

SOCIAL AND HUMANITIES SCIENCES

**Theory, Current Researches
and New Trends-5**

Editors

Prof. Dr. İbrahim Serbestođlu

Prof. Dr. Mehmet Yılmaz



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PREFACE

We are in the era of uptrend in “social and humanities sciences” point of view on international academic studies especially after Covid19 Pandemi. In the post-pandemic period, changes and transformations in the social life have further increased the interest in the social issues. It’s getting harder inevitably day by day to understand what’s related with “human” through post pandemic conditions , the development of technology and the effects of it on the cultural and social structure. At that point, it has become important that applying to “social and humanities sciences” perspective leads to a cooperation of different information and social study fields which makes it more possible.

In our book named “Social and Humanities Sciences- Theory, Current Researches and New Trends” we aim to look at people from different windows of different areas social sciences. The book is divided into six main themes: both traditional and new/social media, management and organization, economy, tourism, information technology, history, and it has 9 different episodes. We would like to thank to the writers of our book and the referees who made valuable contributions to our academic book by their critics.

Hope to be a source of an inspiration for productive academic discussions, constructive criticism and new works...

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CONTENTS

PREFACE	I
CONTENTS	III
CHAPTER I	
THE EFFECT OF SOCIAL MEDIA ON CONSUMER DECISIONS DURING THE COVID-19 PANDEMIC: THE CASE OF ÇANAKKALE ONSEKİZ MART UNIVERSITY	
Yağmur AKARSU & Merve ERDOĞAN	1
CHAPTER II	
LEADERSHIP AND ETHICAL LEADERSHIP FROM HEALTH MANAGEMENT PERSPECTIVE	
Hacer ORUN KAVAK & Osman Kürşat ACAR	20
CHAPTER III	
INVESTIGATION OF THE RELATIONSHIP BETWEEN COVID-19 ANXIETY AND STATE-TRAIT ANXIETY LEVELS	
Muzaffer ŞAHİN & Didem Tetik KÜÇÜKELÇİ	34
CHAPTER IV	
EVALUATION OF EMERGING MARKETS IN TERMS OF ECONOMIC INDICATORS WITH ENTROPY-BASED PROMETHEE METHOD	
Gökhan ÖZKAYA	58
CHAPTER V	
ECONOMIC STRATEGIES WHICH AIRLINE COMPANIES CAN FOLLOW WITHIN THE SCOPE OF PRIVATIZATION AND PRICE DISCRIMINATION	
Filiz EKİCİ & Öner GÜMÜŞ	80
CHAPTER VI	
ORGANIZATIONAL SOCIAL CAPITAL, ORGANIZATIONAL IDENTIFICATION AND ORGANIZATIONAL TRUST RELATIONSHIP: A STATE UNIVERSITY STUDY	
Şirin PEPE	96

CHAPTER VII

OVERTOURISM AND RESIDENTS' PERCEPTIONS

Begum Dilara EMİROGLU110

CHAPTER VIII

**RANSOMWARE HIDING USING STEGANOGRAPHY AND
CRYPTOGRAPHY AND OBFUSCATION TECHNIQUES**

Yüsra ALBARAZİ & Nafiz ÜNLÜ123

CHAPTER IX

THE ORIGIN OF THE ETHNONYM UIGHUR [UYGHUR]

Fatih ŞENGÜL137

CHAPTER I

THE EFFECT OF SOCIAL MEDIA ON CONSUMER DECISIONS DURING THE COVID-19 PANDEMIC: THE CASE OF ÇANAKKALE ONSEKİZ MART UNIVERSITY

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1. Introduction

With the onset of the Covid-19 pandemic, social media has become a rapidly developing communication tool that produces information and enables the dissemination of information. In recent years, social media has enabled the rapid dissemination of information about public health. (Kadam, Atre, 2020:1; Topçu, 2022 :344).

The pandemic has further increased the interest in online shopping. The contactless shopping process has been a unique opportunity for people in this period. With the increase in online shopping, many businesses have started to promote their goods and services via social media platforms. (Lv, et al. 2020: 5).

The pandemic has presented an unprecedented challenge for both public health, food systems, and business (Taha, 2021: 1). Uncertainty for future periods on consumers' decisions decreases their consumption behavior, while increasing their savings. Lyhagen (2001: 675) .

The pandemic is reversing the flow of work, education, health and purchasing and consumption. Thanks to more flexible time spent at home, consumers have tried recipes (playing a musical instrument, shopping online, etc.) and honed their skills. While some of them go viral, consumers become producers with commercial possibilities. Because of this situation, YouTube and the like are full of videos with the potential for innovation and commercial success. Consumption behaviors vary due to the contagion period, economic uncertainty and isolation during the pandemic process. This situation has led to the use of more online shopping and the purchase of non-perishable basic food and cleaning materials on rapidly reshaped consumer behavior. (Sheth, 2020: 281-282).

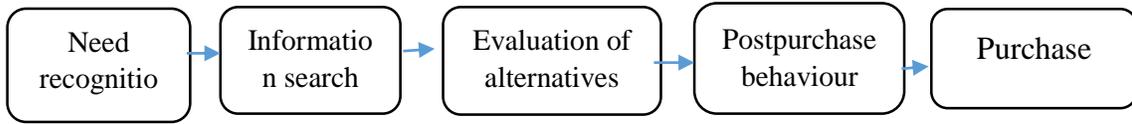


Figure 1:Five-stage model of the consumer buying proces

(Stankevich 2017: 10)

Figure 1 shows the traditional five-stage model of consumer decision making. Accordingly, the consumer decision-making process consists of the stages of recognizing needs, seeking information, evaluating alternatives, purchasing and post-sales behavior. An operator has to understand these steps well in order to mobilize the consumer, that is, to ensure that he buys goods and services appropriately.



Figure 2: Immediate Impact of Covid-19 on Consumption Behavior

(Sheth, 2020: 281)

Figure 2 shows the effects of the Covid-19 pandemic on consumption behaviors. Based on the graph, these effects are; stocking, temporary measures, pent-up demand, adopting digital technology and online merchandising, blurring of work/life boundaries, meetings with friends/family, and talent discovery. In this context, consumers stockpile

their basic consumption needs (toilet paper, bread, water, meat, disinfection, etc.) during the pandemic period. Consumers want to take temporary measures since there are restrictions during this period. Temporary measures also bring innovative practices. Such as funeral services on zoom instead of funerals that cannot be held due to restrictions. In times of crisis and uncertainty, the general trend is to delay the purchase and consumption of optional goods or services. This situation is generally associated with durable consumer goods (house, car, etc.). It also includes optional services such as concerts, sports, bars and restaurants. This causes demand to shift (postpone) from the present to the future. Consumers have adopted new technology and its applications out of necessity. Most consumers love social media, including Facebook, WhatsApp, YouTube, and more. In general, the impact of digital technology, and social media in particular, on consumer behavior is huge in scale and pervasive in the consumer's daily life.

Social media has had significant effects during the pandemic. This effect can be seen from entertainment to shopping. Social distancing and quarantine during the pandemic process have allowed people to connect with other people and increase their interest in social media (Nabity-Grover et al., 2020: 3). This research was conducted to examine the effect of social media on the changes in the consumption and saving habits of consumers during the Covid-19 pandemic.

2. Literature Review

During the Covid-19 pandemic, many studies have been conducted on the changes in the consumption and saving habits of consumers. Below are the domestic and foreign literature on the effect of social media on consumers' decisions.

Erden (2020), investigated the effect of social media use during the Covid-19 pandemic. In the research, an online questionnaire was applied to 100 people. The survey results were analyzed with the SPSS 23 statistical package program. The scope of the research was limited to Whatsapp, Facebook, Instagram and Twitter. According to the results of the research, it was observed that the use of social media increased by 47% in this process.

Hasanat et. al.. (2020), investigated the impact of the Covid-19 pandemic on online business in Malaysia. In the research, an online questionnaire was applied to 60 participants. The data were analyzed in the SPSS statistical package program. According to the results of the research, it has been reached that the maximum of the products came from China

and that many of the sectors were closed in this process, and there was no product import and export.

Belbağ (2021), investigated customer behavior in Turkey during the Covid-19 pandemic and how customers adapted to the new normal. For this purpose, online interviews were conducted with 78 Turkish consumers. According to the results of the research, economic recession, partial shutdown regulations, social media messages are shown as environmental stimuli that affect consumer behavior during the pandemic. Also, consumers' behavioral responses to the pandemic include changes in purchasing consumer goods, avoidance of physical stores, reductions in leisure activities and shopping frequency, stocking and consumption.

Kocabıyık (2021), conducted a research on the social media usage experiences and satisfaction of young users during the Covid-19 pandemic. In the research, an online questionnaire was applied to 52 students who received university education. The data were analyzed with the Maxqda 12 program. According to the results of the research, the participants stated that they use social media to get information, communicate, socialize and have fun.

Mason et. al. (2021), investigated the effect of social media on consumers living in India during the Covid-19 pandemic. In the research, 313 Indian consumers were surveyed online to compare how social media has changed consumer behavior since the Covid-19 pandemic began. Multiple statistical methods were used to analyze the data. The findings reveal the increasing use of social media as a consumer decision-making tool. Also, the effects of the increasing importance of social media in consumer decision-making process with the global reach of Covid-19 apply to most countries.

Mason et. al. (2021), conducted a research to examine changes in social media marketing after the covid-19 pandemic in the USA. For this purpose, an online survey was applied to 327 consumers living in the USA. According to the results of the research, after the pandemic, social media has changed consumer decision-making processes. The research has shown that consumers use social media more to get to know products, gather information about products and evaluate them in this process.

Taha et. al. (2021) examined the impact of the Covid-19 pandemic on consumers' social media use and shopping behavior. An online questionnaire was applied to 937 consumers living in Italy and Slovakia. According to the results of the research, a statistical difference was found in the use of social media by various demographic factors (such as age, gender) in the first wave of Covid-19. In addition, a weak relationship was

found between the use of social media and purchasing from e-shops advertising social media.

Alamaslı et. al. (2022), examined the effect of media on consumer decisions during the pandemic process. In the research, five e-commerce companies (Hepsiburada, Trendyol, N11, Gittigidiyor and Çiçek Sepeti) with the highest number of Instagram followers between March and December 2020 were selected. Analysis in Turkey was analyzed using IBM SPSS Software and NVivo programs. According to the results of the research, it was revealed that consumers' decisions changed during the pandemic period, they shopped more online, and the effect of social media on this decision was high. In addition, it is among the findings of the research that the number of followers of the five companies that are the subject of the research increased significantly during this period.

3. Research Method, Application and Sampling

The results of the research were reached by using the descriptive statistics technique, one of the quantitative data analysis methods. The research was conducted with 207 students aged 18-46 and over, continuing their education at Çanakkale Onsekiz Mart University, using the online questionnaire technique. Participants were randomly selected from Gökçeada Vocational School and Gökçeada School of Applied Sciences. In addition, the research is based on the general screening model. In this model, a specific group, sample is selected from the universe in order to reach general information about the universe (Karasar, 2005).

4. Measurement Tools and Tests Used

In this research, Çanakkale Onsekiz Mart University students were asked questions to measure the effect of social media on consumer decisions during Covid-19. The first five questions of the research are aimed at measuring the socio-demographic characteristics of the students. The remaining questions are aimed at explaining the effects between the use of social media and consumer decisions during the Covid-19. The questions were formed as a result of the literature review. Multiple choice, 5-point likert (“Regular every day, 5-6 days a week, 3-4 days a week, 1-2 days a week, I do not use”) and 3-point Likert (“Yes”, “No”, “Undecided”) scales, checkbox options and questions were created and presented to the students.

4.1. Research Questions

- 1- Which social media account did the students use the most during the Covid-19?
- 2- Why did the students use social media during the Covid-19 ?

- 3- What is the reason for the increase in the shopping made by students through social media during the Covid-19?
- 4- In which way did students do their shopping the most during the Covid-19?

5. Findings and Comment

Within the scope of the research, data were obtained on the socio-demographic characteristics of the students, which communication tools they used and how often during the Covid-19 pandemic, which social media accounts they used the most, the average daily time they spent on social media, why they used social media, and the effect of social media on consumer decisions. Frequency analysis and percentage values obtained from the data were used to reach the data results.

Table 1: Frequency and Percent Values of Gender of Participants

		N (Total Number)	Percent (%)
Gender	Female	126	60,9
	Male	81	39,1
	<i>Total</i>	<i>207</i>	<i>100,0</i>

60,9 % of the participants are females (N=126), 39,1 % of the participants are males (N=81).

Table 2: Frequency and Percent Values of Participants Age Range

		N (Total Number)	Percent (%)
Age Range	18-25	188	90,8
	26-35	10	4,8
	36-45	6	2,9
	Above 46	3	1,4
	<i>Total</i>	<i>207</i>	<i>100,0</i>

Age range of participants is 90,8 % (N=188) 18-25 age, 4,8 % (N=10) 26-35 age, 2,9% (N=6) 36-45 age and 1,4 % (N=3) 46 and over.

Table 3: Frequency and Percent Values of Participants' Income Status

	N	Percent (%)
	86	41,5
	81	39,1
Income Status	30	14,5
	10	4,8
<i>Total</i>	<i>207</i>	<i>100,0</i>

Income status of students are; 41,5% (N=86) 0-1500 TL, 39,1% (N=81) 1501 TL-3000 TL, 14,5% (N=30) 3001 TL- 4500TL and 4,8 % (N=10) 45001 TL and over.

Table 4: Frequency and Percentage Values of the Researched Departments

	N (Total Number)	Percent (%)
	139	67,1
	68	32,9
Researched Departments		
<i>Total</i>	<i>207</i>	<i>100,0</i>

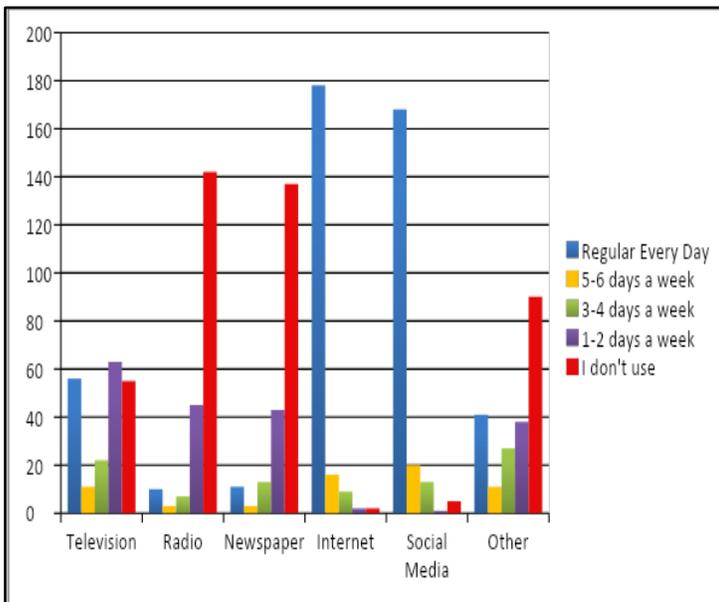
67.1% (N=139) of the students are studying at Gökçeada Vocational School, and 32.9% (N=68) of them are studying at Gökçeada School of Applied Sciences.

Table 5: Percentage and frequency values of the data of which grade the students are in

		N (Total Number)	Percent (%)
Data of which grade the students are in	1	70	33,8
	2	100	48,3
	3	20	9,7
	4	17	8,2
	<i>Total</i>	<i>207</i>	<i>100,0</i>

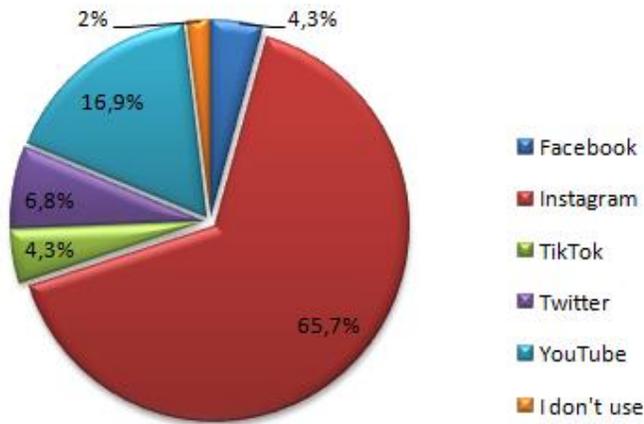
33.8 % (N=70) of the students were in the first year, 48.3 % (N=100) were in the second year, 9.7% (N=20) were in the third year, 8.2 % (N) =17) of them are in the fourth grade.

Graph 1: Frequency of students' use of communication tools during the Covid-19 pandemic period



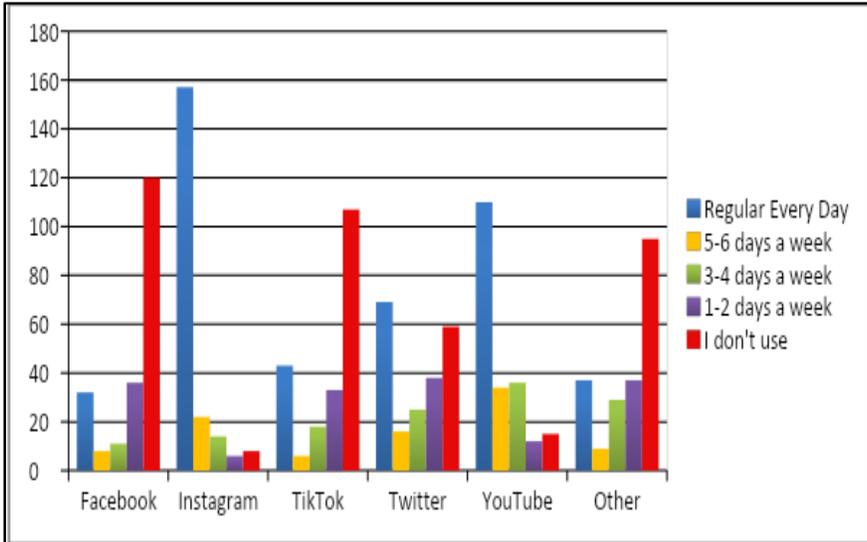
Looking at the frequency of television use by students in Table 6, it is seen that 63 people watch television 1-2 days a week, and 56 people watch television regularly every day. While 142 of the participants do not prefer to listen to the radio, 45 people listen to the radio 1-2 days a week. 137 of the participants do not read newspapers, 43 people read newspapers 1-2 days a week. While 178 use the internet regularly every day, 16 people use the internet 5-6 days a week. 168 of the participants use social media regularly every day, while 20 people use social media 5-6 days a week. 90 people do not use mass media, 41 people regularly use other mass media every day.

Graph 2: Students' use of social media accounts during the Covid-19 pandemic



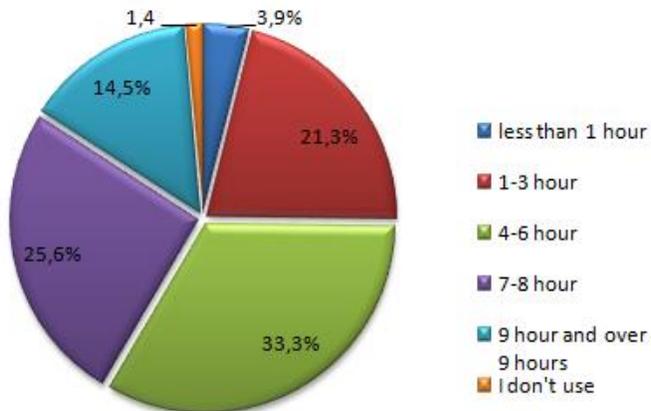
When the use of social media accounts by students during the Covid-19 pandemic is examined, it is seen that they use Instagram the most among their social media accounts. The least used social media tools by students are Facebook and TikTok applications. The emergence of Instagram as the most used social media channel also provides an answer to the first research question.

Graph 3: Frequency of students' use of social media accounts during the Covid-19 pandemic



When the frequency of use of students' social media accounts during the Covid-19 process is examined, it is revealed that 157 students use Instagram regularly every day. 34 people access the YouTube application 5-6 days a week, while 36 people use it 3-4 days a week. 38 students use the Twitter application 1-2 days a week. 120 students do not use the Facebook application at all.

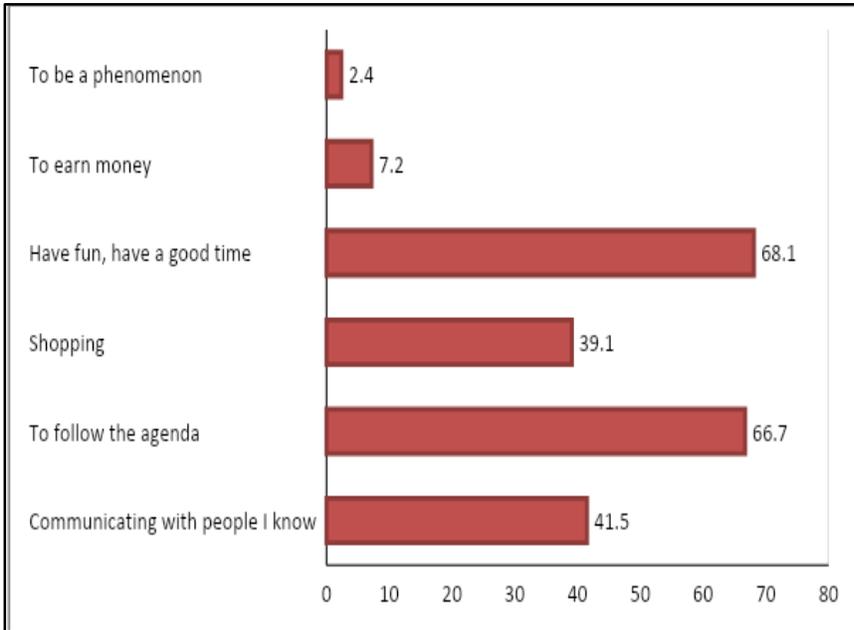
Graph 4: Average daily time spent by students on social media during the Covid-19 pandemic period



When the time spent by students on social media during the Covid-19 period is examined, respectively; 33.3% (N=69 people) 4-6 hours, 26.6%

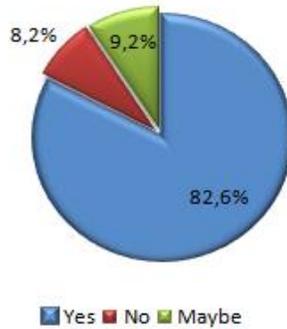
(N=53 people) 7-8 hours, 21.3% (N=44 people) 1-3 hours It was revealed that 14.5% (N=30 people) spent 9 hours or more on social media. The rate of using social media for less than 1 hour during the Covid-19 period is 8 people with a rate of 3.9%.

Graph 5: Reasons for students to use social media during the Covid-19 pandemic period



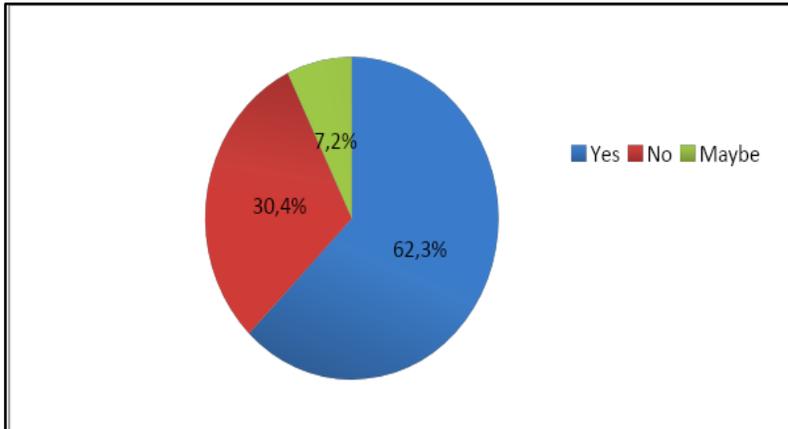
It is seen that students use social media mostly to have fun, have a good time and follow the agenda during the Covid-19 pandemic period. Therefore, it is seen that the second research question has an answer in line with these data. Students marked being a phenomenon the least among the options.

Graph 6: Students' "Do you think that social media affects consumer behavior?" graph of their answers to the question



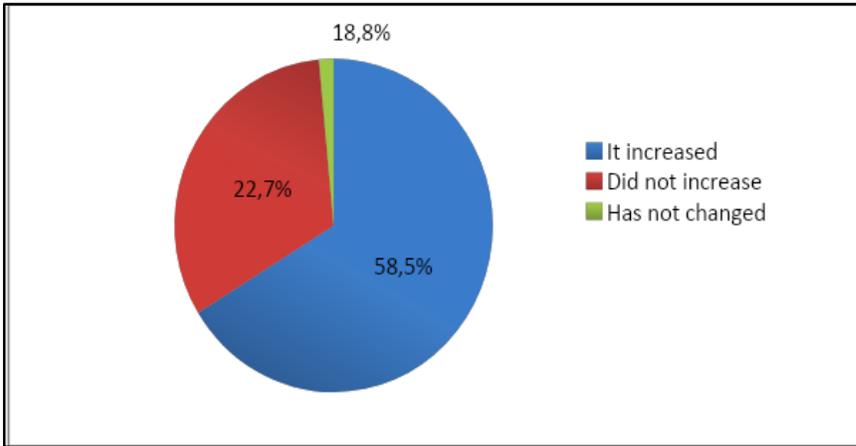
82.6% of the students (N=171) think that social media affects consumer behavior. 9.2% (N=19) were undecided on this question. 8.2% (N=17) do not think that social media affects consumer behavior.

Graph 7: "Did social media affect your consumption habits during the Covid-19 pandemic?" graph of their answers to the question



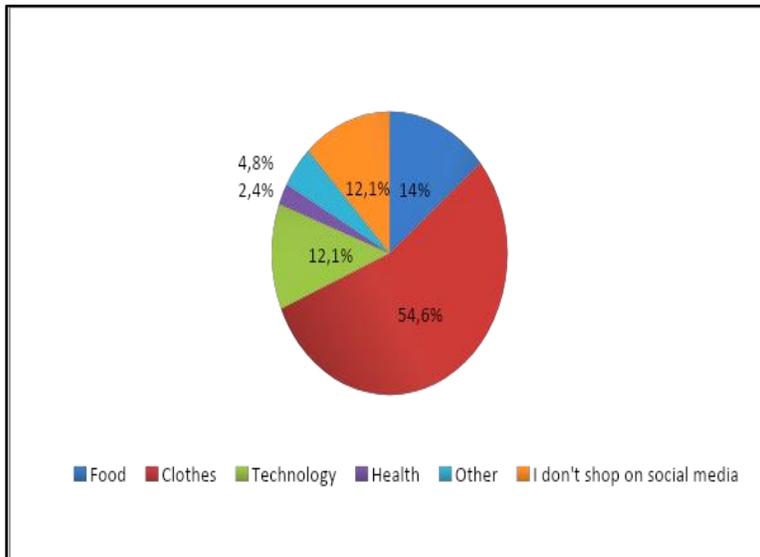
62.3% (N=129) of the students think that social media affects their consumption habits during the Covid-19 process, while 30.4% (N=63) think that it does not.

Graph 8: “Did your shopping on social media increase during the Covid-19 pandemic? graph of their answers to the question



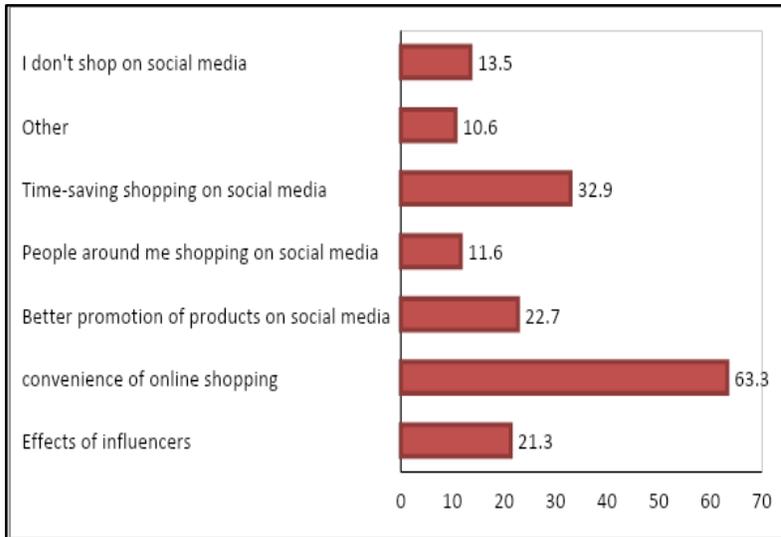
58.5% (N=121) of the students think that their shopping on social media has increased during the Covid-19 pandemic, while 22.7% (N=47) think that it has not. 18.8% (N=39) stated that their shopping did not change.

Graph 9: Data on the sector in which students consume the most on social media during the Covid-19 pandemic



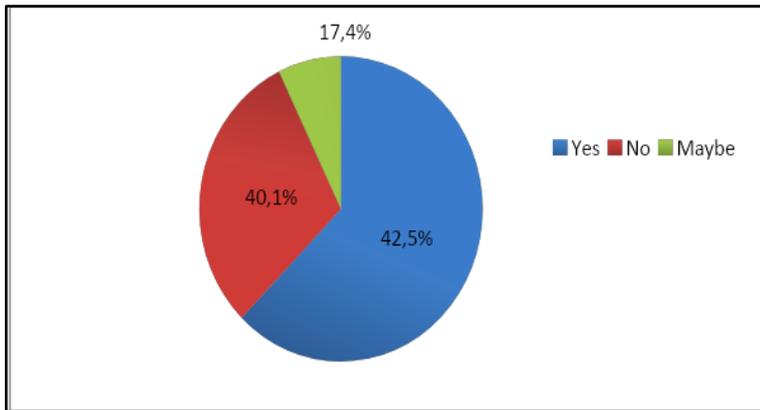
Students, respectively, through social media during the Covid-19 pandemic; clothing (N=113), food (N=29), technology (N=25), other consumptions (N=10). It has been revealed that they consume the least in the health sector (N=5). 12.1% (N=25) of the students stated that they do not shop on social media.

Graph 10: Data on the reasons for the increase in shopping made by students on social media during the Covid-19 pandemic



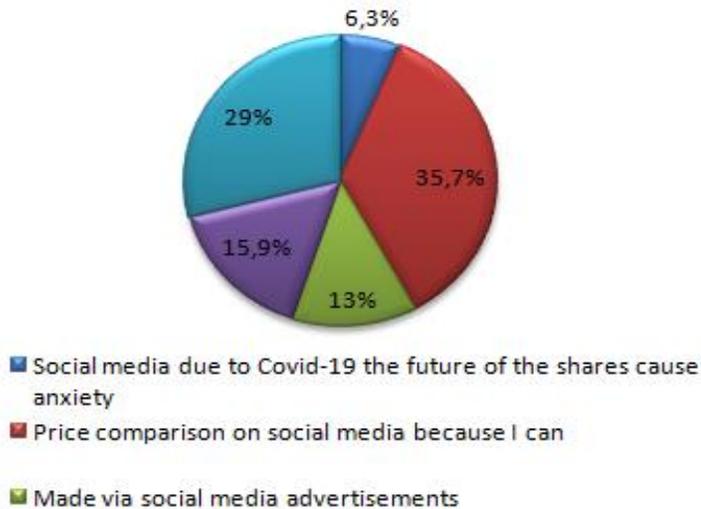
One of the reasons for the increase in the shopping made by students on social media during the Covid-19 is the convenience of online shopping. Therefore, this information also provides an answer to the third research question. In addition, students think that shopping on social media allows them to save time. Shopping on social media and other reasons affected the shopping of students on social media the least during the pandemic.

Graph 11: “Did social media affect your savings habits during the Covid-19 pandemic? graph of their answers to the question



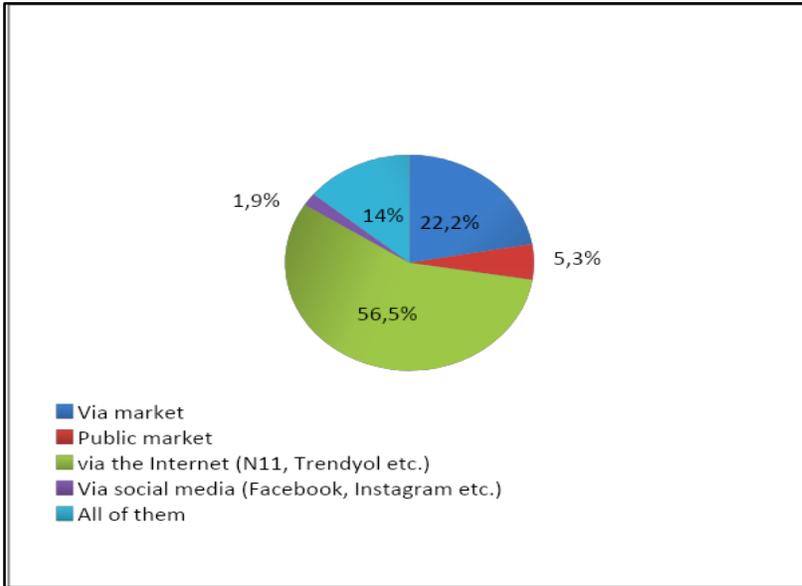
42.5% (N=88) of the students think that social media affects their saving habits during the Covid-19 pandemic, while 40.1% (N=83) think that it does not.

Graph 12: What are the reasons for your savings to increase thanks to social media during the Covid-19 pandemic process? graph of their answers to the question



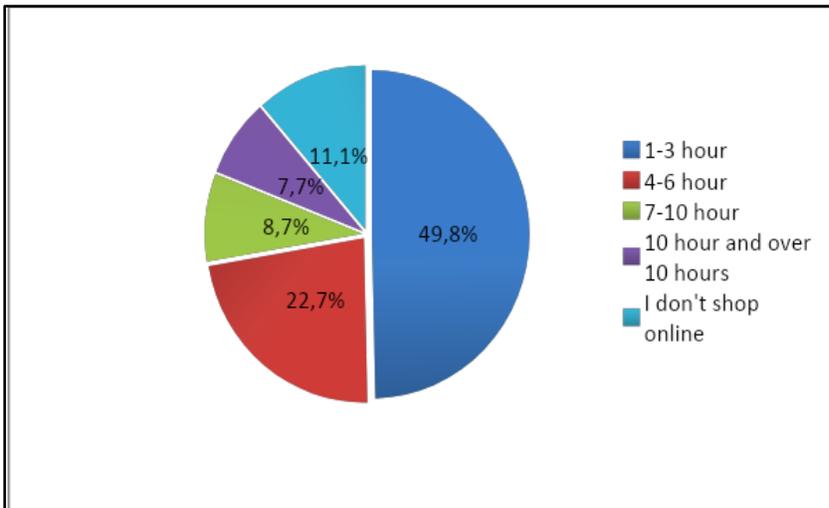
The reason why 35.7% (N=74) of the students have increased their savings thanks to social media during the Covid-19 pandemic is that they can compare prices on social media. 29% of the students (N=60) think that their savings do not increase thanks to social media.

Graph 13: Information on how students do their shopping during the Covid-19 pandemic.



During the Covid-19 pandemic, 56.5% (N=117) of the students mostly do their shopping via the internet, and 22.2% (N=46) do their shopping via the market. It is seen that students shop at least on social media during the Covid-19 pandemic process. According to these results, it is seen that the fourth research question was also answered.

Graph 14: Data on online shopping intensities of students during the Covid-19 pandemic



When the online shopping intensities of students during the Covid-19 pandemic are examined, 49.8% (N=103) 1-3 hours, 22.7% (N=47) 4-6 hours, 8.7% (N=18) 7-10 hours, 7.7% (N=16) 10 hours or more. 11.1% of the students do not shop online.

6. Conclusion and Evaluation

This research, which examines the effect of social media on consumer decisions during the Covid-19 pandemic, was conducted for students who continue their education at Çanakkale Onsekiz Mart University. In the study, questions were asked to measure the socio-demographic characteristics of the students, which communication tools and how often they used during the Covid-19 pandemic, which social media accounts they used the most, the average daily time they spent on social media, why they used social media and the effect of social media on consumer decisions.

According to the research data, students regularly use the internet and social media every day during the Covid-19 process. Most students spend 4-6 hours a day on social media. Students use social media to have more fun, to have a good time and to follow the agenda. Students use Instagram application the most and Facebook application the least. According to the research data, most of the students think that the use of social media affects consumer behavior. During the pandemic period, most of the students stated that the use of social media changed their consumption habits and their shopping on social media increased. Most of the students spent the most on their clothing needs through social media

during the pandemic period. Students who think that it is easy to shop online through social media also think that they save time when they shop through social media. Most of the students stated that social media affected their saving habits during the Covid-19 period and their savings increased because they could compare prices on social media.

In line with this information, it is concluded that the use of social media during the Covid-19 process affects the consumption habits of students. It is predicted that social media tools will undergo change and transformation in the coming years, and that consumption and consumption habits will develop with the emergence of new platforms. Therefore, it is important to keep this topic up to date.

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CHAPTER II

LEADERSHIP AND ETHICAL LEADERSHIP FROM HEALTH MANAGEMENT PERSPECTIVE

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1.Introduction

Maintaining a healthy life is the basic right and need of every human being. The existence of health institutions is vital in fulfilling this need (Adıgüzel, Keklik, 2011:308). Today, health institutions which aim to improve human health and life provide health services effectively. Everyone living in this world needs health services. The development and change in health services are effective on the structure, goals and functioning of health institutions. The most visible point and critical part is health service delivery. It is a process in which almost all inputs in the health system are transformed into products. Changing and developing health institutions have to compete under complex environmental conditions and find ways to provide effective, cheap and qualified health services.(Uğurluoğlu & Çelik, 2009, p. 149).

Leadership is the main force that activates, coordinates and directs the functions of the health system to the target. Undoubtedly, leadership in health institutions is much more difficult than other public or private sectors (Nicol, 2012, p. 60). Because the health sector's environmental and organizational complexity creates difficulties in terms of leadership practices.

Leadership in general; If it is considered as the process of influencing people for the realization of goals, everyone working in health institutions can show leadership qualities at various times on these goals (Benington, 2010, p.26). The most important point that differentiates the leadership style is all health professionals should have leadership characteristics according to appropriate time and place. Ethics and leadership cannot be considered separately from each other in the delivery of health services. Ethical behavior emerges as a result of effective leadership and effective leadership emerges as a result of ethical behavior. The concepts of ethics and leadership are interrelated. Leader in an organization is a person who takes responsibility for establishing ethical principles or norms that demonstrate the ability to govern people's behavior. This responsibility reflects the ethical leadership role of the organizational leader, which has a critical significance for effective leadership and long-term organizational success (Turhan, 2007). Among the leadership approaches, ethical leadership has become more important in health-related professions like many professions in recent years. Numerous studies have been carried out in the related literature.

This study aims to provide a broad conceptual perspective on leadership and ethical leadership from health management perspective. In accordance with the purpose, first of all, leadership, leadership types, ethics and ethical leadership concepts are explained in this study.

2. Conceptual Framework

2.1. Leadership

From the beginning of human history to the present, human beings have lived as a social being; In order to meet their individual and social expectations and obligations, they need one another and act in groups (Salılı & Baytok, 2014). The important point of group dynamics is leadership. The concepts of leadership and leader are among the most researched concepts throughout history. Because the concept of leadership stems from the fact that it is a concept that we come across in every field of life (Avcı, 2015).

Leadership studies have intensified since the 1950s and many definitions of leadership have been made (Eroğlu, 2013). (Çelik, 2003). The concept of leadership, which comes from the root of “leith” in English, means that one group influences another group or makes an effort to influence it (Ceylan, 2012).

Leadership is the ability to influence people's actions and behavior. A leader on the other hand, is the person who is able to impose his will and will on other people (their respect, trust, obedience and loyalty)" (Eroğlu, 2013). A leader is a person who has the power to influence and aims to do the right things (Erdoğan, 2012). A leader is defined as "a person with superior intelligence, ability to analyze and synthesize, convey their thoughts in the best way, patient, understand and love people and dedicate them to a single goal" (Eroğlu, 2013).

Leader is the person who carries organizations to the future. The leader should explore how healthcare delivery and patient care can be improved. In addition, it is the responsibility of the health leader to share vision, give responsibility and develop talents in the health team.

2.2. Types of Leadership

There are many types of leadership in the literature: The most important of them are; Servant leadership: In this type of leadership, the leader is aware of his responsibilities to his followers, not acting like a hero who solves all problems, but a servant who contributes to the creation of new ideas, and in this way he has the power to make common decisions with his followers. . The servant leader is responsible for what he brings to his followers under his own leadership. Servant leadership is defined as an approach that starts with serving people and then desires to lead with a conscious choice. (Bass & Steidlmeier, 1999, p. 186)

Transformational leadership: Transformational leaders focus on emotions, ethics, values, long-term goals and standards. They also concentrate on enabling the individual to take a perspective in line with the goals of the group beyond their own goals (Erdoğan, 2000). Transformational leadership affects the corporate structure and corporate culture in different ways. They establish strong bonds with their employees. (Bass, 1997, pp. 19-28)

Transformational leadership is an effective type of leadership in revealing positive organizational results in processes such as creating a vision, inspiring, and harmonizing business goals with individual goals (Arikboğa, 2013). Therefore, transformational leadership has an important impact on the sustainability of organizations for change.

Visionary leadership: Vision is a sense of the future. Vision is a dream about what you would like to be next. The desired mental picture of the organization's possible future is also called vision. Vision enables leaders to go beyond daily issues and draw a framework in which they can work for the future. Vision expresses the place an individual and

organization wants to reach in the future and the goal they want to reach. Those working in the health system must create their visions within this framework. Organization leaders are a healthcare leader who supports the success of the entire healthcare team by promoting, developing, explaining, realizing and organizing the vision for healthcare. Today, the leader should not be the authority that gives power, so the superior personality traits that are impossible to find is to be a visionary and work to realize his vision (Balçı, 2006). This situation means that the visionary leadership emphasizes the behaviors and the reflection of the behaviors, which are paving the ways to the goals.

Visionary leadership is a type of leadership that develops visions that mobilize people collectively, spreads these visions by sharing, and approaches problems from a global perspective. It can be defined as a visionary leader who can look to the future with a new perspective. A forward-thinking and visionary leader, unlike other leaders, should have the ability to evaluate events in a different way. Especially in the 1990s researches showed that visionary leadership has a great importance for the leadership. The reason for this is that visionaryism removes the uncertainties about the future of organizations (Çelik, 2003).

In this type of leadership, the aim is to encourage members to succeed (Özler, 2013). Transactional leaders generally try to mobilize people who are oriented towards work to reach the point of success (Özler, 2013).

Leaders who assume the role of interactional leadership also bring support and authority to their employees. The leader uses his reward and status to motivate employees. These leaders have a great share in establishing the connection between the past, present and future. They set up well. Transactional leadership provides maximum success in order to motivate employees in situations where organizational opportunities are limited (Yılmaz, 2016a, pp. 291-315).

Transformational leadership should not be understood as leaving all interactional and managerial behaviors. Effective leaders also have to be good managers. Using both types of leadership together; In other words, putting the interactional leadership on a transformational basis make the organization more effective in achieving organizational goals (Willink, 2009, pp. 119-125).

Leaders with charismatic characteristics seem to have a great influence on people. Such leaders are self-confident, have a clear vision, and are impressive to others. What makes the charismatic leader different is the foresight, vision and ability to mobilize people to achieve the goal they believe in. These leaders usually emerge during the periods of transition or crisis (Saruhan & Yıldız, 2009).

Democratic-Participatory Leadership: This type of leadership, which is based on participation, is also expressed as participatory leadership in the literature (Özler, 2013). Democratic attitudes and behaviors are closely related to a person's self-realization and positive feelings about himself. It is also related to self-confidence and success expectations and desires (Gökdağ, 2013). A democratic leader is service-oriented. They supports and values employees. It takes the expectations of the employees and considers those expectations in the individual decisions they take (Izgar, 2005).

Super Leadership: The last point of view regarding leadership is super leadership. Employees are independent. Every employee is also a leader. It is based on the principle of self-leadership of the individual. There are employees at the center. This type of leadership thinks that employees can manage themselves. Employees can improve themselves, motivate themselves and do high-efficiency work. Super leadership, where it is very easy for people to develop themselves, has created a paradigmatic transformation in the field of leadership (Çelik, 2003).

Ethical Leadership: Although the concept of ethical leadership, which can be assessed among the new leadership types, has been discussed for a long time and descriptive studies are quite new. The ethical leadership process, unlike other leadership types, centralizes ethical values. An ethical leader reflects this in practice, as he draws his influence and leadership from ethical values. The ethical leader gives confidence to his employees. He/she should be a role model and do this consciously (Aydin et al., 2013, pp. 795-811) Ethical leaders give detailed information to employees about problems and events. These leaders encourage their employees to find better solutions for urgent and vital problems. Ethical leadership; it is defined as the process of making ethical decisions and participating in the management of ethical values (Yilmaz, 2016b, pp. 291-315). In short, ethical leadership requires leaders to act according to ethical principles and moral values in their relations with employees.

3. Ethics

The leadership process involves making decisions that concern employees; obliges the observance and harmonization of the gains of the employees in the decisions taken. For this reason, leaders with decision-making authority need certain ethical principles and values in order to cope with the ethical problems and dilemmas they face. From this point of view, it is seen that the concept of ethics is frequently mentioned both in various fields of knowledge and in daily life, especially in recent years and today.

So much so that the word ethics has become a widely used word in most of our activities as research and practice and in almost every area of our lives (Good, 2011).

Ethics is a concept that comes from the Greek word “ethos” (Köseoğlu, 2011, pp. 61-82). (Akarsu, 1998). Researches on all human behavior and actions are the area of Ethics (Aydin et al., 2013, pp. 795-811). Ethics is a determining force in how people should think and behave in their individual and social relations. The concept of ethics, which consists of rules about what people should avoid and what they should do in their relations in social life, determines right and wrong, good and bad, and also creates the ideal behavior model for people.

Ethics is important for the general character of a society as well as being individual. Ethics is a set of efforts that limit the behavior with the basic rules within the framework of the need to respect the rights of others in order to understand the social rules (Minja, 2009, pp. 1-15).

The aim is to illuminate human attitudes and behaviors in terms of their moral quality and to explain the importance of valuing and loving human beings, on the contrary, that moral actions cannot be an arbitrary situation according to one's will. It is known that the main condition on which the concept of ethics is based is "good will" (Pieper, 2012, p.17).

Ethical rules and values are vital for organizations as oxygen for life. Reinforcing the self-respect and respect for the work they do, increasing their self-confidence, and adopting the institution they work for with all their values depend on the system of ethical principles. Ethical values are universal and valid for every country and society. The ethical principles are justice, equality, honesty and truthfulness, respect for human rights, rule of law, love, democracy, tolerance, trust, empathy, transparency, being a role model. Ethical codes (codes of conduct) are explanatory, written and official documents that guide employees and organizational behaviors and contain moral standards.

Ethics in the modern world, every profession has its own ethics. Thus, there is an inspection system that creates a guarantee in the society about the behavior of the members of the profession. The best example of professional ethics is Medical Ethics. Medical Ethics defines the behaviors that health workers should and should not do in the dimension of medical relations. The rules governing medical practices and the values specific to the medical world are all about Medical Ethics. Reasoning, abstract

thinking and obeying the rules set within the scope of medical relations are within the scope of Medical Ethics.

Medical ethics is the discipline that tries to illuminate the dilemmas arising from the differences between the expectations-values of health care providers and health care beneficiaries. It is important to remember that all professional ethics, despite the different working conditions and different requirements of the professions, the essence of ethical problems is the same – they are actions that harm human values. (Köseoğlu, 2011, pp. 61-82).

3.1. Ethical Leadership:

The concept of ethical leadership is a leadership style that has been focused on in recent years. An ethical leader is defined as a person who is sensitive to ethical principles in the work environment and takes others as an example in this regard (Gallaher & Tschudin, 2010). Every person has an ethical understanding. However, since this understanding is not systematic for most people, they have to set various ethical rules to guide their decision making (Minja,2009).

Ethical leader is the one who takes care not to take sides in his behavior, respects and values the rights of the people around him in the working environment (Şantaş et al., 2018a). It is supported by the relevant literature that ethical leader behaviors cause employees to display positive attitudes towards their organizations. It is stated as ethical leadership when leaders have strong character and correct values (Freeman & Stewart, 2006). He is the person who guides the creation of ethical awareness by influencing his behaviors and attitudes.

Honest leaders, whether in business, government, education or whatever industry, must have a clear vision of the public good and be intent on enhancing that benefit. Once these are provided, leaders should consider guiding people to achieve some goal or purpose. The purpose should be in the public interest. Basically, there is only one leadership style. This is “good” leadership. When the main task of leadership is ethical, true leadership will be ethical leadership (Arjoon, 2000: 171). Ethical leadership is concerned with the communication of leaders with employees. Communication should be clear, understandable, mutual, etc. It is important to ensure that the work environment is safe and that the organization achieves the goals it wants to achieve. How the leader treats his employees in the work environment and the behavior of the employees towards the leader are determinative. The behavior and communication of an ethical leader also reveals whether the decisions taken are ethical or not.

Especially in micro-level health care delivery, patient relations, practice areas and behaviors of health professionals are the focus of ethical leadership. In addition, ethical leadership seems to be the cornerstone of patient-centered care. In addition, ethical leadership encourages quality, safety and practice in all its actions (Şantaş et al., 2018a).

Ethical leadership is also effective in the formation of organizational culture. There is a great need for ethical leadership in the health service sector. Ethical leadership is important as healthcare professionals should prioritize patient rights and behave towards patients within the framework of ethical values during the delivery of healthcare services. In addition, ethical understanding in health organizations is an important factor that directly affects service quality and patient satisfaction. Making unethical practices can cost the society as soon as possible. For this reason, the fact that managers and employees have ethical leadership characteristics is an important factor for employees and managers to fulfill their responsibilities in the provision of health services (Gül, 2006, pp. 65-79). In the literature, Çıraklı states that performance and development increase depending on the increase in the perception of ethical leadership and there is a positive effect between ethical leadership type and performance.

Like leadership types, the service sector also varies. Each industry adopts the appropriate type of leadership for it. Ethical leadership in the health sector is based on the principle of doing no harm. Other important principles on which ethical leadership in the health sector is based are; not to make mistakes, to take care of patient privacy, not to discriminate between people by religion, language, race and culture. Since health ethics forms the basis in the health sector, it is thought that the application of ethical leadership in this sector is more effective. The principle of doing no harm is based on ethical leadership, whereas in other types of leadership, motivating the group is based. Decisions taken in the health sector affect human health, privacy and life.

3.2. Ethical Leadership Studies in Turkey and in the World

The first studies on ethical leadership were discussed in the early 2000s. Those studies on ethical leadership dealt with the subject within a conceptual framework, and different features and dimensions were tried to be revealed. It is striking that empirical studies on ethical leadership have been more intense in recent years. These studies contribute to the field of ethical leadership by developing scales, expanding the scales and models developed. In the light of the findings obtained from the literature review, we can say that the studies on ethical leadership have gained momentum in recent years.

Table 1. Examples from Studies in Foreign Literature on Ethical Leadership

Writers	Sample	Dimensions	Research Problem and Findings
Linda Klebe Trevino, Michael Brown Laura Pincus Hartman(2003)	In-depth interviews were conducted with 20 large-scale executives operating in different sectors (audit, electronics, pharmaceuticals, industry, telecommunications) in the USA.	Dimensions people orientation; reflecting ethical behavior and characteristics; It is expressed as the formation of ethical values in the organization and supporting the audience in the development of moral responsibility awareness.	The main problem of the study is to determine what the ethical leader is and the behaviors that constitute ethical leadership.
Karianne Kalshoven Deanne N.Den Hartog Annebel H.B. De Hoogh(2012)	The study includes 256 people working in different sectors such as health, public and insurance sectors.	In the study, a 17-item scale developed by Kalshoven et al. in 2011 and based on the work of Brown et al. was used. The dimensions addressed in the research are ethics and fairness, clarification of duties and roles, and power sharing.	In the study, the effects of ethical leadership and organizational citizenship behavior dimensions on helping (altruism) and courtesy behavior were investigated. As a result of the research, a positive and significant relationship was found between all dimensions of ethical leader behaviors, altruism and courtesy behavior.
Michael E. Brown Linda K. Trevino (2014)	The study sample includes 217 managers and 659 subordinates working in different sectors.	Brown, Trevino, and Harrison's Ethical Leadership Scale was used; ethical leadership is considered as a single dimension.	The study investigated the effect of role modeling on ethical leader behavior.

As seen in Table 1, these studies have proven the effect of ethical leadership on positive behaviors such as organizational commitment, helping behavior and performance.

Table 2. Examples from Studies in the Literature on Ethical Leadership in Turkey

Writers	Sample	Dimensions	Research Problem and Findings
Seval Aksoy (2012) (Master's Thesis)	The study was carried out on 41 organizations operating in 9 different sectors.	The one-dimensional ethical leadership scale developed by Brown and Trevino was used in the study	In the study, the relationship between ethical leadership, organizational citizenship behavior and organizational performance was investigated. The result of the research revealed that ethical leader behaviors have a positive and significant effect on individuals' OCB (organizational citizenship behavior).
A. Çıraklı et al. (2014) (Article)	It includes 204 health workers working in the state hospital in Yozgat Province.	E.Yılmaz's (2005) Ethical Leadership Scale was used in the study.	The aim of the study is to reveal the effects of managers' ethical leadership behaviors on health workers' perceptions of organizational justice. Research findings revealed a moderate relationship between ethical leadership dimensions and procedural, interactional and distributive justice.
Hasan Gul, Mehmet Ince (2014) (Article)	It includes 84 administrative staff working in the higher education institution.	E.Yılmaz's (2005) Ethical Leadership Scale was used in the study.	The aim of the study is to investigate the effects of 4 ethical leader behaviors suggested by Yılmaz on procedural, interactional and distributive justice. also proved the relationship between the behavioral sub-dimension and the perceptions of procedural justice.

As can be seen from Table 2, it is seen that the focus of the studies is educational sciences, and they are also carried out in the field of health and tourism. In the light of the findings obtained from the literature review, we can say that the studies on ethical leadership have gained momentum in recent years.

4. Conclusion, Discussion and Suggestions:

Although there is no single definition of leadership in the literature, it is briefly called leadership is to manage the change successfully in organizations. Leadership types (democratic, charismatic, visionary, ethical, etc.) are divided into much broader categories. Which type of leadership is appropriate may differ according to factors such as the culture, size and employee profile of the organization. The most visible point of leadership is health service delivery. Health service delivery constitutes a critical point of the system. Health service area has a vital position in working life.

The health service sector, which is an area where labor is intensively spent, is also important in the economic system, since it has the purpose of protecting, developing and maintaining human health. For this reason, leadership in health institutions becomes much more difficult compared to other public or private sectors. In order to resolve conflicts and ensure coordination in the health service sector, an effective leadership which is specific to this sector has vital importance at every level of the health system.

The health leader is important for the development and change of health organizations. Health leaders are role models for other employees in the organization. Considering all these, a good health leader; It is a person who can work without being under the pressure and influence of anyone, knows and obeys ethical rules, gives confidence to his colleagues, is self-confident, and can work in a versatile way. Due to the complex structure of the health sector, there are different levels and types of leadership hierarchy. The health sector consists of multidisciplinary working teams.

Employees in the health sector are expected to be motivated by their work. A possible mistake of employees working in the health sector has a high risk of harming human life or human health. The implementation of ethical leadership behaviors in the sector is important for a good motivation. The behavior of the leaders in the health sector in accordance with ethical values affects the environment of the health organization positively. It can be suggested that the curriculum for ethics courses should be developed and more emphasis should be placed on in-service training programs. It can be suggested that more quantitative and qualitative studies should be conducted on leadership and ethics in the field of health.

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CHAPTER III

INVESTIGATION OF THE RELATIONSHIP BETWEEN COVID-19 ANXIETY AND STATE-TRAIT ANXIETY LEVELS

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1. Introduction

In 2019, coronavirus disease (Covid-19) pandemic broke out in Wuhan province affiliated to Hubei state of China and then spread to every continent, except for Antarctica, rapidly and caused a pandemic (W. Wang et al., 2020). It is reported that the first case associated with new coronavirus (Covid-19) has been detected at an early date like 17th November 2019, according to the government records. Towards the end of December 2019, a number of local healthcare authorities in Wuhan province reported that there were patients who came down with pneumonia that occurred epidemiologically for an unknown reason due to a sea product market (Zhu et al., 2020).

The pathogen, which is a new coronavirus (SARS-CoV-2), and the first cases reported as pneumonia in China on 31 December 2019 have been reported to World Health Organization (WHO). On 5 January 2020, World Health Organization called this new disease as pandemic for the first time (Budak & Korkmaz, 2020). After this date, Covid-19 spread rapidly to the world and reached to the pandemic dimensions affecting all continents. WHO announced that infection cases were encountered in all 34 regions of China and the total infection number went beyond the severe acute respiratory syndrome (SARS) in 2003 and that the pandemic became a public health threat that has an international significance on January 30th 2020, so the state of emergency was declared. World Health Organization denominated the coronavirus that has an unknown ethology as Covid-19 on 11 February 2020 (Zhao et al., 2020).

Psychological reactions shown by the participants were attempted to be measured in research performed between 31 January 2020 and 2 February 2020, only two weeks after Covid-19 broke out in China and one day after WHO declared the state of international alarming public health emergency. 53.4% of the participants considered the psychological effect of the pandemic as moderate to severe: 16.5% of the participants reported that they had moderate to severe depressive symptoms; 28.8% reported that they had moderate to severe anxiety symptoms and 8.1% reported that they had moderate to severe stress levels. According to the data from a survey performed at the first stage of the Covid-19 pandemic in China, one third of the responders were found to have moderate to severe anxiety concerning the disease (C. Wang et al., 2020).

The prevalence of moderate to severe psychological effect measured by Impact of Event Scale (IES-R) is higher than the depression, anxiety and stress prevalence measured by Depression Anxiety Stress Scale (DASS-21). The difference between IES-R and DASS-21 is caused by the fact that IES-R assesses the psychological impact after an event. In this study, participants called Covid-19 pandemic as an important event, while no such event was reported in DASS-21 (C. Wang et al., 2020). In a literature screening study performed by Ma et al. (2020) regarding the research titled as mental health problems among university students, it was found that the fast spreading of Covid-19 and other fatal contagious epidemic diseases and the emergence of high death rates increased the concerns about the public mental health, wellbeing, psychological adjustment, and affected the mental health negatively.

During the pandemic that occurred due to Covid-19 affecting the whole world, it was found that the spreading rate of the disease was attempted to be kept under control through lockdowns and vaccine-induced protective measures to the accompaniment of social support packages in developed countries, that the reduction in spreading rate of the disease was seen from time to time and that the spreading rate of the disease increased again despite of all measures because of new mutations. As is seen in the paragraphs below, the cases increased exponentially in countries that could not access the vaccine due to financial resource problem and could not take efficient lockdown measures, reaching to a level threatening the health of all society.

Changes in Covid-19 Cases From 7 March 2021 to 20 September 2022 in the World and in Turkiye: According to the official records of WHO, more than 116 million people were infected with Covid-19 by 7 March 2021 and more than 2,5 million people lost their lives all around the world (<https://covid19.who.int/>, 7 March 2021). According to the official sources in the world as of 31 October 2021, it is seen that total number of

cases is 247,281,104, and that the number of the people who lost their lives is 5,013,371 (<https://www.worldometers.info/coronavirus/>, 31 October 2021). Globally, as of 5:15pm CEST, 6 June 2022, there have been 529,410,287 confirmed cases of COVID-19, including 6,296,771 deaths, reported to WHO. As of 31 May 2022, a total of 11,947,644,522 vaccine doses have been administered (<https://covid19.who.int/> 7 June 2022). Globally, as of 5:13pm CEST, 20 September 2022, there have been 609.848.852 confirmed cases of COVID-19, including 6.507.002 deaths, reported to WHO. As of 12 September 2022, a total of 12.613.484.608 vaccine doses have been administered (<https://covid19.who.int/table>, 20 September 2022). According to the unofficial numbers, it is estimated that the number of those who died from the coronavirus in the world is 20 million.

Considering the situation in Türkiye, it is seen that 2,780,417 people have been infected with Covid-19 coronavirus as from 7 March 2021 according to the data from Ministry of Health. In addition, it is seen that 2,623,924 people have recovered, 156,493 people are active patients and 29,030 people lost their lives (<https://covid19.saglik.gov.tr.>, 7 March 2021). As of October 31, 2021, 14:48 GMT, it is seen that total number of cases in Türkiye is 8,009,040, that the number of recovering patients is 7,463,950, that the number of active patients is 489,417 and that the number of deceased is 70,401 (<https://www.worldometers.info/coronavirus/>, 31 October 2021).

In Türkiye, from 3 January 2020 to 5:15pm CEST, 6 June 2022, there have been 15.073.722 confirmed cases of COVID-19 with 98.969 deaths, reported to WHO. 20 there have been 20 September 2022, 16.852.382 confirmed cases of COVID-19 with 101.068 deaths, reported to WHO (<https://covid19.who.int/table>). As of 30 May 2022, a total of 147.678.580 vaccine doses have been administered (<https://covid19.who.int/region/euro/country/tr>.7 June 2022). Persons fully vaccinated with last dose of primary series per 100 population 63,9 (63,9%) in Turkey (<https://covid19.who.int/table>, 20 September 2022).

The fact that the disease is very common, that the measures remain insufficient, that the Covid-19 risk has been going on for a long time, that the spreading rate of the disease is high due to mutations despite of reduction in death rates in those vaccinated, that the mortality rates have increased again and risks continue in those who have not received the vaccines, that the uncertainties have increased and that education, production, employment, economic problems have increased all around the world have lead to an increase in the stress, mental problems in people, and an increase in the prevalence of neurotic anxiety.

Anxiety levels in people due to Covid-19 have increased. Since the anxiety levels are investigated in this study, information on basic anxiety-related concepts, theoretical views, and physiological symptoms of anxiety will be given in the paragraphs below.

Objective Anxiety (Fear) and Neurotic Anxiety (Anxiety): Objective anxiety is defined as an emotional reaction against the concrete danger that exists at the moment. The focus is placed on the “current” aspect of fear and on the “expected” aspect of the neurotic anxiety.

Fear. It is related to the concrete threat and danger that exist at the moment, whereas anxiety is related to the situations that are likely to occur in the future. The people who are exposed to real threats, dangers, and attacks experience the fear.

Anxiety. It can be defined as the state of feeling worried and uneasiness related to a subjective situation that is not certain, perhaps very unlikely to occur, at the moment the person is living or in the future. Individuals deny, reject, or ignore the situations that cause pain to them, cut off the internal and external contact, and look to defence mechanisms. Such situations that are suppressed, pushed off of conscious, and unresolved problems cause the person to be nervous, distressed, and anxious even in ordinary situations (Cattell & Scheier, 1958; Erskine, 2018; Kring & Johnson, 2015; Şahin, 2019).

Physiological Processes Occurring in Fear and Anxiety: Sympathetic system comes into play in individuals feeling both anxiety and fear, and rapid changes occur in physiological processes. Organism is alarmed and fight-or-run reaction emerges. Once the internal or external stimulants of the individual are perceived as dangerous by amygdala, the message reaches to hypothalamus and then to pituitary gland, which is the supervisor of endocrine glands, to adrenaline gland and to other endocrine glands rapidly. This message causes the organism to be alarmed and the auxiliary powers to come into play. Blood pressure, heartbeat rate and respiratory rate increase. Gastrointestinal movements accelerate. Saliva excretion decreases, mouth gets dry, adrenaline increases, glucagon hormone is released to blood, sugar amount in blood increases, eye pupils are dilated, blood is withdrawn from internal organs and directed to striated muscles, coagulation increases, muscles are stretched extremely, a chill runs down the person’s spine. In case of fear, parasympathetic system comes into play once the danger disappears and all body functions are balanced (Şahin, 2017).

When the person remains under such an intense stress that s/he cannot cope, inexplicable anxiety disorders occur. In case of panic attacks that occur in anxiety disorders and especially panic disorders, the sympathetic

system causes the person to be alarmed and show reactions as intense as fear despite there is no real danger.

Especially in case of generalized anxiety disorders, the minor issues are exaggerated extremely, and the people live in a constant anxiety and stress state. In case of extreme anxiety, the sympathetic system remains effective, and the parasympathetic system does not come into play. People who experience such conditions cannot relax, cannot rest even in their sleep, and feel constant stress and pains in their body; the existing physiological problems increase further due to the impact of anxiety.

Covid-19 Anxiety: The uncertainties about the course of the disease and how its impact on the whole world will be taken under control caused an increase in future anxiety and despair as well as in social, economic, educational, and health problems: The inadequacy of testing and treatment, the imposition of unfamiliar public health measures to protect responders and health care providers from infection, which infringe on personal freedoms, large and growing financial losses as well as conflicting messages from authorities are among the major stressors that undoubtedly will contribute to widespread emotional distress and increased risk for psychiatric illnesses associated with Covid-19 (Pfefferbaum & North, 2020). As stated in the DSM-5: “Other psychopathologies such as depressive and anxiety disorders can occur after disasters.” APA (2013).

It is likely that social distance or forced quarantine to get protected from Covid-19 transmission risk has physical and mental health effects as well as psychosocial effects. However, it will be very difficult to assess them in a short term. An inconsistent period of anxiety, panic and fear may contribute to the increased risk when combined with the breaking of favourable health habits and other routines, the work and income loss threat and the increased pressure on health systems that makes it difficult to access support (<https://www.oecd.org/coronavirus/policy-responses/covid-19-protecting-people-and-societies-e5c9de1a/>, 20 August 2021).

When Covid-19 turned into a pandemic, millions of people got ill and the severe symptoms suffered during the disease led to the impairment of psychological and physiological balance of people. The uncertainties such as the fact that the transmission rate is too high, that the people get sick through contact, that they stay in the same places with the people who are ill, the possibility for people who show no symptoms to transmit the disease etc. lead to an increase in anxiety and concern in people.

Very traumatic symptoms appear and the concern that their lives will end occurs in majority of the people with disease. Although people with disease recover, some symptoms continue even after recovery. Some of the

patients, on the other hand, lost their lives. While people are grieving because they have lost their beloved ones due to disease, they have suffered from fear, anxiety, and concern due to the risk of transmission of the disease to them as they are in contact with their beloved ones during the disease period; and in cases where the disease continues, they continue to suffer.

According to the observations of the researcher, the fact that some of the family members pay attention to the protective measures very much while some do not pay the same attention may lead to the conflicts within the family. Likewise, interpersonal conflicts can be encountered at workplaces and social environments due to the similar situations. Some people isolate themselves to get protected from such situations.

1.1. Purpose of the Study

It is thought that above-mentioned ongoing problems have an effect on the relationships with the family and other people, the faith levels and the anxiety levels. This study aims at examining the diagnosed or non-diagnosed statuses of their relatives with Covid-19 during pandemic, intrafamilial conflicts, conflicts with other people, changes in faith levels, smoking status and Covid-19 Anxiety, State-Trait Anxiety levels based on these variables.

2. Method

2.1. Research Model

The relational screening model was used in this study in order to describe the existing situation (Karasar, 2020). Within the scope of study, the survey form consisting of 82 questions was sent to the participants online. Cronbach's Alpha coefficients of their scales were examined, and t-test, ANOVA and Tukey tests were used to determine the differences while correlation analyses was used for relationship between variables.

2.2. Study Group

13 of the surveys received from 635 people through Internet were excluded from analyses because of incompleteness and the studies were carried out with 622 surveys. Demographic distributions of the participants were shown in Table 1.

Table 1

Demographic Features

		<i>N</i>	%
Education	primary school	12	1.9%
	high school	81	13%
Status	university	484	77.8%
	postgraduate	45	7.2%
Gender	female	457	73.5%
	male	165	26.5%
Civil Status	married	86	13.8%
	with partner	91	14.6%
Age Distribution	single	436	70.1%
	separated or lost spouse or partner	9	1.4%
	18 to 25 years of age	500	80.4%
	26 to 33 years of age	46	7.4%
Age Distribution	34 to 41 years of age	22	3.5%
	42 to 49 years of age	28	4.5%
	50+	26	4.2%

Statistical Techniques and Analyses Used for Data Analysis

SPSS 22.00 package program was used for analyses of data obtained from the participants. Cronbach's Alpha coefficients of both the factors and all scales were calculated to be able to measure the reliability of the scale. t-test and ANOVA were used to test the difference of Covid-19 Anxiety scale according to demographic features. Correlation analysis was used to demonstrate the relationship between variables. For this study, Cronbach's Alpha coefficients were used to be able to evaluate the reliability analysis. A classification regarding these values were presented in Table 2.

Table 2

Cronbach's Alpha Values

Cronbach's Alpha	Comment
.80 to 1.00	High Reliability
.60 to 0.80	Highly Reliable
.40 to 0.60	Low Reliability
.40 and below	Unreliable

(Kalaycı, 2006, p. 405).

Cronbach's Alpha Coefficient is the fit value based on the correlation between the questions and is also defined as a coefficient showing the total reliability level of the questions below factor

Difference Tests: Independent sampling t-test. Independent group t-test is a parametric technique used to test whether the difference between two arithmetic means is significant or not when each subgroup shows a normal distribution feature and the element numbers are at least 30 (<http://mustafaotrar.net/istatistik/bagimsiz-iliskisiz-gruplar-t-testi/>, 30 August 2021).

Variance analysis-Anova. One of the statistical methods used to determine the difference between groups to be compared in case the number of groups is more than two is variance analysis (Kayri, 2009). Some assumptions must be met in order to be able to apply variance analysis (Winer, 1971).

Tests used when there is intergroup difference are Post-hoc Tests (Köklü et al., 2006, p.32). Post-hoc tests are used to find out which comparisons have shown a significant difference after detecting a general significance as the result of statistical analyses in a multi-factor study. As the result of variance analysis, the rejection of the null hypothesis is expressed as the fact that the means do not come from the same population (Kayri, 2009).

Tukey Test. Tukey Test, a technique used frequently like Bonferroni, requires that sampling numbers in groups be equal. It is used to test the differences between the means of the equal sampling groups. Tukey test developed by Gosset is based on q distribution. The q value found is compared to the q value obtained from the chart. Secondly, when the significance of the difference between whichever means is tested while investigating the source of the common effect, the error terms of both the main effect of that variable and the common effect are included in the calculation (Tukey, 1949).

Correlation Analyses

The relationship between variables is found by correlation analysis. In case of a relationship between two variables, it is called a simple correlation; in case of a relationship of a variable with more than one variable, it is called as multiple correlation; and in case that the relationship of other variables is determined by keeping one of the variables fixed, it is called partial correlation (Büyüköztürk, 2018, p.31). Correlation coefficient takes values between -1 and +1. If the sign is positive, this shows that while one of the variables increases/decreases, the other one also increases/decreases. If it is negative, it can be said that there is an inversely-proportional relationship. If the correlation coefficient (r) is zero, it can be said that there is no linear relationship between variables (Yüzer, 2009).

Data Collection Means

Personal information form. Personal information form is consisted of 20 questions: These questions include questions regarding the variables of being diagnosed with Covid-19, losing a relative due to Covid-19, and having a chronic disease, intrafamilial conflict and conflict with other people, faith levels, and substance use.

Covid-19 Anxiety Scale.¹ Covid-19 Anxiety Scale developed by Şahin and Tetik Küçükkelçi (2021) is consisted of 22 questions. This scale is consisted of 4 factors; namely Objective Anxiety and Neurotic Anxiety, Contact Anxiety, Compulsive Behavior and Sleep Hygiene. The first factor is consisted of 12 questions, the second factor is consisted of 5 questions, the third factor is consisted of 3 questions, and the fourth factor is consisted of 2 questions.

When considering the evaluations of preliminary tests performed for exploratory factor analysis of Covid-19 Anxiety Scale, odds value for Barlett's was calculated as ($p < .05$) and KMO value was calculated as .933. Accordingly, the data set is "perfectly" fit for factor analysis.

Descriptiveness of "Objective and Neurotic Anxiety" factor of Covid-19 Anxiety Scale was realized as 27.46%; descriptiveness of "Anxiety of Contacting with People" factor was realized as 14.81%; descriptiveness of "Compulsive Behaviour" factor was realized as 11.97%; and descriptiveness of "Sleep Hygiene" factor was realized as 8.65%. In total, the scale's percentage of describing the concept was calculated as 62.88%. As the result of this analysis, it is also demonstrated that the scale also ensures the structure validity. In total, reliability of Covid-19 Anxiety Scale was realized as (.935). The reliability value of "Objective and Neurotic Anxiety" consisting of 12 questions is in the "high reliability" range with (.931). "Anxiety of Contacting with People" factor consisting of five questions, "Compulsive Behaviour" factor consisting of three questions and "Sleep Hygiene" factor consisting of 2 questions are in the "highly reliable" range with (.773), (.716) and (.741) values, respectively.

Retesting was performed to evaluate the consistency of the scale according to time. Applications were implemented to the sampling of 30 people at an interval of 3 weeks. It has been found that the correlation value obtained between first application and second application ($p < .01$: $r = .913$) is high and significant.

¹ Turkish form of Covid Anxiety Scale can be found in <https://dergipark.org.tr/tr/pub/opus/issue/63558/912366>.

Scoring the Covid-19 Anxiety Scale. The scale is a 5-point Likert scale. While scoring, the Likert assessment points of Always (4 points), Frequently (3 points), Occasionally (2 points), Rarely (1 point) and Never (0) were taken into consideration.

Accordingly, the highest point to be taken from the scale is 88 and the lowest point is 0. Considering the distribution by anxiety levels; the point value obtained from Covid-19 Anxiety Scale which is less than or equal to 17 means there is no Covid-19 anxiety; a point value between 18 and 35 means Covid-19 anxiety is low; a point value between 36 and 53 means Covid-19 anxiety is normal; a point value between 54 and 71 means Covid-19 anxiety is high; and a point value greater than or equal to 72 means Covid-19 anxiety is very high (Şahin & Tetik Küçükkelci, 2021).

State-Trait Anxiety Inventory. Two-factor State-Trait Anxiety Inventory developed by Spielberger et al. (1966) was adapted to Turkish by Öner and LeCompte (1983). These two inventories are a self-assessment inventory. State-Trait Anxiety Inventory is a self-assessment inventory that determines how a person feel him/herself at that moment and under the circumstances s/he is in and how s/he feels him/herself irrespective of that moment and circumstances s/he is in.

The highest point is 80 and the lowest point is 20. The more the total anxiety point increases, the more the anxiety level of the person filling in the inventory increases. Alpha reliability coefficient of State-Trait Anxiety Inventory was found to be .83 to .87 in various applications for Trait Anxiety Inventory and .94 to .96 for State Anxiety Scale. In “this study” performed by the researchers, Cronbach’s Alpha value of State Anxiety Inventory consisting of 20 items was calculated in the ‘low reliability’ category with (.554) value and again Cronbach’s Alpha value of Trait Anxiety Inventory consisting of 20 items was calculated in the ‘highly reliable’ range with (.632) value.

3. Findings

Difference Tests of Covid-19 Anxiety Scale by Demographic Features

While performing difference analyses, t-test and ANOVA were used. In the groups with the difference, Tukey test was used to analyse from which groups the difference is originated from. Table 3 presents the Covid-19 Anxiety Point averages of those whose faith has remained unchanged, increased, and decreased.

Table 3

Covid-19 Anxiety Point Statuses according to Faith Levels

	<i>N</i>	<i>Ave.</i>	<i>S.D.</i>	<i>F</i>	<i>p</i>
unchanged	487	50.33	±20.375	5.335	0,005**
increased	88	58.08	±21.540		
decreased	47	52.13	±19.859		
Total	622	51.57	±20.648		

p* < .05; *p* < .01

Point averages of the Covid-19 anxiety values according to the “unchanged”, “increased”, and “decreased” statuses of faith levels are (50.33), (58.08), and (52.13), respectively. However, according to ANOVA test performed, there is a significant difference between Covid-19 anxiety point averages of the groups (*p* < .01).

According to Tukey test performed to determine between which groups the difference is present; Covid-19 anxiety point averages of those with the increased faith levels (58.08) is higher than the point averages of the people with unchanged faith levels (50.33). And this is statistically significant. It is found that Covid-19 anxiety level averages of those with unchanged faith levels is the lower in those with unchanged faith level, that Covid-19 anxiety level average is 1,8 points higher in those with the decreased faith level, that the average of those with the increased faith level is 7.75 point higher and that the difference between them (*p* < .01) is significant.

Table 4 presents the people’s and their relatives’ rate of being diagnosed-not diagnosed with Covid-19 and the rate of losing their relatives based on their faith level.

Table 4

The People’s and Their Relatives’ Rates of Being Diagnosed with Covid-19 and Losing Their Relatives According to Faith Level

Faith Status	Total	Were you diagnosed with Covid-19				Were any of your relatives diagnosed with Covid-19?				Have you lost any of your relatives due to Covid-19			
		no		yes		no		yes		no		yes	
		<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
unchanged	487	431	88.5	56	11.5	114	23.4	373	76.6	392	80.5	95	19.5
increased	88	77	87.5	11	12.5	18	20.45	70	79.55	67	76.1	21	23.9
decreased	47	47	100	0	0	14	29.8	33	70.2	37	78.7	10	21.3
Total	622	555	89.2	67	10.8	146	23.5	476	76.5	496	79.7	126	20.3

It has been found that the people's and their relatives' rate of being diagnosed with Covid-19 and the rate of losing their relatives is higher in those with the increased faith level.

Table 5 presents the Covid-19 Anxiety Point averages of those whose intrafamilial conflict levels have remained unchanged, increased, and decreased.

Table 5

Covid-19 Anxiety Point Statuses according to Intrafamilial Conflict Levels

	<i>N</i>	<i>Ave.</i>	<i>S.D.</i>	<i>F</i>	<i>p</i>
unchanged	393	51.53	±20.350		
increased	162	54.27	±20.691	4,575	0,011*
decreased	67	45.25	±21.189		
Total	622	51.57	±20.648		

* $p < .05$; ** $p < .01$

Point averages in Covid-19 anxiety values according to the 'unchanged', 'increased', and 'decreased' statuses of intrafamilial conflict levels are (51.53), (54.27), and (45.25), respectively. According to ANOVA analysis performed to determine whether the difference between point averages is significant or not, there are significant differences between Covid-19 anxiety point averages based on conflict levels ($p < .05$).

According to Tukey Test performed to determine between which groups the difference is present; it is seen that Covid-19 anxiety point average of those with the increased intrafamilial conflict is quite high with (54.27) value; that Covid-19 anxiety average of the people with the decreased intrafamilial conflict levels is the lowest with (45.25) and that the difference ($p < .05$) is statistically significant.

Table 6 presents the Covid-19 Anxiety Point averages of the people whose conflict levels with others have remained unchanged, increased, and decreased.

Table 6

Covid-19 Point Averages according to the Conflict Levels with Other People

	<i>N</i>	<i>Ave.</i>	<i>S.D.</i>	<i>F</i>	<i>p</i>
unchanged	354	50.88	±20.553		
increased	179	54.82	±20.697	3.984	0,019*
decreased	89	47.74	±20.231		
Total	622	51.57	±20.648		

* $p < .05$; ** $p < .01$

Point averages of Covid-19 anxiety values according to ‘unchanged’, ‘increased’, and ‘reduced’ statuses of the conflict level with other people are (50.88), (54.82), and (47,74). According to these points obtained, there is a difference between some groups ($p < .05$). ANOVA test was used to determine the statistically significance of the difference. Afterwards, according to Tukey test performed to determine between which groups the difference is present; value averages of Covid-19 anxiety levels of those with the increased level of conflict with other people are higher (54.82) than the averages of Covid-19 values of those with the decreased levels of conflict with other people (47.74) and this is statistically significant. The Covid-19 anxiety caused the level of conflict with other people to increase.

Table 7 presents Covid-19 Anxiety Point Averages of those whose smoking levels have remained unchanged, increased, decreased, and the non-smokers.

Table 7

Covid-19 Anxiety Point Averages According to Smoking Levels

	<i>N</i>	<i>Ave.</i>	<i>S.D.</i>	<i>F</i>	<i>p</i>
I am non-smoker	423	53.93	20.249		
unchanged	76	41.80	21.405		
increased	89	47.47	19.985	9.295	0,000**
decreased	34	54.5	18.072		
Total	622	51.57	20.648		

* $p < .05$; ** $p < .01$

Covid-19 anxiety points according to smoking levels are presented in the table. Accordingly, cigarette usage is addressed in 4 categories according to Covid-19 anxiety point. According to the table, smoking status was examined under ‘unchanged’, ‘increased’, and ‘decreased’ categories. ANOVA test was used to investigate whether the differences between point averages are significant or not. Accordingly, it is seen that the point averages are (41.80) for those with the unchanged cigarette usage, (47.47) for those with the increased cigarette usage, and (54.65) for those with the decreased cigarette usage and that the difference is significant.

According to the analysis performed, there is a difference between some groups ($p < .01$). According to Tukey Test performed to determine between which groups the difference is present; it is seen that Covid-19 anxiety point average is the highest in those with the decreased smoking levels (54.55); anxiety point average has decreased slightly in those with the increased smoking level; Covid-19 anxiety point average is the lowest in those with the unchanged smoking level (41.8). In addition, it is seen that the anxiety point averages of the non-smokers are also high (53.93). This intergroup difference is statistically significant.

Relationship Between Sub-Factors of Covid-19 Anxiety Scale

Covid-19 Anxiety scale is consisted of four factors, namely “Objective and Neurotic Anxiety”, “Anxiety of Contact with People”, “Compulsive Behaviour” and “Sleep Hygiene”. Table 8 presents the correlation analysis of the relationship between sub-factors.

Table 8

Correlation Table Between Covid-19 Anxiety Scale Sub-Factors

		<i>WM</i>	<i>SD</i>	1	2	3	4
1	Objective and Neurotic Anxiety	2.21	.997	1			
2	Anxiety of Contact with People	2.46	.961	.675**	1		
3	Compulsive Behaviour	1.73	1.097	.605**	.550**	1	
4	Sleep Hygiene	.253	.598	.398**	.361**	.422**	1

* $p < .05$; ** $p < .01$

Given the sub-factors of Covid-19 Anxiety Scale, there are significant and positive relationships between all factors. As the anxiety level of people increases/decreases, their anxiety of contact with other people also increases/decreases ($p < .05$). As the anxiety level of people increases/decreases, their compulsive behaviours also increase/decrease ($p < .05$). As the anxiety level of people increases/decreases, their sleep hygiene also increases/decreases ($p < .05$). As the anxiety of contact with people increases/decreases, the compulsive behaviours also increase/decrease ($p < .05$).

Table 9 presents Participants’ Covid-19 Anxiety and State-Trait Anxiety, point averages and the values of the relationship levels between them.

Table 9

Correlation Values Between Covid-19 Anxiety, State Anxiety and Trait Anxiety Points

		<i>N</i>	<i>WM</i>	<i>SD</i>	1	2	3
1	State Anxiety	622	48.38	9.49	1		
2	Trait Anxiety	622	47.03	9.38	.620**	1	
3	Covid-19 Anxiety	622	51.57	20.65	.223**	.254**	1

* $p < .05$; ** $p < .01$

Participants’ State Anxiety point average is (43.38), Trait Anxiety point average is (47.38), Covid-19 Anxiety point average is (51.57). Accordingly, there is a positive, significant, and moderate relationship between State Anxiety referring to our fears against objective dangers and

Trait Anxiety referring to the subjective anxieties ($p < .01$). According to these values; as the State Anxiety of the people increases, their Trait Anxiety levels also increase. If there is a decrease in State Anxiety levels of people, their Trait Anxiety levels also decrease.

There is a positive, statistically significant, and low-level relationship between State Anxiety level and Covid-19 Anxiety level ($p < .01$). When the State Anxiety levels of people increase, their Covid-19 Anxieties also increase. When the Covid-19 Anxiety levels decrease, then State Anxiety levels also decrease.

There is a positive, statistically significant, and low-level relationship between Trait Anxiety levels and Covid-19 Anxiety levels ($p < .01$). When Covid-19 Anxiety levels of people increase, their Trait Anxiety levels also increase. If their Covid-19 Anxiety levels decrease, then their Trait Anxiety levels also decrease.

Table 10 presents the difference between State Anxiety, Trait Anxiety, Covid-19 Point Averages according to Their Relatives' Being Diagnosed or Not Diagnosed with Covid-19.

Table 10

Anxiety Point Averages According to Their Relatives' Being Diagnosed or Not Diagnosed with Covid-19

Were your relatives diagnosed with Covid-19	<i>N</i>	<i>WM</i> %	<i>SD</i>	<i>Z</i>
State Anxiety	476	48.81	9.512	-2.344
	146	46.96	9.329	
Trait Anxiety	476	47.45	9.301	-2.114
	146	45.66	9.522	
Covid-19 Anxiety	476	52.39	20.486	-1.859
	146	48.86	21.010	

* $p < .05$; ** $p < .01$

The average of State Anxiety points of the people whose relatives have been diagnosed with Covid-19 is (48.81), while the average of State Anxiety points of the people whose relatives have not been diagnosed with Covid-19 has been calculated as (46.96). There is a difference (1.85) between two groups and this difference ($p < .05$) is significant. Accordingly, State Anxiety levels of the people diagnosed with Covid-19 are higher.

The average of Trait Anxiety points of the people whose relatives have been diagnosed with Covid-19 is (47.45), while the average of Trait Anxiety points of the people whose relatives have not been diagnosed with

Covid-19 has been calculated as (45.66). There is a difference of (1.79) between point averages of people whose relatives have and have not been diagnosed with Covid-19 and this difference ($p < .05$) is significant. Accordingly, Trait Anxiety levels of the people diagnosed with Covid-19 are higher.

The Trait Anxiety point average of the people whose relatives have been diagnosed with Covid-19 is (52.39), while point average of the people whose relatives have not been diagnosed with Covid-19 has been calculated as (48.86). There is a difference (3.53) between two groups and this difference ($p < .05$) is significant. Accordingly, Covid-19 Anxiety levels of the people diagnosed with Covid-19 are higher.

4. Results

This study examines the effects of Covid-19 pandemic that causes very traumatic consequences all over the world, along with some demographic features. Coronavirus pandemic, which broke out in Wuhan city of China in November 2019 for the first time, started to spread rapidly all around the world. And in March 2020, World Health Organized declared pandemic all around the world and measures started to be taken rapidly. Lockdowns were implemented in order to prevent the transmission in many countries and shopping malls, parks, and workplaces in which people can be in crowded mass were closed down. The first case in Turkey was reported on 7 March 2020 and spread to the whole country rapidly. In order to keep the transmission risk at minimum in Turkey, too, lockdown measures were taken everywhere people can be in crowded mass. All these factors caused an increase in economical problems and psychological disorders in Turkey, just as in the whole world.

Demographic features, faith levels, intrafamilial conflict cases, conflict levels with other individuals and change in cigarette usage as well as differences in Covid-19 Anxiety points, which are obtained from participants, will be addressed. In addition, according to the results obtained from scales that are applied, the differences between Covid-19 Anxiety, State Anxiety and Trait Anxiety point averages of the people whose relatives have and have not been diagnosed with Covid-19 Anxiety will be discussed.

In this study, Covid-19 Anxiety point averages have “remained unchanged with 50.33”, “increased with 58.08”, and “decreased with 52.13” according to faith levels. Given this data, it is seen that the people with the unchanged and decreased faith levels have the normal anxiety and that the people with the increased faith levels have a high anxiety (Table 3). According to ANOVA test, it was seen that there was a significant

difference between Covid-19 anxiety point averages of the groups ($p < .01$).

