

# RESEARCHES ON MULTIDISCIPLINARY APPROACHES

MULTIDISIPLINER AKADEMİK YAKLAŞIM ARAŞTIRMALARI

 October 2024
 Ekim 2024

 Vol: 4
 Cilt: 4

 Issue: 2
 Sayı: 2

ISSN:2791-9099

# ROMAYA JOURNAL ROMAYA DERGİSİ

# RESEARCHES ON MULTIDISCIPLINARY APPROACHES

MULTİDİSİPLİNER AKADEMİK YAKLAŞIM ARAŞTIRMALARI

October 2024	Vol: 4	Issue: 2
Ekim 2024	Cilt: 4	Sayı: 2

Romaya Journal; It is a peer-reviewed journal that publishes in multidisciplinary fields twice a year.

Romaya Dergisi; yılda iki kez multidisipliner alanlarda yayın yapan hakemli bir dergidir.

Dil: İngilizce Language: English

Founder and Publisher / Kurucu ve Yayımcı

Asst. Prof. Dr. Ebru Bağçı Istanbul Beykent University

# Managing Editor / Yazı İşleri

Eda Baltacı

Aydın Adnan Menderes University

Elif Ekinci

Bursa Uludağ University

Layout / Mizanpaj

Asst. Prof. Dr. Ece Ersoy Yılan Istanbul Beykent University

Chief Editor / Baş Editör

Asst. Prof. Dr. Gerçek Özparlak Nottingham Trent University

Editors / Editörler

Assoc. Prof. Dr. Oğuz Doğan Antalya Bilim University

Asst. Prof. Dr. Burcu Arisoy Istanbul Beykent University

Asst. Prof. Dr. Cihan Yılmaz Doğuş University

Asst. Prof. Dr. Figen Sevinç Başol Bartın University

#### Editorial Board / Yayın Kurulu

**Prof. Dr. Atilla Yüksel**Aydın Adnan Menderes University

**Prof. Dr. Berrin Güzel** Aydın Adnan Menderes University

> Prof. Dr. Emrah Özkul Kocaeli University

**Prof. Dr. Hüseyin Çeken** Muğla Sıtkı Koçman University

Prof. Dr. İbrahim Halil Cankul Istanbul Arel University

Prof.Dr. Syed Azharuddin Dr. Babasaheb Ambedkar Marathawada University

Assoc. Prof. Dr. Aziz Bostan Aydın Adnan Menderes University

Assoc. Prof. Dr. Ceren İşçi Manisa Celal Bayar University

Assoc. Prof. Dr. Galip Afşin Ravanoğlu Karamanoğlu Mehmetbey University

> Assoc. Prof. Dr. Oğuz Doğan Antalya Bilim University

Assoc. Prof. Dr. Taner Dalgın Muğla Sıtkı Koçman University

Assoc. Prof. Dr. Yunus Topsakal University of Massachusetts Amherst

Dr. Cavadxan Yusif Oğlu Qasimov Naxçıvan Dövlet University

> **Dr. Devesh Nigam** Bundelkhand University

**Dr. Rena Sultanova** Azerbaijan State University

Asst. Prof. Dr. Sinem Sipahioğlu Kara Bilecik Şeyh Edebali University

#### Contact / İletişim

Researches on Multidisiplinary Approaches

Email: info@romayajournal.com

ISSN: 2791-9099

#### **REFEREES IN THIS ISSUE BU SAYININ HAKEMLERİ**

Güler Sağlam Arı

Prof. Dr., Ankara Hacı Bayram Veli University, Türkiye Assoc. Prof. Dr. Selçuk University, Türkiye

İbrahim Halil Cankul

Prof. Dr., Istanbul Arel University, Türkiye

Kamil Yağcı

Prof. Dr., Pamukkale University, Türkiye

Mehmet Baş

Prof. Dr., Ankara Hacı Bayram Veli University, Türkiye

Mehmet Metin Artukoğlu

Prof. Dr., Ege University, Türkiye

Muhammed Cüneyd Günay

Prof. Dr., Eskişehir Osmangazi University, Türkiye

Müge Davran Kantar

Prof. Dr., Çukurova University, Türkiye

Selçuk Kendirli

Prof. Dr., Hitit University, Türkiye

Serhat Harman

Prof. