37***	56,885	30.63
Medium Education	61,283	79.70	15,613	***20.30***	76,896	41.40
Higher Education	49,129	94.57	2,823	***5.43***	51,952	27.97
Total	140.918	75.87	44.815	24.13	185.733	100

The classification presented in Table 4 is based on the classification of household disposable income for Türkiye in 2022 (TÜİK, 2022). According to this classification, an income of 0-5000 TL per month is considered low, 5001-15000 TL is medium, and 15,000 TL and above is considered high income. It is generally accepted that informal employment is prevalent among individuals with low levels of education and those working in low-income jobs. Indeed, as seen in Table 4, the rate of informal employment in the low-income group is 31.14%, higher than the overall average (24.13%). However, a notable result pertains to the high-income group. Contrary to expectations, the highest rate of informal employment (47.54%) is observed in this group. While this result may appear unexpected, several plausible explanations exist. Some high-income individuals may opt for informal employment due to the flexibility and tax advantages it offers. Moreover, it is suggested that this situation might mainly arise among high-income self-employed individuals with excess earnings rather than salaried workers. In fact, according to the 2022 data used in this study, the rate of informal employment among self-employed individuals was calculated to be 60.40%. Table 5 presents statistics on informal employment by region, derived from the dataset.

Table 5. Informal Employment by Region

NUTS-1 Regions	Formal		Informal		Total	
	Frequency	**Percentage**	**Frequency**	**Frequency**	**Percentage**	**Frequency**
TR1 - Istanbul	13.831	86.38	2,180	***13.62***	16,011	8.62
TR2 - Western Marmara	9.781	76.74	2,964	***23.26***	12,745	6.86
TR3 - Aegean Region	20,121	79.60	5,157	***20.40***	25,278	13.61

TR4 - Eastern Marmara	16,845	83.30	3,377	***16.70***	20,222	10.89
TR5 - Western Anatolia	14,916	81.39	3,411	***18.61***	18,327	9.87
TR6 - Mediterranean	15,705	72.98	5,815	***27.02***	21,520	11.59
TR7 - Central Anatolia	9,984	81.08	2,330	***18.92***	12,314	6.63
TR8 - Western Black Sea	11,055	72.04	4,291	***27.96***	15,346	8.26
TR9 - Eastern Black Sea	5,746	64.18	3,207	***35.82***	8,953	4.82
TRA- Northeastern Anatolia	6,205	61.80	3,836	***38.20***	10,041	5.41
TRB -Eastern Anatolia	7,134	65.41	3,773	***34.59***	10,907	5.87
TRC- Southeastern Anatolia	9,595	68.20	4,474	***31.80***	14,069	7.57
Total	140.918	75.87	44.815	24.13	185.733	100

In Table 5, statistics regarding informal employment rates are presented according to the Level-1 (NUTS-1) regional classification established by TÜİK. Upon examining Table 5, it can be observed that informal employment generally increases from west to east. This trend is typically related to the socio-economic development disparities between regions. It is well-known that western regions in Türkiye are more economically developed compared to eastern regions. In some western areas like the Aegean region, where the informal employment rate appears relatively high, the main reason can be traced back to the tourism sector, where temporary employment is common. In fact, according to another statistic calculated within this study, the highest level of informality is found in the service sector, following agriculture. Furthermore, the prevalence of short-term and part-time work in the service sector increases the risk of informal employment. In this study, the informal employment rate among part-time workers is calculated at 62.83%. On the other hand, in regions like Western Marmara, the high level of informality is attributed to the prevalence of small businesses and self-employed individuals working without formal registration. The high level of informal employment in the eastern regions, however, can be associated with the dominance of the agricultural sector in these regions' employment structures. Additionally, limited economic

conditions and opportunities in these regions make informal work a more acceptable option for individuals living there.

4. Conclusion

One of the key causes of the informal economy and, more specifically, informal employment in Türkiye is related to social factors, particularly individuals' demographic characteristics. This study, which aims to examine the relationship between informal employment and demographic factors, uses data from a comprehensive survey conducted by TÜİK across Türkiye. While some factors were directly obtained from the survey, others were recategorized (e.g., income, education level) based on the study's objectives and using insights from relevant authorities. The statistical tables derived from the data confirm a significant relationship between demographic variables and informal employment. For instance, the risk of informal employment appears higher among women compared to men. Among the youth, especially those in the 15-24 age group, the risk of informal employment is relatively high, while the highest informal employment rates are found in the "elderly" group, defined as those aged 65 and above. This points to issues within Türkiye's pension system. Another finding aligns with expectations, showing an inverse relationship between education level and informal employment. A noteworthy statistic relates to income groups, where the highest informal employment rate is found among the high-income group. This can be explained by the fact that self-employed individuals in Türkiye often earn higher incomes than wage earners, and informality is more prevalent among them. When examining informal employment rates by region, it is generally lower in economically developed western regions compared to eastern regions. Exceptions to this trend in some developed western regions may be due to the high prevalence of small businesses and the tourism sector, where informal employment is more common.

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METAVERSE AND HUMAN RESOURCES: BIBLIOMETRIC ANALYSIS WITH VOSVIEWER

Funda Öztürk[1]

Abstract

The metaverse, which shapes and transforms the lives of individuals today, essentially offers a digital universe for people. This digital universe has the potential to transform both the social lives of individuals and the commercial development and progress of organizations. Especially in the field of human resources, the digitalization of organizations and taking advantage of the opportunities brought by the virtual world and conducting the work of institutions through this digital environment may contribute to faster business. As a matter of fact, considering the increasing role of technologies such as artificial intelligence, augmented reality, blockchain, virtual reality and metaverse in human life, it can be seen inevitable that changes will occur in the lifestyle of individuals, working conditions in the business world and the functioning of businesses. In this context, the study aims to examine the studies conducted in the field of "Metaverse and Human Resources" through bibliometric analysis, and for this purpose, it was preferred to use the Web of Science database. As a result of this database analysis, 15 existing studies were included in the study. The results of the research show that the first studies on Metaverse and Human Resources belong to 2022. The year in which the most research was conducted was 2023 (7 documents), and it is seen that it is still a subject of research today (2024, 5 documents). When the researches were analyzed according to document type, it was found that 9 of them were articles, 5 were papers and 1 was a letter. When the countries with the highest number of citations are analyzed, it is determined that the United States of America (43 citations), Iran (15 citations) and China (13 citations) are at the top.

Keywords: Metaverse, Virtual Reality, Augmented Reality, Human Resources, Vosviewer

1. Introduction

In our age of rapid technological advances, it is seen that various paradigms have started to change in terms of information and technology paradigms. While the aforementioned change was previously shaped around the web and mobile change, it is now seen that this changing paradigm has evolved into the metaverse (Lee, 2021: 72). The concept of metaverse is defined as a paradigm that combines the virtuality of the digital environment with the physical reality and offers a permanent multi-user environment. It also consists of various virtual environments such as virtual reality and augmented reality, technologies that help individuals interact in multi-user interaction

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areas, and digital objects that allow them to meet together in the middle. From this point of view, it can be characterized as social networking platforms where many users come together and use them together, or some immersive network environments with network connections. These networks seamlessly enable a continuous flow of interactions with digital objects (Mystakidis, 2022: 486). In more general terms, the metaverse is defined as a paradigm that allows individuals to create virtual reality with the help of another screen, offering a dynamic and immersive alternative world (virtual) such as work and socialization (Dionisio et al., 2013). In this direction, it is possible to easily say that the metaverse is a new paradigm of today's technological age and that the metaverse can be quite competent in demonstrating its ability to combine technological advances with a digital virtuality by moving beyond physical reality.

It can be said that there are some concepts that play an important role in the emergence of the metaverse concept, which has started to be increasingly mentioned with virtual technologies. These are virtual reality, artificial intelligence, augmented reality, NFT and blockchain. It is stated that virtual reality is the perception and interpretation of the interactions of individuals and machines through various visual or auditory technologies (Oppenheim, 1993: 217). Artificial intelligence technology is a technological development that includes some technologies such as machine learning and language processing in various ways. In addition to these, artificial intelligence can also show the ability to do things such as imitating individuals to fulfill their tasks in their business life correctly and to fulfill their jobs efficiently (Qui & Zhao, 2018: 149). Augmented reality is defined as presenting a reality in which digital objects are used to replace the objects in the current reality (Milgram & Kishino, 1994). Immutable NFTs are another important technology. They are characterized as crypto-assets that are generated from smart contracts (Fairfield, 2022; Wood, 2014). Finally, it is stated that blockchain technology includes a plan for a database to keep data in a healthy way by using reliable methods (Zheng et al., 2016). Based on all these mentioned technologies, it may be more accurate to say that the metaverse technology comes together from the combination of the metaverse technology with the complementary technology types mentioned above, rather than saying that the metaverse concept directly consists of a virtual reality.

It can be considered that today's rapid technological changes and advances may also affect human resources, professional groups and employees in organizations. As a matter of fact, considering the increasing role of technologies such as artificial intelligence, augmented reality, blockchain, virtual reality and metaverse in human life, it may seem inevitable that changes will occur both in the lifestyle of individuals and in the working conditions in the business world and in the functioning of businesses. Brynjolfsson and McAfee (2014: 44) state that artificial intelligence technology can optimize the current workflow by performing data analysis and optimization in organizations. This can help increase the efficiency of organizations while contributing to the reduction of costs. In this context, it can be said that it is important for human resources and business life to make efforts to improve their capabilities in order to keep up with this technology. It can be said that these new generation technologies can make positive contributions to both the professional development of employees who can improve themselves,

adapt to changes and follow current innovations, and to have positive effects on the workforce in the organization.

When focusing on the concept of metaverse within the framework of human resources, it is seen as very important, especially in terms of the convenience it can provide to business life and the opportunities it can create. Because they can contribute to the emergence of new working areas in business life as well as today's sectors (Ning, 2021: 1). In addition, these technological advances and developments require effective steps to be taken not only in new generation job opportunities in human resources, but also in new generation employee management, and organizations are reshaping their goals and objectives in line with these innovations (Hecklau et al., 2016). In this way, it seems possible for organizations that shape their human resources in line with technological developments to take steps to contribute to increasing the capabilities of the existing workforce and to be successful in keeping the motivation levels high in integrating employees into new generation technologies (Ruel et al., 2004: 365). With the development of metadata, remote working opportunities can easily come to the agenda in our age. Therefore, it can be stated that organizations have to improve themselves in terms of digitalization, resource management and talent management in the technology environment. Especially when it is considered that technological advances will carry themselves even further in the future, it is possible to say that organizations' innovation, developing the ability to learn and breaking the resistance to learning in business life are among the important issues that need to be emphasized.

In the digitalization journey of human resources, the most important concepts that come to the fore in organizations are the efficiency of organizations (efficient functioning of human resources processes), effectiveness (employee performance), connections (creating connections to benefit from people's experiences through social media) and knowledge (exchanging information to increase the impact of the current work) (Lazazzara et al., 2018: 5). With the Metaverse, employees in organizations attach importance to innovation, competence and talent management. In addition, this technology makes it possible for employees to learn a lot of blended knowledge and individuals have the opportunity to blend their old knowledge with their new knowledge in business life (Brown, 2022). For example, the fact that managers now hold meetings through zoom or that human resources conduct job interviews here during recruitment processes shows the existence of a two-dimensional environment. With the metaverse, it is thought that this two-dimensional state will begin to be replaced by three-dimensional environments (Bolger, 2021: 8). Likewise, the metaverse offers organizations the opportunity to hold corporate events and seminars easily and quickly (Wu et al., 2021). In line with the aforementioned, it can be thought that these conveniences brought by virtual reality enable employees to be satisfied with the current progress and developments. In addition, within the framework of technological advances, it can be predicted that the branches of the business sector in our age may gradually grow in the context of the metaverse, and especially areas such as software and artificial intelligence may make it possible for people to come first in their choice of profession.

It is thought that examining the concepts of metaverse and Human Resources with Vosviewer will fill an important gap in the literature. It is seen that the concept of metaverse, where technological advances have increased so much, which is quite current today and it is inevitable that it has become almost an integral part of life, has not been fully addressed in depth in the studies conducted in the literature. It is predicted that the concept of metaverse, which is thought to have an important place especially in business life, may have important effects not only in social life, but also in the process of adapting to these technological developments in business life and in increasing the awareness of individuals about adapting their abilities to this virtual world in order to fulfill their duties in working life. Therefore, determining the direction in which the concept of metaverse has progressed and in which areas there is a need for more research on this subject will contribute to the literature. In particular, it can be said that investigating the reflections of the concept on business life and human resources is seen as important in understanding what the institutional and individual effects of the concept may be, therefore, it can be said that it is aimed to reveal analytical data on the concept, to eliminate information gaps and to shed light on future research. In the light of all this information, in summary, the aim of the research is to expand the scope of the subject within the framework of Metaverse and Human Resources concepts and to examine it in a more in-depth manner.

2. Method

This section of the study provides information regarding the purpose of the research and the data analysis.

2.1. Purpose of the Research and Data Analysis

The aim of this research is to present a comprehensive examination of the studies conducted on the concepts of "Metaverse" and "Human Resources" through bibliometric analyses utilizing quantitative data indicators. To effectively visualize and map the bibliometric analysis, the VOSviewer program was used. On October 5, 2024, a search was conducted in the Web of Science database using the keywords "Metaverse" and "Human Resources," selecting "All Fields" as the option, resulting in 15 outcomes. When looking at the data by year, the oldest study was from 2022, and the most recent study is from 2024. Analyzing the types of research, 9 articles, 5 conference papers, and 1 letter were identified. When examining the disciplines in which the studies were conducted, it was found that the majority of the works were in the fields of Human-Computer Interaction (3) and Management (2). The existing data were subjected to a detailed analysis based on year, country, document type, author, and keyword analysis. Only the data obtained through the Web of Science database were considered as criteria in the conducted study.

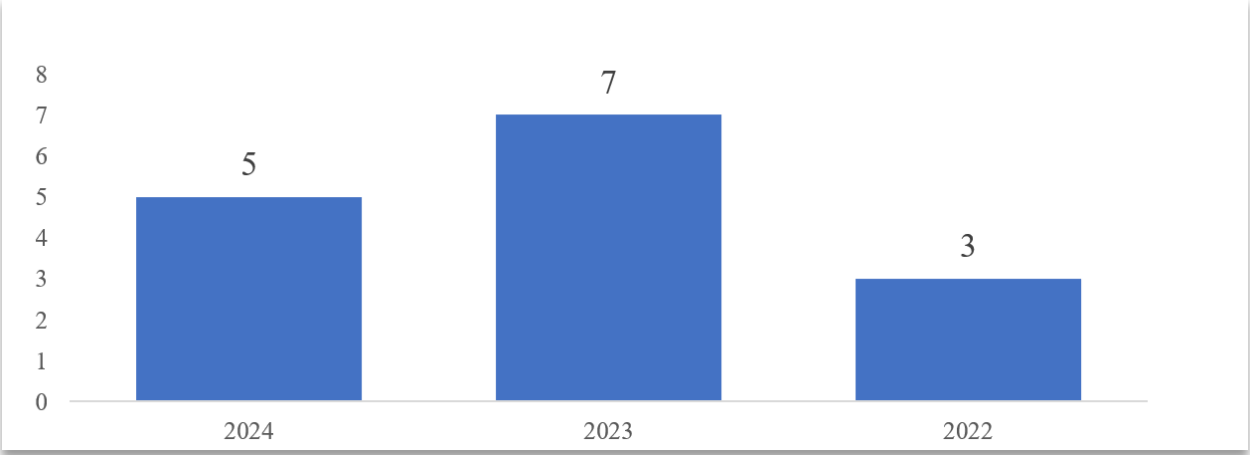
3. Findings

This section provides a detailed overview of the descriptive (year, country, document) and bibliometric (keywords, co-authorship, country citation, author bibliographic matching) findings of the research.

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3.1. Descriptive Findings

Figure 1. Distribution of metaverse and human resources studies by year



Note: This includes research conducted until October 5, 2024 (N=15). As seen in the above Figure 1, research on the topics of metaverse and human resources was first published in 2022. It can be noted that there was a significant increase in related studies in 2023, making it the most productive year for these studies. The distribution of the conducted studies by country, in descending order, is presented in Table 1 below.

Table 1. Distribution of Metaverse and Human Resources Studies by Country

Countries Where Studies Were Conducted	Number of Research Studies
United States of America	5
South Korea	3
Canada	2
Japan	2
China	2
Australia	1

According to the above Table 1, it can be observed that the majority of studies on the topics of metaverse and human resources were conducted in the United States (5), followed by South Korea (3), Canada (2), Japan (2), China (2), and Australia (1). The distribution of the conducted studies by document type, in descending order, is presented in Table 2 below.

Table 2. Distribution of Metaverse and Human Resources Studies by Document Type

Types of Conducted Studies	Number of Documents
Article	9
Conference Paper	5
Letter	1

According to Table 2 above, it is observed that the majority of studies conducted on the metaverse and human resources are in the form of articles (9), followed by Conference Papers (5) and Letters (1).

3.2. Bibliometric Findings

Figure 1. Keyword Analysis

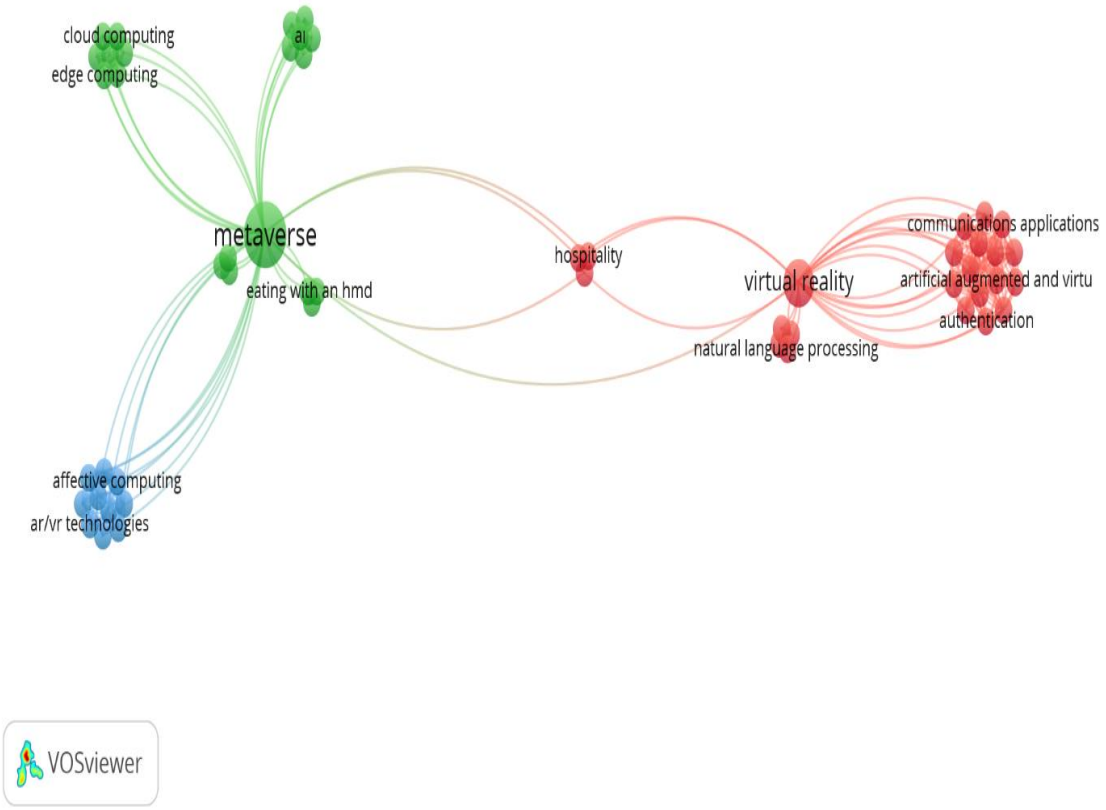


Figure 1 presents the "Co-occurrence/Author Keywords" analysis. As a result of the analysis, it was determined that there are 53 elements, 3 clusters, and 256 connections. The most frequently mentioned keywords are metaverse (6 occurrences), virtual reality (4 occurrences), and augmented reality (2 occurrences), which appear at the top of the list.

Figure 2. Co-authorship Network Analysis

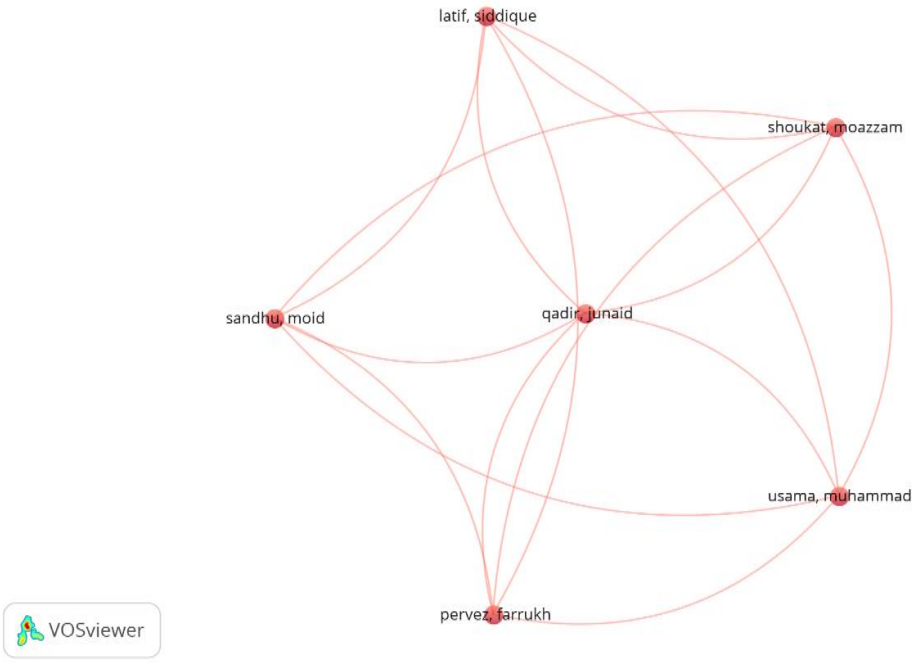


Figure 2 presents the "Co-authorship/Authors" analysis based on publication and citation criteria. As a result of the analysis, it was determined that there are 6 elements, 1 cluster, and 15 connections involving the most connected authors. Below, Table 3 provides information on the authors who have been grouped together as a result of the co-authorship analysis.