According to the point values taken from Covid Anxiety Scale developed by Şahin and Tetik Küçükkelci (2021), a point value less than or equal to 17 means there is no Covid-19 anxiety; a point value between 18 and 35 means Covid-19 anxiety is low; a point value between 36 and 53 means Covid-19 anxiety is normal; a point value between 54 and 71 means Covid-19 anxiety is high; and a point value greater than or equal to 72 means Covid-19 anxiety is very high. According to these results, given the faith levels, it was seen that Covid-19 anxiety point averages were higher in the people whose faith levels increased.

Furthermore, it was found that the people's and their relatives' rate of being diagnosed with Covid-19 and the rate of losing their relatives was higher in those with the increased faith level. It is seen that the results are consistent with the results of the study performed regarding the faith level of UK and USA, which is stated in the paragraph below.

Coronavirus pandemic (Covid-19) had negative effects on well-being (welfare) level of people since it is a highly risky condition. A study was performed in UK (N=140) and USA (N=140) via online surveys to examine the effect of coronavirus crisis on religious beliefs of the ordinary people who are or are not Christian. It was seen that the anxiety associated with coronavirus showed an interaction effect on the previous religiousness and change in the religious beliefs ($t(276)=2,27, p < .05$). It was concluded that the higher anxiety for coronavirus in those who adhere to their faith was associated with the reinforcement of religious beliefs ($r=.249$), whereas the higher anxiety for coronavirus in those who do not adhere to religion was associated with increased scepticism towards religious beliefs ($r = -.157$). These observations are consistent with the idea that the stress-induced anxiety makes the individual increase the support to the ideology that s/he adopted before occurrence of a stressful event (Rigoli, 2021). The search for a meaning and sense-making are needed more in people who have experienced the disaster and crisis periods. Since the chaos and stress increase in such periods, the need for harbouring a supernatural power and seeking for His help (Gashi, 2020).

It was found that the Covid-19 anxiety point average of those with increased intrafamilial conflict levels was high. It is found that the Covid-19 anxiety has increased the intrafamilial conflicts. Covid-19 anxiety point averages of those with increased levels of conflict with other people are higher than the point averages of the people with decreased levels of conflict with other people. During the Covid-19 pandemic, it is found that both the familial conflicts and the conflicts with other people have

increased in some people and these people have higher Covid-19 anxiety point. The study below also demonstrates that the stress and conflict both at home and at work have increased for especially female employees, who have had to work from home online. And another study demonstrates that the intrafamilial abuse and violence towards children and adolescents have increased during the pandemic.

Seven hundred and eighteen female preschool teachers with children, “who are working from home online” have participated in a study performed in China. They were compared with “offline working” before Covid-19 pandemic, and 74.5% of preschool teachers reported that their workload increased. Parenting and stress within the family increased the conflict at work, and the stress at work increased the conflict within family (Xiumin et al., 2021).

The researchers performing this study also had their classes in the classroom environment with university students in formal education before the pandemic, whereas they had online classes during the pandemic. In addition to their observations and the talks of their colleagues, the lecturers also observed that the online studies increased the workload very much. Especially female educators reported that their workloads increased too much.

The speeches of 105 children and adolescents, who called National Child Abuse Hotline between May and June 2020 during the lockdown period due to Covid-19, were analysed. The thematic analysis performed has examined the intrafamilial conflicts, their Covid-19-related effects, the abuse or mistreatment conditions of children, their way of dealing with Covid-19 restrictions and their survival status. It was found in these interviews that the risk-taking behaviours of children increased, that the substance use of the parents seemed to increase and that this caused the domestic violence to increase. It was found that the children and adolescents remained away from alternative social supports physically, some spent too much time in front of screen and the domestic conflicts were intensified (Sinko et al., 2021). It is seen that the children, adolescents, and even adults suffer from social isolation while studying and working online during the lockdowns.

According to the results of this study, it was found that the Covid-19 anxiety point average was the highest in those with decreased cigarette usage, when evaluated according to smoking levels. In the light of this data, it is thought that the statements of physicians, respiration problem suffered at the time of Covid-19 and the possibility of being intubated cause the anxiety in some of the smokers and that these statements account for the decrease in the smoking rates.

It was found in the studies and meta-analyses performed that smoking may make the people more predisposed to Covid-19 complications and some studies showed no association between smoking and Covid-19. However, a statistically significant relationship was found between the smoking status and the primary endpoints of admittance to Intensive Care Unit (ICU), that is, use of ventilator or death (<https://www.who.int/news-room/commentaries/detail/smoking-and-covid-19>, 23 August 2021; Kaya Zaman, 2020).

When the relationship between Covid-19 anxiety points and state-trait anxiety points was examined, it was found that there were a positive, significant correlation values between them and this result was demonstrated statistically. As stated in the DSM-5: “Other psychopathologies such as depressive and anxiety disorders can occur after disasters.” (APA, 2013). When the results obtained from the study are examined, it is seen that Covid-19 is of vital risk for people’s lives and State-Trait Anxiety points increase. Öner and Le Compte (1983) reports that State-Trait Anxiety point averages are between 36 and 41 points and in case of the points higher than this, the anxiety levels are high and in case of the points lower than this, the anxiety levels are low.

In a study performed at Tepecik Training and Research Hospital in 2020 to measure the anxiety levels of 255 healthcare personnel while pandemic (Covid-19) continues, it was found that State Anxiety point average was 44.17 and Trait Anxiety point average was 44.16 (Sakaoğlu et al., 2020).

In the study performed by Öz Ceviz et al. (2020) to measure the anxiety levels of 443 university students at the time of Covid-19 pandemic, it was found that State Anxiety point average was 42.19 and Trait Anxiety point average was 46.21.

In the study performed by Göksu and Kumcağız (2020) during the Covid-19 pandemic process, it was found that State Anxiety point average of 303 people was 49.07 and Trait Anxiety point average was 48.31.

In this study performed by the researchers (2021) at the time of Covid-19 pandemic process, it was found that State Anxiety point average of 622 people was 48.38 and Trait Anxiety point average was 47.03. Again, according to the results obtained in this study, it was found that there were differences between Covid-19 Anxiety and State & Trait Anxiety point averages of those whose relatives were and were not diagnosed with Covid-19 and that the anxiety point averages of those whose relatives were diagnosed with Covid-19 were higher among all three point types.

In the studies performed to measure the anxiety levels during the pandemic, it was found that State Anxiety points were slightly high “in the

first two studies”; and it is thought that Trait Anxiety points are high in the study of Öz Ceviz et al. (2020). In the study of Göksu and Kumcağız (2020) and in this study by the researchers, both State and Trait Anxiety scores are high, and the results obtained show similarity in these two studies; the sampling structure of this situation may be resulted from the fact that the education levels are similar.

4.1. Conclusions

In this study, it has been found that Covid-19 anxiety is high in those with the increased intrafamilial and external conflicts, those with the decreased cigarette usage and those with the increased faith level. It has been found that Covid-19 Anxiety and State-Trait Anxiety point averages of those whose relatives have been diagnosed with Covid-19 are higher than those whose relatives have not been diagnosed with Covid-19 and the difference between them are significant ($p < .05$). Both in this study and in other studies, it was found that State-Trait Anxiety point averages increased during the pandemic.

Covid-19 pandemic lasted long, big changes occurred in people’s lives and a significant part of people experienced serious problems about accepting this new situation and adapting themselves to it. Relatives of more than $\frac{3}{4}$ of the people who participated in sampling were diagnosed with Covid-19 and $\frac{1}{5}$ of them lost a relative due to Covid-19. People who lost their relatives went through a grief process due to their losses in one hand and continued to fear and worry for their own health and new losses on the other. This process is thought to be more shocking and traumatic especially in expected losses.

It is observed that some people are not aware enough of the risks posed by Covid-19 for themselves and their relatives and do not pay enough attention to protective measures. In order to minimize the effect of pandemic, it is thought that it can be important to explain the protective measures to the people from different education levels appropriately and to encourage people to leave their old habits and acquire new habits. It is thought that it is important to adapt to new situation, to revise old expectations, to find solutions to problems that have occurred and to create new normal.

It recommended that the studies on the communication skills be performed to improve the relationships with family and other people and that training be provided not on theoretical basis but on practical basis to improve the people’s skills of listening to and understand each other. And it is also thought to be important to provide psychological assistance to the people with very high levels of anxiety. It is thought to be useful to provide

individual and group therapy services and psychoeducation to those who experienced unexpected losses and who suffer from trauma.

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CHAPTER IV

EVALUATION OF EMERGING MARKETS IN TERMS OF ECONOMIC INDICATORS WITH ENTROPY-BASED PROMETHEE METHOD

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1. Introduction

Emerging markets classification is a categorization that encompasses numerous countries and is used to define countries that are one level below developed countries in terms of economic and legal aspects. Compared to industrialized nations, developing nations have a poorer quality of life, human development index, and industrial infrastructure. Imports and exports are growing in emerging nations. The pace of industrialisation is rising in the majority of emerging nations (Casadella, 2018; Pereiro, 2002). In these nations, the rural-urban migration rate is relatively high and continues to rise. In these nations, innovations in the education system and advancements in the health sector are evident. In developing nations, political and legal structures are evolving. In cities, public institutions like as hospitals, schools, and courthouses offer a more developed social service than in rural regions. The construction industry is characterized by rapid expansion. In addition, birth rates have decreased and life expectancy has increased in these nations. In addition to rapid urbanization and transportation advancements, these nations are also experiencing rapid urbanization (Jabbie, 2021; Pezzuto, 2019; Tacoli, McGranahan, & Satterthwaite, 2015). Emerging and frontier economies are presented in Figure 1.



Figure 1: Emerging and Frontier Markets

Source: EMQQ (2022)

Argentina, Brazil, China, India, Indonesia, Mexico, Poland, South Africa, South Korea, and Turkey are the ten Big Emerging Markets (BEM) economies (in alphabetical order). Other key emerging markets include Egypt, Iran, Nigeria, Pakistan, Russia, Saudi Arabia, Taiwan, and Thailand (Serban, Borisov, & Dobrea, 2012).

The United States accounts for 62.8% of all developed markets. Their financial systems lack transparency, accountability, and government oversight like those of developed markets. China (33%), Korea (13%), Taiwan (11.4%), and India (9%) are among the top emerging economies, along with 22 other nations (Bouteska & Mefteh-Wali, 2021; Stuart, 2019). When compared to their 2017 levels, the Chinese and Indian economies are expected to more than triple by 2030. In addition, it is expected that China's GDP will raise more than twice that of the United States. The IMF estimates that developing economies will expand at a pace that is nearly three times that of developed ones. Figure 2 summarizes the projections for the 2030 global economic structure (Stuart, 2019).

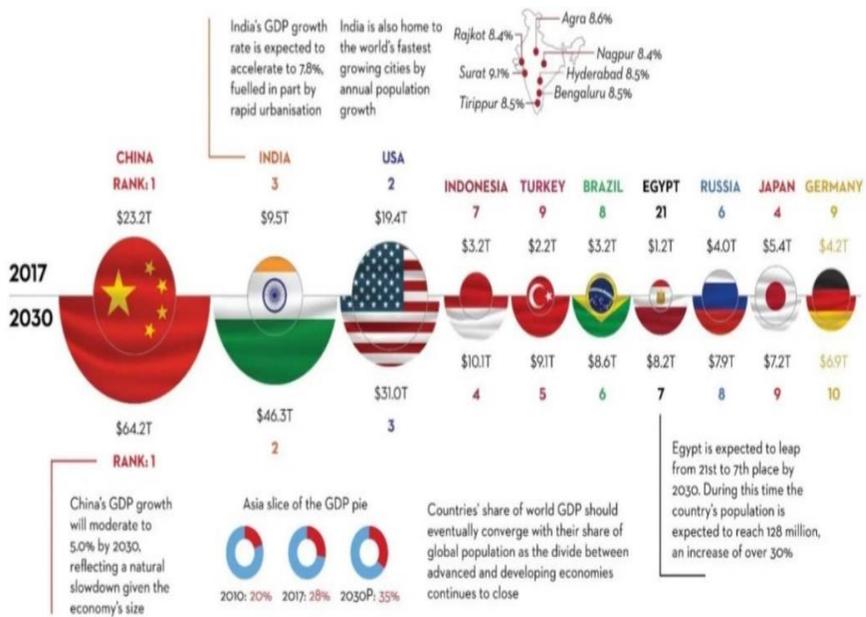


Figure 2: Global Economic Structure Predictions for 2030
Source: Stuart (2019)

Investment has also been negatively impacted by the pandemic. In 2020, worldwide FDI flows declined by 38 percent to USD 846 billion, hitting their least amount since 2005. Whereas foreign direct investment to OECD member nations fell by 51% in 2020, FDI to G20 emerging-market economies fell by just 9% owing to China and India's economic rebound. China surpassed the United States as the leading global destination for FDI (Jackson, 2021). Between 2000 and 2019, the trade volume created by developing countries grew rapidly, mostly due to China's economic expansion. In addition, the percentage of emerging countries in global trade volume climbed from 32% in 2000 to 46% in 2019 (Kan, Chen, & Chen, 2019). In 2000, more than 85% of foreign direct investments flowed to OECD member countries, while by 2019 this ratio had dropped to 54% (Mistura & Roulet, 2019; Singh & Kapuria, 2021). Table 1 provides an overview of the fiscal health (as a percentage of GDP) for 2019-2020 for some selected 20 participating emerging nations.

Table 1: An overview of the 2019-2020 fiscal health (as a percentage of GDP) for 10 Emerging countries (OECD, 2021).

	2019	2020
Brazil	-6.3	-13.4
China	-6.3	-11.4
Colombia	-2.5	-6.9
India	-7.4	-12.3
Iran	-5.1	-8.4
Philippines	-1.8	-5.5
Poland	-0.7	-8.2
Saudi Arabia	-4.5	-11.1
South Africa	-5.3	-12.2
Thailand	-0.8	-4.7

In emerging economies, there is a serious shortage of capital for infrastructure development. In order for GDP of developing countries to increase at the predicted rate over the next 15 years, according to McKinsey predictions made before the COVID-19 pandemic, they would need to spend more over USD 2 trillion year in infrastructure. Indonesia and Mexico have some of the largest remaining disparities, although Brazil, India, Saudi Arabia, and South Africa all have considerable gaps as well. These problems spread across a variety of industries (Hussain, Jeddi, Lakmeharan, & Muzaffar, 2019).

Emerging markets are listed in a ranking by Christopher, Enda, Craig, and Eric (2022), shown in Figure 3, based on how vulnerable they are to the effects of Fed tightening.

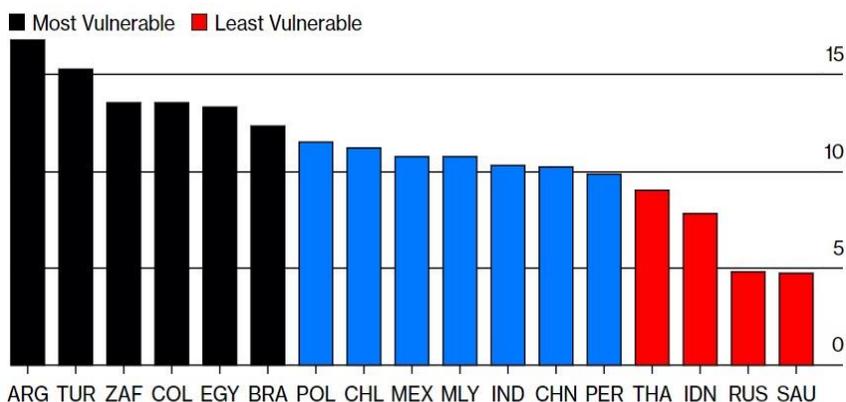


Figure 3: The vulnerability of countries to Fed tightening

Source: Christopher et al. (2022)

Inflation rose globally, notably in emerging market nations, as a result of labor shortages, supply chain disruptions, high commodity prices, increased product demand, and the energy and food crises brought on by the Ukrainian-Russian conflict. The average annual price increase in Turkey was 19.5% between December 2019 and December 2021, making it one of the countries with the highest consumer inflation rates globally. Inflation in the country is 79.6 per cent as of July 2022. Turkey's currency, which has lost more than 90 per cent of its value against the dollar in the last two years, and a central bank that follows a policy that is incompatible with international markets, are the main causes of inflation there. However, Despite Turkey's increasing huge inflation, the central bank of Turkey has been reducing its policy interest rate (Michael, 2022; TUIK, 2022).

The literature review on some similar studies on energy and Covid-19 that have been conducted in recent years: Bakir et al. (2020) aimed to create multiple-criteria decision-making (MCDM) techniques for evaluating the performance of aviation services in emerging economies. Lakićević and Durkalić (2018) tried to assess the effectiveness of the EU tourist sector using an integrated PROMETHEE approach. Khamlichi, Yildiz, Sarkar, and Hoque (2021) ranked 20 developed and 18 emerging countries using the MSCI Conventional and Islamic Country Indexes from 2002 to 2016 through the PROMETHEE II approach. Specifically for emerging markets, Kumar, Singh, and Gupta (2018) aimed to assess the influence of consumer content on the observed structure of online platforms in order to establish diverse business strategies for enhancing social commerce activities. They used fuzzy-MICMAC methodology to identify the most influential factors for enhancing social e-commerce. The impact of corruption on economic expansion was studied by Malanski and Póvoa (2021) for many distinct degrees of economic liberty. For the period of 2000–2017, researchers in Latin America and Pacific Asia used one-step System-GMM estimate panel data regressions to examine the potential positive and negative growth consequences of corruption in the economies of these developing nations. Raghutla and Chittedi (2021) attempted to study the influence of both monetary development and real sector on economic expansion; they selected five developing market nations to describe the economic growth process between 2000 and 2016. To track the policy reaction of the financial industry to the COVID-19 pandemic in 155 countries and across time, Feyen, Gispert, Kliatskova, and Mare (2021) created a new global database and a policy categorization methodology. In order to assess developing economies and emerging markets, they employed Cox proportional hazards and Poisson regressions. Using a dataset that includes 11 indicators and data from 2007 to 2013 collected every two years,

Stanković, Janković-Milić, Marjanović, and Janjić (2021) conducted a comparative study of the progress of the circular economy across EU member states. Principal Component method and the PROMETHEE were used to conduct the analysis.

In this research, MCDM approaches were used to analyze and rank 22 developing markets in a global context using 12 economic variables for the period 2019-2022. Only nations with complete availability of data for all 12 metrics were included in the analysis. The findings were used to inform certain recommendations. In conclusion, the suggested entropy-based PROMETHEE approach examines the comparative present economic position of 22 emerging countries from all over the globe.

In order to fill this gap, an economic and social welfare evaluation was intended in a wide framework in terms of content and scope. The purpose of this research was to use Entropy-based PROMETHEE methodologies to analyze and assess 22 developing nations using 12 economic indicators. The PROMETHHE technique is preferred since it ranks the alternatives and gives visual outputs like GAIA charts. Furthermore, the approach is also one of the most chosen MCDM methods in management and social topics.

The remain of the study is structured as following: Procedures for the suggested MCDM approaches are detailed in Section 2. In Section 3, the results are summarized. The conclusion and discussion are presented in Section 4.

2. Methods

This section explains the definitions of the indicators and the methodologies employed.

2.1 Entropy method and objective weights

In multi-criteria decision making, entropy is one of the objective approaches used to weight criteria. It is based solely on the indicator's raw data. The features of Shannon's proposed H scale are as follows for each value of p_i in the estimated joint probability distribution: (P) (Zitnick & Kanade, 2012):

H is a positive continuous function, If all p_i are equal ($p_i = \frac{1}{n}$), then H must be a monotonic incremental function of n. For all $n \geq 2$,

$$H(p_1, p_2, \dots, p_n) = h(p_1 + p_2, p_3, \dots, p_n) + (p_1 + p_2) H\left(\frac{p_1}{p_1 + p_2}, \frac{p_2}{p_1 + p_2}\right)$$

Shannon and Weaver (1949) proved that only the following function meets all of these criteria:

$$H_{Shannon} = - \sum_i p_i \log(p_i)$$

The phases of the weighted computing process that make up Shannon's entropy approach are as indicated in Figure 4 (Dwivedi & Sharma, 2022):

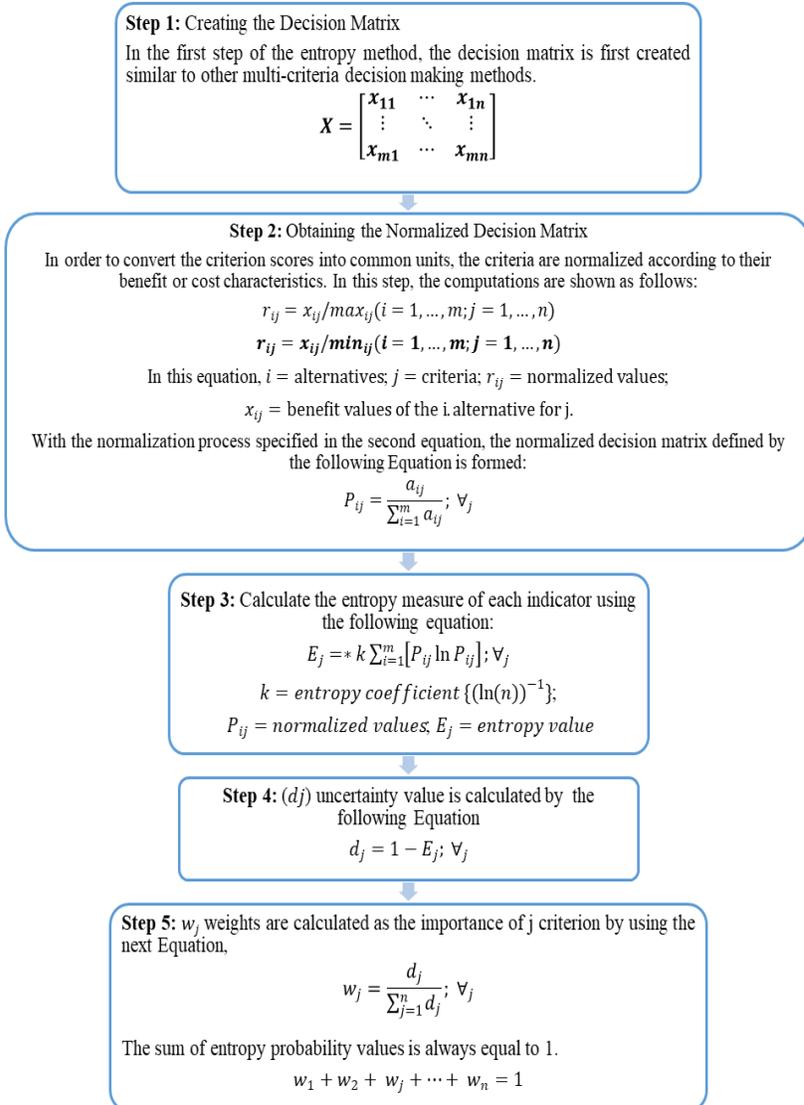


Figure 4: The process involved in Shannon's entropy calculation

Source: Dwivedi and Sharma (2022)

2.2 PROMETHEE (Preference Ranking Organization Method for Enrichment Evaluation)

The PROMETHEE methodology is organized into seven steps (Brans & Vincke, 1985; Dağdeviren & Erarslan, 2008; Ishizaka & Nemery, 2011). Figure 5 presents the four stages of the PROMETHEE approach.

Step 1. Evaluate the n solutions (a_1, a_2, \dots, a_n) in A under m criteria C_k , and get the decision matrix $X = (x_{ik})$ ($i = 1, 2, \dots, n; k = 1, 2, \dots, m$). When $G_k(d_{ij}) = 0$, there is no difference between scheme a_i and scheme a_j . When $G_k(d_{ij}) = 1$, scheme a_i has definite priority over scheme a_j .

$$G_k(d_{ij}) = P_k(a_i, a_j)$$



Step 2. Based on the weight (W) provided by the decision maker, a multi-criteria preference ranking index (H) is calculated.

$$H(a_i, a_j) = \sum_{k=1}^m W_k P_k(a_i, a_j)$$



Step 3. The positive and negative directions of the order of A_i 's preference are defined by $\Phi^+(a_i)$ and $\Phi^-(a_i)$, respectively.

$$\Phi^+(a_i) = \sum_{j=1}^n H(a_i, a_j) \text{ and } \Phi^-(a_i) = \sum_{j=1}^n H(a_j, a_i)$$

$$\Phi(a_i) = \Phi^+(a_i) - \Phi^-(a_i)$$



Step 4. The exact ranking of the alternatives is obtained according to the values of $\Phi(a_i)$

Figure 5: The stages of the PROMETHEE approach

Source: Brans and Mareschal (2005)

3. Results

Table 2 displays the raw data utilized for the Entropy and PROMETHEE analysis. In terms of cost-benefit analysis, six of the criteria were determined as maximum and the other six as minimums.

Table 2. Decision matrix for entropy analysis

	MAX	MIN	MIN	MAX	MIN	MIN	MIN	MAX	MIN	MAX	MAX	MAX
Emerging Market Countries/ Indicators	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12
Brazil	2,50	46,6	33,2	56,20	11,1	43,5	8,50	235	11,8	7720	27,85	0,48
Chile	0,40	55,6	19,3	58,20	7,81	45,9	14,4	445	9,10	15000	33,27	0,81
China	18,4	61,5	12,7	65,10	6,10	42,2	13,0	382	2,70	11890	59,99	0,32
Colombia	0,60	48,7	33,3	62,10	11,2	45,4	35,7	275	9,23	6160	28,85	0,47
Czech Republic	0,30	75,0	14,5	59,40	3,20	56,0	10,0	665	17,2	24070	66,47	0,92
Egypt	1,10	68,5	34,8	41,40	7,20	64,6	29,7	174	13,6	3510	21,54	0,68
Greece	0,20	67,1	26,9	42,80	12,9	56,1	28,9	832	11,3	20140	39,73	1,11
Hungary	0,20	70,4	23,3	54,50	3,50	52,8	12,3	513	16,7	17740	51,98	0,88
India	9,40	64,3	52,4	46,70	7,80	48,7	21,2	429	6,71	2170	49,72	1,10
Indonesia	2,70	61,8	22,7	64,30	5,83	47,5	30,0	313	4,94	4140	21,07	0,50
Korea, Rep.	1,70	68,6	22,7	60,40	2,70	39,5	15,3	111	6,30	34980	55,30	1,10
Malaysia	0,80	58,9	25,3	62,20	3,90	44,2	8,40	341	3,40	10930	38,62	0,98
Mexico	2,00	54,6	29,2	58,60	3,00	50,3	43,9	182	7,99	9380	28,17	0,49
Peru	0,40	58,5	42,2	75,10	6,78	50,2	20,5	271	8,74	6520	21,47	0,35
Philippines	0,80	57,7	34,1	58,30	6,00	55,2	23,7	285	6,40	3640	59,95	0,89
Poland	1,00	69,8	22,4	54,70	5,10	51,4	17,0	652	15,5	16670	93,67	2,00
Qatar	0,20	58,9	16,5	86,70	0,20	18,1	2,00	275	4,98	57120	91,85	1,40
Saudi Arabia	1,30	54,1	22,8	52,60	10,1	39,3	20,0	106	2,70	22270	78,36	1,20
South Africa	0,60	37,0	28,8	40,20	34,5	52,2	55,5	205	6,40	6440	76,85	0,54
Thailand	1,10	65,1	46,2	66,80	1,53	41,9	6,80	198	5,30	7260	31,56	0,57
Turkey	2,10	58,1	31,2	45,70	11,3	49,1	12,2	305	79,6	9830	32,88	0,41
United Arab Emirates	0,50	74,0	20,4	80,20	3,50	19,2	19,5	800	3,66	39410	92,17	1,40

Table 3 displays the weights of the economic criteria calculated employing the Entropy method.

Table 3: Entropy weights of indicators

Definition	Code	Weight
Country GDP as a Share of Global GDP, %, 2021	C1	0,1611
Consumer Price Index, Inflation rate, 2022	C9	0,105
GNI per capita, (current US\$), 2022	C10	0,1013
Unemployment Rate 2022	C5	0,093
Population in Poverty, %, 2022	C7	0,0907
National Minimum Wage per month, USD, 2022	C8	0,0812
Affordability Index, 2022	C12	0,0724
Purchasing Power Index, 2022	C11	0,0703
Informal Economy (% of GDP)	C3	0,0622
Age Dependency Ratio, %	C6	0,0613
Employment to Population Ratio, 2020	C4	0,0572
Gini Coefficient, 2020	C2	0,0443

The PROMETHEE analysis relies on a transformed, normalized decision matrix derived from the raw data used in the Entropy analysis. The range of the indicators were standardized to be between 0 and 1. The values for the transformation were determined by using a linear max-min benefit-cost normalization strategy seen in Table 4. Visual PROMETHEE, an accessible program, was used to carry out the research. This program is a major multi-criteria decision support system that was created to put the PROMETHEE methodology into practice.

Table 4: Max-Min normalized PROMETHEE decision matrix

Countries	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
Brazil	0,126	0,747	0,484	0,344	0,682	0,454	0,879	0,065	0,880	0,101
Chile	0,011	0,511	0,834	0,387	0,778	0,402	0,768	0,289	0,917	0,233
China	1,000	0,355	1,000	0,535	0,828	0,482	0,794	0,222	1,000	0,177
Colombia	0,022	0,692	0,481	0,471	0,678	0,413	0,370	0,108	0,915	0,073
Czech Republic	0,005	0,000	0,955	0,413	0,913	0,185	0,850	0,523	0,811	0,399
Egypt	0,049	0,171	0,443	0,026	0,796	0,000	0,482	0,000	0,858	0,024
Greece	0,000	0,208	0,642	0,056	0,630	0,183	0,497	0,701	0,888	0,327
Hungary	0,000	0,121	0,733	0,308	0,904	0,254	0,807	0,361	0,818	0,283
India	0,505	0,282	0,000	0,140	0,778	0,342	0,641	0,272	0,948	0,000
Indonesia	0,137	0,347	0,748	0,518	0,836	0,368	0,477	0,148	0,971	0,036
Korea, Rep.	0,082	0,168	0,748	0,434	0,927	0,540	0,751	1,000	0,953	0,597
Malaysia	0,033	0,424	0,683	0,473	0,892	0,439	0,880	0,178	0,991	0,159
Mexico	0,099	0,537	0,584	0,396	0,918	0,308	0,217	0,009	0,931	0,131
Peru	0,011	0,434	0,257	0,751	0,808	0,310	0,654	0,103	0,921	0,079
Philippines	0,033	0,455	0,461	0,389	0,831	0,202	0,594	0,118	0,952	0,027
Poland	0,044	0,137	0,756	0,312	0,857	0,284	0,720	0,509	0,834	0,264
Qatar	0,000	0,424	0,904	1,000	1,000	1,000	1,000	0,108	0,970	1,000
Saudi Arabia	0,060	0,550	0,746	0,267	0,711	0,544	0,664	0,949	1,000	0,366
South Africa	0,022	1,000	0,594	0,000	0,000	0,267	0,000	0,033	0,952	0,078
Thailand	0,049	0,261	0,156	0,572	0,961	0,488	0,910	0,026	0,966	0,093
Turkey	0,104	0,445	0,534	0,118	0,676	0,333	0,809	0,140	0,000	0,139
United Arab Emirates	0,016	0,026	0,806	0,860	0,904	0,976	0,673	0,667	0,988	0,678

The Entropy analysis provided the weights utilized in the study. The typical preference function is selected if the decision-makers do not prioritize any of the factors. Given that, it was decided that the preferred function would be the first type (usual) function for all criteria in order to execute the evaluation with just the specified criteria. Parameters used for the PROMETHEE analysis are listed in Table 5.

Table 5: The parameters of PROMETHEE analysis

	C1	C2	C3	C4	C5	C6
Direction of preference	max	min	min	max	min	min
Weight coefficient	0,1611	0,0443	0,0622	0,0572	0,093	0,0613
Preference function	Usual	Usual	Usual	Usual	Usual	Usual
	C7	C8	C9	C10	C11	C12
Direction of preference	min	max	min	max	max	max
Weight coefficient	0,0907	0,0812	0,105	0,1013	0,0703	0,0724
Preference function	Usual	Usual	Usual	Usual	Usual	Usual

The PROMETHEE Diamond shown in Figure 6 uses a (Phi+, Phi-) point to symbolize each action. The scores for those with the Phi+ increase from the bottom right corner to the top left, whereas those with the Phi- do the opposite. Cones indicate each individual action. Overlapping cones in the PROMETHEE I Partial Ranking represent a prioritization of one action over another. The results show that, China is clearly superior than all other countries, whereas South Korea and Saudi Arabia cannot be compared.

Using economic indicators, PROMETHEE I assigns a partial ranking to countries.

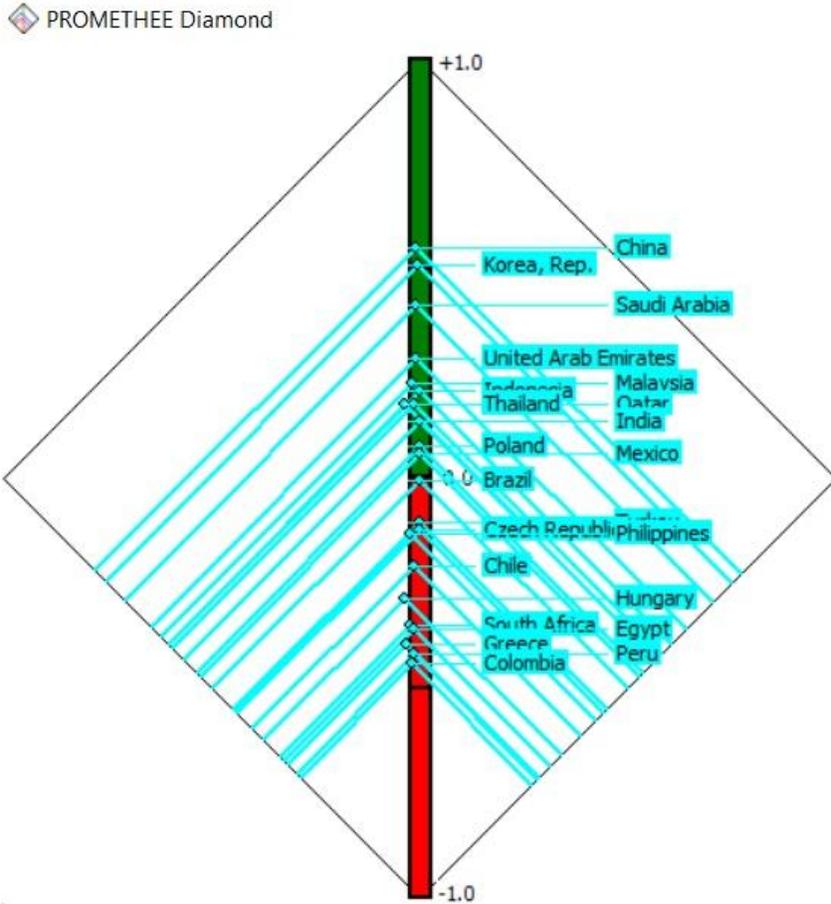


Figure 6: PROMETHEE diamond

Source: Author's own calculation

Figure 7 shows the PROMETHEE I method's partial ranking as the PROMETHEE Network. On the PROMETHEE Network display, each nation is represented by a node, while preferences are shown by arrows. The placement of the nodes relative to the PROMETHEE Diamond emphasizes the closeness of flow values.

China is definitely favored over all other nations in the PROMETHEE Network, whereas South Korea and Saudi Arabia are incomparable but near. For countries whose comparison results are ambiguous, the PROMETHEE II method must be employed to get the whole ranking.

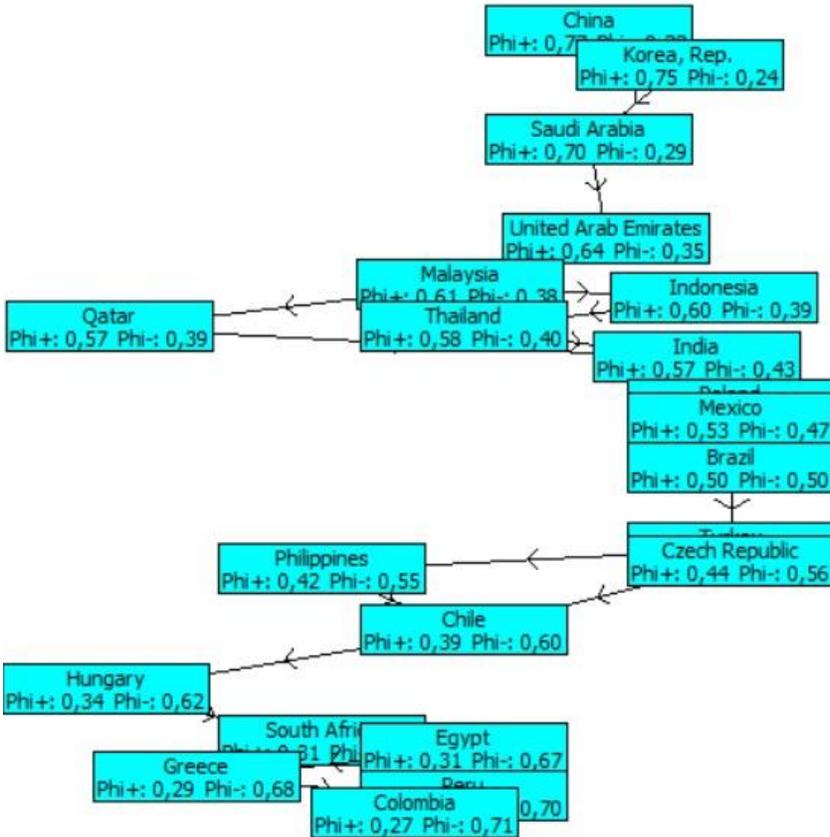


Figure 7: PROMETHEE network
Source: Author's own calculation

The findings of PROMETHEE II give a thorough ranking of countries based on the net advantage value derived from negative and positive superiority values. The entire rank value (Phi) is obtained by subtracting the negative superiority value (Phi-) from the positive superiority value (Phi+). Table 6 of the PROMETHEE II analysis displays the positive advantage value, negative advantage value, net advantage value, and country ranking. According to this study, China is the country with the highest net Phi values for economic parameters. China, South Korea, Saudi Arabia, United Arab Emirates, and Malaysia comprise the list's top five countries. South Africa, Egypt, Greece, Peru, and Colombia occupy the lowest positions in the list.

Table 6: Positive, negative, net advantage values obtained by PROMETHEE II analysis and full ranking

Rank	Country	Phi	Phi+	Phi-	Rank	Country	Phi	Phi+	Phi-
1	China	0,551	0,7713	0,2203	12	Brazil	-0,0037	0,4982	0,5018
2	Korea, Rep.	0,5071	0,752	0,2449	13	Turkey	-0,1043	0,4479	0,5521
3	Saudi Arabia	0,4133	0,7024	0,2892	14	Czech Republic	-0,1218	0,4391	0,5609
4	United Arab Emirates	0,2879	0,6402	0,3523	15	Philippines	-0,1326	0,4216	0,5542
5	Malaysia	0,2293	0,6067	0,3773	16	Chile	-0,2088	0,3877	0,5965
6	Indonesia	0,2108	0,6049	0,3941	17	Hungary	-0,285	0,339	0,624
7	Qatar	0,176	0,5696	0,3936	18	South Africa	-0,3493	0,3132	0,6626
8	Thailand	0,1759	0,5801	0,4041	19	Egypt	-0,3606	0,3118	0,6724
9	India	0,138	0,568	0,43	20	Greece	-0,3966	0,2859	0,6825
10	Poland	0,0772	0,5386	0,4614	21	Peru	-0,4204	0,2819	0,7023
11	Mexico	0,0586	0,5293	0,4707	22	Colombia	-0,4421	0,2696	0,7117

The performance scores generated from the PROMETHEE II analysis are summarized in Table 7.

Table 7: PROMETHEE II method ranking and scores

Rank	Country	Score	Rank	Country	Score
1	China	100	12	Brazil	28,7
2	Korea, Rep,	88,51	13	Turkey	23,5
3	Saudi Arabia	69,73	14	Czech Republic	22,7
4	United Arab Emirates	52,35	15	Philippines	22,2
5	Malaysia	46,18	16	Chile	19
6	Indonesia	44,42	17	Hungary	16,1
7	Qatar	41,32	18	South Africa	14
8	Thailand	41,31	19	Egypt	13,6
9	India	38,22	20	Greece	12,5
10	Poland	33,79	21	Peru	11,8
11	Mexico	32,55	22	Colombia	11,2

Figure 8 demonstrates the PROMETHEE II evaluation of the GAIA plane. This graph was produced using PROMETHEE IV. Actually, there are two potential outcomes:

When the Brain is totally positioned on one side of the GAIA plane, the Decision Axis is always oriented in the same direction, indicating that PROMETHEE rankings should remain stable. The favorite nations are straightforward to determine.

When the Brain overlaps the center of the GAIA plane, the Decision Axis may be oriented in any direction. Thus, the PROMETHEE rankings may vary greatly depending on the weight values utilized inside the decision maker's constraints. As a consequence, the topic becomes much more challenging to analyze. The placement of countries along the criterion axis reveals how well their activities perform in relation to the different criteria.

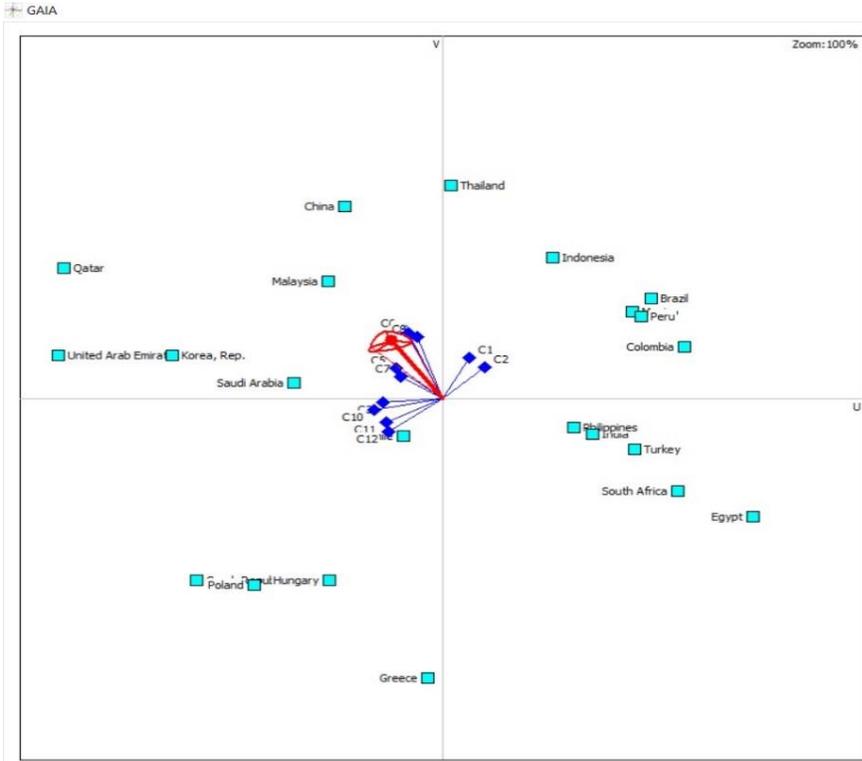


Figure 8: GAIA graphic
Source: Author's own calculation

While assessing the criteria C6 in Figure 6 (Age Dependency Ratio), it is important to note that the C6 axis is oriented to the left. Therefore, a country's ability to fulfill criterion C6 improves the farther to the left on the GAIA plane it is. The "best" values on the C6 criterion axis are on the left, while the "worst" values are on the right. In this projection, each nation is oriented orthogonally to the direction of the criterion. The projections illustrate how each country will do in relation to the chosen metrics. It's crucial to be far away from the criterion.

When comparing countries along the C6 Age Dependency Ratio criteria, Qatar stands out as clearly the best, with the United Arab Emirates coming in second. Egypt and Greece have the worst value for C6 Age Dependency Ratio criterion. Obviously, the accuracy of this data is constrained by the capabilities of the GAIA plane. Using the GAIA plane, the Decision Axis graphically depicts the relative importance of the various criteria. The top nations in the PROMETHEE rankings are affected to varying degrees by the various criteria as weights are assigned to them.

The Decision Axis shows which criteria are in accord with the ranking and which aren't by indicating the trend of the ranking. Finding under or over-weighted factors may be facilitated by this method.

The GAIA plane is composed of points representing choices (countries) and vectors expressing criteria. For instance, China, Korea, the Republic of Korea, Saudi Arabia, the United Arab Emirates, Malaysia, and Qatar are in the direction of the optimal compromise solution because they are in the direction indicated by the decision stick. Hungary, South Africa, Egypt, and Greece, which are in the opposite direction of these nations, are in the poorest position according to the analysis's criteria. On the GAIA plane, it is possible to say that the nations grouped near to one another have similar economic characteristics. Similarly, it may be claimed that there are significant discrepancies in the economic criterion values of nations that are separated by a great distance by plane. Displaying the single criteria net flows of the nations exposes the country profiles. In order to show that the two countries located close to each other on the GAIA plane are similar to each other, China and South Korea, which are at the top of the ranking and close to each other on the plane, and Turkey and Brazil, which are located in opposite directions, are selected as an example and in Figure 9, profile graphics are presented in terms of criteria. It can be noticed that the countries that are close to each other have very similar profile graphs in terms of their advantageous and disadvantageous indicators.

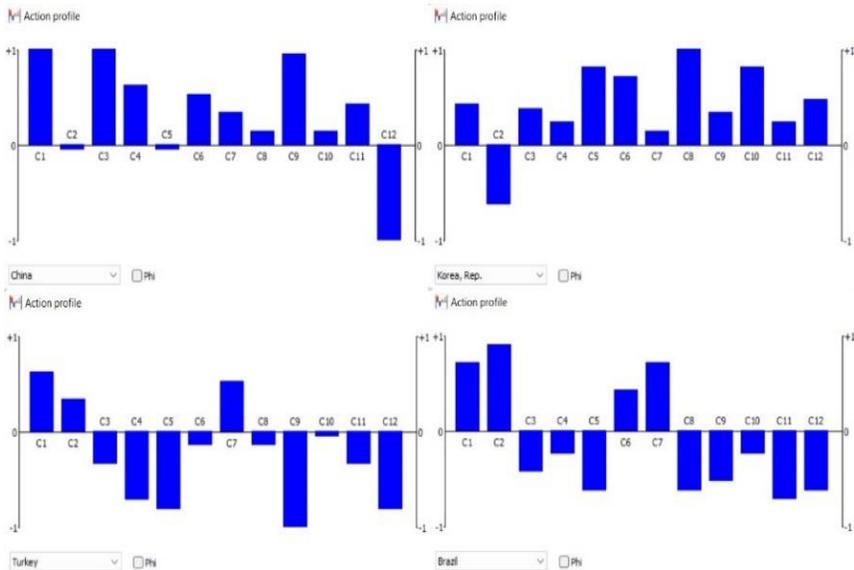


Figure 9: Action profile of countries

Source: Author's own calculation

Visual PROMETHEE software is used to produce a number of valuable graphical representations. There is also the Rainbow diagram seen in Figure 10. This image is useful since it outlines the benefits and drawbacks of each alternative (in this case, countries). The advantages are presented above the histograms, while the drawbacks are indicated below. Figure 8 demonstrates that the top five countries have more benefits than drawbacks, which adds to their advantageous position in the final ranking.

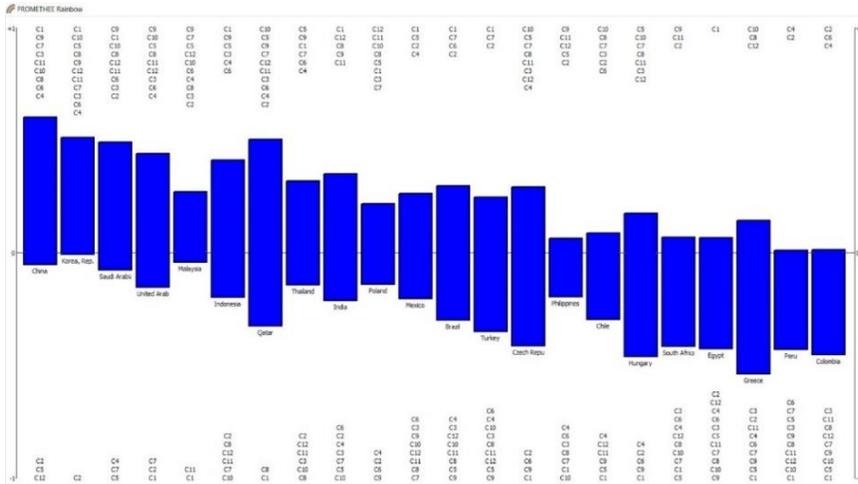


Figure 10: Rainbow Diagram
Source: Author’s own calculation

4. Conclusion and discussion

The literature review indicated a need for original studies that assess the economic standing and strategies of emerging nations. In order to fill this gap, a comprehensive economic review with a wide scope and contents was intended. Using Entropy-based PROMETHEE methodologies, this research aimed to evaluate and analyze the economies of 22 emerging markets.

The Entropy calculations show that the Country GDP as a Share of Global GDP criterion is the most important, with a value of 16.11%. The following criteria, in order of decreasing importance, are the following: the Consumer Price Index, Inflation rate (10.5%); the Gross National Income per capita (current US\$) (10.13%); the Unemployment Rate (9.3%); the Percentage of the Population Living Below the Poverty Line (9.07%); the Monthly National Minimum Wage (8.12%); Affordability Index (7.24%); Purchasing Power Index (7.03%); Informal Economy (% of GDP) (6.22%); Age Dependency Ratio (6.13%); Employment to Population Ratio (5.72%); Gini Coefficient (4.43%). When the weights are evaluated,

the share taken from the global national income, inflation, unemployment and poverty, which are the problems of almost all economies after the pandemic, are seen as issues to be considered.

A full ranking of nations is provided by the results of PROMETHEE II, which uses the net advantage value calculated from positive and negative superiority values to determine a country's overall rating. Subtracting the negative superiority value (Φ^-) from the positive superiority value (Φ^+) yields the total rank value (Φ). The analysis concludes that China's net Φ values for economic indicators are the greatest of any country. China, South Korea, Saudi Arabia, the United Arab Emirates, and Malaysia make up the top five nations in the PROMETHEE ranking. At the bottom of the rankings are the countries of South Africa, Egypt, Greece, Peru, and Colombia.

The GAIA plane features a point-based representation of nations and a vector-based representation of criteria. Among the nations that were attempted to be rated, those in the direction suggested by the decision stick include China, Korea, the Republic of, Saudi Arabia, the United Arab Emirates, Malaysia, and Qatar. To the contrary, the countries of Hungary, South Africa, Egypt, and Greece are among the weakest performers in the research. Groups of nations that are geographically close together on the GAIA axis tend to have comparable economic characteristics. In a similar vein, one might state that there are vast gaps in the economic standards of nations that are geographically separated. Nearby nations tend to have quite similar profile graphs in terms of their positive and negative markers.

When compared to other countries, China ranks top because of its strong performance across the board with the exception of indicators C2 (Gini Coefficient), C5 (Unemployment Rate), and C12 (Affordability Index). Turkey is positioned in the center of the rankings, with positive aspects solely in terms of C1 (Country GDP as a Share of Global GDP), C2 (Gini Coefficient), and C7 (Population in Poverty). By considering the substance of the indicators employed, the scope of the nations it deals with, and the data of the 2020-2022 pandemic and post-pandemic period, the research provides a significant innovation and addition to the literature. In addition to these, this research aims to contribute by proposing an integrated framework for defining and evaluating national economy sustainability based on Multiple Criteria Decision Making (MCDM) in order to address the limitations of composite indicators in terms of weighting, summation, and robustness. Because a country's poor performance on one sustainability indicator may not be compensated for by high performance on other indicators, PROMETHEE, a multi-criteria decision-making technique, is the preferable method.

The most significant limitation of this research is the absence of a comprehensive database that would permit the examination of all or the majority of emerging markets together. In addition, the study's scope is limited by the difficulty of acquiring current data from nations and the absence of data from significant economies such as Argentina and Russia in databases maintained by the World Bank. In order to tackle this issue, it is necessary to develop common indicators and collect and release data on a regular basis using a shared database.

Indicators of the economy contradict one another. It is essential to use multi-criteria approaches while making judgments in this field. As a novel technique to evaluating Emerging Countries, this study used multi-criteria decision making approaches to analyze the current situation of 22 countries throughout the globe.

PROMETHEE has been much preferable than other techniques in terms of visualizing the similarities and contrasts across countries. Thus, this causes it to visually stand out more than other MCDM techniques.

Obviously, when using MCDM techniques such as the Analytic Network Process (ANP) or the Analytic Hierarchy Process (AHP), there may be large variations in the results of evaluations of the same indicators. Also, given the same indications, the conclusions will alter if subjective judgments are used to determine the weights of the criterion. In this inquiry, it was determined to use the MCDM technique, and the criteria were objectively weighted and required no subjective evaluation. In other words, the evaluations were done in a manner that was completely objective. This study should be performed in subsequent years in order to examine and compare the economic success of these countries. The following is a brief summary of the recommendations:

According to the Deloitte reports, the capacity of developing market central banks to maintain a loose monetary policy will likely expire in 2022. Monetary policy is being tightened by the central banks of major countries, particularly the Federal Reserve of the United States. Historically, such a policy shift in the United States has led to capital outflows from developing market countries, resulting in the devaluation of their currencies. Weaker currencies may exacerbate inflationary pressures as imports become more costly, and they can increase the cost of repaying foreign currency debt. Most emerging market nations will be able to avoid the currency crises of the 1980s and 1990s if they improve their external situations and reduce their dollar-denominated debt. The central banks of emerging market countries will be forced to decide whether to raise interest rates in tandem with the Federal Reserve or to bear the repercussions of rising inflation and a weak exchange currency.

For developing markets, higher interest rates come at an inopportune moment. Because, the majority of these nations generally have budgetary deficits. The few outlier nations among them are mostly oil-producing nations such as Saudi Arabia and Russia. On the other hand, other nations' government finances have deteriorated and their debt loads have increased. This also has occurred at a time when global development is anticipated to halt and pandemic outbreaks may reappear. According to Oxford Economics, the ratios of gross government debt to GDP in Morocco, Hungary, South Africa, Colombia, Malaysia, Thailand, and the Philippines are more than 50% and rose by double digits between 2019 and 2021. Only Malaysia and Thailand are predicted to see a decline in their debt-to-GDP ratios by 2023. Brazil and Egypt's government debt ratios increased by little less than the global average.

If the United States tightens monetary policy more quickly than expected, it might exacerbate already dire finance and inflation circumstances in developing countries. Improved fiscal balances now mean that policymakers will have greater room to maneuver in the event of a downturn by keeping debt levels down. In the coming years, it may be aimed to reduce debt rollover costs through policies such as extending loan maturities and eliminating currency mismatches.

In emerging countries, the current economic and social crisis is influencing the relationship between key stakeholders and long-term corporate plans. There have been some unexpected developments in the course of the pandemic, and enterprises have been scrambling to discover ways of doing business that will allow them to weather the storm and contribute to a long-term recovery. To maximize the effect of their efforts, multinational firms in low-income regions have developed or enhanced locally relevant sustainability programs and incorporated sustainability into their operations. The durability and inclusivity of the recovery after the COVID-19 pandemic will depend on the roles that governments play in encouraging and leading private sector initiatives towards sustainability and on their experience during the pandemic.

In order to promote gender equality and ensure that the recovery of developing markets benefits all of its citizens, it is essential to invest in human capital. Participants in the emerging market have been emphasizing the need to fill skill shortages in preparation for the next digital and green revolution. In order to lessen the negative effects of labor market changes on the job market, public policy may aim to better match labor demand with supply, decrease gender disparities in the workplace, increase the availability of relevant digital skills, and broaden social safety programs. By mid-century, automation may make 14% of today's employment

obsolete, while another 32% of jobs are predicted to undergo considerable change. The commercial sector may contribute by providing workers with opportunities to acquire new skills and by increasing their employees' use of cutting-edge digital technologies.

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CHAPTER V

ECONOMIC STRATEGIES WHICH AIRLINE COMPANIES CAN FOLLOW WITHIN THE SCOPE OF PRIVATIZATION AND PRICE DISCRIMINATION

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1. Introduction

Considering the development of civil aviation in a country only in terms of economic growth means ignoring the development of that country because civil aviation is not only an important source of economic growth, but also an important source of economic development. When considering civil aviation, airline companies are the first thing that comes to mind. Whether an airline is public or private undoubtedly affects the markets. For this reason, the decision to privatize airline companies sometimes creates a positive effect on the economy, and sometimes creates a negative effect. As a result, firstly, privatization is included without mentioning airline companies. Types of privatizations are also discussed in this section.

Secondly, price discrimination is included theoretically without mentioning airline companies because the pricing systems of a public airline company and a private airline will inevitably differ. To fully understand this differentiation, price discriminations are handled by considering all markets.

Thirdly, the economic strategies to be followed by the airline companies are given place by including strategic planning and strategic management because the beginning of a good strategic planning and strategic management is a good senior manager or management. Also in this section, the differences in goods and services between the public and private sectors are emphasized in terms of sectors.

In the evaluation part, the issues of which price discrimination type can be used in case of public and private airline companies are mentioned.

Strategic management elements are used while specifying these issues. Finally, inferences are made about the effects of price discrimination preferences in airline companies and the study is concluded.

2. Privatization and Types of Privatizations

Apart from the unsuccessful practices in Chile at the beginning of the 1970s, the concept of "privatization", which was included in the election manifesto of the conservative party under Margaret Thatcher's rule in England in 1979 and applied in the following years, began to spread to the world with the election of Ronald Reagan as the US president in 1980 (Türk, 2014: 4). Privatization policies within the scope of the transition to the free market in the 1980s, the definition of privatization, which was rapidly accepted and spread in many economies of the world, especially in the ADB and England (Jho 2014: 222), appears in two different ways; privatization in the narrow sense and privatization in the broad sense. The transfer of at least 51% of the shares and management rights of the state-owned production units to private sector persons is privatization in the narrow sense (Aktan, 2010: 101-119). In a broad sense, privatization is a more comprehensive definition that includes not only the transfer of ownership and management, but also different purposes such as supporting liberalization in the economic field, increasing the performance of the public sector by creating competition (Aksoy, 1994: 108-109).