Table 3. Co-author Information

	Yazarlar	**Doküman Sayısı**	**Atıf Sayısı**
Küme 1	Siddique Latif	1	1
	Farrukh Pervez	1	1
	Junaid Qadir	1	1
	Moid Sandhu	1	1
	Moazzam Shoukat	1	1
	Muhammad Usama	1	1

As seen in Table 3, the authors who produced documents and received citations are Siddique, Farrukh, Junaid, Moid, Moazzam, and Muhammad, in that order.

Figure 3. Country Citation Density Analysis

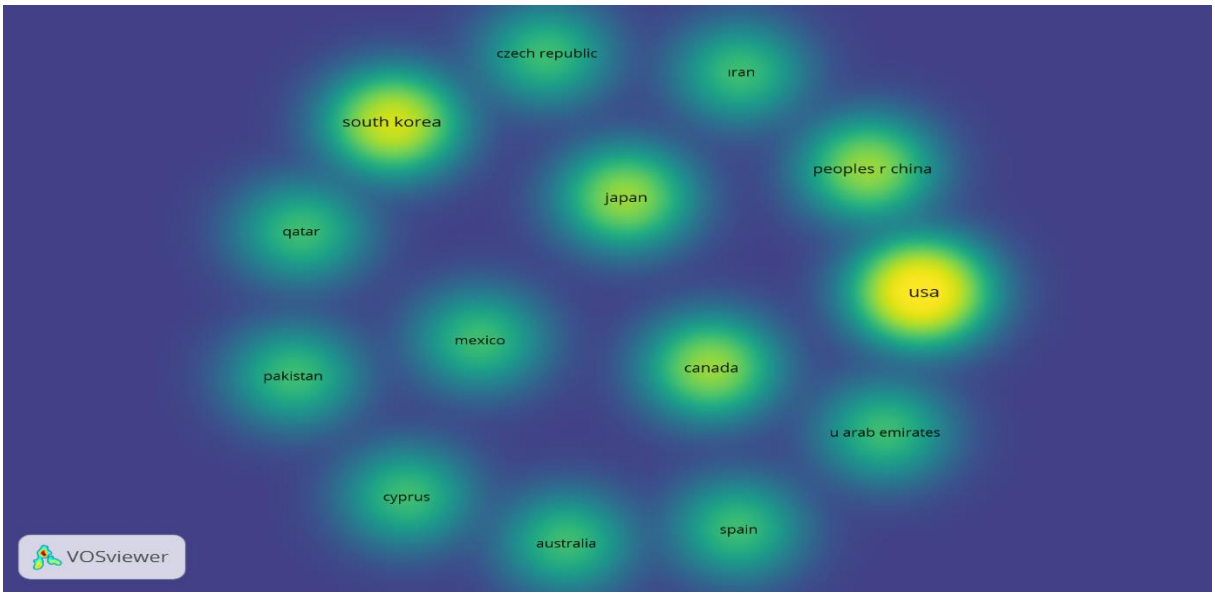
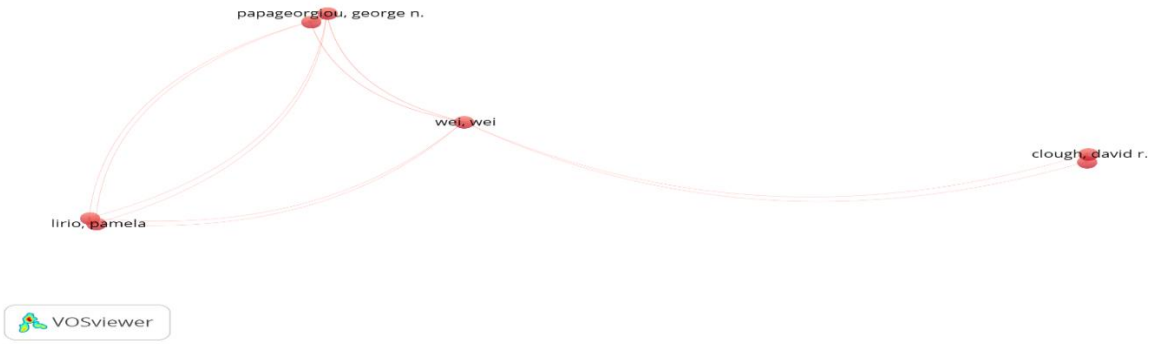


Figure 3 presents the results of the "Citation/Countries" density analysis. When looking at the number of documents by country, it is observed that the United States (5 documents), South Korea (3 documents), and Canada (2 documents) are among the countries producing the most works. Additionally, when examining the countries with the highest number of citations, the United States (43 citations), Iran (15 citations), and China (13 citations) are at the forefront. Based on this information, it can be stated that the United States ranks first both in terms of producing the most works and receiving the most citations regarding the metaverse.

Figure 4. Author Bibliographic Coupling Analysis



In Figure 4, "Bibliographic Coupling/Authors" analysis has been conducted based on one document and one citation criterion. As a result of the analysis, it was determined that there are 4 elements, 1 cluster, 13 connections, and a total connection strength of 184. Below, Table 4 provides

information on the authors who have been grouped together as a result of the author bibliographic coupling analysis.

Table 4. Author Bibliographic Coupling Information

	Authors	**Number of Documents**	**Number of Citations**
Cluster 1	Wei Wei	1	15
	George N. Papageorgiou	1	3
	David R. Clough	1	2
	Pamela Lirio	1	2

As seen in Table 4, it is observed that Wei Wei and George N. Papageorgiou have the highest citation counts among the authors who produced documents.

4. Discussion, Conclusion and Recommendations

The metaverse integrates the digital world with the physical world, creating a virtual environment that combines various technologies such as virtual reality, artificial intelligence, and augmented reality, benefiting everyone. Through this virtual world, people can socialize, conduct their businesses easily, play games, and even shop. In summary, it facilitates the creation of a three-dimensional environment where individuals can communicate with each other quickly and easily. This virtual world and the simultaneous interactions that occur can also contribute to people gaining various experiences.

When looking at the concept of the metaverse from a business perspective, the virtual environment's support for remote work can be beneficial for organizations in terms of collaboration and connections. Indeed, being able to work anywhere without an office environment could be significantly important for the global workforce. Additionally, it can be considered that the concept of the metaverse may create significant opportunities for organizations. For example, the elimination of borders in this virtual world could assist organizations in reaching talented employees in different locations. Furthermore, determining employee performance through data analytics could become both faster and easier. However, in addition to the rapid evaluation of performance data, accurately assessing employee performance and reshaping organizational strategies accordingly would be advantageous for organizations. In this context, it is believed that studies on the metaverse and human resources should be included in the literature, and that the findings obtained from these studies should be integrated into business practices.

According to the results of the analysis conducted in the study, it is observed that the first work related to the metaverse and human resources was published in 2022 (3 works), followed by 7 works in 2023 and 5 works in 2024. In light of this information, it can be said that the concept of the metaverse is quite current and continues to maintain its relevance in terms of integration into business life. When examining the published works by country, it is noted that the most studies were conducted in the United States (5 works), followed by South Korea with 3 works, Canada with 2 works, Japan with 2 works, China with 2 works, and Australia with 1 work. Additionally,

when looking at the types of documents, it can be stated that the majority of works were published as articles (9 documents), followed by conference papers (5 works) and letters (1 work).

As a result of the network analysis conducted for the keyword analysis, it was determined that there are 53 elements, 3 clusters, and 256 connections. The most frequently mentioned keywords are metaverse (6 occurrences), virtual reality (4 occurrences), and augmented reality (2 occurrences), which appear at the top of the list. This information suggests that the concept of the metaverse is particularly connected to virtual reality and augmented reality, and it can be anticipated that all these concepts may receive increasing interest in the future. When examining the results of the co-authorship analysis, it was found that there are 6 elements, 1 cluster, and 15 connections involving the most connected authors. The authors in this cluster are Siddique Latif, Farrukh Pervez, Junaid Qadir, Moid Sandhu, Moazzam Shoukat, and Muhammad Usama. When looking at their document and citation counts, it was determined that both are equal (Citation Count = 1, Document Count = 1). It can be thought that the underlying reason for this may be that the concept of the metaverse is still new in terms of integration into business life.

According to the results of the country citation density analysis, when looking at the number of documents, it is observed that the countries producing the most works are the United States (5 documents), South Korea (3 documents), and Canada (2 documents). Additionally, when examining the countries with the highest number of citations, it is found that the United States (43 citations), Iran (15 citations), and China (13 citations) are at the forefront. Based on this information, it can be said that the United States ranks first both in producing the most works and receiving the most citations regarding the metaverse. Furthermore, as a result of the author bibliographic coupling network analysis, it was determined that there are 4 elements, 1 cluster, 13 connections, and a total connection strength of 184. Among the authors in this cluster, Wei Wei stands out with the highest citation count of 15, followed by George N. Papageorgiou with 3 citations. As a result, Wei Wei, with the most citations, suggests that he is the most influential author in the field related to these concepts.

The conducted research has several limitations. First, the analysis was based on information obtained from the Web of Science (WOS) database, excluding other databases and different academic platforms from the research scope. Therefore, this situation has resulted in the findings being limited to the dataset drawn solely from the WOS database, overlooking studies published in various other information sources. Additionally, in this study, the bibliometric analysis program VOSviewer, which is based on mapping techniques, was preferred for the current analyses, while other analysis programs such as BibExcel and Citespace were excluded from the research scope.

In the future, it is recommended that researchers conducting studies on the metaverse and human resources perform a more in-depth examination of these concepts. Considering the concerns that the concept creates in individuals, it can be anticipated that investigating how both organizations and managers can address these concerns will be important. Indeed, in a competitive environment where technological advancement is so pronounced, it is crucial for managers to follow the changes

and innovations emerging in the literature regarding how to integrate these innovations into the goals and objectives of organizations. This understanding will enable organizations to implement these changes through various applications and leverage the opportunities that can arise in the global workforce. Additionally, comparing studies published in different databases and platforms could be beneficial in determining the validity and reliability of these concepts within the literature. Furthermore, researchers may be advised to explore these concepts using methods such as meta-analysis alongside bibliometric analysis. Finally, investigating the effects of these concepts—either realized or potential—through practical or experimental research, in addition to bibliometric analysis, could be significant for understanding the theoretical dimensions as well as for demonstrating the practical implications for organizations and employees.

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THE IMPACT OF THE NUDGE POLICY ON FREEGANISM: DISSEMINATION STRATEGIES IN TÜRKİYE

Hilal Mola[1]

Abstract

The concept of Freeganism, which originated as a philosophy that has a profound impact on the daily lives and consumption habits of individuals, has evolved into a way of life over time. Those who adopt this lifestyle frequently endeavor to contribute to social change through community building, the promotion of mindful consumption, and the engagement in environmentally conscious practices. The Freegan movement is experiencing a period of expansion, manifesting in various forms, including the organisation of waste collection events in urban areas, the establishment of sharing networks, the formation of communities, and the utilization of social media campaigns. The rapid growth of the global population has resulted in a concomitant scarcity of resources, thereby underscoring the importance of movements such as Freeganism. Nevertheless, in Türkiye, the Freeganism movement, which has made notable contributions to various fields, including waste reduction, sustainability, waste management, alternative consumption, and shifts in consumption culture, has remained relatively constrained. The present study aims to emphasize the significance of the concept of Freeganism and to examine the potential for its dissemination throughout the country through the lens of the nudge policy, which has emerged as a prominent paradigm in behavioral economics. The study revealed that the Freeganism movement plays a significant role in addressing various environmental issues, including natural resource conservation, sustainable consumption, waste reduction, environmentally friendly behavior, and unnecessary consumption. Additionally, the potential for governments to implement nudge policies to raise awareness and disseminate this movement was highlighted.

Keywords: Behavioral Economics, Consumer Preferences, Nudge Policy, Freeganism.

Introduction

Consumption has been a fundamental aspect of human existence since the earliest periods of recorded history. Individuals and societies alike have engaged in consumption as a means of meeting their basic needs and pursuing their survival and well-being. This process has undergone significant transformations over time, with a complex interplay between economic, social, and cultural influences. While early humans engaged in hunting and gathering and obtained their food resources from nature, the structure of human societies underwent a radical transformation with the advent of agriculture. The advent of agriculture led to a shift in human settlement patterns, an

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increase in food production, and a concomitant change in consumption habits. While this transformation in the consumption process has gradually evolved with the advent of trade, the industrial revolution, and globalization, the concept of sustainability has brought about the necessity to re-evaluate consumption habits in the 21st century. The issues of food waste, waste management, and ethical consumption, as well as the avoidance of unnecessary consumption, have become significant topics in the contemporary era. Individuals have taken action to make more conscious consumption choices, taking environmental impacts into account.

Numerous concepts have emerged with the changing understanding of consumption. One such concept is that of freeganism. The objective of freeganism is to enhance individuals' awareness of environmental, social, economic, and particularly sustainability issues by providing a critical analysis of the overconsumption culture prevalent in modern society. This understanding of consumption encourages not only individuals but also communities to contribute to the creation of a sustainable future. In particular, the increase in population has resulted in a greater demand for natural resources, thereby exacerbating scarcity problems. This has paved the way for the proliferation of environmentally conscious movements such as freeganism. The present study examines the concept of freeganism and investigates methods for raising awareness and disseminating this movement through policy instruments such as nudging. Accordingly, the initial section of the study will present an overview of the concept of freeganism and an introduction to the concept of nudge theory. In the second part of the study, an examination is conducted of the nudge policies created by governments and countries where freeganism is prevalent. In the third part of the study, the conclusion is presented, and policy recommendations are put forth, particularly with regard to the popularization of this trend in Türkiye. The study employs a subjective approach in its examination of the concept of freeganism within the context of nudge theory. This study will contribute significantly to the existing literature on freeganism by offering policy recommendations for its popularization.

The Concept of Freeganism and Nudge Theory

The lifestyle known as "freeganism" or "freegan food," is defined as a reaction against materialism, competition, popular culture, ostentation, and excessive consumption (Aksoy & Solunoğlu, 2015, p. 165). Freegans seek to foster social consciousness by underscoring the unsustainability of food waste (Yurt, 2023:731). Freeganism represents an approach that is designed to prevent the destruction of non-renewable resources in a consumer society that is oriented towards unlimited growth. This lifestyle is characterized by an anti-consumption stance, particularly in the context of food, and advocates for the recycling of waste food through bartering without the use of money. Freegans are highly aware of the issue of food waste and focus on the reuse of waste generated by overconsumption.

This lifestyle, which is more prevalent in developed societies, is grounded in robust ideological convictions. Freegans are regarded as contemporary manifestations of Robin Hood, prioritizing the redistribution of resources to those in need over the products and services that sustain capitalism.

Although freeganism may initially appear to be an individual choice, it is in fact a movement that aims to prevent waste and raise awareness of savings in society. Their interest lies not in the source of food, but in its destination. This indicates that their lifestyle is not based on consumption, but on the act of consuming (Taş, 2020:57). Freegans, who are able to achieve high living standards, consciously choose to forego excessive consumption and embrace a more minimalist lifestyle. Freegans, whose primary social role is to challenge the wasteful social structure, also aim to raise awareness about hunger, homelessness, and ecological problems (Pentina & Amos, 2010, p. 1775).

This movement is anti-consumerist in nature and advocates for the reuse, recycling, sharing, and bartering of goods and services in lieu of purchasing new items. One need not engage in dumpster diving to be a freegan; rather, it is also possible to distribute items such as clothing to families and thereby avoid the purchase of new products. In developing countries, food waste occurs at the initial stages due to deficiencies in infrastructure, such as inadequate storage and refrigeration facilities. In contrast, in middle- and high-income countries, waste often arises at the later stages of food processing (Vegconomist, 2019). It is therefore recommended that policies developed by governments should focus on the early stages of food waste in developing countries, while in developed countries, the focus should be on the post-food stage.

In addition to addressing food waste, many countries have implemented policies aimed at reducing overall waste and increasing recycling rates. In light of the looming threat that landfills pose to the future of our planet, numerous countries have turned their attention to developing strategies for reducing waste. The number of countries engaged in zero-waste initiatives is on the rise. These policies continue to manage waste at the municipal level in various ways. Some cities implement measures to reduce household waste production by banning the use of Styrofoam containers in markets and restaurants. Other cities require recycling and composting, while still others mandate weekly garbage collection and introduce tax structures based on garbage output (BhataTata & Hoornweg, 2016: 267). Efforts to reduce littering encompass practices adopted by freegans in support of sustainable consumption and the mitigation of environmental issues. An analysis of the freeganism movement reveals the presence of several additional concepts, the first of which is minimalism.

The concept of minimalism, which emerged as a movement against anti-consumption or excessive consumption, entails the conscious imposition of limits on consumption. Those who adhere to minimalist principles advocate for the limitation of superfluous elements in life. This is achieved by identifying and eliminating unnecessary aspects rather than completely eliminating consumption. The determination of priorities is a crucial aspect of minimalist philosophy (Dopierala, 2017:68-71). Another concept that warrants examination is that of voluntary simplicity. The concept of voluntary simplicity, which has been discussed by philosophers such as Lao Tzu, Confucius, Buddha, Diogenes, Tolstoy, and in the context of spirituality (Alexander, 2011: 134-135), posits that individuals may achieve greater happiness by purchasing fewer products and engaging in this behavior voluntarily, as opposed to seeking happiness through consumption. (Babaoğlu & Buğday, 2012: 76). An additional concept is that of alternative

consumption. This form of consumption seeks to bolster the economy and mitigate environmental costs by prioritizing alternative consumption methods, such as second-hand products and barter systems, over conventional consumption patterns. The concept of sustainability, which has recently become a prominent topic on the agendas of governments around the world, is closely intertwined with economic, social, and environmental considerations. It represents a crucial aspect of the freegan approach, which emphasizes the importance of sustainability in all aspects of life.

The term "sustainability" first emerged in 1977 in D. Pirages' book, *Sustainable Society.* The concept's acceptance as a universal principle gained significant momentum following the Conference on Environment and Development held in Rio de Janeiro in 1992. Subsequently, given the universal applicability of the concept of sustainability, the United Nations Commission on Sustainable Development was established (Tekeli, 2011: 729). Although the concept of sustainability is widespread in contemporary society, it may initially appear harmless or beneficial. However, a closer examination reveals that it actually fosters the reproduction of the existing social system through consumption and media (Aydoğan, 2020: 11-12). The fundamental elements of sustainable consumption include the accelerated depletion of finite natural resources in certain regions, the inability of individuals in these same regions to satisfy even their most basic needs, and the emergence of social issues such as income inequality (Atrek & Medran, 2017, p. 3). The gradual increase in population has further exacerbated this injustice, prompting governments to pursue sustainable consumption policies.

The principle of sustainable consumption is becoming an increasingly important policy objective as it is incorporated into the sustainable development plans of states (Jones et al., 2011: 938). In light of these efforts, changes in consumption culture and communities such as Freeganism, which prioritize careful waste avoidance, adapt to waste policies, avoid unnecessary consumption, and prioritize recycling, have begun to be viewed more favorably.

It is argued that these changes in consumption culture are important not only with regard to education and information, but also with communities related to sustainable consumption. It is further argued that more effective results can be achieved through these communities (Lee et al. 2015:599). At this juncture, the significance of freegan communities becomes apparent. Freeganism and sustainability share numerous similarities with regard to the protection of resources, the reduction of waste, and the enhancement of environmental awareness. Freeganism provides a tangible way through which individuals and communities can contribute to a sustainable future. For this reason, these two concepts are inextricably linked and collaborate to foster a healthier and more sustainable world. The common point of the concept of Freeganism in relation to nudge theory is worthy of further examination. Nudge theories and Freeganism both seek to guide individuals towards more optimal, beneficial, and healthier behaviors. For example, while nudge theories direct individuals to alter their behavior by leveraging environmental and social factors to influence their decisions, Freeganism encourages individuals to reduce waste, oppose waste, and alternative consumption by modifying their consumption behaviors.

To elucidate the concept of nudging in greater detail, a choice architecture that influences human behavior to the extent that it can be predicted without imposing prohibitions or significantly altering the economic incentives faced by individuals is referred to as "nudging" (Thaler & Sunstein, 2008, pp. 4-7). It is worth noting the concept of choice architecture.

The concept of choice architecture states that there are numerous ways of presenting options to individuals when making decisions, and that the choices made are contingent on the manner in which the options are presented (Cicerali & Cicerali, 2023:22). An additional crucial concept in grasping the notion of nudging is that of liberal paternalism. Paternalism can be defined as the restriction of an individual's freedom of choice against their will for their own benefit (Clarke, 2002, p. 82). Liberal paternalism, in contrast, is defined as an approach that enables both private and public authorities to make decisions and choices that enhance people's welfare while safeguarding individuals' freedom of choice (Thaler and Sunstein, 2003:179). In the context of these concepts, nudge theory refers to the subtle arrangements that are used to influence individuals' decision-making processes and behaviors. This theory suggests that people often have difficulty in making rational decisions and that environmental factors can influence these decisions. In this framework, nudge theories are used as government policies and are utilized in various fields.