The purpose of privatization may vary based on the economic development level of the countries. The main purpose is to eliminate the failures that occur as a result of state intervention (Demir, 2003: 149-176). While the reasons such as providing free market conditions, budget deficits, external debts and foreign dependency in developing countries come to the fore, there may be initiatives to support the private sector in developed countries (Ramamurti, 1992: 225-249). Although the aims of privatization vary from country to country, there is always an "economic" reason behind the practices that have emerged so far (Atasoy, 1993: 184). This reason is related to the assumption that private enterprises work more effectively and productively than public enterprises (Demirbaş, 2002: 241-264).

The objectives of privatization can be summarized as follows:

- **Ensuring Efficiency and Efficiency in the Economy:** Public institutions are subject to criticism on the grounds that they are under the influence of political interest pressures and cannot follow technological

developments closely because they also cause the public sector to operate more inefficiently compared to the private sector although these factors increase costs and decrease productivity. Since there is no bureaucratic operation and strict working rules in the private sector (Eroğlu, 2001: 28), it is possible to monitor technological developments more closely, and this is an issue that will reduce costs and increase efficiency.

- **Providing Income to the Public Budget:** States can generate income by selling their assets through privatization or by transferring the production of a service to the private sector (Çetinkaya, 2001: 175). Where this income is used has a direct effect on economic growth. Investments may increase if the income in question is used to pay some of the foreign debts, and if interest rates are lowered. However, it will have a negative effect if it is used to pay future debts or to finance new public expenditures (Filipovic, 2005: 1-22).

- **Spread of Capital to the Base:** The fact that most of the property rights in an economy are held by a small part of the population is a situation that creates problems in the distribution of income and wealth and is incompatible with the welfare state approach. And this situation should be prevented to ensure social welfare. Capital ownership will also be divided by sharing ownership through privatization (Işık Erol, S. 2018: 55-87).

- **Promotion of Competition:** In its broad sense, the concept of privatization includes the creation of a competitive environment by establishing market mechanisms. And the main condition for providing economic sufficiency in the public sector is to ensure competition (Thieme, 1995: 89). Considering that the economic system accepted today is a free market economy, the strategic importance of competition gains even more meaning. The benefits to be obtained from competition basically include three elements: efficiency in production, efficiency in resource allocation and efficiency in innovation (DPT, 2000: 1). While consumer needs are not adequately observed in the public sector, the fact that private sector companies are in search of new profit areas and being able to compete in order to meet different customer needs increases efficiency within the framework of these criteria (Emrealp and Horgan, 1993:8).

- **Dissemination of Democracy and Private Sector Culture:** With the effect of globalization, it has become a necessity to downsize the state to realize the popular concepts of today's world such as democratization, privatization, demilitarization, and localization. One of the most effective ways of limitation of the states is privatization (Yüksel, 2004:2). From this point of view, it is possible to say that privatization practices are closely related to democratization.

- **Ensuring Technological Developments:** Corporate culture is weak in making innovation in the public sector. Since there is no competition in the public sector, there is not enough policy that supports innovations such as technological progress (Kasımoğlu and Akkaya, 2012:60). At this point, privatization enables to follow and use technological developments closely.

2.1. Tender Method

It is the method in which the decision-making process for production belongs to the public, but the production is realized by the private sector. The government contracts with a private firm to produce a good or service. The firm that offers the lowest bid in the production of this good or service wins the tender (Orkunoğlu, 2010: 1-22).

2.2. Concession Method

In this method, the property remains in the public sector, but the private sector institution takes over the management, operation, and investment rights for long terms such as 20-30 years. The granting party is the public institution; the concessionaire is the private sector institution. The concessionaire organization is responsible for all profits and losses during the relevant transfer process (Kızıltan, 2012: 52-53).

2.3. Joint Venture Method

It is the situation in which the public sector and the private sector jointly provide goods and services by establishing a partnership. In this application, there is a company established by combining the capitals of the public and private sectors. They are generally established as joint stock companies and thus both segments can be represented at the general assembly in proportion to their shares. If the share of the public sector is higher, it is called public participation (Aktan, 2010: 101-119).

2.4. Management Transfer Method

It is the transfer of the management of public institutions to the private sector for a certain period of time through a contract. Funds and facilities are provided by the state to the persons or institutions that take over the management to improve the financial structure and make effective production. After the expiry of the contract, the transfer of a certain share to the party that takes over the management or the possibility of purchasing it completely can be added (Aktan, 2010: 101-119).

2.5. Leasing Method

There is no transfer of ownership in this method. However, it is possible to improve the financial structure of a public institution that is planned to be privatized in the future and make it suitable for privatization. The lessor provides the production of goods and services with its own means (İleri, 2014: 149-162).

2.6. Build-Operate-Transfer Method

It is a method that expresses an investment that requires high financing, after it is made by a private enterprise with its own capital and risk, operated for a certain period of time and transferred to the public unconditionally and free of charge at the end of the period (Akıllı, 2013: 98).

3. Price Discrimination

Price discrimination means a business practice for selling the same good to different customers at different prices (Mankiw, 2009: 326). Three situations arise with price discrimination (Mankiw, 2000: 337):

- Price discrimination is a rational strategy for a monopolist seeking to maximize profits.
- Price discrimination requires the ability to discriminate customers based on their willingness to pay.
- Price discrimination can increase economic welfare.

However, some conditions must be present for successful price discrimination. These conditions can be expressed as follows (Hubbard and O'Brien, 2006: 478):

- The business must have market power.
- Some consumers are more willing to pay for the product under sale than other consumers and the business must know the price that consumers are willing to pay.
- The business must segment the market in which the product is sold so that consumers who buy the product at a low price cannot sell this product at a higher price. In other words, if there is arbitrage, price discrimination will not work.

After this process, it is possible to talk about three types of price discrimination as first degree, second degree and third degree. First-degree price discrimination means applying a different price to different units of

that good so that the demand price of each good produced is equal to the selling price of each good produced and no consumer surplus remains for consumers in this price discrimination (Pigou, 1932: 279).

Second-degree price discrimination means that a firm applies different prices for different consumption levels. This type of price discrimination has the characteristics of a bilateral tariff or pricing system. Pricing for mobile phones, cable TV servers, car rental companies and different types of club memberships is an example of second-degree price discrimination (Wilkinson, 2005: 397-398).

In third degree price discrimination, the market is divided into two or more sub-markets. The values of each sub-market are different (Ahlersten, 2008: 87). It is the most common type of price discrimination (Varian, 1989: 617). In this price discrimination, it is not the product that the consumer wants to buy; the price elasticity of the good is considered (Erdoğan, 2008: 228).

4. Framework of Economic Strategies in Airline Companies

Businesses belonging to the public or private sector, which are established for the purpose of carrying out various business and services related to the aviation field, are called airline companies. Airline companies must act within the national and international legal framework from the time they are established to the points in which they operate. Therefore, airline companies must be subject to national and international inspections (Korukcu, 2018: 133). The decisions to be made within the scope of these inspections affect the economic and financial structure of the airline companies. Therefore, it is necessary to organize the economic and financial structure effectively in airline companies. This is possible with a strategic management.

The fact that senior managers can decide in which direction the business will move means strategic management. Therefore, the performance of senior managers is so important that their performance has a direct impact on the future of their businesses (Lumpé, 2008: 209). Therefore, the first impact on the creation of an economic and financial structure in an enterprise begins with senior managers.

A good manager needs strategic planning. Good planning includes the following (ACRP Report 20, 2009: 22):

- Strategic planning gives the business a sense of direction.

- Strategic planning is an essential management tool.
- Strategic planning is a necessary leadership tool.
- Strategic planning increases the shares that shareholders will buy.
- Strategic planning encourages future opportunities to become effective.

Strategic management and strategic planning are especially important in strategy formation because a bad strategy produces unsuccessful results, while a good strategy produces successful results. Which one will emerge will vary depending on the type of strategy to be chosen. In this context, the types of strategies that senior managers can choose can be expressed as follows (Ritson, 2008: 21-23):

- **Planned/Deliberate Strategies:** This type of strategy occurs where there are clear objectives written and implemented by a central leadership. The main feature is the realization of applications that cannot be considered as a surprise in a controllable environment. In this way, many options can be evaluated and the most suitable one can be selected.

- **Emergent Strategy:** Sometimes a strategy can come off as new or planned. For instance, a seller who designs a product in the style desired by the customer may make some changes in the production policies of the company in line with the customer's wishes. Such an application is called emergent strategy.

- **Opportunistic Strategy:** In this type of strategy, a business takes advantage of market opportunities or defines new skills in an opportunistic framework.

- **Imposed Strategy:** It is the type of strategy in which certain strategies are imposed on the business. In this type of strategy, government policies can have a serious impact on strategies.

- **Realized and Unrealized Strategy:** It is a strategy about whether the implemented strategies are successful or not.

Which of these strategies will be successful depends on the market conditions of the airline companies. In other words, whether the sector is a public sector or a private sector is important in determining the strategies. Therefore, it is necessary to determine the differences between the private sector and the public sector for such a decision.

Scarce resources are shared between the private and public sectors. While the individual needs of unlimited needs are met by the private sector, the social ones are met by the public sector (Erdem vd., 2020: 3). This

creates a natural distinction between the private and public sectors. Therefore, the differences between the private and public sectors can be classified as follows (Devrim, 2002: 34-37):

- While the benefit of the goods subject to production and consumption in the private sector is allocated to the individual, the benefit is allocated to society in the public sector.
- While there are divisibility and marketability features in the goods and services produced in the private sector, this is not the case in the public sector. Undoubtedly, goods and services have a price in the public sector. But this is a social price; It is not a price determined by supply and demand as is in the private sector.
- While deprivation of consumption is applicable for goods and services produced in the private sector, deprivation of consumption is not applicable for goods and services produced in the public sector.
- While considering the personal preferences of consumers in the goods and services produced in the private sector, social preferences are important in goods and services produced in the public sector.

Therefore, whether an airline company operates on behalf of the public or a private enterprise determines the strategy to be adopted by the airline company. Of course, the effectiveness of this strategy will be determined within the scope of privatization and price discrimination.

5. Possible Trends in Choosing Economic Strategy of Airline Companies

In the economic and financial strategy that an airline will choose, first of all, it is necessary to consider what the legal status of the business is. In other words, whether the airline is a public or private enterprise is effective in determining the strategy to be chosen. In this context, it is important to discuss the strategies that a public airline company can choose first because as a result of the strategies to be chosen, it will become clear whether the airline company will be privatized or not.

5.1. Economic Strategies to be Followed by Public/Semi-Public Airline Companies (Non-Privatization)

A public/semi-public airline is limited by national and international legislation. In particular, national legislation may limit the decisions an airline company will take. This public price must be adopted by the majority of society. Here, a national legislation cannot adjust the prices as it wishes, since the airline company has a public nature. In other words,

instead of a price determined by supply and demand, a shadow price will be determined. Such a situation will create excess demand and a shortage of supply because it is not possible to exclude anyone from such a service. Of course, such a situation may exist under the assumption that the airline company is a pure public service. In this case, the following judgments can be made regarding the types of price discrimination:

- In first-degree price discrimination, the price that consumers will be willing to pay for individual airline tickets must be known. However, in a public airline company, since the price is determined publicly, it is not possible to determine the price that consumers will be willing to pay one by one. Therefore, it is not possible to apply first degree price discrimination in a public airline company.

- It is also not possible to make sales in desired quantities in an airline company that produces services like a pure public good because the service should cover the society. In this context, it is not possible to make second-degree price discrimination.

- The prices determined by an airline company that produces services such as pure public goods may be lower than the price determined by the market. However, even if the prices are below the market price, some segments of the society may not be able to meet this price. In such a case, a price discrimination can be made by dividing the society into economic categories. This means that third-degree price discrimination can be made.

In this context, an airline that serves as a fully public/semi-public good should prefer a planned/deliberate strategy or an imposed strategy because the nature of the service provided requires the implementation of these two types of strategies. Failure to do so will result in an unrealized strategy.

5.2. Economic Strategies that Airline Companies Can Follow After Privatization

The situation differs in a public airline company undergoing privatisation. However, the point to be considered here is which type of privatization is carried out.

5.2.1. Economic Strategies to be Followed by Airline Operators in Privatizations Made by Tender Method

In the case of privatization with the tender method, if the states allow many companies to enter and make the tender transparently, the decision-making authority will belong to the state, but it will be the private airline

company that produces real service. In this case, a realized strategy can be reached with an emergent strategy or an opportunistic strategy. In such a case, the private airline company can reach customers one by one and make price discrimination if necessary. However, this will only happen if the privatization made by the tender method appeals to a limited number of customers. Implementing first degree price discrimination for many customers will be difficult in terms of time and cost.

If there is no restriction on the number of consumers as a result of the privatization made by the tender method, it is possible for different amounts of consumers to purchase airline tickets from airline companies and thus to apply second-degree price discrimination. In case the consumer audience is large and diverse, airline companies can apply different prices by dividing the consumers into various segments in this customization method to reach a larger audience. This differentiation means that third-degree price discrimination can be applied.

In this type of privatization, airline companies can reach realized strategies by following emergent strategy or opportunistic strategy. This brings efficiency and productivity to the market. However, in this method, in case the tender legislation changes frequently, the barriers to entry and exit to the market are strict, or the tender is not transparent, the airline companies can only reach the realized strategies with the planned/deliberate strategy. Other strategies emerge as unrealized strategy in such a situation.

5.2.2. Economic Strategies to be Followed by Airline Operators in Privatizations Made by Concession Method

In this type of privatization, the bargaining process in the state and airline company is important. Under normal circumstances, it is aimed to provide the service offered by the airline company at the lowest price. Such a situation puts obstacles in front of price discrimination. First-degree price discrimination is not very possible since service will be provided at a low price because the lowest price may be above or below the price that consumers are willing to pay. In case of second-degree price discrimination, consumers can benefit more from the services of airline companies by purchasing more tickets. However, in this case, airline companies may not be able to profit from such a sale. This situation contradicts the logic of the free market economy. Therefore, the areas where second-degree price discrimination can be applied may make sense if they are carried out for charter type flights. In addition, such price

discrimination can be applied in the monitoring of unsold plane tickets shortly before the flight because substituting an unsold ticket with a sold ticket appears as a more reasonable approach. In third-degree price discrimination, if consumers are segmented and provided by airline companies in this way, a price range from the lowest price already determined to lower prices emerges. Despite all these possibilities, an airline company that can make all three price discriminations should be a company that has the potential to use the inputs it uses in service production at the lowest cost. Therefore, although it can be argued that in this method, realized strategies can be achieved with the imposed strategy or planned/deliberate strategy, an airline company that obtains the inputs at the lowest cost can reach realized strategies with other strategies. On the other hand, the opposite situation occurs in strategies that bear high costs in obtaining inputs.

5.2.3. Economic Strategies to be Followed by Airline Companies in Privatizations Made by Joint Venture Method

In this method, the public sector is also included in the private sector. It is a partnership in which all three price discriminations can be applied under normal conditions. However, for this, the public sector should interfere as little as possible with the private sector. In fact, the right thing here is to control rather than intervene. Situations in which intervention can be made may arise under the following conditions: In first-degree price discrimination, a very low price is applied to the consumers to whom the private partnership gives privilege and a high price to other segments; Giving more opportunities to some tourism companies in the second-degree price application; inefficient segmentation of consumers in third-degree price discrimination. However, if the public sector intervenes in prices with some political motives, an inefficient market will emerge. An airline company may not accept such a situation and walk away from the partnership. Nevertheless, in practice, the power of airline companies against the power of states is limited to the origin of the country they belong to. Therefore, it would not be a wrong approach to state that while such a partnership will provide more benefits for the private sector in developing countries, states will benefit more from it in countries with high economic power. In this context, in a partnership where the private sector is strong, the private sector will be able to reach realized strategies with an emergent strategy or opportunistic strategy. In a market in which the public sector is strong, only realized strategies can be reached with a planned/deliberate strategy or a imposed strategy. However, it is a

controversial issue to what extent such a strategy can benefit the private sector.

5.2.4. Economic Strategies that Airline Companies Can Follow in Privatizations Made with Management Transfer Method

In this method, in which the management of an airline company, which is considered to be privatized, is transferred to the private sector, it may be desired to ensure efficiency in a market where airline companies are present with some privileges to be included in the contract. In this method, states can also grant some conveniences to private sectors. Thanks to these conveniences, it is possible to provide all three price discriminations. Even while applying these three price discriminations, realized strategies can be reached with an emergent strategy or an opportunistic strategy. In this way, efficiency can be achieved. However, in case of lack of control, the airline company may suffer losses, and if this damage is met by government resources, both the private and public sectors will move away from efficiency. On the other hand, if the public sector is under intense pressure, realized strategies can be achieved with planned/deliberate or imposed strategy. However, such a situation is achieved with unrealized strategies; namely, it may fail. Therefore, it is necessary for efficiency to make an appropriate price discrimination by considering the efficiency of both segments.

5.2.5. Economic Strategies to be Followed by Airline Companies in Privatizations Made by Leasing Method

If an airline company is privatized by leasing method, the personnel of the airline will be the personnel of the private sector. In this way, price discrimination can be applied within certain limits in pricing. In first-degree price discrimination, a leased airline company can determine the price that each of the consumers is willing to pay within the target groups determined by methods such as surveys. The aim of profit maximization can be pursued by pricing the customers who buy more than the goods and services offered by the airline companies, through second-degree price discrimination. It is possible to discriminate the prices by dividing the consumers into certain segments. This means third-degree price discrimination. Therefore, it is possible to apply all three price discriminations in this method. With the emergent or opportunistic strategy to be chosen in this way, the realized strategies can be reached by evaluating the environmental conditions of the airline business. Other

strategies do not need to be implemented because such a privatization will be a privatization in which the pressure of the public sector will be felt less.

5.2.6. Economic Strategies to be Followed by Airline Companies in Privatizations Made by Build-Operate-Transfer Method

Especially in developing countries, some economic problems make it necessary for these countries to leave the market to the private sector in a more developed way because one of the ways of the development of markets is the entry of companies using advanced technologies into the market. When considered from the point of view of airline companies, it can be concluded that the economic policy to be followed by a country where civil aviation is not developed should be handled in this way because the main goal is not only economic growth, but also economic development. A remarkable way of doing this is privatization through build-operate-transfer. With the build-operate-transfer model, airline companies obtain long-term and important concessions. Thus, it can easily apply all price discriminations. Developed airline companies are in a position to be a pioneer in which innovative methods can be applied in civil aviation with the resources at their disposal. Therefore, if necessary, they can determine the price that all consumers are willing to pay and perform first-degree price discrimination. Therefore, the strategies that such an airline company can follow should be emergent strategy or opportunist strategy. Thus, it is possible to reach the realized strategies.

6. Conclusion

There is no possibility that privatizing or not is the most accurate result. In some cases, privatization can be very efficient due to waste and inefficiencies in public resources. In some cases, however, privatization means preventing a country from increasing the amount of production that would lead to a better national income. Therefore, the issue to be considered is whether privatization is really necessary or not. If privatization is not made, there should be no social problem in the distribution of the full public goods and services produced. However, most of the time, distribution and production problems are experienced in countries whose economy is fully based on public goods and services. In such a case, privatization is required. When the situation is considered in terms of civil aviation, it becomes more important because the customer base of airline companies varies from individual customers to commercial enterprises. Of course, in these cases, airline companies need to take certain steps. First of all, it is essential that the senior management in airline

companies have foresight. Then, the necessity of making a strategic planning emerges. Then, certain strategies should be adopted according to the conditions of the economic environment. This situation requires good strategic management. The strategy to be followed in airline services that will be offered as a purely public or semi-public good will be the planned/deliberate or imposed strategy because the implementation of other strategies will be very difficult as the public sector is also in the market. However, in case of privatization, it will be more realistic to apply emergent or opportunist strategies. Undoubtedly, the issue of which price discrimination should be applied is also important here. It is not possible to apply price discrimination in the absence of privatization because there are shadow prices for airline companies. When privatization is done, different possibilities arise. In the application made by the tender method, second- and third-degree price discrimination can be applied. There is a similar situation in privatizations made by the concession method. In the joint venture method, all three price discriminations can be made if the conditions are suitable. All three price discriminations can be applied in privatizations made by the management transfer method. It is possible to use three types of price differentiation in the privatizations made by the leasing method. The same can be said for the build-operate-transfer model. In this context, in cases where all three price discriminations are applied, airline companies can become the driving force of the economies of the countries in which they operate by following emergent and opportunistic strategies.

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CHAPTER VI

ORGANIZATIONAL SOCIAL CAPITAL, ORGANIZATIONAL IDENTIFICATION AND ORGANIZATIONAL TRUST RELATIONSHIP: A STATE UNIVERSITY STUDY

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1.Introduction

It is a common goal of almost all organizations to establish organizational identification and organizational trust by providing social integrity in organizations. Universities are organizations that have an important place in the education system. The communication networks that the faculty members will establish with their colleagues and managers in the department, are very important as they will affect the whole organization. Faculty members are at the center of education and research activities within the university. The high organizational identification of faculty members is also thought to be important in terms of education and research quality.

Social capital is also defined as the characteristics of social organization such as trust, norms and relationship networks that increase the efficiency of society by facilitating the coordination and cooperation of activities for mutual benefit (Putnam, 1993). It has been stated that the concept of social capital has three components: Norms, social values (especially trust) and social networks (Sisisiainen, 2000).

Considering the definitions in the literature, it is possible to evaluate the values that hold organizations and employees together as components of social capital. It can be said that social networks and norms, especially trust, are effective in the formation of these values (Özsarı, 2020; Özsarı, 2021a).

Norms: According to Pretty (2003), common rules, norms and sanctions are forms of behaviors that are mutually agreed upon. It can also be stated that norms are a set of unwritten values.

Social networks: It can be said that the relations between the employees and the units in the organizations form the basis of social networks. Relationships between people and organizations form the foundation of social capital (Yıldız and Topuz, 2011).

Trust: The increase in the rate of environmental and economic changes, the increase in the need for flexibility and cooperation, the increase in belief in team and teamwork, the change in relations with employees and career patterns have increased the importance of organizational trust. Trust, the main element of social capital, is the basic element that keeps relations together in the organization. No institution can achieve its goals without trust (Iscan and Sayın, 2010). According to Coleman (1988) a group with mutual trust can achieve much more than a group without mutual trust. Therefore, serious responsibilities fall on the main stakeholders of the organization in ensuring organizational trust. Particularly in educational organizations, it is important to build an organizational culture based on organizational trust among internal stakeholders in terms of almost all kinds of positive development, progress and educational institution effectiveness (Polat, 2018).

When we consider the importance of social capital for academic staff, it is seen that the relations between academic staff with a high level of social capital have a more sincere and safer quality (Putnam, 2000). Social capital of educational organizations will increase the quality of the product to be obtained from humans and lead to better results (Toremen, 2004). The concept of organizational social capital, on the other hand, will increase the cooperation and coordination with the employees in the organization and other actors within the units and the external environment of the organization in order to use the resources of the organization in the best way for its purposes, and it can be defined as the gain obtained as a result of providing and maintaining interactions that will enable access and evaluation of new resources (Ogut and Erbil, 2009).

Considering the literature, it is understood that the understanding of organizational identification as a concept stems from the development of social identity theory (Özsarı, 2021b). The basic building blocks of social identity theory provide a theoretical model to explain the behavior of employees (Gurlek and Tuna, 2018). Identification is an important element that helps people to engage in activities compatible with their individual identities and to be satisfied with them, to see themselves as a member of the group or organization, and to achieve the goals of the organization (Ashforth and Mael, 1989). It is also a fact that individuals who identify with their organizations will perform much more efficient services (Özsarı, 2021b).

Trust is a concept that we can all claim to know, especially when we perceive or experience its loss and violation (Saunders, 2012). Institutions see the concept of trust as a fulcrum for successful results in organizations in the ever-expanding global environment (Muhl, 2014). Trust, which has reached an increasing interest in establishing the organizational order in recent years is accepted as an important factor in ensuring organizational success, stability and employee well-being. The achievement of an organization's goals and objectives is only possible with the commitment of its employees to the organization. The most important factor in the formation of organizational commitment is the trust of employees in their organizations. Trust, which plays an important role especially in organizational theory and research, is important for both employees and organizations (Taskin and Dilek, 2010). Establishing relationships based on trust in organizations can cause employees to trust their organizations as a whole, become emotionally attached to their organizations, and can make employees who can identify themselves within their organizations, who are satisfied with their jobs, and do not want to leave their organizations (Demircan and Ceylan, 2003).

The main element of the concept of organizational social capital is the human being. The most important concept in human relations is the element of trust. Socialization cannot be expected if the element of trust has begun to disappear in bilateral relations and in the working environment. It is a fact that employees who cannot socialize will not identify with their organizations.

In this study, it was aimed to investigate the relationship between organizational social capital, organizational identification and organizational trust in a state university. From this point of view, firstly the concepts of organizational social capital, then organizational identification and finally organizational trust were tried to be explained briefly, and the hypotheses formed within the scope of the research model were tried to be tested. It is thought that the results of the study will contribute to the relevant literature, university staff and administrators.

2. Material And Methods

2.1. Research Model

Relational screening model was used in this study. The hypotheses formed within the scope of the research model are presented below.

H₁: Associative organizational social capital, one of Faculty member organizational social capital scale sub-dimensions, affects organizational identification significantly and positively.

H₂: Bonding organizational social capital, one of Faculty member organizational social capital scale sub-dimensions, affects organizational identification significantly and positively.

H₃: Bridging organizational social capital, one of Faculty member organizational social capital scale sub-dimensions, affects organizational identification significantly and positively.

H₄: Associative organizational social capital, one of Faculty member organizational social capital scale sub-dimensions, affects organizational trust significantly and positively.

H₅: Bonding organizational social capital, one of Faculty member organizational social capital scale sub-dimensions, affects organizational trust significantly and positively.

H₆: Bridging organizational social capital, one of Faculty member organizational social capital scale sub-dimensions, affects organizational trust significantly and positively.

2.2. Research Population

The population of the research consists of academic staff working in various departments of Düzce state university. The sample group consists of a total of 103 persons, 53 females and 50 males, who were selected by convenience sampling method among these academic staff and accepted to participate in the study completely voluntarily.

2.3. Data Collection Tools

Faculty Member Organizational Social Capital Scale: “Faculty Member social capital scale” was developed by Eker (2014) to determine the organizational social capital perceptions of faculty members. The scale consists of 3 sub-dimensions (Associative organizational social capital, bonding organizational social capital and bridging organizational social capital) and a total of 16 items. Moreover, Cronbach's Alpha (α) values of the scale calculated in this study are: associative organizational social capital dimension: .92, the bonding organizational social capital dimension: .90, bridging organizational social capital dimension: .82, overall scale: .93

Faculty Member Organizational Identification Scale: The scale was developed by Mael and Ashforth (1992) and originally included 6 expressions. The linguistic validity and reliability validation of the developed scale were made by Şahin (2014). Moreover, new expressions were added by Eker (2014) to determine the organizational identification perceptions of the faculty members. The scale consists of 2 sub-dimensions (cognitive organizational identification, emotional organizational

identification) and a total of 10 items. The Cronbach's Alpha (α) values of the scale calculated in this study are: cognitive organizational identification dimension: .80, emotional organizational identification dimension: .74, overall scale: .83

Organizational Trust Scale: Scale was developed by Nyhan and Marlowe (1997) and adapted into Turkish by Gurce (2018). The scale consists of 2 sub-dimensions (trust in the manager and trust in the organization) and a total of 12 items. The Cronbach's Alpha (α) values of the scale calculated in this study are: trust in the manager dimension: .91, trust in the organization dimension: .88, overall scale: .94

2.4 Analysis of Data

In addition to descriptive statistics, Pearson correlation analysis and multiple regression analysis methods were used to test the relationships between the scales within the context of the relational model.

3. Results

In this part of the study, the findings obtained as a result of the analyzes are included.

Table 1: Findings on the demographic characteristics of the participants

		N	%
Gender	Female	53	51.5
	Male	50	48.5
Age Groups	Younger than 25	10	9.7
	26- 30 years old	16	15.5
	31- 35 years old	34	33.0
	36- 40 years old	19	18.4
	41- 45 years old	13	12.6
	46- 50 years old	8	7.8
	51 and older	3	2.9
Academic Title	Professor	4	3.9
	Associate Professor	21	20.4
	PhD Faculty Member	25	24.3
	Academic Member	13	12.6
	Research fellow	40	38.8
Employment Years	1- 5 years	37	35.9
	6- 10 years	28	27.2

	11- 15 years	20	19.4
	16- 20 years	10	9.7
	26 and more	8	7.8
	Faculty of Medicine	48	46.6
	Faculty of Arts and Sciences	22	21.4
	Faculty of Education	13	12.6
Department	Yadem	11	10.7
	Business management	4	3.9
	Sports sciences Faculty	2	1.9
	Forestry faculty	2	1.9
	Engineering	1	1.0
Administrative Position	Yes	17	16.5
	No	86	83.5
Total		103	100.0

Considering the demographic characteristics of the participants; It was observed that 51.5% (53 people) of the 103 participants were female and 48.5% (50 people) were male. 9.7% (10 people) of the participants are under 25 years old, 15.5% (16 people) are between the ages of 26-30, 33% (34 people) are between the ages of 31-35, 18.4% (19 people) between the ages of 36-40, 12.6% (19 people) between the ages of 41-45, 7.8% (8 people) between the ages of 46-50, 2.9% (3 people) are in the age group of 51 and older. It was determined that 3.9% (4 people) of the participants are professors, 20.4% (21 people) are associate professors, 24.3% (25 people) are PhD Faculty Members, 12.6% (13 people) are lecturers 38.8% (40 people) were grouped as research fellows. 35.9% (37 people) of the participants were 1-5 years, 27.2% (28 people) 6-10 years, 19.4% (20 people) 11-15 years, 9.7% (10 people) have 16-20 years, 7.8% (8 people) have 26 or more years of experience. Of the participants, 46.6% (48 people) were at the Faculty of Medicine, 21.4% (22 people) were at the Faculty of Arts and Sciences, 12.6% (13 people) were at the Faculty of Education, 10.7% (11 people)) in Yadem, 3.9% (4 people) at the Faculty of Business, 1.9% (2 people) at the Faculty of Sport Sciences, 1.9% (2 people) at the Faculty of Forestry, 1% (1 person) at the Faculty of Engineering. While 16.5% (17 people) of the participants have an administrative duty, 83.5% (86 people) does not have an administrative duty.

Table 2: Organizational social capital, organizational identification and organizational trust correlation analysis

	1	2	3	4	5	6	7
Associative organizational social capital	-						
Bonding organizational social capital	,690**	-					
Bridging organizational social capital	,416**	,473**	-				
Cognitive organizational identity	,350**	,319**	,300**	-			
Emotional organizational identity	,221*	,112	,282**	,475**	-		
Trust in the manager	,617**	,457**	,361**	,544**	,513**	-	
Trust in the organization	,534**	,503**	,245*	,482**	,434**	,795**	-

* $p < 0.05$, ** $p < 0.01$

According to the findings of the correlation analysis made between the academic staff organizational social capital, organizational identification and organizational trust scales; there is a significant, positive and moderate correlation between associative organizational social capital and associative organizational social capital ($r=0.690$, $p<0.01$), there is a significant, positive and moderate correlation between bonding organizational social capital and bridging organizational social capital ($r=0.416$, $p<0.01$), there is a significant, positive and moderate correlation between associative organizational social capital and cognitive organizational identification ($r=0.350$, $p<0.01$), there is a significant, positive and weak correlation between associative organizational social capital and emotional organizational identification ($r=0.221$, $p<0.05$), there is a significant, positive and moderate correlation between bonding organizational social capital and trust in manager ($r=0.617$, $p<0.01$), there is a significant, positive and moderate correlation between bonding organizational social capital and trust in the organization ($r=0.534$, $p<0.01$); there is a significant, positive and moderate correlation between bonding organizational social capital and bridging organizational social capital ($r=0.473$, $p<0.01$), there is a significant, positive and moderate correlation between bonding organizational social capital and cognitive organizational identification ($r=0.319$, $p<0.01$), there is a significant, positive and moderate correlation between bonding organizational social capital and trust in the manager ($r=0.457$, $p<0.01$), there is a significant, positive and moderate correlation between bonding organizational social capital and trust in the organization ($r=0.503$, $p<0.01$); there is a significant, positive and moderate correlation between bridging organizational social capital and cognitive organizational identification ($r=0.300$, $p<0.01$), there is a significant, positive and weak correlation

between bridging organizational social capital and emotional organizational identification ($r=0.282$, $p<0.01$); there is a significant, positive and moderate correlation between bridging organizational social capital and trust in the manager ($r=0.361$, $p<0.01$), there is a significant, positive and weak correlation between bridging organizational social capital and trust in the organization ($r=0.245$, $p<0.05$); there is a significant, positive and moderate correlation between cognitive organizational identification and emotional organizational identification ($r=0.475$, $p<0.01$), there is a significant, positive and moderate correlation between cognitive organizational identification and trust in the manager ($r=0.544$, $p<0.01$), there is a significant, positive and moderate correlation between cognitive organizational identification and trust in the organization ($r=0.482$, $p<0.01$); there is a significant, positive and moderate correlation between emotional organizational identification and trust in the manager ($r=0.513$, $p<0.01$), there is a significant, positive and moderate correlation between emotional organizational identification and trust in the organization ($r=0.434$, $p<0.01$); there is a significant, positive and high level correlation between trust in the manager and trust in the organization ($r=0.795$, $p<0.01$).

Table 3. Organizational social capital and organizational identification regression analysis

Model	B	Std. Error	Beta (β)	t	p	VIF
(Constant)	2.070	,367		5.643	,000	
Associative organizational s.c.	,212	,105	,258	2.010	,047	1.947
Bonding s.c.	-,014	,106	-,017	-,131	,896	2.074
Bridging s.c.	,194	,085	,240	2.280	,025	1.314
R=,407	R ² =,165	Adj. R ² = ,140				
F _(3,99) = 6,543	p=,000	D-W=1,697				

Note: The dependent variable: Organizational identification

Table 3 shows the multiple regression analysis conducted between the independent variable and the organizational identification scale, which is the dependent variable, versus the 3 sub-dimensions of the Organizational social capital scale. Calculation of Durbin-Watson (D-W) coefficients between 1.5 and 2.5 proves that there is no multicollinearity problem. In addition, VIF values are in the range of values considered appropriate in the literature. The multiple regression model created is statistically significant ($F_{(3,99)}= 6,543$; $p<.0.01$). R^2 value of model found to be 165 and the corrected R^2 value was found to be ,140. This finding shows that the independent variable of organizational social capital explains 14% of the changes in the size of the dependent variable of organizational identification. Considering the effect of the independent variables in this relationship on the dependent variable, based on beta indicators, the significant effect is in the sub-dimensions of the organizational social

capital scale, bridging social capital ($\beta=.240$; $p<0.01$) and associative social capital ($\beta=.258$; $p<0.01$). It has been determined that bridging and associative social capital have a significant positive contribution in explaining the effect of organizational social capital on organizational identification. To put it briefly: It can be said that as bridging and associative social capital increases, organizational identification will be positively affected. Thus, the H_1 and H_3 , which were created within the scope of the research model supported.

Table 4. Organizational social capital and organizational trust regression analysis

Model	B	Std. Error	Beta (β)	t	p	VIF
(Constant)	1.736	,321		5.410	,000	
Associative organizational s.c.	,421	,092	,500	4.574	,000	1.947
Bonding s.c.	,104	,093	,127	1.127	,263	2.074
Bridging s.c.	,051	,074	,062	,687	,493	1.314
R=,626	R ² =,391	Adj. R ² =,373				
F _(3,99) = 21,225	p=,000	D-W=1,628				

Note: The dependent variable: Organizational trust

Table 4 shows the multiple regression analysis between the independent variable organizational social capital scale and the 3 sub-dimensions of the organizational trust scale, which is the dependent variable. The multiple regression model created is statistically significant ($F_{(3,99)}= 21,225$; $p<0.01$). R^2 value of model found to be ,391 and the corrected R^2 value was found to be ,373. This finding shows that the independent variable of organizational social capital explains 37% of the changes in the dimension of organizational trust dependent variable. Considering the effect of the independent variables in this relationship on the dependent variable, based on beta indicators, the significant effect is in the dimension of associative organizational social capital ($\beta=.500$; $p<0.01$), one of the sub-dimensions of the organizational social capital scale. It has been determined that the organizational social capital has a significant positive contribution in explaining the effect of organizational social capital on organizational trust. To put it briefly: It can be said that as associative social capital increases, organizational trust will be positively affected. Thus, the H_4 , which were created within the scope of the research model supported.

4. Discussion and Conclusion

In this study, which was carried out with the participation of academicians working at a state university, it was aimed to examine the relationship between organizational social capital, organizational identification and organizational trust.

According to the results of the correlation analysis performed within the context of the relational model, a significant, positive and generally moderate correlation was found between organizational social capital, organizational identification and organizational trust (Table 2). According to the findings of the multiple regression analysis, it was found that the bridging social capital, which is one of the sub-dimensions of the organizational social capital scale, and the associative social capital, which are sub-dimensions of the organizational social capital scale, have a significant positive contribution in explaining the effect of organizational social capital on organizational identification (Table 3) and in explaining the effect of organizational social capital on organizational trust, on the other hand, it was found that the associative organizational social capital, one of the sub-dimensions of the organizational social capital scale, had a significant positive contribution (Table 4). As a result of the scanning carried out in the related literature, no research that examined all three variables together could be found. It has been determined that the concepts of organizational social capital, organizational identification and organizational trust are handled together with different variables. If we consider the relevant findings in the literature, Ozmen et al. (2014) in their related studies investigating the effect of social capital on job satisfaction in educational institutions, concluded that social capital is an important predictor of job satisfaction. A similar finding was reached by Karanika-Murray et al. (2014) in their research on organizational identification, job satisfaction and job commitment. Xinyu (2014) reported that there is a positive relationship between social capital and organizational performance. Özşarı (2021b) in his research conducted with the participation of employees of public sports organizations, reported that there is no correlation between social capital and organizational identification. A statistically significant relationship was found between the organizational social capital and organizational identification of the faculty members, and it can be stated that the faculty members with high organizational social capital will identify well with the organization (Eker, 2014). It has been determined that faculty members' organizational identification levels have a significant and positive effect on their job satisfaction levels (Dzhalalov, 2019). A strong relationship was found between organizational trust and emotional commitment (Taskın and Dilek, 2010). It has been determined that there is a positive and significant relationship between organizational trust and organizational justice. (Bidarian and Jafari, 2012). It has been determined that organizational trust is positively related to all dimensions of organizational citizenship behavior revealed by organizational members (Singh and Srivastava, 2016). It has been found that organizational trust and organizational identification have increasing validity over each other (Ng, 2015). It has

been determined that there is a positive relationship between organizational trust and organizational justice (İscan and Sayın, 2010). Organizational trust has a positive and significant effect on organizational commitment (Dahmardeh and Nastiezaie, 2019). In terms of perceived organizational support, it has been determined that the more educators perceive organizational support, the more they become committed to their organizations (Celep and Yilmazturk, 2012).

As a result; A significant, positive and generally moderate correlation was found between organizational social capital, organizational identification and organizational trust. In explaining the effect of organizational social capital on organizational identification, it has been understood that the sub-dimensions of the organizational social capital scale, bridging social capital and associative social capital have a significant positive contribution. In other words, as organizational social capital increases, organizational identification will also increase. In explaining the effect of organizational social capital on organizational trust, it has been found that the associative organizational social capital, one of the sub-dimensions of the organizational social capital scale, has a significant positive contribution. In other words, as organizational social capital increases, organizational trust will also increase.

These research findings are thought to have both theoretical and practical contributions. First of all, the main theoretical contribution of the research is that organizational social capital has a positive effect on organizational identification and organizational trust in line with the views of academics who are on active duty as of today. Its practical contribution is that the studies to be carried out to increase the organizational social capital levels of faculty members will also increase their organizational identification and organizational trust.

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CHAPTER VII

OVERTOURISM AND RESIDENTS' PERCEPTIONS

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1. Introduction

Many authors indicated that tourism has positive effects such as increased employment, personal income growth, more investment, obtaining additional tax revenues, promotion of local economy and improvement of the security of the destination region, improving quality of life, promoting the protection of natural resources, protection of local culture (Andereck, 2005; Bello, 2017; Chilembwe, 2014; Dyer et al., 2007; Munhurrun, 2011). However, tourism is generally a seasonal economic activity and causes traffic, crimes, waiting time and noise on the most crowded days of the year, leading to disturbance of local people and worsening the quality of the entertainment experience of the visitors (Brandolini & Mosetti, 2005: 2).

The issue of overtourism has emerged over the past few years and has been one of the spreading phenomenon affecting destinations all over the world recently. Overtourism occurs when one or more of the destination's physical, economic, social, ecological or psychological capabilities are overwhelmed. Overtourism is caused by the excessive growth of visitors number and this growth leads to overcrowding in the region (Peeters et al., 2018: 19-25). UNWTO et al. (2018:4) indicated that overtourism occurs when visitors and locals feel that there are too many tourists in the region and that the quality of life or experience in the region has unacceptably deteriorated. Overtourism has harmful economic, social and environmental impacts on many destinations. Overtourism is related to the quality of life of residents (Damjanovic, 2021: 94). Overtourism causes or triggers 'tourismphobia', which is known as the hatred and rejection of tourists and also to antitourism movements, that is movements bringing together all the enemies of tourism (Seraphin et al., 2019: 2).

Overtourism refers to residents' perception towards tourism (Gosling et al., 2020: 4). Overtourism has been associated with the negative effects of tourism on locals' quality of life and with residents' protests towards tourists, all economic stakeholders that benefit from tourism, policymakers

and the tourism industry itself. It has been claimed that overtourism may contribute to economic dependency, environmental deterioration, as well as increased socio-cultural tensions (Buades et al., 2022: 1-2).

In sustainable tourism, it is important that satisfy the needs of the host population and improve their standards of living in the short and long term, meet the tourist demands and protect the natural environment (Liu, 2003: 460). Considering that the local people are an essential part of the tourism "product" in tourism destinations, it is also clear that the attitudes and behaviours of the local people have a significant impact on the success of the destination (Deery et al., 2012: 64). Residents are main actors in the tourism development process (Choi & Sirakaya, 2005: 380). Therefore, it is important to understand resident attitudes concerning the impacts of tourism development for the long-term success of tourism. Sustainable tourism development can not accomplish without stakeholders involved in the process. Sustainable tourism requires that the community is the key element of the tourism and planning process. Therefore, considering the host community's perceptions is important due to influencing their behaviours towards tourism (Munhurrun & Naidoo, 2011: 45). For all these reasons, this chapter aims to explain the overtourism concept and relationships between local residents and overtourism.

2. Overtourism concept

The tourism industry is one of the fastest growing sectors of the global economy (Brandolini & Mosetti, 2005: 1). Between 1950 and 2017, international tourists rose from 25 million in 1950 to more than 1.3 billion in 2017. Until 2030, the UNWTO predicts that the tourism sector will grow by 3.3% annually, exceeding 1.8 billion (UNWTO et al., 2018: 4).

Tourists visiting a region affect the economic, social, and cultural activities of the region, the lifestyle of locals and the building of public policies in the region. Therefore, touristic areas should be managed according to sustainability criteria (Brandolini & Mosetti, 2005: 1). Today, revenues from national and international tourism contribute significantly to the cultural and socio-economic development of numerous cities and their surroundings. However, the growth of urban tourism also causes negative effects such as socio-cultural impact, the use of natural resources, mobility, pressure on infrastructure and congestion. Consequently, overcrowding, noise and other problems perceived by the local community have increased the negative attitudes towards the visitors, and in some cities, tourism has caused protests called tourismphobia or overtourism in media (UNWTO et al., 2018: 4).

The issue of overtourism has emerged over the past few years. Overtourism is one the spreading phenomenon that affects destinations all over the world recently. There is no clear definition of overtourism. Overtourism is defined as "the situation in which the impact of tourism, at certain times and in certain locations, exceeds physical, ecological, social, economic, psychological, and/or political capacity thresholds" (Peeters et al., 2018: 19-22).

UNWTO et al (2018: 4) defined overtourism as the impact of tourism on destinations or some parts of destinations, that severely negatively affects the residents' quality of life and/or visitor experience. Overtourism occurs when visitors and locals feel that there are too many tourists in the region and that the quality of life or experience in the area has unacceptably deteriorated. Tourism should be managed and developed sustainably for visitors and residents, with the growth in tourist numbers. This is a key to overtourism (UNWTO et al., 2018: 4-5).

Many developments such as the share of Airbnb beds in the lodging industry and the density of tourism contributed to overtourism. Overtourism is due to excessive growth in the number of visitors and this growth leads to overcrowding in the region. Consequently, overtourism is related to visitor numbers (Peeters et al., 2018: 23-25).

Overtourism occurs when one or more of the destination's physical, economic, social, ecological or psychological capabilities are overwhelmed (Peeters et al., 2018: 24). Overtourism has harmful economic, social and environmental impacts on many destinations. Overtourism is related to the quality of life of residents (Damnjanovic, 2021: 94).

The negative perception of tourism may be caused by the increase in housing sales and rent prices, privatization and congestion of the public sphere, and a range of other factors related to tourism. This negative perception and dissatisfaction have existed for almost a decade. In fact, various journals, public reports and articles in the media have reported the reactions and conflicts of residents on tourism saturation, use of the term "tourismphobia" was made on July 12, 2008, first time (Milano, 2017: 28). Overtourism triggered 'tourismphobia', which is known as the hatred and rejection of tourists and also antitourism movements, that is movements that bring together all the enemies of tourism (Seraphin et al., 2019: 2).

"Tourismphobia" is a term frequently used to define overtourism in all forms of media, which is described as the lack of interaction between visitors and residents in destinations that experience overtourism (Barbhuiya, 2020: 705). Tourismphobia is associated with overtourism and

has been described as a direct consequence of the increasing development of unsustainable mass tourism practices (Peeters et al., 2018: 25).

Over the last decade, various tourism destinations, including cities, have been witnessing increasing manifestations of tourism saturation, often with criticism led by social movements. Since the middle of the last century, the excessive growth of tourism in urban centers has resulted in a situation that is called as overtourism. The concepts of tourismphobia and overtourism have emerged and these concepts are directly linked to the growth of non-sustainable mass tourism practices. Spanish media used tourismphobia to describe this event. The term tourismphobia has been used to describe social discontent in response to the pressure of tourism in the media. For the last ten years, there has been discontent with tourism saturation in Europe (Milano, 2017: 5).

The terms "overtourism" and "tourismphobia" became buzzwords in 2017 (Milano et al., 2019: 354). Overtourism has received great attention in the global media due to tensions arising from economic, environmental and social changes in many destinations. High tourist demand for major cities and destinations in 2017 led to overcrowding in certain areas and widespread media coverage of anti-tourism protests linked to tensions between local residents and destination stakeholders (Gossling et al., 2020: 1). In recent years, due to a disproportionately large influx of tourists, overtourism has become an imminent threat to those living in many popular destinations. The continuing rapid growth in the number of tourists visiting the destinations and the consequent crowding, local inflation and housing pressure issues have sparked considerable public debate on the desirability of a tourism system based on a growth model (Cheung & Li, 2019: 1198).

Sometimes, the "Venice Syndrome" term is often used to describe the phenomenon of tourism saturation and the migration of local people to the surrounding city centers. This has been caused by a large increase in the number of international tourist stays and day-trippers. Essentially, Venice was the most expensive city on the Italian peninsula in comparison with Milan and Rome and the price of housing was steadily increasing. The growing supply of vacation rental platforms like Airbnb has led to an increase in housing prices. However, the main problem was the low availability of rental apartments for residents rather than increasing housing prices (Milano, 2017: 9-11). In addition, overtourism in Venice has been including negative impacts such as the loss of the residents' sense of belonging and sense of place, traffic congestion, rising real estate, pollution, privatization of public facilities and spaces, parking problem, destruction of socio-cultural connectivity, increase of crime, harmful use

of rural, coastal and urban areas, destroying of historical areas and declining of residents' purchasing power (Seraphin et al., 2018: 375). Consequently, On June 18, 2017, No Grandi Navi, which is a social movement, organized a famous referendum in Venice to prohibit the transit of big cruise ships through the Giudecca Canal and St Mark Square. The referendum resulted in 99 per cent of voters (17.874 residents) voting to reject the ship (Peeters et al., 2018: 30).

Unlike Venice, protests in Berlin were not directed by private social movements. The general public's dissatisfaction with tourism has emerged more recently and particular with the transformation of the residential region. Following the downfall of the Berlin Wall in 1989, The city has undergone an important tourism development. More recently, it has been observed that Berlin locals are dissatisfied with the increase in congestion, noise levels and rising prices in public spaces. Over the last ten years, campaigns like "Berlin doesn't like you" have been organized. It is also possible to come across stickers and graffiti on the streets of the city that say "Yuppies Raus" (Yuppies out) and "Tourists, Raus" (Tourists out) (Milano, 2017: 19). Likewise, In January 2017, the social movement Morar em Lisbon, which moved with more than 30 local associations, condemned by writing an open letter the Lisbon economy's over-dependence on real estate speculation and tourism (Peeters et al., 2018: 30).

With the growth in tourist numbers in Europe, anti-tourism actions have begun. In recent years, to a large extent, especially in Spain and Italy, and to a lesser extent in England and Croatia anti-tourism protests have begun to stand out. Among the reasons for the increase of anti-tourism activities are the negative impact of the tourists on residents' quality of life people, the environmental sustainability of the destination is under threat and the limited contribution of tourists to the local enterprises. When tourism can not be managed properly, anti-tourism actions across Europe will rise and tourism will cause too much damage and deterioration. Local residents are more concerned about their quality of life than about tourism (Seraphin et al., 2018: 374). Recently, many cities such as Amsterdam, Barcelona, Berlin, Belfast, Dubrovnik, Hong Kong, Lisbon, Palma de Mallorca, Prague, Reykjavik, Rio de Janeiro, Santa Monica, Shanghai and Venice suffer from over-tourists (Peeters et al., 2018: 21).

3. Overtourism and residents

Overtourism can be evaluated as the growth and acceleration of tourism demand and supply of destinations, the use of natural ecological products of destinations, the destruction of destinations' cultural attractiveness and negative effects on destinations' economic and social environment (Butler & Dodds, 2022: 36, Mihalic, 2020: 1). Overtourism leads to challenges

such as reduction of tourist experience, alienated residents, overburdened infrastructure, damaged nature, or dangers to heritage and culture (Peeters et al., 2018: 21).

In general, the phenomenon of overtourism can be defined as the perception that the amount and type of tourism prevailing exceed the carrying capacity of the destinations and causes unacceptable social-cultural, economic and environmental damage to the destination (Ghaderi et al., 2022: 3). Many authors have noted that the phenomenon of overtourism refers destinations where local people and visitors, guests or hosts perceive that the region has too many tourists and that the experience or quality of life in the region is unacceptably deteriorated (Dodds & Butler, 2019: 1; Nilsson, 2020: 659; Cheung & Li, 2019: 1197).

Many authors have noted that while protests against mass tourism are not new, they have taken place in the context of many European cities, such as Spain, Italy, Malta and France, since the 1990s (Gossling et al., 2020: 1; Milano, 2017: 6; Peeters et al., 2018: 29). The high level of tourism growth in recent years has led to the breaking point of some destinations and an increase in negative attitudes towards tourism in a large part of the local population (Gossling et al., 2020:1).

Overtourism refers to residents' perception towards tourism (Gossling et al., 2020: 4). The term overtourism has been associated with the negative effects of tourism on locals' quality of life and with residents' protests towards tourists, all economic stakeholders that benefit from tourism, policymakers and the tourism industry itself. It has been claimed that overtourism may contribute to economic dependency, environmental deterioration, as well as increased socio-cultural tensions (Buades et al., 2022: 1-2).

Studies that investigate the pressure of tourism on residents discussed in the context of risks of destination saturation emerged in the 1970s. (Peeters et al., 2018: 24-25). For example, Doxey's study focuses on relationships between local residents and tourists, Butler's tourism area life cycle reflects a destination's phases from tourism development to decline, and O' Reilly's tourist carrying capacity focuses on the extent to which the destination can cope with visits (Milano et al., 2019: 353). Social carrying capacity, TALCH (Tourism Life Aerea Cycle Concept), Irrindex, and social exchange theory refers to explaining local people's attitudes towards tourism development (Mihalic, 2020: 4-5). Overtourism is related to exceeding the social carrying capacity of a tourism destination. When the social carrying capacity of the destination is exceeded, tourism's negative impacts on the local community are felt more, the quality of tourist

experience destroys and the region loses its capability to satisfy and attract more visitors (Buades et al., 2022: 2).

Overtourism is connected to the carrying capacity term, indicating that there should be a maximum limit on tourism development (Seraphin et al., 2018: 375). Carrying capacity has two dimensions as physical capacity and social-psychological capacity. Especially, social-psychological capacity is associated with local residents' interests and attitudes towards tourism as well as the attitudes and behaviours of visitors. The notion of social-psychological capacity accepts that there is a limit based on the residents' tolerance of visitors. The increase in the number of visitors can provoke resentment or hostility among residents. From the viewpoint of the visitor, huge numbers of tourists can lead to a decrease in the quality of their visiting experience (Dwyer & Edwards, 2010: 25).

The strife that has arisen in response to overtourism can often be explained by Doxey's Irridex (Irridex) (1975). "Irritation" and "antagonism" phases of this model have become similar to "tourismphobia", which is a term that describes the antagonistic relationship and heightened tensions between the local host population and tourists (Duignan et al., 2022: 3). The idea that over-visiting and over-development in a region will be concluded in negative attitudes against tourists is summarized by Doxey (1975) in an "irridex" (irritation index), which suggests that as the number of tourists increases, local people attitudes move through certain phases that change from positive attitudes to apathy, then from irritation to antagonism (Butler, 2019: 76). (Butler, 2019: 76). Doxey was one of the first to focus on the basic tolerance of local people to tourism by examining the degree of disturbance caused by tourists, and identified four phases of residents' attitudes: euphoria, apathy, annoyance, antagonism (Namberger et al., 2019: 456). In all these cases, the social effects of overtourism jeopardize visitor-resident relationships, as depicted in Doxey's (1975) Irritation Index (or "Irridex") model. The model proposes a relationship in which a community goes through a predictable sequence of responses to tourism as the effects of tourism increase, including a range of phases from euphoria to apathy and irritation to antagonism (Cheung & Li, 2019: 1197- 1199). These stages range from being positive towards tourists to a feeling of indifference, then moving from irritation to antagonism, and perhaps eventually taking action to prevent further development (Butler, 2019: 76). However, when tourism is not accepted by hosts, there is also antagonism towards tourists, as Doxey (1975) noted, which can lead to conflicts and protests by host community (Guizi et al., 2020: 217). (Mihalic, 2020: 7). Avoidance of tourism" or "rejection" of tourism results from the adverse effects of tourism development. From the point of view of the local people, anti-tourism

begins after carrying capacity is reached and residents' quality of life perception begins to decline. Satisfaction of residents concerning the growth of tourism in terms of impacts and visits convert to irritation and dissatisfaction and this causes them to oppose tourism development, projects or existence

Also, Butler's Tourism Lifecycle Model (1980) serve that is a useful framework for understanding changing resident attitudes amid increasing numbers of tourists at a destination (Cheung & Li, 2019: 1200). Tourists may be receptive or welcomed initially by the local community because of the revenues to locals. However, as the number of visitors increases, local people can feel that their life quality is threatened and they may be less welcoming to visitors (Peeters et al., 2018: 30). When a tourism destination reaches large numbers of tourists and compassing high levels of development in the life cycle, it leads to the likelihood of antagonism to tourists and tourism itself, especially when this development is beyond local carrying capacity that entails dangers for social, economic and environmental sustainability. Consequently, this circumstance requires actions to control and decrease negative impacts (Guizi et al., 2020: 217).

Overtourism has adverse effects on the quality of life of local communities as well as the quality of visitors' experience. The most widely discussed impacts of overtourism are social impacts, focusing on the deterioration of residents' quality of life, a possible increase in rudeness, crime rates and disturbances (at night, among others). In addition, overtourism can have visibly negative environmental impacts in a short period of time, particularly through the degradation of environments and ecosystems, and the overuse of infrastructures and resources (Khomsii et al., 2020: 874).

Overtourism situation is the end of a process of change that can be associated with social and political, cultural, economic or environmental issues and threatens sustainability. In terms of social change, overtourism may involve feelings of exposure to antisocial behaviour or disregard for one's own traditions. In terms of economic change, overtourism can cause problems such as rising housing or food prices, increased waiting times in shops and restaurants, or associated traffic jams. In terms of environmental change, excessive tourism can cause increased air pollution from traffic. Interruption of public services (such as bus and train networks), crowded public spaces, expensive and under-capacity parking lots, and overflowing garbage can create a distressing situation for locals trying to get on with their lives (Duignan et al., 2022: 3). Overtourism cause that too many tourists in one place, tourist bullying and crowding, other inappropriate behaviour, hostility between tourists and local residents, pressures on

infrastructure, loss of authenticity, loss of comfort and decrease in entertainment, residents' quality of life and less enjoyment of tourists' experiences (Dodds & Butler, 2019: 1).

4. Conclusion

In recent years, the phenomenon of overtourism has emerged as a phenomenon that affects the destinations and jeopardizes the quality of life of the local people living in the destinations. Overtourism has some economic, environmental and social negative effects on destinations. The hospitality of tourists in numbers exceeding the carrying capacity of the destinations has led to the emergence of tourismphobia in the local people living in the destinations, causing many anti-tourism protests called tourismphobia.

Overtourism occurs as a result of mismanagement of destinations, poor tourism planning and lack of coordination between destination organizations. To eliminate the over-tourism problem in the destinations and to increase the welfare of the local people living in the destinations, it is necessary to manage the negative effects of tourism in the region well. In particular, local governments should periodically evaluate the views and perceptions of local people living in the region about tourism, listen to suggestions and complaints, strengthen the infrastructure of the destination and make more efforts to overcome issues such as noise, traffic congestion and waste management.