Nudge Theories as Public Policy and Examples of Freeganism

Today, when numerous public issues have emerged, governments have enacted a multitude of policies with the objective of either mitigating or eradicating these issues.

The advent of public policies can be traced back to the Great Depression of 1929 (Gül, 2015, p. 6). The term "public policy" encompasses not only the stated goals and content of a given policy but also the techniques and tools used to implement it. From the perspective of the meanings and values it represents, a public policy instrument has purposes that regulate certain social relations between the state and the individuals it targets (Lascoumes and Le Gales, 2007: 4). One popular theory used by states for these purposes is nudge theory.

The practice of nudging has gained considerable traction in recent years, with an increasing number of governments adopting it as a tool to influence behavior. A substantial body of research, as evidenced by numerous studies, reports, and other publications from the past decade, indicates that behavioral insights have the potential to offer valuable solutions to a range of policy challenges. Nudge theories facilitate the implementation of effective, straightforward, and high-impact practices in a multitude of fields, including the environment, health, education, energy, finance, social security, and beyond (Özdemir, 2019, p. 247). In accordance with these opportunities, numerous countries have implemented nudge policies in various ways and have achieved notable positive outcomes.

For instance, during the pandemic in Türkiye, nudge policies were enacted by posting signage in areas with high traffic volume, emphasizing the necessity of remaining at home due to the pandemic, such as "Life fits at home—stay home for all of us," which was easily visible to individuals in vehicles. Furthermore, the directive "stay home" was incorporated into the traffic

light system (Habertürk, 2020). In Tokyo, applications such as YouTube and TikTok, which are used by a significant portion of the population, enabled well-known individuals to disseminate messages of caution to the public (Kim, 2020). In the United States, nudge policies have been implemented in the field of health, particularly in the fight against obesity. Calorie information has been made mandatory for restaurants, enabling individuals to make healthier choices. In the United Kingdom, the government has developed automatic savings plans by utilizing nudge policies to encourage individuals to quit smoking and save money.

A considerable number of countries, including Denmark, Finland, Norway, Hungary, France, Belgium, England, Estonia, Lithuania, Spain, Portugal, and others, have implemented restrictions on the consumption of sugary drinks and introduced taxes on sugary drinks (Sezgin and Işık, 2022:468). In France, incentives were implemented with the objective of promoting the consumption of fresh food, specifically fruits and vegetables, in supermarkets. The freeganism movement, which has proliferated in numerous countries, has directed individuals towards more sustainable and ethical consumption patterns, and has also contributed to a reduction in the recent surge in consumerism.

In terms of freeganism movements in countries, numerous provincial and district municipalities in Türkiye, in addition to the clothes piggy banks situated in various regions by the Turkish Red Crescent and the products available in second-hand markets, which are established in nearly every city in our country, provide opportunities for consumers with low purchasing power (Demir, 2020). These two cases serve as illustrative examples of the Freeganism movement. Another example is the non-profit platforms established in the USA and in various countries in Europe, which provide an opportunity for the exchange of goods (https://freecycle.org/). In London, the practice of freeganism has proliferated due to the spread of food sharing events and community-supported agriculture projects. Freegan communities also utilize these events to raise awareness about food waste. In France, events are held to encourage the sharing of surplus food in grocery stores. In Germany, which stands out as one of the cities where the freeganism movement is most active, food sharing networks are formed to collect and share food discarded from markets and restaurants.

A comparative analysis of the freeganism movement and nudging practices reveals that both approaches seek to highlight social issues, influence individual behavior, promote efficient resource utilization, reduce waste, encourage conscious consumption habits, advocate for environmental regulations, and facilitate positive decision-making through strategic interventions. In this regard, the Freeganism movement, which is still perceived within a narrow context in Türkiye, can be reinforced with the application of nudge theory and become more prevalent.

Conclusion

The rapid growth of the global population has intensified the issue of resource scarcity, endangering the social, economic, and environmental equilibrium. The necessity for the development of efficacious policies and strategies has been heightened by the necessity to address this problem. In this regard, the implementation of long-term solutions is contingent upon the

adoption of measures that are aligned with the principles of sustainable development. At this juncture, the freeganism movement represents a novel conceptualization of consumption that has garnered considerable attention.

Freeganism represents a significant approach to life that seeks to enhance individuals' awareness of environmental and social issues by challenging the tenets of contemporary consumerism. This movement enables individuals to cultivate more mindful consumption practices, particularly in a context where resources are rapidly diminishing, waste is on the rise, and environmental challenges are intensifying. Furthermore, it has been observed that the freeganism movement has the potential to play a significant role in the protection of natural resources, sustainable consumption, waste reduction, and the promotion of environmentally friendly behaviors. The present study focuses on the limited spread of freeganism in Türkiye and the potential for nudge policies to reach a wider audience. In this context, it is possible to raise awareness among individuals and popularize the freeganism movement through the implementation of nudge policies at the governmental level. For instance, the implementation of informative campaigns on the subject of conscious consumption and waste reduction, the development of projects that encourage alternative consumption methods, and the introduction of effective policies on waste management may facilitate the adoption of freeganism. Such policies will assist individuals in developing sustainable consumption habits while simultaneously fostering heightened environmental awareness. Nudging strategies, within the context of choice architecture principles, have the potential to positively influence individuals' decision-making processes, encouraging a reduction in waste and more efficient resource utilization across society. Consequently, the implementation of governmental policies that are in accordance with the principles of freeganism can result in the realization of both environmental and social benefits.

In line with this goal, governments can implement social media campaigns comprising content that endorses freeganism and methods for reducing food waste. They can also establish local community groups that espouse freeganism, leverage the influence of social psychology by fostering collective action, and devise incentive programs for those who adopt freeganism. Incentives can be provided in the form of rewards or other benefits for those who adopt freeganism. Persuasive methods can be applied by creating effective messages that inform people about the negative consequences of food waste and the benefits of freeganism. Role models can be shown by highlighting people who have adopted freeganism and have been successful in doing so, thereby setting an example for others to follow. In short, these strategies can be used to popularize freeganism by utilizing nudge theories.

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ANALYSIS OF STUDIES ON THE CONCEPT OF PRIVATE HEALTH INSURANCE WITH VOSVIEWER

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Abstract

In developed and developing economies, the share allocated for financing healthcare services places significant financial pressure on public budgets. To address this, countries are turning to sustainable methods of funding for healthcare services. Private health insurance is supported in many countries due to its advantages, such as reducing the financial burden on the public sector and filling financial gaps not covered by social insurance. However, it can also lead to catastrophic expenditures and health inequalities. This situation makes studies on private health insurance, which plays a significant role in healthcare system financing even in developed economies, particularly important. This study aims to present a detailed bibliometric analysis of the research conducted on the concept of "Private Health Insurance." According to the findings, there has been a significant increase in studies related to this concept in recent years. The authors with the highest connection strength and citation counts in this field are Ashish Jha, Irene Papanicolas, and Karel Kostev. The most frequently used keywords by these authors are Health Insurance, Private Health Insurance, and Medicaid. The journals with the most publications and citations on this topic are Health Economics, Pediatrics, and Health Affairs. According to the literature, the most important individual variables determining the coverage of private health insurance are the level of risk aversion, cognitive abilities, and income level. It is recommended that community rating be implemented and that information asymmetry in the market be prevented to increase the coverage rate of private health insurance.

Keywords: Health Insurance, Private Health Insurance, VOSviewer, Bibliometrics Analysis.

Introduction

Health insurance is generally a type of insurance that helps cover all healthcare services individuals may need, regardless of their connection to a social security institution, according to social insurance or the general terms of the policy. The purpose of health insurance is to provide financial security today for the funding of all hospital expenses that may be needed in the future, such as examinations, treatments, tests, and medications. Although types of health insurance vary from country to country, they can broadly be classified into two categories: social health insurance

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and private health insurance (Değirmencioğlu, 2021: 25; Office of Public Insurance Counsel [OPIC], 2024). Social health insurance is a type of insurance that individuals earn based on their income concerning their rights to access healthcare services (Wagstaff, 2010: 504). The most important principle of social health insurance is the principle of social solidarity. The emphasis here is on the mutual cooperation among individuals. In other words, there is no relationship between the premiums paid by individuals and their health status or health risks. The collected premiums are pooled together, and the financing of healthcare services for those in need is covered from this common pool (Tatar, 2011: 115).

Private health insurance is a type of insurance contract that secures the treatments, daily compensation, and other expenses of individuals who are insured under general health insurance and wish to obtain private insurance, or individuals who have the right to obtain private health insurance despite not having general health insurance (Şirin, 2021: 15). According to another definition, private health insurance is a system aimed at securing the portions not financed by the public in health coverage and offers the insured the opportunity to choose. The essence of private health insurance is voluntariness. In private health insurance, premiums can be paid by individuals or entirely by employers. Individual health risk assessment can be done based on individual characteristics or according to the health risk prediction of a population in a specific geographical area. Private health insurance companies act as intermediaries between consumers requesting this service and those providing it. In private health insurance, intermediary institutions can be profit-oriented private insurance companies, non-profit private insurance companies, or independent private organizations. Private health insurances are classified into two functions. The first is complementary health insurance used alongside mandatory health insurance. The second is substitute private health insurance that replaces mandatory health insurance (Mossialos-Dixon, 2002: 3; Demirci, 2020: 41). The fundamental difference between private health insurance and social health insurance is the financing method. In private health insurance, the premiums paid are determined based on individual risk or the sickness risk of groups. Group health insurances provided by employers also play a significant role in the development of private health insurance (Orhaner, 2017: 401).

Although the first compulsory health insurance practice was initiated in Germany in 1883, the development of health insurance as a concept emerged as a result of efforts related to worker health that surfaced during the industrial revolution. Subsequently, it continued to evolve in the form of optional or mandatory health insurance schemes that began in guilds in other European countries. Following World War II, with the emergence of social insurance, health insurance underwent significant development. European countries aimed to enhance social healthcare and other insurance services to provide healthcare access to individuals in their societies. By the late 1950s, many industrialized nations had brought their citizens under general health insurance. However, high inflationary pressures and demand prompted governments to support initiatives that encouraged and increased private sector involvement and private health insurance (Tiryaki and Tatar, 2000: 125-126).

Health expenditures are increasing globally, leading policymakers to implement various measures. One of the primary steps taken is the narrowing of the coverage of social insurance, which affects a large portion of the population, and the introduction of co-payments for many goods and services included in social insurance. As the financial burden of social health insurance on economies grows, private health insurance is becoming increasingly significant. Trust in private health insurance is rising as it helps to close the financial gaps created by health services not covered by social health insurances. From a micro perspective, it can be said that private health insurance protects individuals from out-of-pocket healthcare expenses and provides opportunities to channel more resources into health systems. However, if private health insurance is not managed properly, health inequalities may worsen compared to the current situation (Ko, 2020: 1; Ekiyor and Akçınar 2023: 116).

Supporters of private health insurance can be grouped into two schools of thought. According to the first group, the introduction of a permanent mixed health insurance system would enhance consumer preferences and efficiency in health financing. The second group views private health insurance as the best second option under financial constraints. In other words, private health insurances are not preferred to the social health insurances provided by the public, but they are favored for out-of-pocket health expenses for services not covered by social health insurance. In wealthy countries, they encourage affluent individuals to pay more for health services. This can alleviate pressure on public budgets, allowing resources allocated to this area to be redirected to essential services. In middle-income and poor countries, they can play a significant role in increasing prepaid incomes and easing the financial burden on public insurance institutions. The fundamental assumption in both perspectives is that private health insurance will fill the gaps not covered by social health insurance. According to economic theory, while this may not hold true for all individuals, it is argued that this situation can be addressed through regulation (Thomson, Sagan, and Mossialos, 2020: 1). In recent years, there has been a growing need for sustainable methods of health financing to reduce out-of-pocket health expenditures and their financially devastating effects worldwide. The promotion of private health insurance for financing healthcare services in low- and middle-income countries has increased in recent years (Drechsler and Jitting, 2007: 497). However, private health insurance is criticized for being similar to out-of-pocket health expenditures in many respects. From this perspective, the proportion of private health insurance within health system financing should also be reduced, similar to out-of-pocket health expenditures. Private health insurance is used at different levels for various purposes. For example, in the United States, it is the primary financing method for the vast majority of the population, while in France, it serves as a complementary form for publicly provided health services. In Switzerland, private health insurance finances nearly half of total health expenditures, while in the Netherlands, it finances 60% (Tatar, 2011: 114; Organisation for Economic Co-Operation and Development [OECD], 2024).

Health insurance provides positive and clear benefits in terms of health, but there is another very important benefit of health insurance that is not immediately noticeable: social benefit. Through

health insurance, individuals can prevent financial shocks to their wealth and avoid financial fragility (Pauly, Zweifel, Scheffler, Preker, and Bassett, 2006: 373). The social benefit of preventing fragility in health financing has been highlighted once again by the recent global pandemic. The global COVID-19 pandemic has brought unprecedented challenges to health systems around the world. The inadequacy in healthcare infrastructure and the need for adaptable methods to meet the rising demand for health services have become apparent. The pandemic has placed significant pressure on health infrastructure, leading to resource constraints. This situation has necessitated quicker adaptations in the provision of healthcare services. As the private health insurance market has gained importance in many countries in recent years, it becomes crucial to determine how this market will develop in the aftermath of the pandemic, alongside these problems, and to measure its resilience and sensitivity in the changing healthcare environment (Xhafka, 2023: 2080).

1. Data and Methodology

The concept of bibliometrics was first used by Alan Pritchard in 1969. Pritchard defined bibliometrics as the application of mathematical and statistical methods to illuminate the processes of written communication, the nature of a discipline, and its development by counting and analyzing various aspects of written communication (Lawani, 1981: 294). Bibliometric studies provide a complementary summary of the literature related to a subject or concept. Through bibliometrics, it is possible to access the most significant works in the literature, identify gaps related to the topic, and discover new trends.

In this study, the VOSviewer program has been used as a bibliometric analysis method. VOSviewer was developed in 2010 by Nees Jan van Eck and Ludo Waltman. It is a software designed to explore and create maps based on network data. The program can be used to analyze both academic and other social network data. With VOSviewer, various visualizations of analyses such as co-author analysis, co-citation analysis, and bibliometric matching can be performed. Additionally, the program offers three different visualization options: network map, overlay map, and density map (Arruda, Silva, Lessa, Proença, and Bartholo, 2022: 392). The creation of bibliometric maps is regarded as crucial in the bibliometric literature. VOSviewer is quite functional since it facilitates the easy visualization and interpretation of large bibliometric maps. It provides in-depth analysis by displaying a map in different ways, each emphasizing a different aspect of the map (Van Eck, 2011: 144).

Bibliometric maps obtained with VOSviewer provide information about the degree of influence and relationships between elements. In the network map, elements are represented by a label and, by default, a circle. The more important an element is, the larger its label and surrounding area will be. If colors are assigned to the elements, the circle of each element is displayed in the color of that element. The label view particularly facilitates a detailed examination of a map. The smaller the distance between two elements, the stronger the relationship between them. Additionally, the size of the elements is related to their degree of influence. The larger an element's size, the greater its

degree of influence. In the network map, the members of each cluster are shown in different colors. The density map displays elements similarly to the network map. The density map is used to gain a general idea about a map and to highlight the most important areas on the map. The colors on the map are determined based on element density. The color of a point on the density map depends on the number of elements in its neighborhood and the importance of the neighboring elements. The overlay map is the same as the network map, except that the coloring of the elements is different (Van Eck, 2011: 150-154). In this study, the Web of Science database was used as the data source. The reason for choosing the Web of Science database is that it contains a data set compatible with the VOSviewer program and includes major citation indexes such as SCIE, SSCI, A&HCI, CPCI, BKCI, and ESCI.

The study was conducted on April 16, 2024, using the keyword "Private Health Insurance" with all fields selected. To ensure the comprehensiveness of the study, no restrictions were applied in the document selection, and the "All Fields" option was chosen. In the research, no filtering was done regarding publication year, publication language, document type, authors, Web of Science category, Web of Science index, and country/region. The limitations of the study arise from the use of only the Web of Science database as the data source. The data was analyzed and visualized based on authors, citations, countries, institutions, works, and keywords.

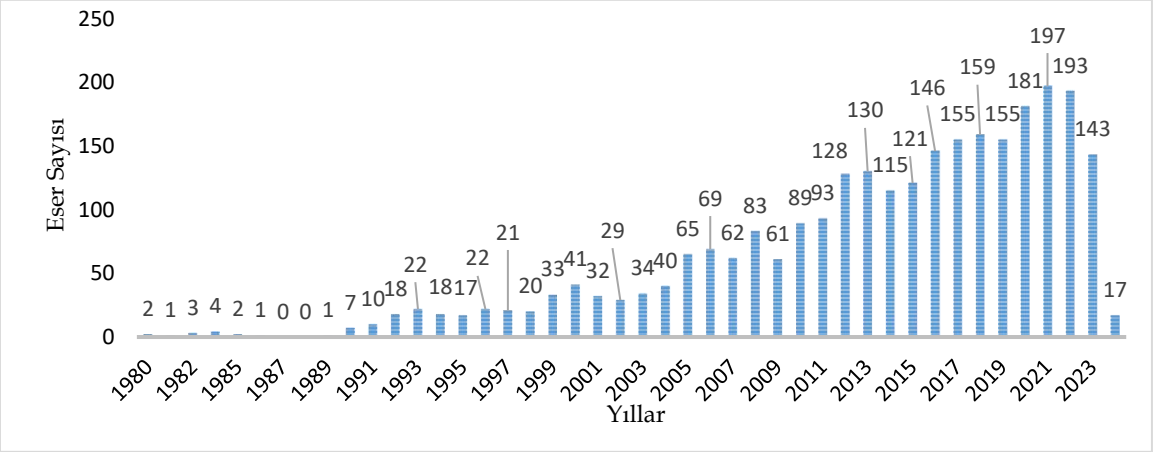
2. Results

The analysis included 2,425 articles, 107 review articles, 317 early view studies, 71 editorial content pieces, 88 conference proceedings, 40 book chapters, 1 book, and 103 other forms of works. Of these, 2,548 were written in English. The second most used language is German (15). Other languages used in the studies include Portuguese (51), Spanish (30), French (7), Polish (6), Chinese (2), Not Specified (2), Greek, Korean, Russian, and Norwegian (1 each). The distribution of the works by publication year is shown in Chart 1. The oldest work dates back to 1980, while the newest is from 2024.

The distribution of works over the years is given in Chart 1. Upon examining the chart, it can be observed that the annual number of works remained in single digits until 1991. Furthermore, no publications related to private health insurance were made in 1987 and 1988 in the Web of Science. The significant increase in the number of works began in 2012. The two years with the most publications coincided with the pandemic and vaccination years, specifically 2020 and 2021. According to Chart 1, which covers a 40-year process regarding the concept of private health insurance, it can be said that interest in private health insurance has increased in the last decade. When studies are examined according to WOS criteria, the most frequently published areas are health policy services (632), public environmental occupational health (597), health sciences services (570), economics (344), and general internal medicine (277). Although a single work has been published in most areas, works have been published in more than 120 fields.