Local government decisions regarding licenses to be issued for tourist accommodations such as hotels and resorts may affect the number of tourists visiting the region. Tourism investments should be distributed evenly throughout the region. Apart from the summer months when overtourism occurs, different alternative tourism types can be developed to extend the tourism season and the tourism products can be diversified and the destination can be extended to all. In addition, the quality of tourists coming to the regions can be increased. High-income tourists who are respectful to the region and the people of the region can be encouraged to come to the region. Local governments can set new laws regarding tourism (for example, policies that prioritize certain hours to reduce noise in nightclubs, etc.). In addition, residents of the region should be encouraged to participate in destination management issues. Laws can be enacted to prevent tourist accommodation facilities such as Airbnb, and authorities can be created to complain about touristic agencies. In addition, residents of the region should be encouraged to participate in destination management issues.

Different and dynamic pricing options, determined according to different times of the day, can be used to deter people from visiting attractions during peak tourism seasons. To avoid congestion at city attractions, it can be necessary to determine the maximum numbers, adjust the timing and tourists must make reservations in advance. Measures should be taken to prevent the widespread and uncontrolled conversion of residential properties into holiday homes, and restrictive laws should be introduced in this regard. Visitor centers can be used benefit from technology related to the carrying capacity issues. With technology, visitors can be directed to secluded places and new visitor routes can be created. To prevent hostility towards tourists, privileged practices can be made between local people and tourists. For example, entrances such as museums and ruins can be offered to local people at different rates and cheaper. City tours organized by travel agencies can be diversified and thus, the density that will occur in the city can be prevented. By offering tourists to visit lesser-known spots and routes within the city, the spread of tourists throughout the city can be prevented. Tourists may be offered new and different routes to see. More local people can be employed in tourism so that local communities can benefit more from tourism.

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CHAPTER VIII

RANSOMWARE HIDING USING STEGANOGRAPHY AND CRYPTOGRAPHY AND OBFUSCATION TECHNIQUES

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1. Introduction

On a daily basis, people examine files, open email attachments, and surf websites; seemingly ordinary activities in every office or on every personal computer can unexpectedly become a ransomware incident in the case of a file, attachment, or banner ad developed to prevent your access to any files or documents stored on the victim system, such as database records, system files, security files, applications, customer data, and all other critical data. What was once a rare occurrence today affecting a broad spectrum of networks, including governments, small enterprises, and large corporations (EC-Council, 2016). To protect your data from ransomware, some organizations nowadays use email inspectors, antivirus based on machine learning, and tools with sandbox analysis features; therefore, to remain under the radar, the ransomware developer wants to ensure that the payload remains stealthy and undetectable by any detection tools neither during transmission nor execution. Based on this, to secure the communication we rely heavily on cryptography and steganography techniques. The purpose of cryptography is to transform data (Plaintext) into an unreadable form (ciphertext) using a secret key, and only parties with the decryption key can retrieve the plaintext (Van Oorschot, 2021). While steganography conceals the presence of the data from unauthorized entities (i.e., keeping the existence of data secret) (Asad et al., 2011). Hence, steganography and cryptography achieve the same goal of data confidentiality via different means. In this article, our purpose is to use such techniques to show enough as there are tools that can detect

steganography; hence, retrieving the embedded payload will be possible; thus, to avoid such detection, we use cryptography, so that the retrieved payload will not be decrypted without having the secret key. Nevertheless, detection risk remains once the payload is decrypted, so we use payload obfuscation before encryption and embedding the ransomware into an audio file to defeat detection by signature-based antivirus (Venkatesan, 2008).

The structure of this article is as follows; the work is briefly explained in Section 3. Then, Section 4 goes into the outcomes and the evaluation review. Section 4 includes the conclusions. The final section encloses recommendations for future work.

How it aids the adversary in managing his attack covertly. Steganography will help in hiding the presence of the embedded payload; however, steganography alone won't be.

2. Literature survey

In this section, we explain examples of earlier studies that tackled on this subject. Patel et. al. (2013) and Jayaram et al. (2011) have developed a two-level data security system. The Blowfish technique is used to encrypt the secret text, and then LSB encoding is used to embed it into an image. The solution proposed (Khan et al., 2011) involves first encrypting the secret data with the AES algorithm. Following that, encrypted data is embedded into an audio file. Prior to sending the audio file over the network, the authors use the Spread Spectrum method to encrypt it. Almomani et al. (2021) proposed LSB steganographic method to hide the novel ransomware using HEVC video. However, the technique discussed in Almomani et al. (2021) is helpful for new ransomware or when the anti-virus cannot detect steganography as Kulkarni & Gorkar (2020) proposed. Suttichaiya et al. (2017) discussed how the use of encryption before embedding the payload can empower the ransomware. Additionally, Trappe (2006) shows that since video files contain both images and sounds, takes a substantially larger size than audio files. Finally, in LSB technique as many as we have bits in the payload, we should have at least half-frames size in case of 16-bit frame size; otherwise, the hidden payload will be corrupted. Consequently, if the binary representation of the payload is long, more frames are required to hide our payload, hence, will affect the video size. Based on the above, encrypting the payload before the hiding works against steganalysis and minimize detection probability, as well as the use of audio over the video will reduce the size (Figure 1).

Considering all discussions above in this work, we use the audio file to conceal the encrypted obfuscated ransomware.

3. Implementation

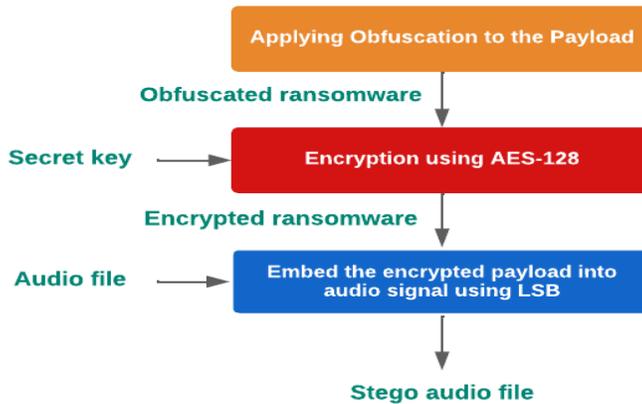


Figure 1. Implementation process Trappe (2006)

Encoding Algorithm and Decoding Algorithm

Encoding Algorithm

1. Choose APK to be embedded.
2. Apply payload obfuscation technique using Lexical transformations
3. Encrypt the obfuscated payload using AES-128.
4. Using ASCII table convert the results of the previous step to its binary representation.
5. Read the selected WAV audio file as cover file.
6. Embed the converted result of the 4th step into the selected WAV file using LSB algorithm.

Decoding Algorithm

1. Read the stego file.
2. Extract the ransomware using LSB.
3. Using ASCII table convert the results of the previous step to text.
4. Decrypt the extracted payload using the secret key.

3.1. First phase: Payload Obfuscation Technique

Payload obfuscation is an evasion technique used for concealing the payload from ransomware analysts and reverse-engineering so it can hide its activities. Since we are using cryptography to encrypt the payload before hiding it in the audio file, the payload must be extracted and decrypted before execution, which would reveal its statistic body and

expose the detection risk of the ransomware during its dormancy period. Using XOR Obfuscation, we render our payload into an unreadable format that is difficult for humans to grasp while preserving the functionality of the written payload (Canfora et al., 2015).

3.1.1. XOR Obfuscation

We perform XOR binary operations with a “key” selected as a 1-byte value (The possible key values range from 0 to 255 (in decimal)), in which every byte of the malicious code is then XORed with the chosen key (Kissel, 2005).

3.2. Second Phase: AES-128 Algorithm

“It seems very simple.”

“It is very simple. But if you don’t know what the key is it’s virtually indecipherable.”

Talking to Strange Men, Ruth Rendell

In this phase, after payload obfuscation, we encrypt the obfuscated payload using the Advanced Encryption Standard (AES). AES is a block cipher, that works with an irreducible polynomial of degree 8 $m(x) = x^8 + x^4 + x^3 + x + 1$. The AES algorithm can encrypt and decrypt data in blocks of 128-bits using different options for key size 128, 192, or 256-bit with 10, 12, 14 rounds, respectively.

In our case, we will be using the 128-bit key size in which the encryption consists of 10 rounds. All rounds consist of 4 transformations (ByteSub, shiftRows, MixColumns, AddRoundKey) except the final round consists only of 3 transformations (ByteSub, shiftRows, AddRoundKey), as shown in Figure 2, each transformation takes one or more 4x4 matrices as an input and produce 4x4 matrix as an output. All operations in the algorithm are on 8 bits. Which makes the performance of the algorithm better for different types of platforms (Stallings, 2006).

3.2.1. The Layers

Each block of size 128-bits are grouped into 16 bytes of 8 bits each and arranged into 4x4 matrix.

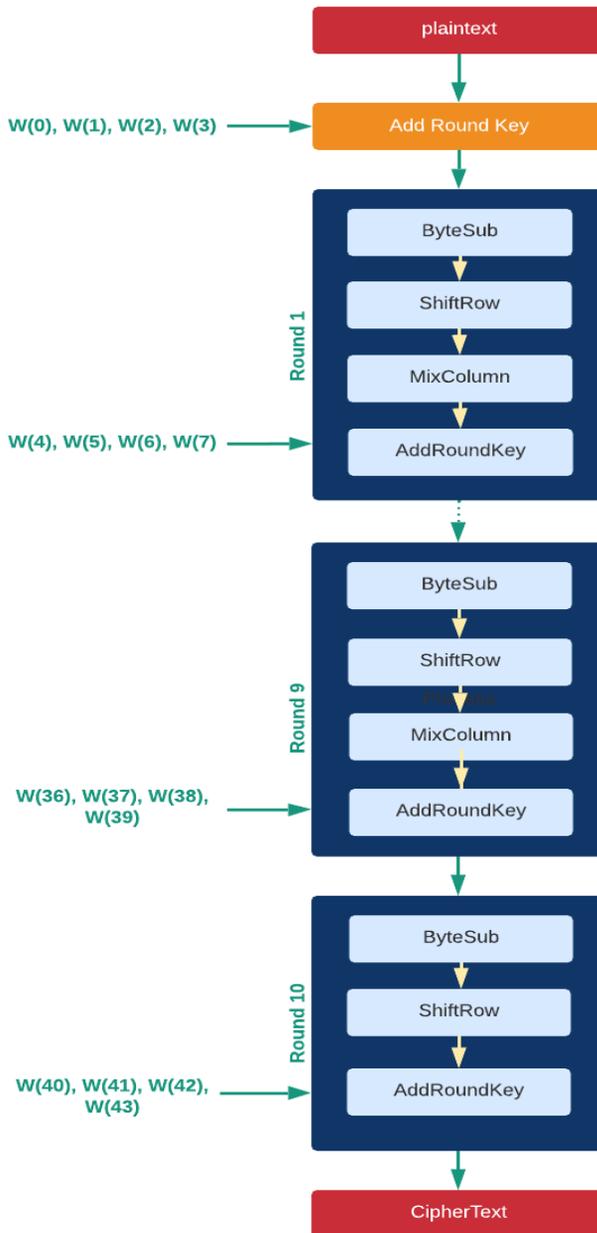


Figure 2. AES-128 Algorithm (Stallings, 2006)

The ByteSub Transformation: This is a non-linear layer that used to resist the cryptanalysis and differential attacks. It consists of 16x16 matrix

called S-BOX used as lookup table to change each given byte to another byte.

For example, if the input byte is 10100011, from S-BOX table we look to row number 1010 (the tenth row) and 0011 column (the third column), the result is 10 which equal to 1010 in binary.

The output of byteSub is 4x4 matrix like the follows:

$$\begin{pmatrix} b_{0,0} & b_{0,1} & b_{0,2} & b_{0,3} \\ b_{1,0} & b_{1,1} & b_{1,2} & b_{1,3} \\ b_{2,0} & b_{2,1} & b_{2,2} & b_{2,3} \\ b_{3,0} & b_{3,1} & b_{3,2} & b_{3,3} \end{pmatrix}$$

The shiftRow Transformation: This is a linear mixing layer used to scramble the bits over rounds.

Shift the previously obtained matrix circularly to the left by offsets of 0, 1, 2, and 3, to become

$$\begin{pmatrix} b_{0,0} & b_{0,1} & b_{0,2} & b_{0,3} \\ b_{1,1} & b_{1,2} & b_{1,2} & b_{1,0} \\ b_{2,2} & b_{2,3} & b_{2,0} & b_{2,1} \\ b_{3,3} & b_{3,0} & b_{3,1} & b_{3,2} \end{pmatrix}$$

The MixColumn Transformation: This layer also has a similar purpose as shiftRow layer.

Multiply the matrix above with a 4x4 matrix that have entries in GF(28) as follows:

$$\begin{pmatrix} 010 & 011 & 001 & 001 \\ 001 & 010 & 011 & 001 \\ 001 & 001 & 010 & 011 \\ 011 & 001 & 001 & 010 \end{pmatrix} \begin{pmatrix} b_{0,0} & b_{0,1} & b_{0,2} & b_{0,3} \\ b_{1,1} & b_{1,2} & b_{1,2} & b_{1,0} \\ b_{2,2} & b_{2,3} & b_{2,0} & b_{2,1} \\ b_{3,3} & b_{3,0} & b_{3,1} & b_{3,2} \end{pmatrix}$$

$$= \begin{pmatrix} d_{0,0} & d_{0,1} & d_{0,2} & d_{0,3} \\ d_{1,0} & d_{1,1} & d_{1,2} & d_{1,3} \\ d_{2,0} & d_{2,1} & d_{2,2} & d_{2,3} \\ d_{3,0} & d_{3,1} & d_{3,2} & d_{3,3} \end{pmatrix}$$

The RoundKey Addition: The round key is XORed with the result of the previous layer.

$$\begin{pmatrix} d_{0,0} & d_{0,1} & d_{0,2} & d_{0,3} \\ d_{1,0} & d_{1,1} & d_{1,2} & d_{1,3} \\ d_{2,0} & d_{2,1} & d_{2,2} & d_{2,3} \\ d_{3,0} & d_{3,1} & d_{3,2} & d_{3,3} \end{pmatrix} \oplus \begin{pmatrix} k_{0,0} & k_{0,1} & k_{0,2} & k_{0,3} \\ k_{1,0} & k_{1,1} & k_{1,2} & k_{1,3} \\ k_{2,0} & k_{2,1} & k_{2,2} & k_{2,3} \\ k_{3,0} & k_{3,1} & k_{3,2} & k_{3,3} \end{pmatrix}$$

$$= \begin{pmatrix} e_{0,0} & e_{0,1} & e_{0,2} & e_{0,3} \\ e_{1,0} & e_{1,1} & e_{1,2} & e_{1,3} \\ e_{2,0} & e_{2,1} & e_{2,2} & e_{2,3} \\ e_{3,0} & e_{3,1} & e_{3,2} & e_{3,3} \end{pmatrix}$$

The obtained result is the output of this round.

3.3. Third Phase: Audio Steganography Using LSB Coding

In this phase, we use Least Significant Bit (LSB) to conceal the existence of the encrypted payload (C) into a cover audio file “.WAV”. Among different data concealing techniques, LSB considered as a simple technique that produce noise free audio (Sinha et al., 2015).

In this proposed technique, we use ASCII¹ to convert each character of the encrypted payload to its binary correspondent afterwards, each bit replaces the last bit of an audio frame. Thereby, to hide 8 bits, 8 consecutive audio frames are needed (Pitale et al., 2015).

¹ ASCII is an acronym for American Standard Code for Information Interchange. Used to convert any text into the binary format.

For example, to hide the letter `E` we should convert it first to its binary representation using ASCII table ie`01100101` and then using LSB we can embed as follow:

Before embedding:

```
10001000 01011100 10001100
11101110 10100001 11000011
10101100 10101010
```

After embedding using LSB method:

```
10001000 01011101 10001101
11101110 10100000 11000011
10101100 10101011
```

4. Result Evaluation

This section demonstrates the waveforms of the cover and the stego audio files. To test the adequacy and efficiency of the algorithm and to evaluate the audio quality.

The figures (3.1, 3.2, 3.3, 3.4, 3.5, 3.6) shown below, presents the outcomes for different frames of the audio and the difference between the signals in the cover and stego audios.

4.1. Sound analyzing

Specifications of the Audio File

Type of file	WAV File (.wav)
Size	29.1 MB
Length	00:2:39

Waveforms of the original audio

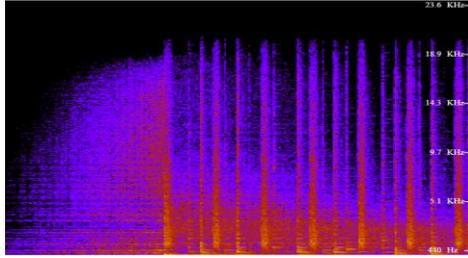


Figure 3.1 - original audio frequencies

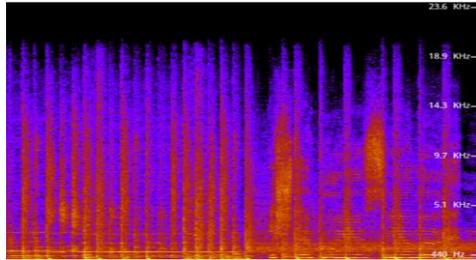


Figure 3.2 - original audio frequencies

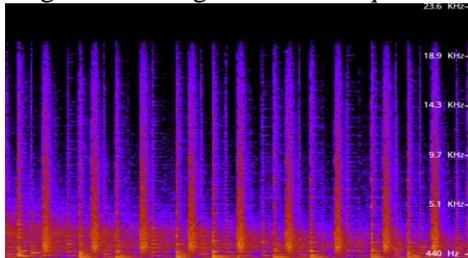


Figure 3.3 - original audio frequencies

Waveforms of the setgo audio

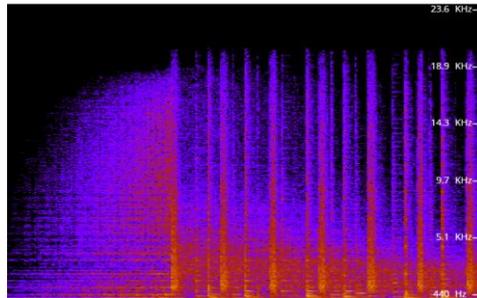


Figure 3.4 - stego audio frequencies

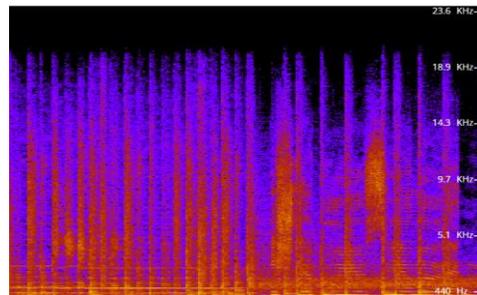


Figure 3.5 - stego audio frequencies

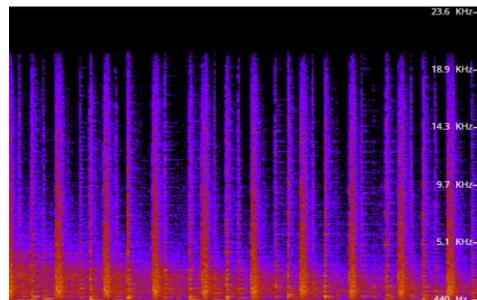


Figure 3.6 - stego audio frequencies

With the lack of difference between the original audio and the stego audio, we prove that it is almost noise-free in the stego audio file.

4.2. Testing anti-virus software

Because it is undesirable to send out real viruses for testing or demonstration purposes, we used the EICAR test, which is securely shared and manifestly non-viral. Still, at the same time, anti-virus software will treat it as if it were a virus. On the other hand, EICAR is a standard anti-

virus test used to ensure that your anti-malware is working probably, and is detectable by all anti-malware products.

In this section, we will demonstrate how anti-malware cannot detect even the EICAR test after using the outlined techniques.

We used in our test two tools; ESET endpoint security and windows defender. The results are as follows (Figure 4.1, 4.2, 5.1, 5.2):

Before hiding the EICAR test file inside an audio using steganography and cryptography and obfuscation techniques:

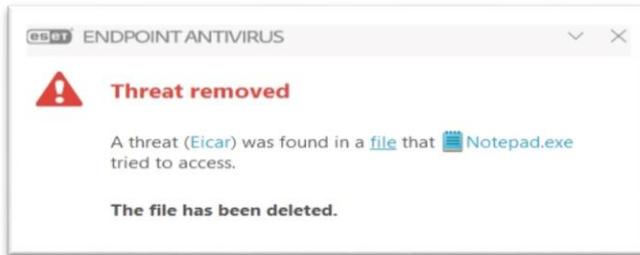


Figure 4.1. Threat detection by ESET

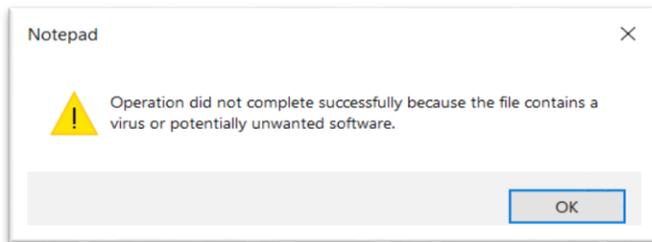


Figure 4.2 Threat detection by Windows Defender

❖ **After hiding the EICAR test file inside an audio using steganography and cryptography and obfuscation techniques:**

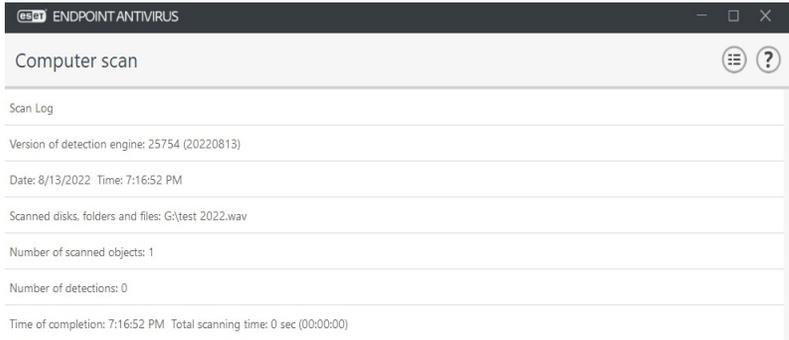


Figure 5.1. No threat detected by ESET

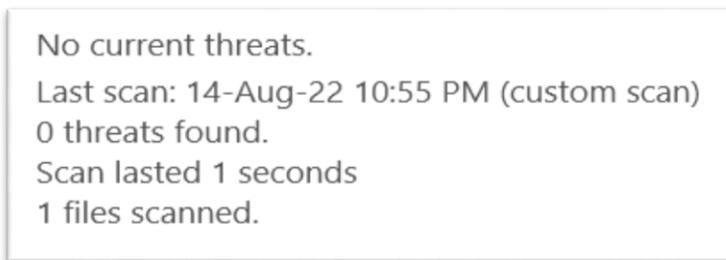


Figure 5.2. No threat detected by Windows Defender

As it can be seen, both engines have detected the EICAR test file before applying the demonstrated techniques, whereas both engines could not detect it.

5. Summery

In this study, our focus is to highlight the adverse use of cryptography, steganography, and obfuscation, by making changes to the payload so it will be unreadable by humans, not analyzable by reverse-engineers, and not detectable by NGAV, EDR, EPP, and other tools. Using XOR to obfuscate the payload, after that encrypting the obfuscated code using AES-128, and lastly, embedding the encrypted file into the WAV sound. We aim in this article to show the efforts used by attackers to achieve what they intend and how they can benefit from the algorithms and techniques proposed. Even though the proposed technologies are easy to use but still difficult to detect, thus, the more that you know about their features and functionalities, the more ahead we will be in the game.

6. Future work

As a part of future work, we may provide more secure obfuscation algorithm to be employed for payload. Further, different steganographic techniques can also be used.

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CHAPTER IX
THE ORIGIN OF THE ETHNONYM UIGHUR [UYGHUR]

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1.Introduction

The Uighurs are a Turkic speaking tribe which played an important role in Eurasian history in Medieval age. One of the most striking problems regarding this community is the fact that the ethnonym Uighur has not hitherto been explained in spite of all linguistic endeavours. Clauson says that the Uighur had never any of the etymological meanings which have been attributed (Clauson, 1963:146).

In this paper I will not present a list of etymological works about the naming of the mentioned community because all attempts made in order to clarify true meaning of this ethnonym have been unsuccessful and are far away from being convincing. I will suggest a very simple solution to this unclarified matter. The following explanation about the mentioned ethnonym takes its inspiration from an historical source.

The Chinese source named Kiu Wu Tai, which was completed in 974 AD, describes the Uighur tribe name as “the one wandering around and attacking with the speed of a **Hawk**” and the Uighurs were asked to call themselves as “**Huigu/Huihu**” 回鹘 meaning “**hawk**” by an Uighur Khan through messengers sent to Tang palace from the Chinese authorities (Malyavkin, 130:42; Skaff, 2012: 130; Mackerras, 1972: 72, 108). The naming “**Huigu/Huihu**” allows us to reconstruct the mentioned ethnonym as Huigur/Huihur because there is no letter /-r/ in Chinese.

Such an explanation which occurs in the Chinese source did not come to linguists’ notice but as will be seen below, the clarification of the ethnonym Uighur lies in the statement mentioned above.

Here, it should also be pointed out that Doerfer established the original form of the same tribe name as *Huyğur* (Doerfer, 1995:6) by taking into account the derivation of the consonant *-h* at the beginning of the pre Turkic word in the Khalaj dialect as one of the oldest Turkic characteristics

and the *Ho-yo-hor* (Venturi, 2008:324; Mariyasu, 2015:324) form of the same tribe name found in an old Tibetan source. Doerfer's reconstruction supported by the Chinese source mentioned above reflects an historical truth.

The ethnonym Huyğur we could take as its original form is nothing but the word *кӑйкӑр* preserved with the “hawk” meaning in Chuvash. Both Yegorov and Fedotov have associated this word in Chuvash with the word *кыигыр* “*Falco Subbuteo*” in Bashkir (Yegorov, 1964:97, Eren, 1982:33, Fedotov, 1996:248, Özşahin, 2017:391).

In Kyrgyz there is another word related to the words in Chuvash and Bashkir. This is the word *kiykuu* which means “mimicking the sound of a crane” (Yudahin, 1998:468). The root of the word is obviously word *küy* (Dizdaroglu, 1969:43, Gazimihâl, 1961:144) which means “sound, music, harmony and mode” found amongst the Turkic dialects with the forms *kök*, *köğ*, *küğ*, *kü*, etc. The word seems to derive from imitating the hawk's voice. Indeed, the presence of the word *kygılık* “lapwing” (Ryumina-Sırkaşeva, etc., 2000:57) derived from the word *kygy* “scream, outcry” in Teleut dialect and the words *gygy* and *gygyı* (Sarı, 2014:38) which mean the violin in Turkish that seems to derive from this root also confirm this claim. In Kyrgyz there is the word *kyak* “violin” derived from the same root. It can easily be said that the origins of the word Uighur have survived even today in German with the word *geige* “violin”. In Turkish this word (*kygy/gygy*) is also found as *haykırmak* (“to scream”) and its imperative mode is *haykır* “scream”. This Turkish word has an equivalent in today's English. The equivalent of the word *hawk* having the same meaning in the Old Norse language is *haukr* (Klein, 1966:709, Wedgwood, 1872:337). Icelandic *haukur* and Faroese *heykur* in the meaning of hawk must be added to this list. Their relationship with the forms *кӑйкӑр/кыигыр* is obvious. The similarity of the forms *haukr*, *haukur* and *heykur* with the form *haykır* in Turkish is also obvious.

Benkő relates that the absolute root of Hungarian word *hegedü* meaning “violin” is not known (Benkő, 1993:542). *Hegedü* should be connected to Turkic words. The letter *d-* in Old Turkic turns into *-r* in Chuvash. Earlier form of *hegedü* may be reconstructed as *hegerü* which resembles Turkic and Germanic words carrying the meaning of hawk”. It may be a Turkic borrowing in Hungarian.

In addition to the words *кӑйкӑр* and *кыигыр*, it should be said that there is another word, which matches with *Huigu* both semantically and also phonetically, in Kyrgyz. It is *küykö* meaning “a kind of hawk” [*Falco Tinnuncilus*] (Yudahin, 1998:544, Ögel, 2014:398). *Küykö* is identical with *кайак*, another word meaning “hawk” in Chuvash. The scholars who

prepared the *Etymological Dictionary of Altaic Languages* reconstruct Proto-Turkic root of the words meaning “hawk” in Turkic dialects as **göjke* “kestrel, windhover, hawk (pustel'ga, yastreb)” (Starostin, etc., 2003:552). Kүйкө stands close to **göjke*.

Phonetic and semantic similarity between күйкө/кайак and hawk is clear. The following list presented in relation to hawk in the Germanic and Finno-Ugric dialects points to the fact that those namings are the same as Turkic ones.

West Frisian *hawk*, Dutch *havik*, Danish *høg*, Swedish *hök* Norwegian . *hawk*, Low German *haavk/hoovk*, Votic *haukka*, Hungarian *héja*, Finnish *haukka*, Estonian *haugas*, Veps *habuk*, Livvi *haukku* and etc.

2. Conclusion

Now we can make an inference about this ethnonym by looking at all explanations above and anymore we can easily say that this tribal name carries the meaning of hawk semantically. The original form of the ethnonym Uighur was *huygur* or *kuygur*. Initial –h/k dropped in time and the present-day form of the naming Uighur/Uyghur appeared. To sum up, the ethnonym Uighur is the naming which seems to derive from imitating the hawk's voice and means “hawk”. And the root of this ethonym was *kuy/küy*.

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