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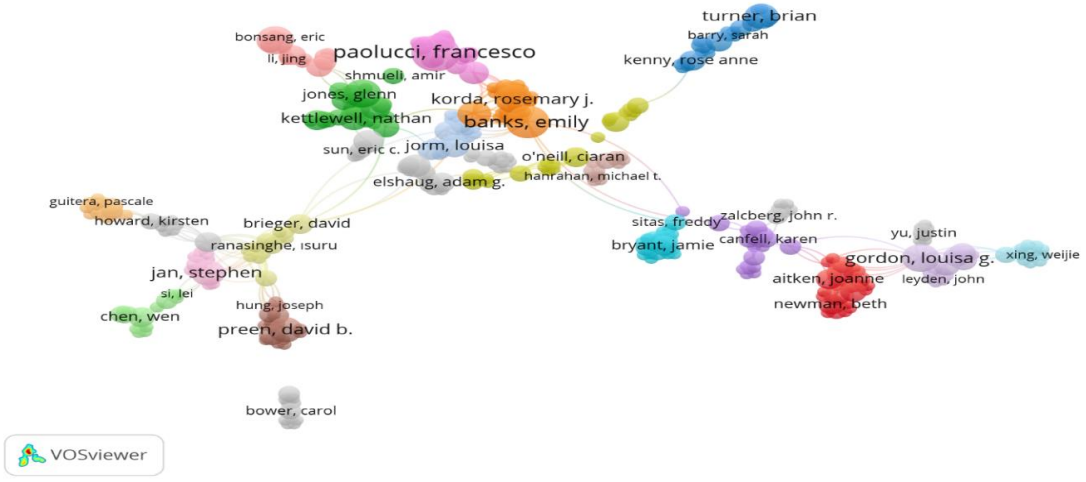
Graph 1. Distribution of Works by Year



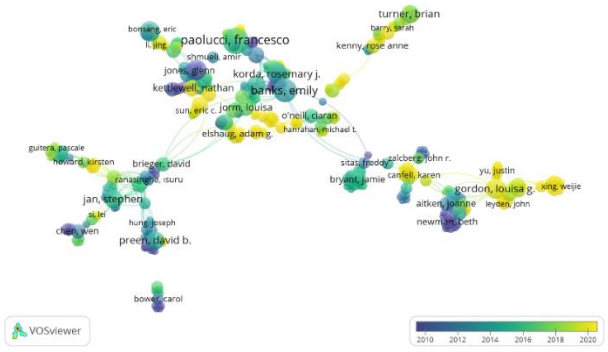
2.1 Co-authorship of Authors Analysis

Figure 1. Co-Author Analysis Network, Overlay and Density Maps

(A) Network Map



(B) Overlay Map



(C) Density Map

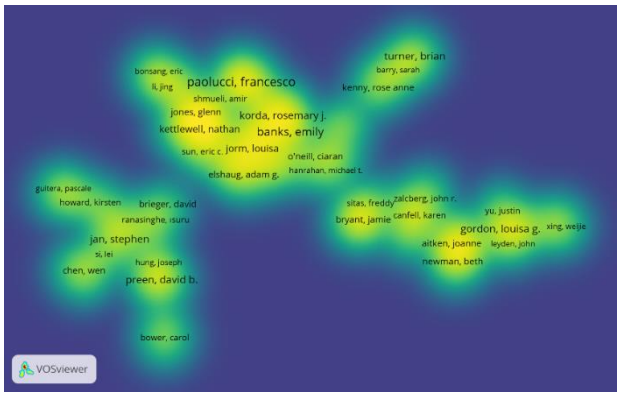
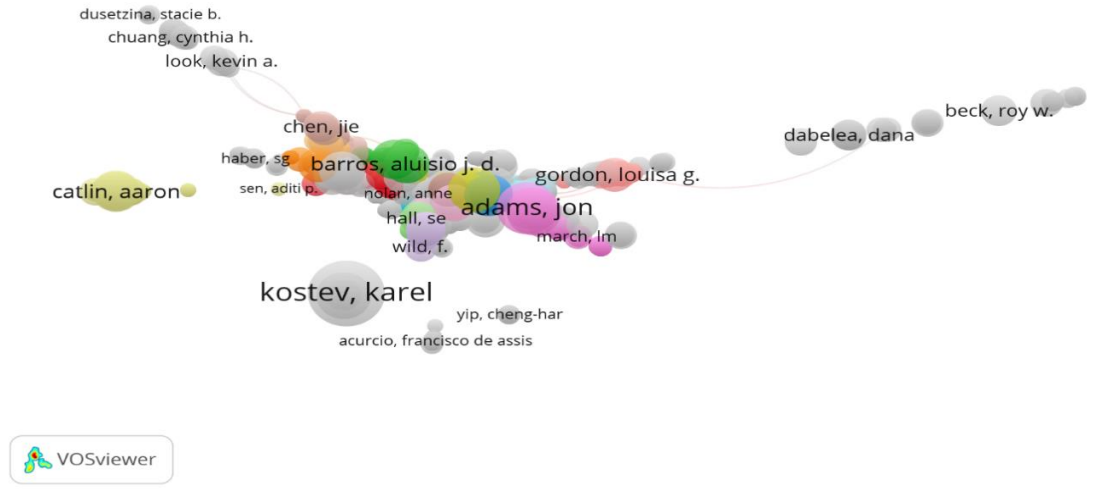


Figure 1 A showcases the co-author analysis network map. This analysis examines the relationships between works produced by at least two authors. When creating the network map, criteria were established that required at least one publication and at least one citation. In the analysis, out of 9,565 authors, 8,128 met the threshold values. Figure 1 A presents the total connection strength of the authors. According to the analysis, there are 369 items combined into 25 clusters and a total of 1,263 connections. The overall connection strength was found to be 1,347. Although the total connection strengths of the 369 most connected authors in the cluster vary, the authors with the highest total connection strengths are Jon Adams (56), Roy W. Beck (56), Dana Dabelea (56), Jean M. Lawrence (56), and Karel Kostev (53). The authors with the most citations in the co-author analysis are Ashish K. Jha (872), Irene Papanicolas (872), Liana R. Woskie (872), Lm March (852), and Ajm Brnabic (775). Looking at the network map, it can be said that authors such as Emily Banks, Losia Gordon, Francesco Paolucci, David Preen, and Nathann Kettlewell also possess significant influence. These authors rank among the top ten for receiving the most citations and having the highest connection strength. Figure 1 B features the overlay map of the elements. The use of lighter colors in the overlay visualization for authors like Adam G. Elshaug, Louisa G. Gordon, and Weijie Xing indicates that these authors published works after 2018. Figure 1 C presents the density map of the elements. It can be said that Emily Banks, Losia Gordon, Francesco Paolucci, and Louisa Jorm, shown in lighter colors on the density map, are authors with high influence. It is observed that John Tayu Lee, Emily Hulse, and Barbara Mcpake have significantly high influence as well. There are no authors with low influence found in the density map.

2.2 Citation of Authors Analysis

Figure 2. Citation of Authors Analysis Network, Overlay and Density Maps

(A) Network Map



(B) Overlay Map **(C) Density Map**

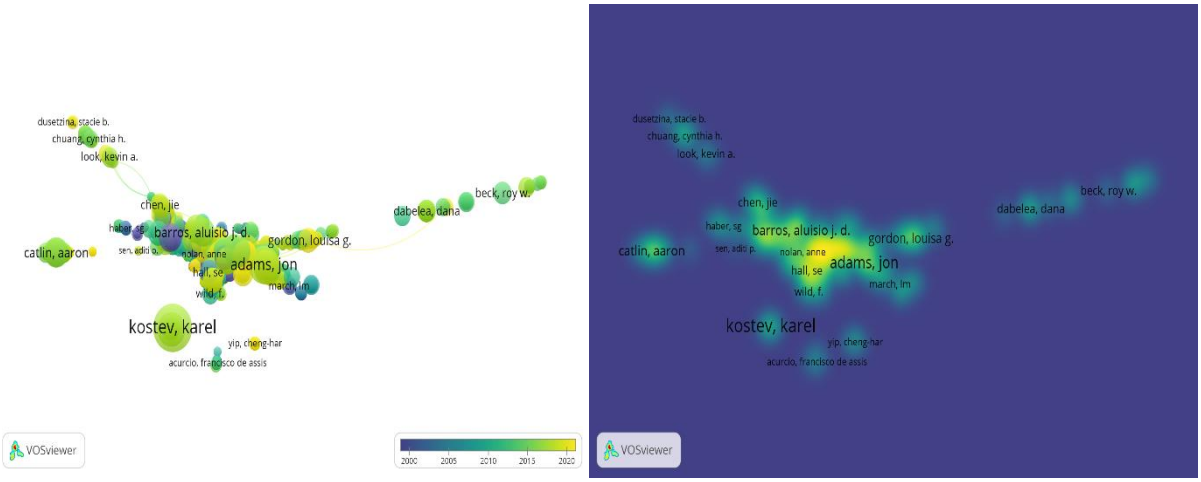


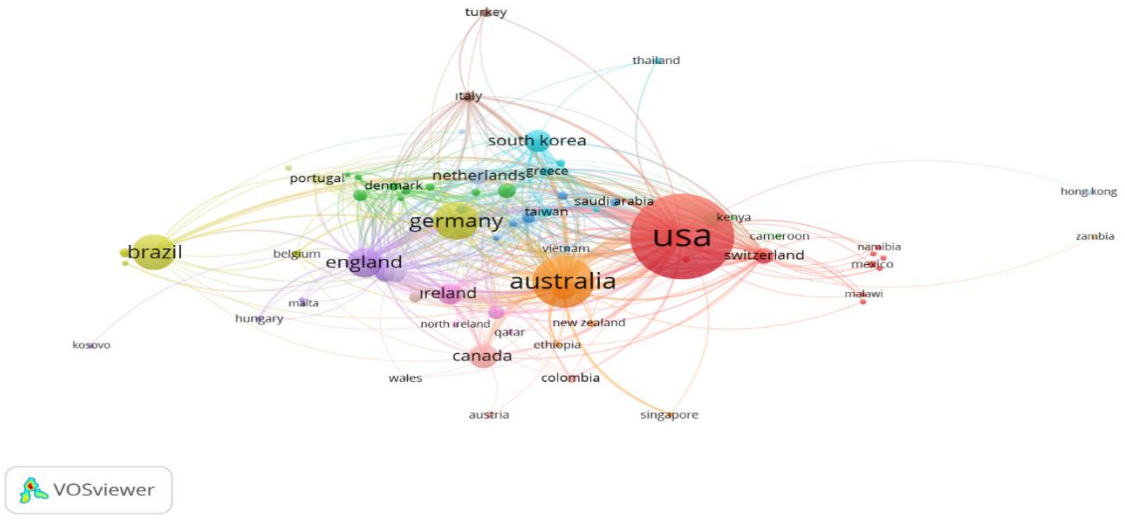
Figure 2 presents the author citation analysis. The analysis seeks to determine the extent to which related studies have impacted subsequent research. It includes a criterion of at least one publication and one citation, with 8128 out of 9565 works meeting the threshold criteria. The analysis identified 2696 items associated with 51 clusters and 18364 connections. According to the author citation analysis, the top five authors with the most citations are Ashish K. Jha (872), Irene Papanicolas (872), Liana R. Woskie (872), and Lm March (852). The top five authors with the highest total connection strength are Elizabeth Savage (399), Glenn Jones (237), Thomas C. Buchmueller (197), Jane Hall (204), and Denise Doiron (99). Although these authors with the highest connection strength are located in the yellow cluster in Figure 1 A, they do not appear by name in the network map due to overlapping item names. Upon examining the overlay map, it can be concluded that the items are generally light-colored, and the authors in this group received more

citations after 2015. Authors such as Jon Adams, Karel Kostev, and Aluisio Barros, who occupy a central position and have relatively larger item weights, can be referred to as both contemporary and foundational authors. According to the density map in Figure 2 C, Jon Adams and Aluisio Barros are the authors with the highest item weights within this group.

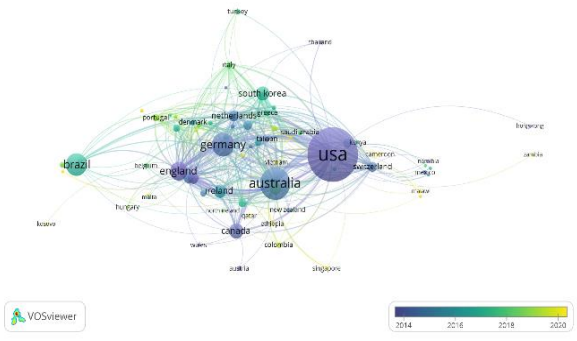
2.3 Citation of Countries Analysis

Figure 3. Citation of Countries Analysis Network, Overlay and Density Maps

(A) Network Map



(B) Overlay Map



(C) Density Map

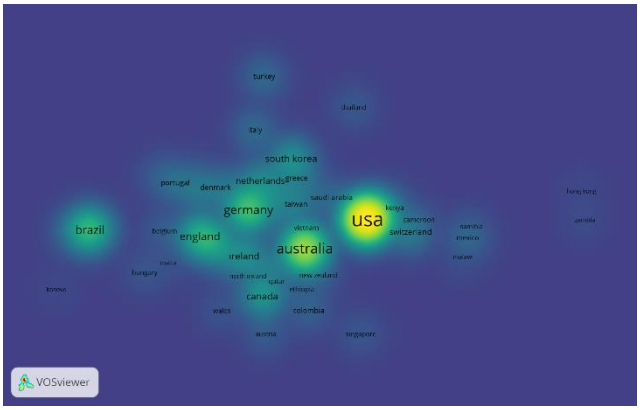


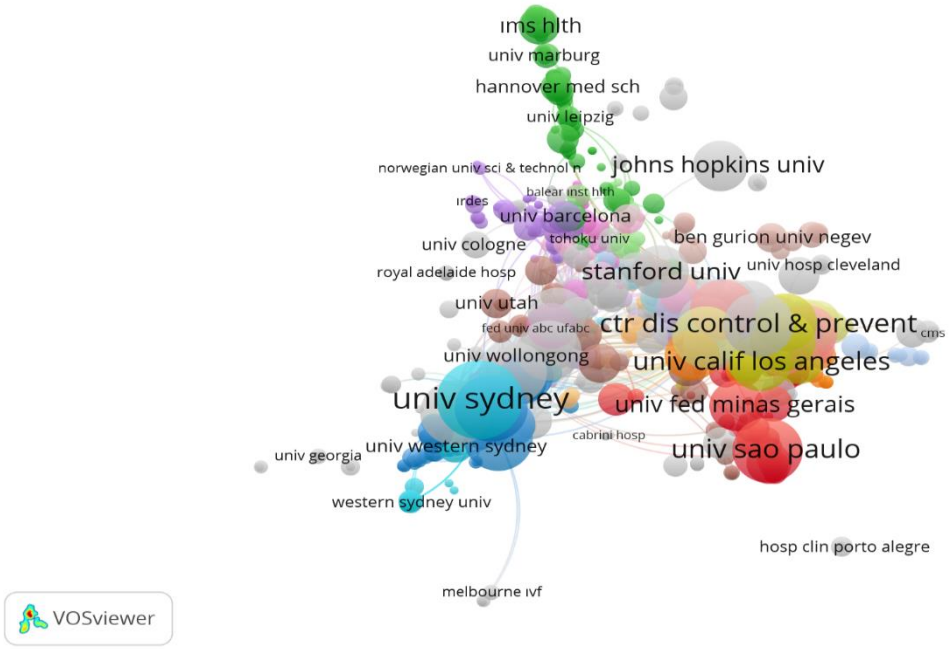
Figure 3 features maps showing the number of citations received by publications based on the country of publication. When creating the network map, the criteria included having at least one publication and receiving at least one citation. Out of the 106 countries analyzed, 95 met the threshold criteria. The analysis revealed 72 items, 17 clusters, 442 connections, and a total connection strength of 2141. According to the network map, the United States, Germany, Australia,

the United Kingdom, and Brazil are the primary countries that have made significant contributions to studies related to the concept of private health expenditure. These five countries are also the ones with the highest number of publications related to the subject. The United States ranks first with 1163 works, followed by Australia (428), Germany (230), Brazil (202), and the United Kingdom (143). When looking at the total number of citations received by countries, it is evident that the United States, with 32,255 citations, has a significant lead over other countries and also has the highest connection strength (684). The other countries with the highest number of citations are ranked as follows: Australia (8643), the United Kingdom (4334), Germany (2821), and Brazil (1685). When ranking countries by total impact strength, the top four remain the same, while the fifth place goes to the People's Republic of China. The cluster map indicates that the United States, Germany, Australia, and the United Kingdom, represented in dark colors, can be considered key contributors to the relevant concept since the 2010s. When examining the density map, it can be said that the United States, represented in a relatively lighter color, is the country with the highest number of citations and impact strength.

2.4 Citation of Countries Analysis

Figure 4. Citation of Organizations Analysis Network, Overlay and Density Maps

(A) Network Map



(B) Overlay Map **(C) Density Map**

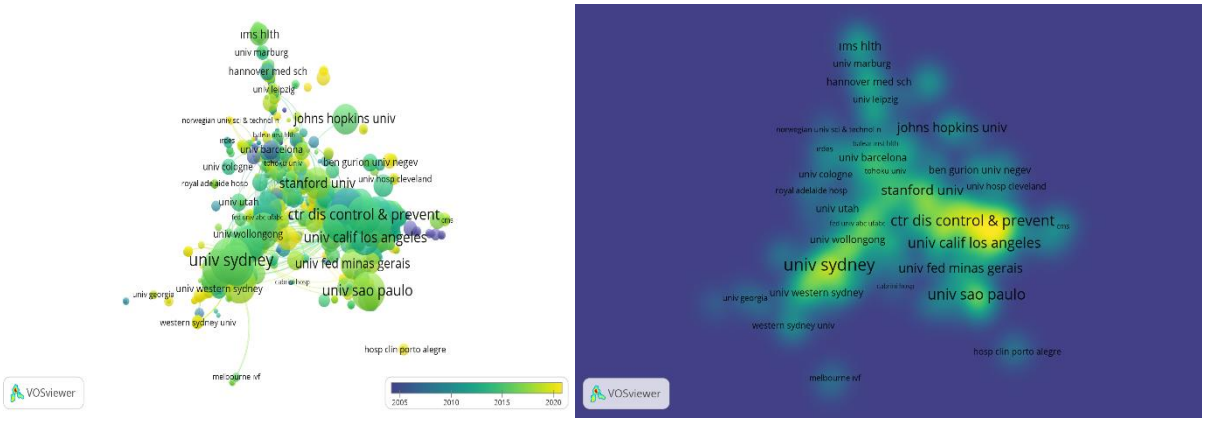
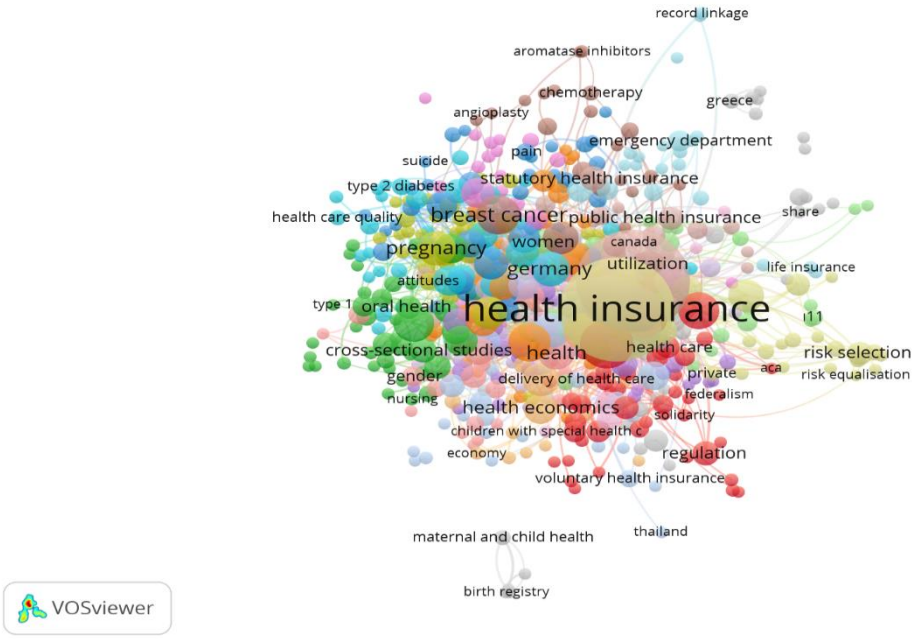


Figure 4 presents the inter-institutional citation analysis. While creating the network map, the criterion of having at least one publication and at least one citation has been considered. According to the analysis criteria, 2422 out of 2827 institutions met the threshold values. The analysis revealed 1123 items, 39 clusters, and 7440 connections with a total connection strength of 9883. Looking at Figure 4A, it can be seen that a large number of institutions hold a central position and contribute to the concept of private health insurance. Among these, the University of Sydney has the highest number of citations (2328) and is also the institution with the most publications (71). The other institutions with the highest number of citations, in order, are: University of California San Francisco (1969), University of Washington (1807), Centers for Disease Control and Prevention (1605), and University of São Paulo (373). It is observed that universities and their affiliated organizations dominate the list of institutions with the highest citations. However, albeit fewer in number, the Centers for Disease Control and Prevention and Hornsby Ku-ring-gai Hospital are among the institutions with the highest citations as government and university hospitals. When examining the overlay map, it can be stated that the key institutions with the highest citations and strong connection power have made significant contributions to the field after 2015. Looking at the density map, it can be said that the University of Sydney and the Centers for Disease Control and Prevention display high interaction and citation density.

2.5 Co-occurence of All Keywords Analysis

Figure 5. Co-occurence of All Keywords Analysis Network, Overlay and Density Maps

(A) Network Map



(B) Overlay Map **(C) Density Map**

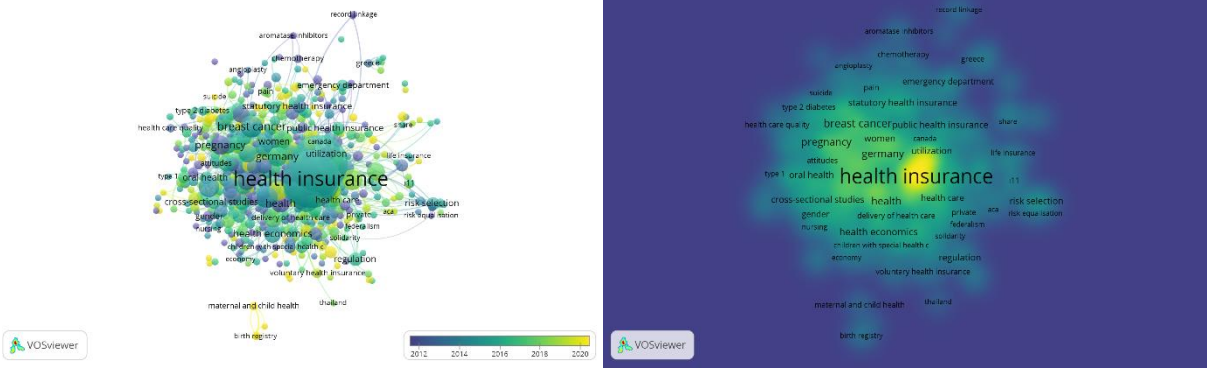


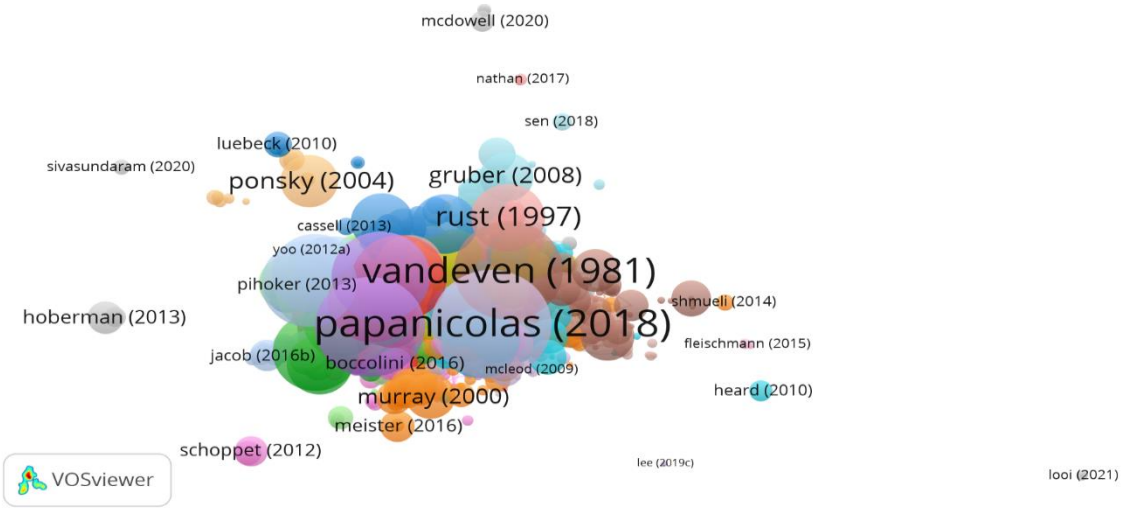
Figure 5 presents the analysis of the most frequently used keywords in the works. The analysis examines the relationships of words used in the titles, keywords, and abstracts of the works. When analyzing the keywords, a criterion was established that they must have been repeated at least three times, and out of 4,554 keywords, 566 met this threshold. As a result of the analysis, 566 items, 22 clusters, and 3,965 connections were identified, with a total connection strength of 4,946. In Figure 5 (A), it can be seen that the keyword with the largest item size in the network map is "Health Insurance," and the other keywords are clustered around this item. The keyword "Private Health Insurance," which has the second largest item size, is located at the center of the brown cluster. The keyword "Health Insurance" appears as the most frequently used keyword with 241 repetitions. The other most frequently repeated keywords, in order, are "Private Health Insurance" (236), "Medicaid" (53), "Health Policy" (52), and "Australia" (47). The ranking of the top five keywords is the same for the total connection strength. Looking at the overlay map, it can be stated that these

keywords are the primary keywords. The density map shows that the keyword "Health Insurance" is the most dense and has high influence power.

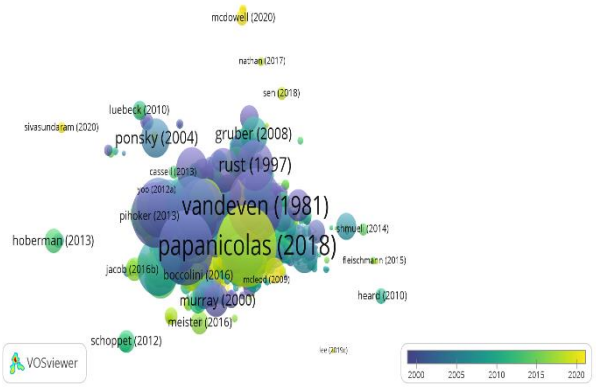
2.6 Bibliographic Coupling of Documents Analysis

Figure 6. Bibliographic Coupling of Documents Analysis Network, Overlay and Density Maps

(A) Network Map



(B) Overlay Map



(C) Density Map

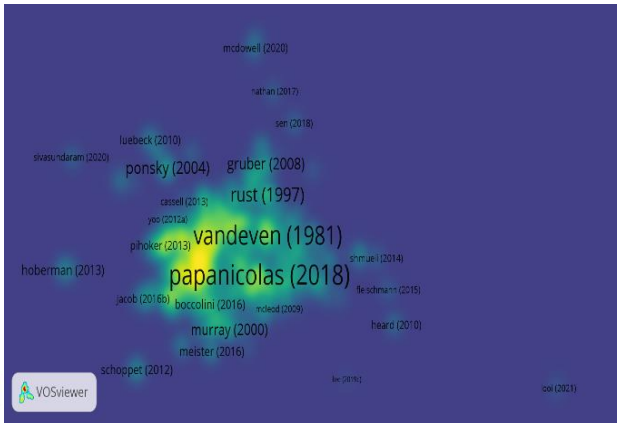


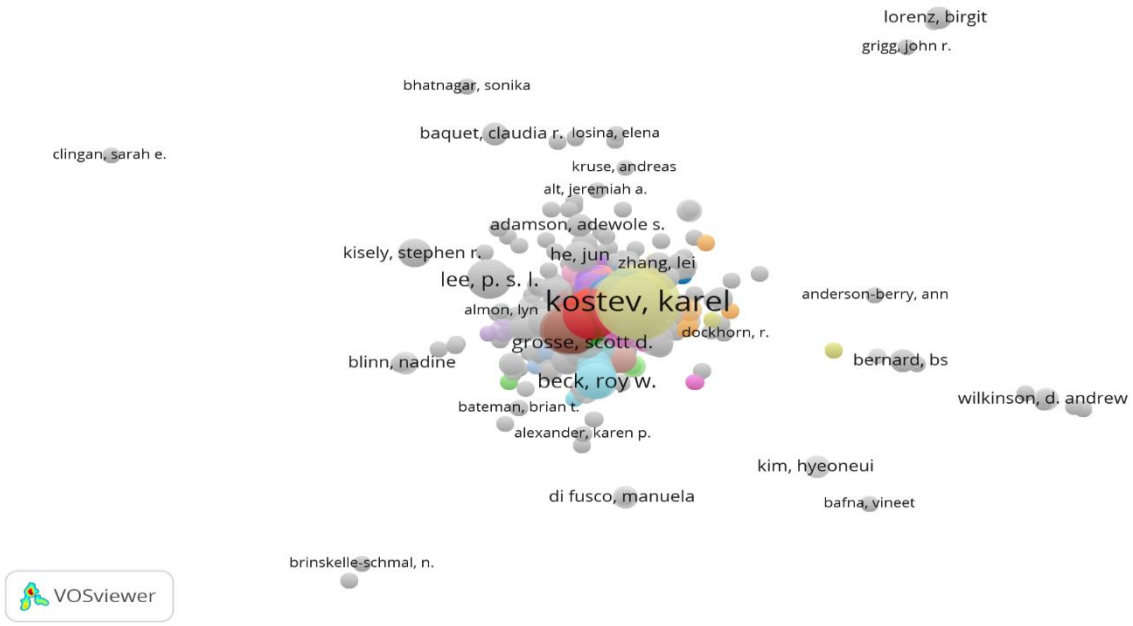
Figure 6 presents the bibliographic matching analysis of works that cited a common source referenced by two independent sources. In the analysis, which uses the criterion of having received at least one citation, a total of 2,253 works met the threshold. The analysis identified 566 items, 22 clusters, and 3,965 connections. The most frequently matched works are Papanicolas (2018) with 872 citations, Blyth (2001) with 723 citations, Vandeven (1981) with 715 citations, Boose (2002) with 587 citations, and Paradise (1997) with 547 citations. These highly cited works occupy central positions in the network map and have significant interactions with other clusters. According to the

overlay map, Blyth (2001), Vandeven (1981), Boose (2002), and Paradise (1997) are considered fundamental works. Papanicolas (2018) and Vandeven (1981) are the works with the highest density.

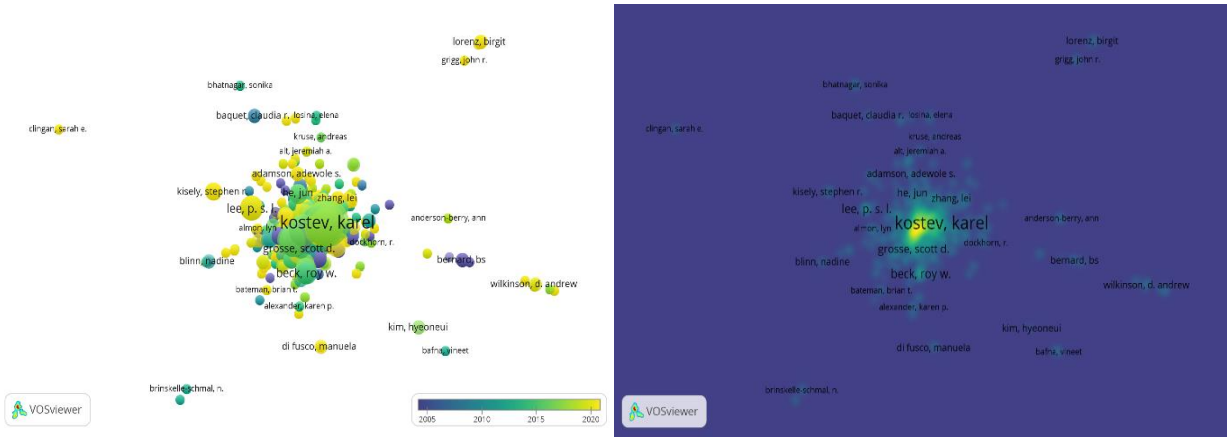
2.7 Bibliographic Coupling of AuthorsAnalysis

Figure 7. Bibliographic Coupling of Authors Analysis Network, Overlay and Density Maps

(A) Network Map



(B) Overlay Map **(C) Density Map**



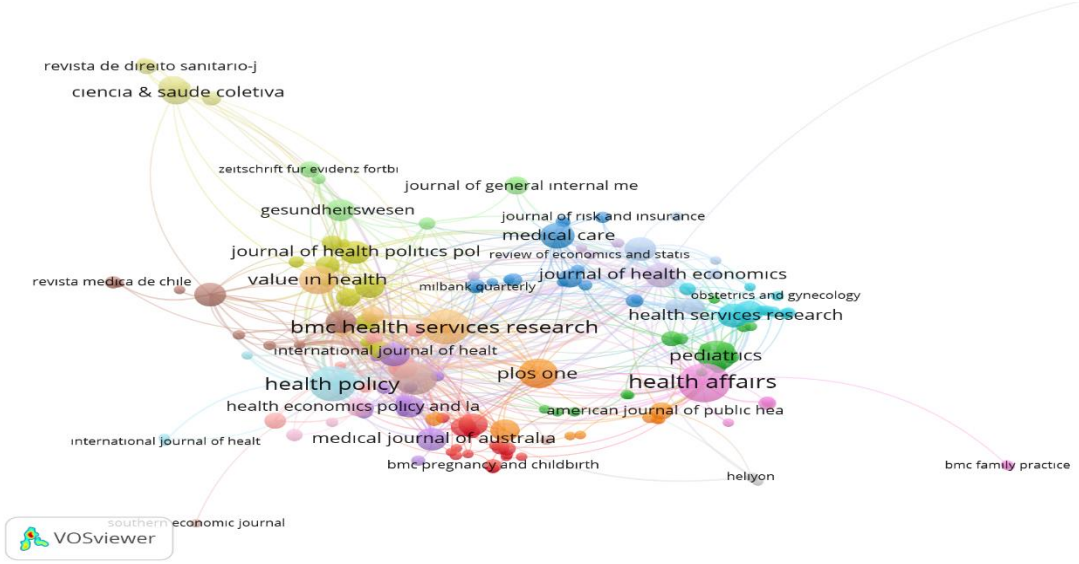
In the analysis, authors were included based on the condition of having published at least one work and received at least one citation, with 8128 out of 9565 authors meeting the threshold

criteria. The analysis yielded 7500 items, 92 clusters, 368408 connections, and a total connection strength of 1473581. The authors with the highest citation counts are Ashish K. Jha, Irene Papanicolas, and Liana R. Woskie with 872 citations, followed by Lm March with 852 citations and Ajm Brnabic with 775 citations. The authors with the highest total connection strength are Nikolas Grigorakis (9599), Evangleos Tsoukatos (8790), Christos Floros (8610), Haritini Tsangari (8610), and Savage Elizabeth (4293). Kostav Karel, with the largest item weight on the network map, is the author with the most works.

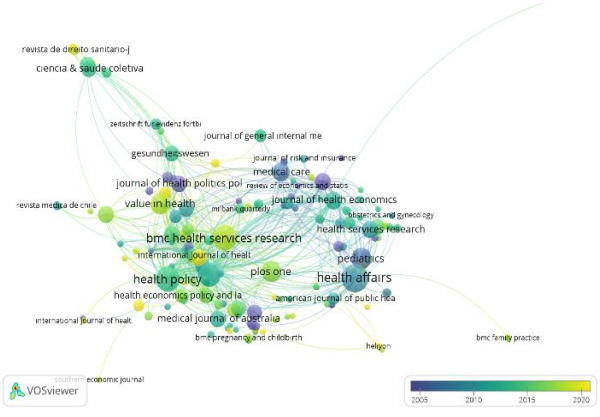
2.8 Source Citation Analysis

Figure 8. Source Citation Analysis Network, Overlay and Density Maps

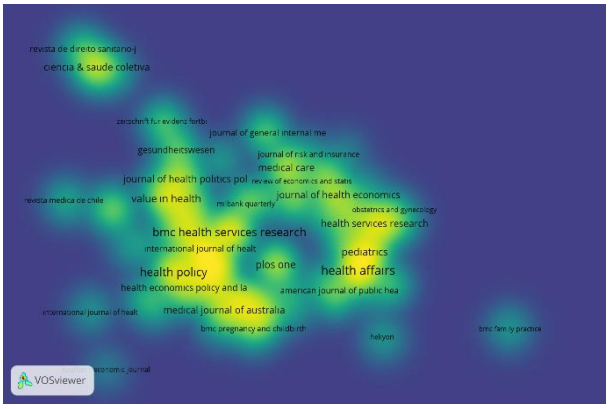
(A) Network Map



(B) Overlay Map



(C) Density Map



An analysis of the source citations of the works published in Figure 8 has been conducted. The criteria included that a source must have at least 3 publications and at least 1 citation. A total of 215 sources met these threshold values. The journal with the most works related to the concept of

"Private Health Insurance" is Health Affairs (62). The journal with the highest connectivity power is Health Economics (242), while the journal with the most citations is Pediatrics (3234). Other journals with high citation counts include Health Affairs (2382), The Journal of the American Medical Association (2082), and the New England Journal of Medicine (1442). In the network and density maps presented in Figure 8, journals such as BMC Health Services Research, Health Policy, Value in Health, Health Services Research, and Plos One Journal, which have higher item weights, are also notable for their high impact in terms of both citation counts and connectivity power.

Conclusion

In both developed and developing economies, the share allocated for financing healthcare services places significant financial pressure on public budgets. To address this, countries are turning to sustainable methods for financing healthcare services. Private health insurance has been promoted by many countries in recent years due to its advantages, such as reducing the financial burden on the economy, filling financial gaps not covered by social insurance, and providing additional resources to the healthcare system. However, private health insurance is also criticized for the potential to lead to catastrophic expenditures and for possibly increasing health inequalities if not managed properly. This situation makes studies on private health insurance, which has been increasingly significant in state budgets and plays an important role in financing healthcare systems even in the world's largest economies, particularly relevant. This study aims to conduct a detailed bibliometric analysis of the research conducted on private health insurance.

As a result of the analysis, it was determined that the highest number of publications was produced in types used as criteria for measuring academic performance, such as articles, conference papers, book chapters, and editorial content. The earliest published study dates back to 1980, with no works produced in 1987 and 1988. There is no information available in the literature regarding why no works were published during those years. The recent increase in the number of works suggests a growing interest in this topic. Notably, the peak in publication numbers during the pandemic period is striking. A total of 132 works have been produced across various fields, primarily including health policy services, health sciences services, public environmental occupational health, and economics. Therefore, it is recommended that literature searches related to the concept of "Private Health Insurance" should not impose field restrictions. Researchers conducting studies on "Private Health Insurance" are advised to track and read key authors with the highest citation rates and overall connection strength, such as Ashish K. Jha, Irene Papanicolas, Liana R. Woskie, March Lyn M. Elizabeth Savage, Glenn Jones, Jon Adams, and Karel Kostev, as well as major journals like Health Economics, Pediatrics, Health Affairs, The Journal of the American Medical Association, and Health Policy. According to the study results, the countries that have produced the most works and received the highest citations regarding "Private Health Insurance" are the USA, Australia, Germany, Brazil, and the UK. The fact that the USA leads by a wide margin in both the number of works and citations is thought to stem from the significant role of private health insurance in the financing of the US healthcare system. The presence of the most cited institutions also in the countries with the highest citations aligns with our analytical

expectations. Following the authors and journals in these countries and institutions will keep researchers informed about current developments related to the topic.

When examining the studies conducted on private health insurance, it is evident that despite having a regulatory structure in the healthcare services market, this type of insurance also contains risks that could reduce social benefit. According to Drechsler and Jütting (2005), private health insurance is gaining increasing importance within the healthcare system in low- and middle-income countries. Private risk-sharing arrangements can contribute to improving the coverage of healthcare services in these countries. They can assist governments in achieving optimal performance in insurance markets and health financing. However, private health insurance can also lead to certain economic drawbacks. Since not everyone has access to private health insurance, it can exacerbate health inequalities within society. Case studies generally show that high-income individuals benefit from private health insurance. Secondly, private health insurances can increase healthcare costs, driving qualified healthcare personnel away from the public sector and leaving only high-risk patients to the public system, thereby degrading the quality of healthcare services. Finally, the allocation of resources from the public to the private sector can hinder the portion that should be dedicated to preventive health services, such as vaccination and immunization. According to the study by Doorslaer et al. (2008), the unfair distribution of private health insurance based on income is already increasing the different usage of healthcare services among income groups. In other words, private health insurance is increasing social health inequalities. According to Buchmueller et al. (2013), consumers who purchase private health insurance have better health status compared to those without private health insurance, and they are less likely to report a recent doctor visit. Risk aversion, cognitive ability, and income are the most important variables determining the coverage of private health insurance. Ellis and Savage (2008) have demonstrated that the presence of long-term health issues and having a high income increase the demand for private health insurance. Age, education, wealth, residing in urban areas, and the desire to receive higher-quality services are other significant variables that increase the demand for private health insurance. According to Ellis and Savage (2008) and Balqis-Ali et al. (2021), being over 50 years old, being female, living in rural areas, self-employment, unemployment, having a health discount card, low educational level, low body mass index, and smoking increase the likelihood of not having private health insurance. However, the presence of a chronic illness does not have a significant relationship with having private health insurance.

Private health insurance provides a significant welfare gain as it protects the elderly and low-income individuals from high financial risks. However, the coverage rate of private health insurance in these segments of society is not at the desired level. This situation is believed to stem from the market price being above the payment capacity of low-income individuals, contributing to increased welfare costs and health inequalities in society (Ko, 2020). To overcome this, policies such as community rating can be implemented. However, this may lead to younger and healthier individuals paying higher premiums. Preventing this situation can be achieved by prohibiting insurance companies from using consumer risk information when determining premiums, which

would significantly contribute to market regulation. Although private health insurances are increasingly establishing their place in health markets worldwide, we cannot say that they are a definitive solution for the problems in health markets. The crucial point here is whether private health insurances can be utilized in the most appropriate way to meet the needs of health systems. By developing policies that enable individuals to voluntarily enroll in private health insurances, the financial pressure on the public can be significantly reduced.

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DETERMINANTS OF CONSUMERS' BRAND PREFERENCE; A SYSTEMATIC REVIEW STUDY

Kübra Kavalcı[1]

Abstract

In marketing literature, a brand is much more than a simple name and symbol. Brands represent consumers' perceptions and concepts of a product or service. Therefore, this study aims to determine the brands that consumers prefer among the unlimited number of brands in the international market on a product or service basis by analyzing the factors that cause them to prefer them using a systematic compilation method. Within the scope of the study, articles published in the Dergipark database between the years 2014-2023 were used. Inclusion and exclusion variables were determined for the articles and in this context, 29 articles out of the 85 articles obtained because of the screening were systematically analyzed by following the stages in the PRISMA protocol. In the study, the factors affecting brand preference were grouped under three headings: marketing mix-oriented, consumer-oriented and brand-oriented.

When looking at the marketing mix variables, it was seen that the 4 main factors of the marketing mix, product/service, price, distribution and promotion, are among the factors affecting consumers' brand preference. Each of these variables consists of sub-variables. When looking at the brand-oriented variables, these consist of 7 sub-factors that cause the brand to be preferred due to its own characteristics or its perception in the consumer. When looking at the consumer-oriented variables, which are the last heading affecting brand preference; it was determined that demographic characteristics, ethnocentric tendency, level of fanaticism, desire to be accepted, personal experience/preference, satisfaction with the brand, pleasure of owning the brand, desire to gain respect, imitation-taking as an example and consumer self-concordance are variables that cause the consumer to prefer the brand due to their own characteristics or their own thoughts and feelings.

Keywords: Brand, Brand Preference, Systematic Compilation.

1. Introduction

In marketing literature, a brand is much more than a simple name and symbol. Brands represent consumers' perceptions and concepts of a product or service. In other words, a brand is the embodiment of a product or service in the consumer's mind (Yu vd., 2021; s.2). A brand is not just a logo or a name. A brand is a way of expressing the feelings and thoughts that the consumer has towards an institution or product. The structure, shape, packaging of a product or service, in short,

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everything specific to that product or service is included in the concept of a brand (Aktuğlu ve Temel, 2006; s.44).

Brand preference is an important marketing criterion that can show the strength of a brand against rival brands (Li vd., 2021; s.2). Brand preference refers to consumers' preference for a brand in a particular market and reflects consumers' tendency to choose a particular brand over other competing brands (Tian vd., 2022; s.1). Brand preference is defined as the consumer's tendency to favor one brand over other brands based on significant beliefs that the preferred brand will provide greater benefits than other brands at a given time (Bohrer, 2007: s.55-56).

Measuring brand preference is a form of analysis aimed at determining the impact of marketing activities on the cognitive and emotional aspects of both existing and potential customers. Brand preference is one of the indicators of a brand's cognitive and emotional power of consumers, revealing how and why a brand is preferred despite the unlimited number of other brand options in the world market (Naeini vd., 2015, s.618).

Many researchers in literature point out the importance of brand preferences as one of the main determinants of purchase (Yoh, 2002; s.10-11). In fact, there are many academic studies in the existing literature stating that brand preference directly affects consumers' purchase intention (Tian vd., 2022; s.1). According to Clarence and Keni (2022), brand preference is an important factor in creating and increasing consumer purchase intentions, and brand preference positively and significantly affects purchase intentions. Aaker (1996) stated in his study that consumers generally continue to purchase the brand even in the face of competitors with superior features, prices and convenience (Akt. Bohrer, 2007: s.55-56). A consumer who prefers a particular brand of product will choose it from its competitors and buy it, based on their previous experience with the product, sometimes regardless of its price, if it is available (Yoh, 2002; s.10-11). In this way, brand loyalty is formed by repeatedly purchasing products or services of the same brand or the same brand series, and it is stated that brand preference is the basic and first stage in the formation of brand loyalty (Li vd., 2021; s.3). As a result, companies that can develop brand preference will be able to survive in the competition (Marzuki 2023; s.9-10).

1.1. Purpose of the research

Determining brand preference is an important topic in the marketing field. It is important for businesses to determine what affects brand preferences to make a profit and survive in the market. Therefore, it is necessary to understand brand preference, especially to develop brand preference and to examine the results of these variables (Cesur ve Memiş, 2021: s.740).

In this context, the aim of this study is to determine the brands preferred by consumers among the unlimited number of brands in the international market on the basis of products and services by analyzing the factors that cause them to prefer them using a systematic compilation method.

In this context, the research question sought to be answered is as follows: In scientific studies published in Türkiye on brand preference; What are the determinants that cause consumers to prefer a brand?

1.2. Theoretical framework on the research topic and major studies on the subject

Brand preference is an important topic in marketing because it helps understand consumer preference behaviors in the process of consumer decision making and purchasing behavior. Therefore, there are many studies on brand preference in the literature. The most widely known study of these is the study that states that brand preference is under the combined effect of features related to a product or brand, personal characteristics of the consumer, environmental factors and situational factors (Howard & Sheth, 1969). There are studies showing that brand preference is affected by the characteristics of the product/service, the brand or the consumer. For example, brand trust (Afsar, 2014; Dam, 2020), brand value (Chen ve Chang, 2008; Pool vd., 2018; Dam, 2020; Afsar, 2014), perception of quality (Afsar, 2014), exposure to brand advertising (Moran vd., 2020), It has been determined that brand preference has a positive effect on purchase intention. In addition, brand preference has a positive effect on purchase intention (Dam, 2020; Chen ve Chang, 2008, Pool vd., 2018) customer brand preference has a greater impact on future purchase intention than customer perceived value (Muzakir ve Damrus, 2018) ın this context, the connection between the tendency to prefer a certain brand and the desire to repurchase that brand is important (Ebrahim vd., 2016) ın addition to studies showing positive effects of brand preference, price perception has a negative effect on brand preference (Afsar, 2014) there are studies indicating this.

1.3. Importance of research

When the literature in the field of marketing is examined, it is observed that many quantitative studies have been conducted on the brand preference of consumers. However, no research has been found in the literature studies that have conducted a systematic analysis of the brand preference of consumers. Therefore, it is thought that the research conducted will make a significant contribution to the marketing literature.

In this context, it is thought that the answers sought to the question stated in the purpose section of the study will be of significant benefit in determining the marketing strategies that businesses, especially those that have to struggle with intense competition conditions in the global world, will implement for consumers so that they tend to prefer their brands.

2. Method

This section includes information on the research design of the study, data collection process, data analysis, validity and reliability.

2.1. Research design

There are many different factors that affect consumers' brand preferences. A systematic literature review was conducted to comprehensively address these factors, review recent research on brand preferences, and support future studies.

The aim of this study is not only to conduct a content analysis, but also to determine what effects the factors in studies on brand preference may have on such studies and thus to provide a guide for researchers who will work in this field.

2.2. Data used in the research and collection process

To improve the quality of systematic reviews, PRISMA, the preferred reporting element for systematic reviews and meta-analyses, was used in the study (Moher et al., 2015). The study was started by typing the words (“Brand Preference”) and (“Consumer Brand Preference”) in the DergiPark database and scanning them. This database was selected because the advanced search options in the DergiPark database provide a very useful search engine where many words and/or phrases are listed under certain disciplines (Ala, 2021: s.85). As a result of the search conducted on 13.04.2023, a total of 87 studies were reached. 85 of these studies were obtained from the search conducted with the word "brand preference" and 2 from the search conducted with the word "consumer brand preference". Before analyzing these studies, inclusion and exclusion criteria were determined to prevent selection bias and are shown in Table 1.

Table 1: Inclusion and Exclusion Criteria

Inclusion	Exclusion
Having an article	Other publications such as compilation, thesis summary, notification etc.
Publication language being Turkish	Must be written in a foreign language
Quantitative research	Qualitative and Mixed research

After determining the inclusion and exclusion criteria, 87 studies obtained from the database were transferred to an Excel spreadsheet and 2 duplicate articles were removed from the data before scanning. When the scanning phase of the research was started, first 2 non-article publications (reviews, thesis abstracts, etc.) and 6 articles published in a foreign language (English) were removed from the study. In the last step of the screening phase, 7 studies conducted with non-quantitative (qualitative, experimental, etc.) research methods were excluded. Only studies published in Turkish were included in this study. Because no previous content analysis was found in the literature on studies published in our native language in Türkiye. When it came to the eligibility phase, the remaining 70 articles were examined textually to remove irrelevant studies. In the first stage, the title and abstract of the studies were examined, and in the second stage, the method and results were examined in more detail. As a result, 29 articles were included in the systematic review.

2.3. Data Analysis

The documents determined within the scope of the study were subjected to a detailed content analysis. Content analysis is a research method used to derive systematic and impartial results from certain characters defined in the text (by coding) (Koçak and Özgür, 2006; p.22) and is frequently used in the field of social sciences. A two-stage coding process was carried out in the study. First, all the texts transferred to the MAXQDA 23 program were examined and coding was done one by one, then, certain code classifications were made under the main code headings by considering the relationships between these codes. In addition, in order to prevent data confusion in the analysis

phase of the study, each article examined was coded as A1, A2, A3… A29 and shown in this way in the study.

2.4. Validity and reliability

Several steps were implemented to increase the validity and reliability of this research. First, ideas and support were received from faculty members specialized in qualitative research methods at each stage of the study (Internal validity). All stages of the study are presented to the reader in a clear, understandable, detailed and unbiased manner. In addition, the results, analyzes and documents obtained from the research are kept by the researcher (External validity).

Within the scope of the study, a "consistency review" was conducted to bring a holistic perspective to the research process and to examine the research process from different perspectives from beginning to end. The data collection process was carried out according to the inclusion and exclusion criteria of the study. This process was recorded in a Microsoft Excel workbook and all data, analyses and all relevant documents were kept to verify the research results. After the data collection process, the consistency of the sources reached was examined with peer support and a high level of consistency was observed. In addition, since the research articles obtained within the scope of this study were taken from an electronic database that is open to access, they do not require ethical permission.

3. Findings

In this section, publication trends, methodological tendencies and results of systematically analyzed brand preference studies are presented.

3.1. Findings of studies on brand preference

When the findings obtained from the analyses conducted on brand preference within the scope of the research are examined, it is seen that the variables affecting consumer brand preference are gathered under 3 main headings. The first of these is the heading where the variables related to the marketing mix are gathered together. Here, the variables are gathered under the subheadings of the marketing mix as product/service, price, distribution and promotion. The second heading is the heading where the variables related to the brand are gathered together. Here, the characteristics that a brand carries within itself and the characteristics that the consumer's mind evokes for that brand are gathered together. The third heading is the heading where consumer-oriented variables are gathered together, and it consists of subheadings that include the consumer's own characteristics or personal feelings and thoughts when choosing a brand. In addition, it is seen that there is a mutual relationship between some variables. For example, the "trust in the brand" variable is in a mutual relationship with both the "familiarity-awareness" variable and the "satisfaction with the brand" variable. The mutual relationship here is that both variables affect each other. In other words, if you know and know a brand, you trust that brand, or if you trust a brand, you know that brand, there is a relationship. Similarly, if you trust the brand, you will be satisfied with the brand or if you are satisfied with the brand, you will trust that brand. In addition, the study shows that the most intense and mutual relationship is between "price" and "quality". Price and quality are two

variables that cannot be considered separately in brand preference. In the perception of consumer brand preference, if a brand is of high quality, its price is high or if a brand is of high price, it is of high quality.

4. Discussion, Conclusion and Recommendations

In this study, it is aimed to determine the variables that affect the preference of the brand preferred by the consumers by keeping it separate from the unlimited number of other brands in the globalizing world market by systematic analysis method. For this purpose, 29 articles obtained from DergiPark database were included in the scope of the study.

As a result of the analysis, the factors affecting consumer brand preference were determined and grouped under three main headings as marketing mix-oriented, consumer-oriented and brand-oriented. When the marketing mix-oriented variables were examined, it was seen that the 4 main factors of the marketing mix, product/service, price, distribution and promotion, were among the factors affecting consumers' brand preference. Each of these variables consists of sub-variables. It has been observed that the product factor is important in the consumer's brand preference and that the durability, fashionability, taste-consistency-flavor, visuality, variety, different experience and most importantly quality of this product are effective in the consumer's brand preference. When it comes to the distribution factor, it has been determined that the brand's easy availability and store features, namely the store's location, personnel, in-store sound, smell and light factors are effective in the brand preference. In the promotion factor, it has been determined that the most important factors affecting the brand preference are advertising, discount/promotion and word of mouth communication. In addition, it has been determined that promotion activities such as crisis management, social media marketing, reference groups, environmentally friendly brand perception and social responsibility affect the brand preference.

Another main heading affecting brand preference in the study is brand-oriented variables, which consist of 7 sub-factors that cause the brand to be preferred due to its own characteristics or perception in the consumer. Here, it was determined that the brand's origin (place of establishment), experiencing the brand, the rational benefit provided by the brand to the consumer (price + quality + performance) and emotional benefit (status, satisfaction, belonging to the social class), which are variables related to the perception left in the consumer's mind by the brand, affect brand preference. In addition, it was determined that the brand identity and its sub-variables, name of the brand and slogan of the brand, brand originality and its sub-variables, recognition, reliability and originality of the brand, brand value and its sub-variables, loyalty to the brand, brand image, brand associations, brand reputation and brand awareness are important in brand preference. When the variables related to the brand are examined, it is seen that especially all the components of the brand value are completely included.

The last heading affecting brand preference is consumer-oriented variables. These are; Demographic Characteristics, Ethnocentric Tendency, Level of Fanaticism, Desire to Be Accepted, Personal Experience/Preference, Satisfaction with the Brand, Pleasure of Owning the Brand,

Desire to Gain Respect, Imitation-Sample Taking and Consumer Self-Congruity, which are variables that cause the consumer to prefer the brand due to their own characteristics or their own thoughts and feelings.

After determining the variables related to brand preference in the study, it was observed that there was a mutual relationship between some variables. In particular, an intense relationship was determined between price and quality. Apart from this, it was determined that advertising; although not as intense as the intensity between price and quality; has a mutual relationship with slogan, discount/promotion, word of mouth communication and the pleasure of owning the brand; brand awareness; with brand loyalty, brand image and quality; brand image; with quality, brand reputation and easy availability; Quality; with price; with brand loyalty, brand image, brand awareness; and brand trust; with brand satisfaction and recognition.

This systematic analysis study on consumer brand preference was conducted only in light of the data obtained from the DergiPark database. In addition, the fact that this study was conducted by only considering the survey-based research article written in Turkish constitutes a limitation of this study. Therefore, future studies can be conducted in light of data obtained from different databases or in light of data published in different languages. In addition, studies can be conducted using different subjects or different analysis techniques.

Source

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Ek 1: Çalışmaya Dahil Edilen Makaleler

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EXAMINATION OF DIDEROT AND ZEIGARNIK EFFECTS WITHIN THE SCOPE OF PURCHASING BEHAVIOR

Nazan Korucuk[1]

Abstract

In a consumer society, individuals purchasing behavior is shaped by the interaction of many psychological factors. In this context, the Diderot effect, originating from the philosophy of Denis Diderot, and the Zeigarnik effect, put forward by psychologist Bluma Zeigarnik, stand out as important concepts in understanding consumer behavior. While the Diderot effect increases the tendency of individuals to turn to other products that are compatible with a new product when they acquire it, the Zeigarnik effect reveals that unfulfilled needs and tasks take up more space in the mind. These two effects are strong psychological factors that affect individuals' shopping processes and purchasing decisions. This study aims to evaluate the effects of the Diderot and Zeigarnik effects on purchasing behavior. Thus, it can contribute to the literature by examining the psychological factors that are effective in consumer purchasing behavior. In order to achieve the purpose of the study and to solve the research question, document analysis, a qualitative research method frequently preferred in social sciences, was used. As a result; the findings offer important implications in terms of developing marketing strategies. It is said that brands enrich the shopping experience of consumers by connecting product groups using the Diderot effect. At the same time, emphasizing unfulfilled needs by taking the Zeigarnik effect into account can increase consumers' desire to shop more. Therefore, it can be said that the active use of these two effects contributes to the strengthening of brands' sales strategies and influencing consumers' purchasing behavior. In the study, various suggestions were presented for businesses so that the Diderot and Zeigarnik effects can affect consumers' purchasing behavior more positively.

Keywords: Diderot Effect, Zeigarnik Effect, Consumer Buying Behavior.

Introduction

Today, consumption and purchasing behavior can be said to be one of the important factors that shape individuals' lifestyles, values, and identities. Consumption is known as a process that reflects not only the acquisition of goods and services, but also the relationships of individuals with their social environment and social norms (Samoggia & Riedel, 2018). In this context, it can be said that individuals' purchasing decisions are deeply affected by psychological, social, and cultural factors. Consumption behavior refers to the sum of the choices individuals make to meet their needs. These choices are shaped by emotional reactions as well as conscious decision-making processes.

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Purchasing behavior, on the other hand, covers the stage of making the final decision for a particular product or service (Liu, Wang, Shishime, & Fujitsuka, 2012). After gathering information about a product, individuals make a shopping decision by considering various factors. The main factors affecting consumption and purchasing behavior include brand perception, social influences, advertising and marketing strategies, individual needs, and economic status (Punj, 2011). The modern marketing world is constantly conducting research and developing new approaches to understand consumer psychology and develop strategies accordingly.

In the consumer society, individuals' purchasing behaviors are shaped by the interaction of many psychological factors (Babicz-Zielińska, 2006; Çakır, Çakır, & Usta, 2010). In this context, the Diderot effect, which originates from Denis Diderot's philosophy, and the Zeigarnik effect, put forward by psychologist Bluma Zeigarnik, stand out as important concepts in understanding consumer behavior (Tokmak, 2019). While the Diderot effect expresses the desire of individuals to change their existing belongings when they acquire a new product (Terzioğlu, 2023), the Zeigarnik effect indicates that unfinished tasks occupy more space in the mind (Denmark, 2010). The combination of these two effects helps us understand how consumers' purchasing decisions are affected. While the Diderot effect directs consumers to spend more in search of aesthetic and social harmony; the Zeigarnik effect triggers rapid decision-making processes with the pressure created in the mind by feelings of incompleteness and unfulfilled needs. These two effects create a complex structure that affects purchasing decisions (Çakaröz, Kılıç, & Civek, 2022). While the Diderot effect directs consumers to spend more in search of aesthetic and social harmony (Chen, Wang, Ma, & Wu, 2024); the Zeigarnik effect can increase the mental pressure of unfulfilled needs and cause them to make quick and instant decisions (Hammadi & Qureishi, 2013). These two effects become important elements to consider in shaping the marketing strategies of brands.

This study aims to evaluate the effects of Diderot and Zeigarnik effects on purchasing behavior. Thus, it is possible to contribute to the literature by examining the psychological factors that affect consumer purchasing behavior. The research question determined to achieve the purpose of the study is "How is the effect of Diderot and Zeigarnik effects on purchasing behavior evaluated in the marketing literature?"

Method

Research Method

This article preferred document analysis, which is one of the most frequently used qualitative research methods in social sciences. Document analysis is a research method known as the detailed examination, review and analysis of information within the scope of the research purpose (Sak, Sak, Şendil and Nas, 2021). This study also comprehensively examines the literature on diderot and zeirganic effect purchase efficiency.

Findings

Diderot Effect

The Diderot effect is known as a consumer behavior defined through the personal experience of the 18th century French philosopher Denis Diderot. One day, Diderot began to feel uncomfortable with the incompatibility of his existing belongings with a new coat he received as a gift. This led him to change his old belongings and feel the need to buy new objects (McCracken, 2001). Diderot states that when individuals acquire a new product, they want to buy other items that are compatible with this product. It can be said that the Diderot effect stems from the desire of individuals to ensure harmony between the items they own. When a new product is purchased, the idea that this product should be compatible with existing items directs consumers to new purchases (Terzioğlu, 2023). This effect is especially evident in the areas of fashion, home decoration and luxury consumption. It can be said that the Diderot effect has a significant impact on consumer culture and purchasing behavior today (Fowler, 2011).

Consumers' desire to achieve unity among the objects they own can be said to be a psychological factor underlying the Diderot effect. A new product is desired to be in harmony with existing items. This is considered important because it reflects individuals' own identities and lifestyles (Ley, 1995). Many people shop by considering how they are perceived from the outside. Social acceptance and social status are considered another aspect of the Diderot effect. Consumers care about how the products they own are perceived by others. When an object provides prestige within a group or community, this can trigger new purchases. Social media and influencer culture, in particular, further increase this effect (Wolfe, 2019). Consumers see the objects they own as part of their self-perception. Acquiring a new product can help individuals redefine their own identities. This can lead to the replacement of existing items or the purchase of complementary products. The Diderot effect has various effects on purchasing behavior (Kahn, & Ratner, 2005; Hagtvedt, H., & Brasel, S. 2016; Richins, 2011).

Increased Consumption; The Diderot effect can cause increased consumption. When a product is purchased, individuals tend to purchase new items to complement it. For example, a person who buys a new outfit may start looking for shoes, bags, or accessories that match that outfit.

Brand Dependency; This effect can increase dependency on certain brands. Consumers may constantly prefer products from that brand, expecting a product they buy from a brand to be compatible with its other products. This can help brands build a loyal customer base.

Impulsive Purchases; The Diderot effect can often lead individuals to make unplanned expenditures. If a new object purchased creates a feeling of incompatibility with existing items, this can quickly lead to the purchase of other products. This can lead individuals to exceed their budgets.

Intrinsic Motivation; The Diderot effect also works based on individuals' intrinsic motivations. Consumers may seek objects that reflect their own lifestyle and identity. This can be related not only to appearance, but also to the individual's sense of well-being and satisfaction.

Social media is a factor that further increases the Diderot effect. The posts of influencers and users can affect the purchasing decisions of other individuals. When a user sees an influencer

promoting a new product, they may want to buy other products that are compatible with this product. Since social media platforms are areas where individuals showcase their lifestyles and interact with each other, the Diderot effect can become more pronounced here (Kara & Diker, 2023). It can be said that the Diderot effect has an important place in modern consumer culture. It can be said that consumers' search for harmony between the objects they own is a strong source of motivation that directs them to new purchases (Castells, 2009). Psychological factors, social influence and intrinsic motivations constitute the dynamics of this effect. Especially with the influence of social media, the Diderot effect has become more widespread today and has become a phenomenon that shapes consumer behavior (Page, 2020). Understanding these effects can help consumers shop more consciously and manage their budgets better.

Zeigarnik Effect

The Zeigarnik effect was discovered by psychologist Bluma Zeigarnik. It can be defined as an effect that suggests that individuals remember unfinished tasks or unfinished work better and that this affects their mental processes (Denmark, 2010). In the context of consumption, the Zeigarnik effect can be said to be important in understanding how incomplete purchasing processes affect consumers. The Zeigarnik effect states that incomplete or incomplete tasks tend to be remembered more than completed ones (Burke, 2011).

When people do not complete a task, it occupies their mental resources and, as a result, leads them to think more about and take action on that task. This effect can have important consequences on individuals' attention and motivation (Shuyong & Kan, 2024). Incomplete tasks can have a strong impact on mental resources and attention. When consumers leave a product selection halfway through shopping, this can lead them to think about that product later (Nickerson, 2023). This can increase the consumer's interest in the product. An action that was not completed before can create a desire in individuals to complete something. This can lead consumers to refocus on products they had previously ignored and eventually purchase. This effect can be especially pronounced for discounted or limited-edition products. Unfinished tasks can constantly occupy space in individuals' minds. As a consumer thinks about a product they have not completed purchasing, their interest in that product and the likelihood of purchasing it may increase. Even at an unconscious level, an incomplete purchase can direct the consumer to a specific product. The Zeigarnik effect has various effects on purchasing behavior (Baird & Hargreaves, 2012; Hammadi & Qureishi, 2013):

Unfinished Shopping; On digital shopping platforms, products added to the cart but not purchased are a direct example of the Zeigarnik effect. Consumers may eventually make a purchase decision by keeping these products in mind. This may present a strategic opportunity for e-commerce sites.

Activation Strategies; In the field of marketing, it is widely known that reminders are sent to consumers to complete unfinished tasks. Reminders made via e-mail or notifications can keep the consumer's interest alive and increase the likelihood of purchase.

Increasing Purchase Consumption; An incomplete shopping experience for consumers can encourage them to buy more products. For example, after a consumer buys an outfit, they may look for accessories to match it. This can cause the shopping cart to grow.

Persuasive Advertisements; Advertisements that emphasize unfinished tasks can attract consumers' attention. Introducing a product with phrases such as "only valid for a few more days" or "last remaining" can make consumers feel incomplete and accelerate their purchase decision.

On digital platforms, the Zeigarnik effect becomes even more pronounced. Online shopping experiences use various strategies to remind consumers of their unfinished transactions (Amorim, Calvo, & Wagner, 2023). Notifications such as “Don’t forget to complete your cart” can revive unfinished purchase processes. In addition, suggestions and reminders that will attract users’ attention can encourage shopping completion. The Zeigarnik effect is known as an important psychological factor affecting consumers’ purchasing behavior (Tokmak, 2019). How unfinished tasks attract individuals’ attention and increase their motivation can become especially evident in digital shopping experiences. Marketing strategies can increase consumers’ interest and increase their likelihood of purchasing by using this effect. Understanding this effect can help consumers make more conscious decisions in their shopping processes (Gürdin, 2020).

Studies on the effect of Diderot and Zeigarnik effects on consumer purchasing behavior have been examined. Brief information about the studies conducted on the subject has been provided by reviewing the relevant studies. Arslan & Bakır (2024) concluded that there is a positive weak relationship between online compulsive buying behavior and the diderot effect. In the study of Terzioğlu (2023), it was concluded that consumers using the Dolap and Depop application, although they have second-hand clothing, buy products they do not need due to the diderot effect. In the study of Kara & Diker (2023), it was concluded that there is a direct relationship between the diderot effect of consumers and the happiness they feel when they obtain a new product. In the study of Toku (2023), it was concluded that advertising, direct marketing, sales development and point-of-purchase communication applications can create the Diderot Effect in consumers. In the study of Çakaröz, Kılıç & Civek, (2022), it was concluded that there is a significant relationship between consumers' unplanned purchases and the diderot effect. In the study of Gurdin (2020), it was concluded that consumers are more under the Zeigarnik effect than the Diderot effect when making a purchase decision. In the study of Hammadi & Qureishi (2013), it was concluded that there is a strong relationship between the Zeigarnik effect and consumer attention in advertisements. In the study of Lorenzen (2015), it was concluded that the Diderot effect leads consumers to overconsumption and they buy products that complement each other.

Conclusion and Recommendations

This study aims to evaluate the effects of Diderot and Zeigarnik effects on purchasing behavior. Thus, it is possible to contribute to the literature by examining the psychological factors that affect consumer purchasing behavior. In order to reach the purpose of the study, information about Diderot and Zeigarnik effects was provided in order to answer the research question "How is the

effect of Diderot and Zeigarnik effects on purchasing behavior evaluated in the marketing literature?" At the same time, studies on Diderot and Zeigarnik effects in the literature were evaluated.

The Diderot and Zeigarnik effects are critical to understanding the dynamics of consumer behavior. The Diderot effect increases the tendency of individuals to switch to other compatible products when they acquire a new product (McCracken, 2001), while the Zeigarnik effect reveals that unfulfilled needs and tasks take up more space in the mind (Baird & Hargreaves, 2012). These two effects are powerful psychological factors that affect individuals' shopping processes and purchasing decisions.

Research shows that the Diderot effect is more evident in luxury consumption and the search for aesthetic harmony. When consumers buy a new product, they want to buy other products that are compatible with this product and expand their shopping (Hagtvedt & Brasel, 2016). On the other hand, the Zeigarnik effect increases the effect of unfulfilled needs on consumers; this makes consumers' shopping processes more complex. Unfulfilled tasks or needs lead consumers to buy more products, and this can be said to trigger shopping behavior (Denmark, 2010).

These findings offer important implications for the development of marketing strategies. Brands can connect product groups and enrich consumers' shopping experience by using the Diderot effect. At the same time, emphasizing unfulfilled needs, taking into account the Zeigarnik effect, can increase consumers' desire to shop more (Gürdin, 2020). Therefore, it can be said that the active use of these two effects contributes to the strengthening of brands' sales strategies and influencing consumers' purchasing behavior.

In line with this study, some suggestions can be offered to businesses. Brands can offer consumers harmonious product combinations by integrating product groups using the Diderot effect. Strategies should be developed within the framework of the Zeigarnik effect to address consumers' unfulfilled needs. This can be supported by product recommendations and reminder campaigns. In order to better understand consumers' shopping behaviors, behavioral analyses examining the Diderot and Zeigarnik effects can be conducted. Such analyses can help brands develop strategies more suitable for their target audiences. Diderot and Zeigarnik effects can emerge differently in different cultural contexts. When developing marketing strategies, cultural factors should be taken into account and customized according to local market dynamics. Education programs can be organized for consumers to increase their awareness of these psychological effects. When consumers understand how these effects affect their shopping decisions, they may tend to shop more consciously. Online shopping platforms can offer personalized shopping experiences using the Diderot and Zeigarnik effects.

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A BIBLIOMETRIC STUDY ON THE USE OF RFID TECHNOLOGY IN MARKETING

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Abstract

RFID (radio frequency identification) is a structure in which objects are labeled and subjected to various processes at the radio frequency level. Although alternative technologies exist, RFID technology interests consumers for some reasons. When businesses want to identify their products and make the necessary transactions through these identities, RFID technology is one of the most challenging choices to give up.

This study was carried out to determine the preference for RFID technology and the intensity levels of the studies on RFID technology by making a detailed examination of RFID technology. This study aims to determine whether businesses choose RFID instead of other network systems where they can categorize their products and observe the degree of interest in the technology.

The data used were taken from studies in the Web of Science (WoS) database between 2020 and 2024, with the title "RFID," and all fields filtered with the words "marketing." In the study, co-authorship analysis, keywords analysis, country citation analysis, author citation analysis, source citation analysis, bibliographic matching analysis, and co-citation analysis are performed. In Web of Science index, Conference Proceedings Citation Index - Science (CPCI-S) 480, Science Citation Index Extended (SCI-EXPANDED) 343, Social Sciences Citation Index (SSCI) 148, Emerging Sources Citation Index (ESCI) 108, Studies published in different categories such as Conference Proceedings Citation Index - Social Sciences and Humanities (CPCI-SSH) 56, Book Citation Index - Science (BKCI-S) 21, using the English language are observed to be included in the bibliometric analysis. The data set is created with the data collected within these constraints.

Finally, the study examines the academic studies in the WoS database not only to determine the demand for the technology but also to examine this technology in terms of business and other usage advantages. As a result, by revealing the current status of RFID technology and the reasons for its preference, it is tried to provide information to help businesses that want to use it.

Keywords: RFID, Radio Frequency Identification, Tagging, Computer Networks, Communication Networks, Network-Enabled Marketing.

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1. Introduction

The bibliometric study is an analytical method that can provide researchers with accelerating and effective summaries. It allows them to look at past studies on the subject from different angles and express quantitative data visually. The goal of bibliometric analysis can be summarized as providing a guiding infrastructure for the desired study by providing visual summaries of studies conducted from many different perspectives. It is a type of study frequently preferred to provide researchers with a guiding summary before a comprehensive literature review and has many examples in different fields.

Although it is stated in many sources that the earliest use of RFID technology was in aircraft identification systems and radar structures in the Second World War, especially the acceptance and rapid development of its standards was observed in the early 2000s. Although RFID technologies are primarily encountered in electronic and technological fields in the literature, it is possible to find many studies in social sciences in terms of their use in product identification systems of enterprises today.

Want's (2006) study, one of the primary studies in this field comprehensively deals with the basic principles and application areas of RFID technology. This study defines the components of RFID systems as tags, readers, and software and explains how these components work. Another study in the field is the research on chipless RFID tags by Herrojo et al. (2018). This study examines the design and applications of chipless RFID tags developed to reduce the costs of traditional RFID systems. This study provides essential information regarding electronic engineering by detailing the potential and application areas of chipless RFID technology. Chipless RFID tags are tags that do not contain integrated circuits (ICs) and are, therefore, more cost-effective (Herrojo et al., 2018). The work of Chin and Klair (2011) focuses on developing an energy-efficient MAC (Medium Access Control) protocol for RFID-enabled wireless sensor networks. This study presents a new approach to improve the energy efficiency of RFID systems and provides recommendations to improve the performance of such systems. Wang et al. (2011) examine the applicability of RFID-based systems in automated storage systems. The study performs a cost analysis for a modular automated storage system that can replace traditional automated storage systems. This study reveals the potential of RFID-based systems to increase cost-effectiveness and efficiency. Other studies examine the effects of RFID technology on improving location awareness in indoor spaces. For example, the study emphasizes the role of RFID systems in location identification and tracking applications. It is recommended that this technology be used more effectively in indoor spaces (Tesoriero et al., 2010). Many studies exemplify the use of RFID technologies in different engineering fields. Textile (Li et al., 2011), civil engineering (Ko et al., 2010), and structural health monitoring (Liu, 2023) are some examples.

This study is evaluated to emphasize the use of RFID technologies in marketing, especially in tracking and managing supply chains. Although RFID technology is primarily considered the subject of engineering and has been examined in many studies in this field, it is a technology that has been examined from different angles due to its intensive use in marketing.

2. Conceptual Framework

From a social science perspective, research on the role of RFID technology in the supply chain provides essential findings regarding information visibility and process improvements. For example, in Zhou's (2009) study, RFID's capabilities in object tracking and tracing are emphasized, and it is stated that RFID tags enable the identification of individual products by assigning a unique electronic product code (EPC) for each product. In addition, Delen et al. (2007) state that RFID provides better management and operational efficiency by increasing information visibility in supply chain management. Such studies reveal the importance of integrating RFID with supply chain processes.

Various academic studies have addressed The challenges businesses face when using Radio Frequency Identification (RFID) technology. These challenges are essential regarding technology adoption, implementation processes, and their impact on business efficiency. Studies on the benefits and challenges of RFID also examine the potential impacts of the technology. For example, Jones et al. (2005) examine the benefits, challenges, and impacts of RFID in the retail sector, noting that this technology provides advantages such as better customer service and cost reduction. However, it is emphasized that operational and strategic challenges need to be overcome to achieve these benefits.

Lai et al. (2005) examine the applications of RFID in China and discuss the opportunities provided by this technology and the challenges faced. The study emphasizes the potential of RFID to increase supply chain visibility, reduce costs, and increase efficiency. However, this study also states barriers, such as security and privacy issues (Lai et al., 2005). Ngai and Gunasekaran (2009) examined the technology's advantages and challenges, such as standardization, compatibility, cost, and integration. This study reveals potential barriers to RFID adoption and strategies to overcome these barriers. In addition, this study provides comprehensive information about the role and impacts of RFID in supply chain management (Ngai & Gunasekaran, 2009). Zhang et al. (2010) examined the barriers to widespread adoption by addressing the organizational impacts of RFID technology. The study emphasizes challenges such as lack of standardization, costs, business process reengineering, and integration. In their study, Li and Visich (2006) focused on the benefits of RFID, the problems encountered in adopting the technology, and the strategies that should be implemented to overcome these problems. Similarly, Vijayaraman and Osyk (2006) examined the applications of RFID in the warehousing industry, detailing the challenges experienced in the implementation process and the strategies recommended to overcome these challenges. This study provides insights on how RFID can be used more effectively in warehousing processes.

2. Method

In order to perform the analysis, on 06.10.2024, a search was done in the studies listed in Web of Science by selecting the “RFID” keyword restriction in the title section and “marketing” in the “all fields” section, and 1024 results were reached in the search. When the years in which these studies were conducted were analyzed, 500 papers, 477 articles, 47 review articles, and 28 book chapters were reached from different disciplines, with the oldest study being 1994 and the newest

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study being 2024. When the ten fields with the highest number of studies are examined, it is observed that the publications are distributed as engineering and electrical-electronics 289, computer science information systems 181, telecommunications 171, computer science theory methods 154, management 114, operations research and management science 103, business 96, computer science and artificial intelligence 94, computer science interdisciplinary applications 83, industrial engineering 80.

In the study, the dataset obtained using the Web of Science database was processed using the Vosviewer application as co-authorship analysis, keywords analysis, country citation analysis, author citation analysis, source citation analysis, bibliographic matching analysis, and co-citation analysis, respectively. The maps obtained were interpreted in the relevant fields, and relevant inferences were made.

4. Findings

This section presents the findings from analyzing the data set filtered from the Web of Science database using the VOSviewer application.

4.1 Co-Author Analysis

The primary purpose of the co-author analysis is to reveal the authors who have the most connections with each other and co-published. For this purpose, Vosviewer was given the condition of authors with at least one publication and at least 1 citation to see more authors. In the co-author analysis, 47 names merged in the same cluster are shown in 10 different clusters, and 118 links are seen between them. Each of the 47 most connected authors in the cluster has 149 unit links. It is observed that the most cited authors are (Ni LM) with 1722 citations, (Nau YC) with 1698 citations in second place, (Liu YH) with 1698 citations in third place, and none of these authors are among the most connected authors. The authors with the most studies are Ngai E.W.T. (23 studies), Bendavid Ygal (7 studies), and Karmakar Nemai Chandra (7 studies). Of these authors, only Ngai E.W.T. is among the most connected authors. The Co-Author Analysis Density Map visualization is presented in Figure 1.

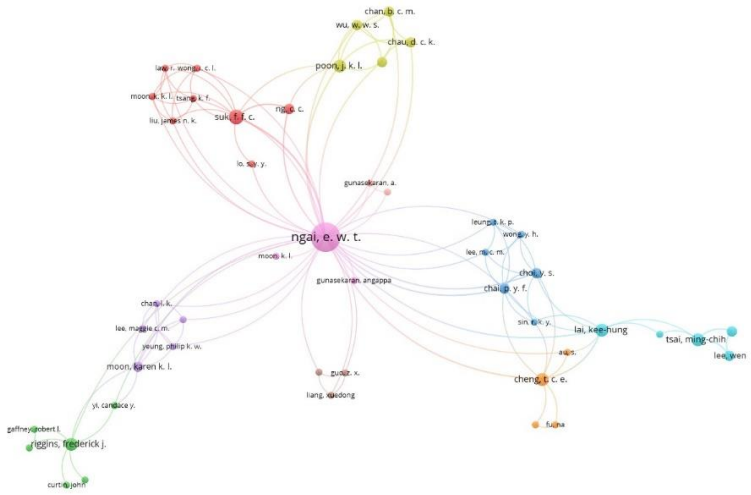


Figure 1: Co-author Analysis Density Map

4.2 Keywords Analysis

When we look at the data set created with the words "RFID" and "marketing," the words RFID and radio frequency identification are shown by Vos viewer with separate numbers. When these two words are combined to obtain more accurate results, they give the highest value due to word analysis with a total of 377 repetitions. In second place is the word Internet of Things with 47 repetitions, and in third place is the word supply chain with 34 repetitions, supporting the desired result in our study. RFID and radio frequency identification appear as the most potent expression of total link strength with 1692 total links; the word Internet of Things takes second place with 248 total links, and the word sensors takes third place with 155 total links. Figure 2 shows the keywords analysis density map.

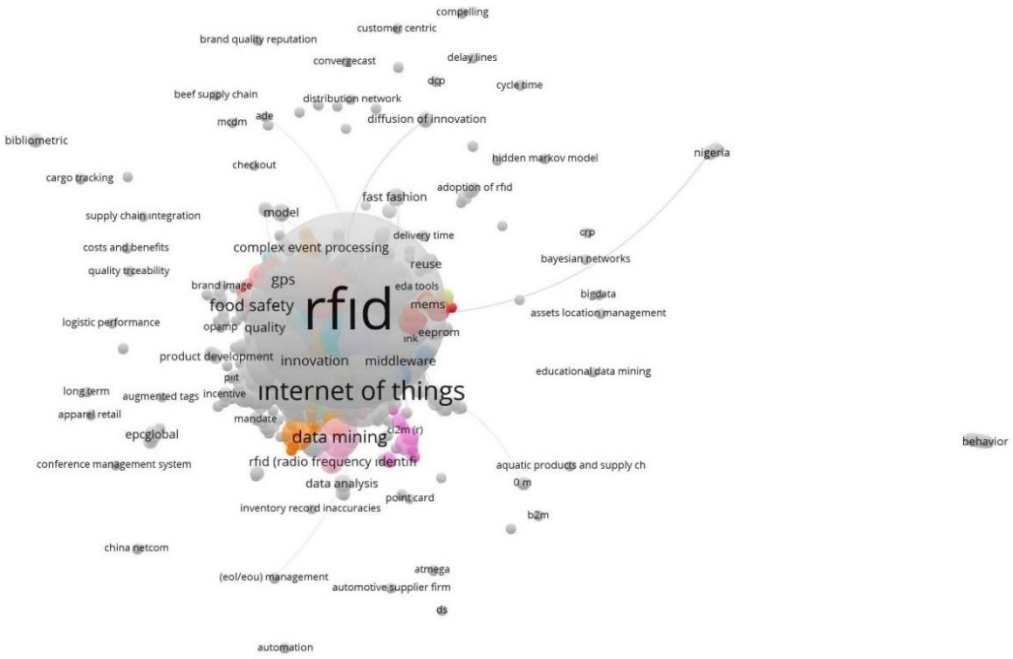


Figure 2: Keywords Analysis Density Map

4.3 Country Citation Analysis

In the country citation analysis, which is used to create a network map in the context of the citations and countries that the publications have received, the analysis was conducted on 73 different countries that have a relationship with each other, with the condition that a country has conducted at least one study and that this study has received at least one citation. These countries formed 15 clusters over the dataset, with 205 links and 797 total links. The most cited countries are the United States of America 7410 citations, the People's Republic of China 4835 citations, the United Kingdom 1214 citations, Canada 1182 citations, and Germany 970 citations. Regarding the studies produced, only the People's Republic of China ranks first with 200 publications, followed by the United States of America with 164 publications and South Korea with 67 publications. The density map of country citation analysis is shown in Figure 3.

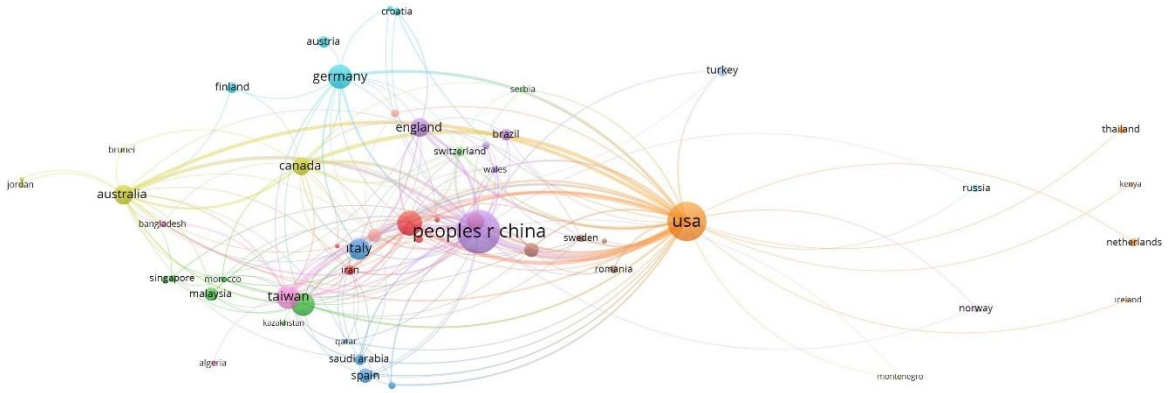


Figure 3: Country Citation Analysis Density Map

4.4 Source Citation Analysis

In order to determine the networks to be created based on the number of citations to the sources, when the network map for the author citation analysis was produced by restricting the authors who have at least one publication and the sources that have received at least 1 citation, 26 clusters, 410 connections and a total connection strength of 488 were observed in the analysis made on 184 sources that were found to be connected. International Journal of Production Economics appears to be the most published source, with Supply Chain Management International Journal in second place and Production and Operations Management in third place. The source citation analysis density map visualization is shown in Figure 4.

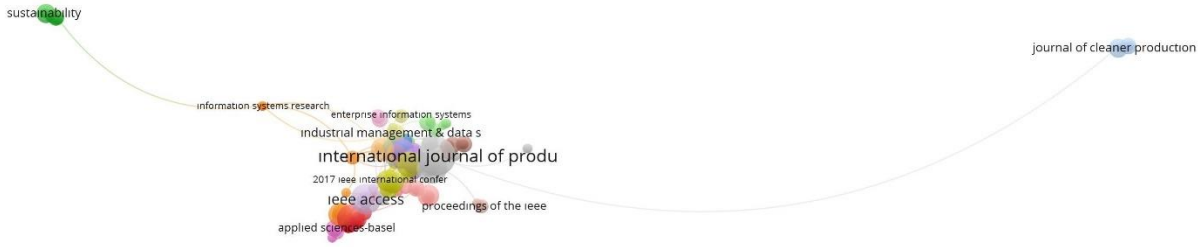


Figure 4: Source Citation Analysis Density Map

4.5 Bibliographic Matching Analysis

Bibliographic matching is a type of analysis that indicates the citation of a joint study from two independent (unrelated) sources. At this point, 27 clusters, 8292 links, and 3224 total link strengths are observed according to the analysis of 575 studies with at least 1 citation as a restriction. The publications with the highest number of bibliographic matches are Ni (2004), with 973 citations, Ni (2003), with 725 citations, and Wang (2006), with 626 citations. The studies with the highest

total link strength are Hossain (2016), Ngai (2008) and Osmolska (2022). The Bibliographic Matching Analysis is shown in Figure 5.

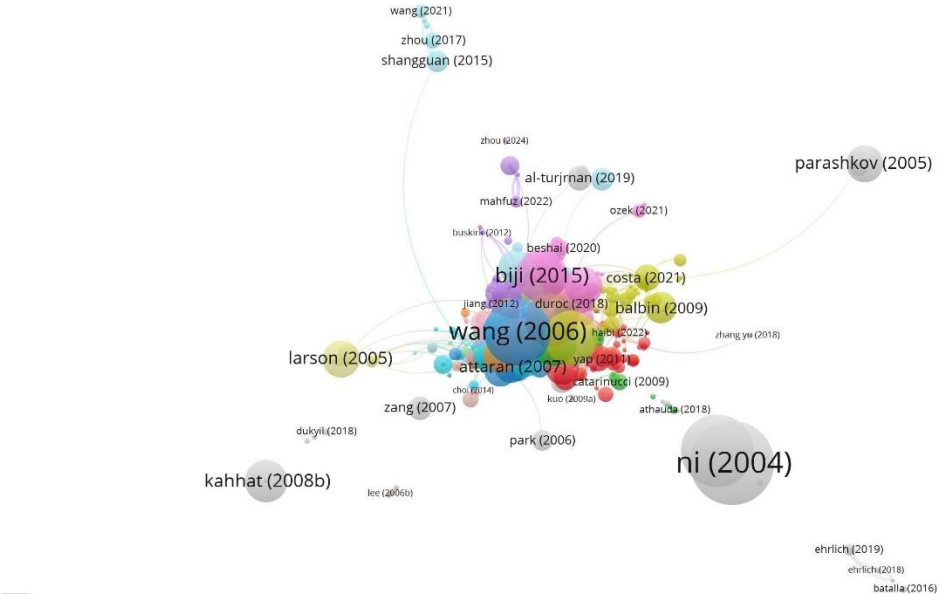


Figure 5: Bibliographic Matching Analysis Density Map

4.6 Common Source Citation Analysis

Co-citation analysis indicates the common citations in different sources cited in a publication. According to the analysis performed on 1469 sources by selecting at least three citations, 15 clusters, 85546 links, and 8248 total link strength were identified and shown in the co-citation analysis map in Figure 6. The most co-cited sources are International Production Economics (484), Lecture Notes Computer Sciences (293), and Production Operational Management (266).



Figure 6: Common Source Citation Analysis Density Map

5. Conclusion

As a result, RFID technologies are an auxiliary technology used effectively in product tracking, especially for businesses. Thanks to this technology, businesses can facilitate their processes by keeping the data of their products in the structural form they want and carrying out different tracking and analysis processes through them. There have been many studies on this technology in the marketing literature. These studies point out the convenience of RFID technology, the obstacles observed during use, and the disadvantages of this technology.

RFID technologies offer significant advantages for businesses and revolutionize various areas of use. RFID enables businesses to optimize production processes, reduce costs, and increase efficiency by providing wireless communication for automatic identification and tracking of objects (Ryu et al., 2011; Mosashvili, 2023). RFID tags, especially in supply chain management, allow products to be tracked from supplier to retail, significantly improving stock management and inventory control (Li & Li, 2011; Duong et al., 2016). This technology gives businesses better decision-making processes and information flow thanks to its ability to collect real-time data (Zhang et al., 2010).

Another advantage observed from the study is its high resilience to environmental conditions and fast data processing capability. Compared to traditional barcode systems, RFID tags can be read without line-of-sight, and many tags can be processed simultaneously (Chen & Pan, 2018; Kaur et al., 2011). These features are critical for improving operational efficiency, especially in large-scale enterprises (Wang, 2015). Moreover, the integration of RFID technology with IoT contributes to the digital transformation processes of enterprises by further strengthening data collection and analysis processes (Xu et al., 2018; Wang et al., 2018).

Adopting RFID technology gives businesses a competitive advantage and helps processes become smarter. However, some barriers, such as high initial costs and implementation difficulties, must be overcome (Jakkhupan et al., 2011; Arunachalam et al., 2017). As a result of the analysis, it is observed that there are more studies on RFID, especially in the sources of developed countries in the field of technology. Countries with fewer studies on these technologies are underdeveloped or developing countries.

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FAN INTERACTION AND CHANGE IN FOOTBALL PLAYER VALUES: A NEW PERSPECTIVE ON SPORTS MARKETING

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Abstract

In today's world, where social media is present in every aspect of consumers' lives, businesses can utilize these technological opportunities while carrying out their marketing activities. The influential and directive power of social media is examined in many different aspects of the literature. Businesses can evaluate social media tools not only at the point of promotion of their products but also as a phenomenon where they can measure the reactions from consumers and determine their next steps according to the results of these data.

Comments made on YouTube offer businesses a different perspective to observe the reactions to their products. In sports marketing, clubs can view their football players' reactions and increase their brand value through various studies. This study compares the situations of two players playing in the English Premier League, one of the most followed leagues in the football category, and tries to establish a connection between the reactions of fans and consumers and the player's current value change.

This study analyzes the Transfermarkt values of two soccer players over approximately three years. The start time is March 18, 2021, and the end is May 27, 2024. The value increases of Footballer A, who served in the Premier League and decreased in value, and Footballer B, who increased in value, between these dates, and the comments in the latest videos of the club they are affiliated with on the YouTube Official channel with only their names are used as data. While the number of views of footballer A is 67332, the number of comments is 113. The number of positive comments is 89, the number of views of footballer B's video is 118357, the number of comments is 230, and the number of positive comments is 218.

Finally, it tries to reveal how consumers evaluate a footballer in the Premier League whose value is decreasing and another footballer whose value is increasing. As a result, the increase in the number of views, comments, and positive comments of the footballers with increasing value shows that the success of sports clubs is beneficial for these clubs in terms of product marketing. On the other hand, the decrease in the number of views, comments, and positive comments of the footballers who experienced a reduction in value reveals a clear failure-lack of interest link in the field of sports marketing in terms of product marketing.

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1. Introduction

Today, sports marketing is an important phenomenon that attracts attention due to its impact on social life, the large masses it appeals to, and the critical space it occupies in economies. It seems possible for sports clubs supported by communities to improve their marketing activities by influencing their fan bases. When examining sports marketing in a broad context, it is observed that a successful marketing process can be carried out by effectively utilizing different marketing activities. For example, the positive impact of the sports club on its fans can provide the club brand with effective product marketing through word-of-mouth marketing. Sports marketing activities can be carried out through consumers who support the club in a regional sense, or they can appeal to much larger audiences globally.

The development of information technologies at an incredible speed may lead to many changes in marketing, as in every field, and businesses may realize new needs. For businesses, the importance of having information about their consumers is emphasized in many studies in the literature. One study stated that understanding the factors affecting consumer decision-making processes is vital for developing effective marketing strategies (Qiu, 2023). By understanding consumer values and preferences, businesses can improve their marketing strategies by interacting with a socially and environmentally conscious audience (Anjorin, 2024). Another study emphasizes the importance of understanding the factors affecting consumer decision-making in purchasing sustainable products (Chen, 2024). In addition, effectively storing, managing, and analyzing consumer data provides significant convenience for businesses to market products to their consumers. Businesses that manage the new customer information collection channels created with developing technologies can have comprehensive information about their customers. It is emphasized that social media platforms provide marketers with real-time access to consumer opinions and discussions, which can be used to improve product offerings and customer relationship management (Voramontri & Klieb, 2019).

Within the framework of the opportunities offered to consumers by the internet and social media, the comments made by consumers about brands on the Internet today seem to be the fastest way to obtain information about consumers' purchasing tendencies. Thanks to this convenience provided by technological developments, it is easier to observe customers' feelings towards the brand. Businesses that can compare and make sense of this data can easily determine where they should invest in the future or which direction to take their marketing activities. The data obtained in the study aims to predict and identify consumer reactions in advance and obtain results to prevent future adverse reactions.

2. Conceptual Framework

The positive effects of social media comments on marketing strategies have been extensively studied from various perspectives. Many of these studies have focused on the role of social media comments in increasing brand engagement, reinforcing consumer trust, and enhancing overall

marketing effectiveness. When looking at social media comments promoting brand engagement, the studies refer to the positive aspects of maintaining engagement. One study shows that consumers who actively participate in a brand's social media posts have higher levels of engagement with that brand (Gomez et al., 2019). This engagement increases the time spent with the brand and encourages more consumer communication and connection. Similarly, another study emphasizes that social media brand-customer interaction positively affects brand loyalty. This suggests that social media reviews are valuable in building lasting relationships between consumers and brands (Cahyadi, 2023). In addition, interaction on social media platforms allows consumers to share their experiences and opinions.

Moreover, interaction on social media platforms allows consumers to share their experiences and opinions, which can significantly influence brand perception. Gensler et al. (2013) discuss the shift from the traditional marketing model of brands controlling messages to a more participatory model where consumers co-create brand stories through comments and interactions. This participatory nature of social media increases brand visibility and makes consumers feel more connected to the brand story. The emotional aspect of comments is also important in influencing consumer behavior. Duong (2023) emphasizes that supportive comments can trigger positive emotions, motivating behavioral changes such as further interaction with the brand or purchase. Another study suggests inspiring social media content can increase customer engagement behaviors and purchase intentions (Izogo & Mpinganjira, 2020).

Strategic use of reviews can increase brand trust and loyalty. Upadhyay et al. (2022) state that social media interactions can significantly affect consumer responses and perceptions of brand value. By making consumers feel heard and valued through their comments, it is possible to increase trust and loyalty between the brand and the consumer. According to Samarah et al. (2021), increasing media interaction increases brand loyalty through trust.

After looking at the effects of social media on marketing, when the studies in the literature in the context of sports marketing are examined, it is observed that similar studies have been conducted in this field. When the interaction with consumers through social media is examined in the context of sports marketing, it can be stated that social media is a powerful tool in this field. Sports organizations increase brand awareness and strengthen consumer loyalty by interacting with their fans through social media platforms (Mastromartino & Naraine, 2021; Vale & Fernandes, 2017). In particular, campaigns carried out through social media strengthen the emotional bonds of fans, and in this context, a deep relationship is formed between sports clubs and fans (Vale & Fernandes, 2017). In addition, sponsorship constitutes another critical dimension of sports marketing. Sports organizations reach financial support through sponsorship agreements and increase brand awareness (Yu & Tan, 2017). Through sponsorship activities, sports organizations can diversify their marketing activities by reaching existing and potential consumers (Eshghi et al., 2013). Social media is also a tool used by sports organizations to strengthen their sponsorship agreements. For sponsors, reaching consumer audiences through social media is one of the easiest methods (Pu & James, 2017).

Many studies in the literature look at the positive and negative effects of sports marketing through digital technologies. Digital technologies enable sports organizations and brands to reach wider audiences. Social media platforms allow brands to interact directly with their target audiences and reach more people through viral content. For example, platforms like Instagram and Twitter allow athletes and teams to share instant updates. This increases fan engagement (Smith, 2020). Digital technologies help marketers analyze consumer behavior and identify target audiences more effectively. Big data analytics allow sports organizations to understand which content attracts more attention and adapt their marketing strategies accordingly (Johnson & Lee, 2021).

These possibilities can help to create personalized and effective campaigns. In addition, digital technologies increase the participation of fans in sporting events. Virtual reality (VR), a virtual and synthetic digital environment, and augmented reality (AR), a technology that overlays digital data over the real world (Bilici, 2019), can increase interest in events by giving fans a sense of being in the stadium (Brown, 2022). Online games and competitions have also been shown to be an effective way to encourage fans to interact with brands. Digital platforms enable sports organizations and brands to share information quickly. Thanks to the instantaneous generation and flow of data, it is possible to access up-to-date and new information at all times. Instant updates about emergencies or important developments make informing fans and media outlets easier. These conveniences can also provide a great advantage in crisis management (Williams, 2023).

In addition to all these positive aspects and conveniences, digital technologies cause an increase in competition in sports marketing. As every brand and organization tries to have a presence on digital platforms, it becomes harder to stand out. This may require brands to allocate more resources (Smith, 2020). Another negative impact is that too much content in the digital environment can distract consumers. Sports organizations must constantly produce innovative and engaging content to attract the attention of their target audience. Otherwise, consumers may turn to other content and away from brands (Johnson & Lee, 2021). Digital marketing requires the collection and analysis of consumer data. This raises privacy and security concerns. Misusing consumers' data can damage the reputation of brands and lead to legal problems (Brown, 2022). The fact that sports organizations have become overly dependent on digital technologies should be considered as another negative aspect that may arise during the use of digital technologies in sports marketing. This situation may cause traditional marketing methods to be ignored, and a balanced marketing strategy cannot be created. In addition, technological glitches or system crashes have the potential to negatively affect the success of marketing campaigns (Williams, 2023).

3. Method

This study focuses on the English Premier League, one of the world's biggest football leagues in economics. The correlation between the value changes of two soccer players who continue their

sports activities in this league and fan reactions is observed. In the study, the comments made on the videos prepared about these two football players through the official YouTube channel during the specified periods are taken as a data set.

The data set used in the study consists of meaningful information obtained by knowledge extraction, one of the text-mining methods, through the comments made on these videos. Although there are different examples of text mining in the literature, it is generally analyzed in three basic categories. Classification is one of the most common methods of text mining. In this method, texts are categorized into certain categories. Examples of classification methods include studies conducted in different sectors. Health (Chang et al., 2019) and construction (Li et al., 2022) sectors can be given as examples. Such classification studies allow texts to be organized more effectively according to their content. Clustering is another important text-mining method that allows texts to be grouped according to their similarities. In one study, an approach based on frequently used elements was developed to cluster documents hierarchically. This method enables the grouping of documents according to their similarities while simultaneously providing an effective analysis of large data sets (Lee et al., 2017). In another study, they gave a successful example of a clustering technique by detailing how text mining can be used in areas such as clustering and classification of documents (Renganathan, 2017). Clustering is important, especially in social media and big data analysis. Knowledge extraction is another text mining technique that automatically extracts specific knowledge from texts. For example, Zhou et al. (2014) developed an effective approach to classify bug reports by combining text and data mining.

Furthermore, Hassani et al. (2020) emphasize how text mining methods can be integrated with big data analytics and that these methods should be compatible with scalable data platforms. Knowledge extraction is critical for obtaining meaningful information, especially in large data sets.With information extraction, meaningful information is accessed, and ready information is obtained that can be analyzed. The data was determined by selecting the videos on the YouTube channel of the relevant businesses (football clubs) belonging to the relevant period and prepared for the football players in question. While making this video selection, videos believed to support the purpose were selected. As an a priori criterion, only videos about the relevant soccer players were considered. The information obtained by extracting information from this data was classified. Ready libraries of the Python program were used for the analysis.

4. Findings

This study analyzes the Transfermarkt values of two soccer players over approximately three years. The start time is March 18, 2021, and the end is May 27, 2024. The value increases of Footballer A, who served in the Premier League and whose value decreased, and Footballer B, whose value increased, between these dates, and the comments in their latest videos on the Youtube Official channel of the club they are affiliated with, only with their names, are used as data.

In the study, three years were selected as the period in which the value changes of the football players were observed. These dates are March 18, 2021 as the start time and May 27, 2024 as the

end time. The Premier League teams played by the two football players subject to the analysis are Arsenal and Chelsea. There is no special purpose in choosing these clubs. The selected footballers are A: Ben Chilwell and B: Bukayo Saka. The value change of footballer A on the selected dates is -22M$ (See Table.1), while the value change of footballer B is +80M$. Again, the data of these two footballers in the determined videos are as follows: While the number of views of footballer A is 67332, the number of comments is 113, and the number of positive comments is 89, the number of views of footballer B is 118357, the number of comments is 230, and the number of positive comments is 218. At this point, it is based on determining whether there is a significant interaction between the value change of the football player and the data in the number of views and likes. In Table 1, it is possible to observe the number of positive and negative comments and views on footballers A and B. In Figure 1, these data are graphed, and the meaning of positive and negative comments and viewership rates with the decrease in value is tried to be revealed.

Table 1: Periodic Change and Impact Table

	Number of Views	Number of Comments	Negative Comments	Positive Comments	Rate	Player's Value Change Rate	Initial Value	Final Value
A: **Ben Chilwell**	67332	113	24	89	0,167	0,56	50M $	28M $
B: **Bukayo Saka**	118357	230	12	218	0,194	2,33	60M$	140M $

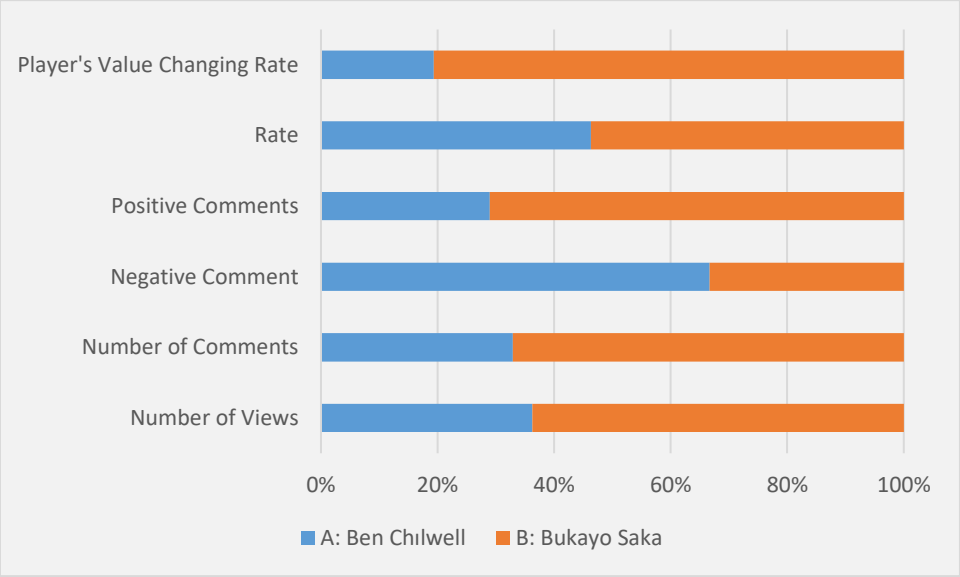


Figure 1: Period Impact Graph

The periodic impact graph observed in Figure 1 shows the negative value change for footballer A and the positive value change for footballer B at the top of the graph. In the ratio section in the second row, the ratio of the number of comments to the number of views is presented. While this ratio was lower for player A, it was higher for player B. Again, when we look at the number of positive comments, it is observed that the number of positive comments for player A is lower than that for player B. In the negative comments in the third row, a high value is observed for player A. When the entire graph is interpreted, the excess in the number of positive comments in the number of views and the ratio of the number of comments in the number of views of footballer B, which is considered successful in terms of financial value increase, is seen.

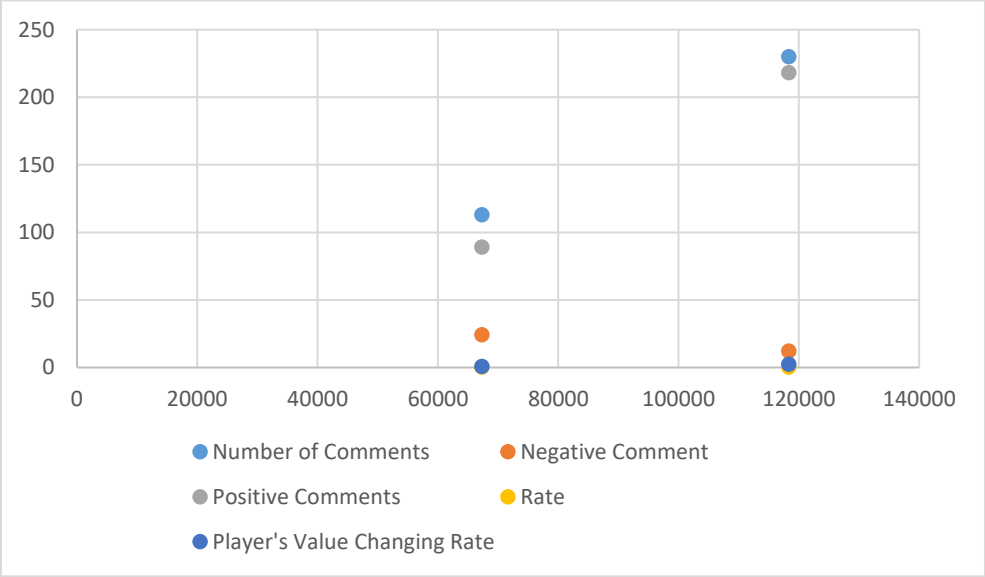


Figure 2: Graph showing the change in comments

The graph showing the change in the comments in Figure 2 provides a clear numerical presentation of the results. In this graph, the data in the first column represents the data obtained from footballer A, while the data in the second column represents the data belonging to footballer B. The colors and values of the data are indicated in the color scale below the graph.

5. Conclusion, Discussion and Recommendations

In this study, the reflection of the success change on the brand's social media interactions, especially in sports marketing, has been analyzed in terms of how these effects correspond to consumers. It has been tried to measure whether customers' interest in brands is affected by success and failure factors. The study tried to reveal the changes in consumers' follow-up and interpretation of successful and unsuccessful football players in the same period. Data obtained from similar sources under the specified effects were analyzed, and the results obtained by information extraction were interpreted. As a result, it was observed that the footballer whose success increased received good feedback from consumers regarding the number of views and positive comments,

while the footballer whose success decreased received fewer views and less positive comments. The relevant results are shown in detail in Figure 2.

The two football clubs in this study, Arsenal and Chelsea, have similar numbers of followers on social media. Similar to this study, results can be obtained by proportioning the success interaction factor by trying this study on the clubs' athletes that show differences in the number of followers. Thus, the differences can be observed by examining the success of social media interaction in micro-groups.

This study is specific to sports marketing and has been especially identified with the value of success in the material context. In order to carry the study further, if similar studies are repeated not only with the financial value but also with the match result ratings obtained, it will add valuable new information to the literature on social media reactions to success. Repeating the study with different leagues, different regions, and a larger number of soccer players will test the results of this study and provide benefits in creating new data sets, which may provide guiding results for sports marketing. In addition, it seems possible to reveal differences in the cultural context by conducting studies on two soccer players in different leagues.

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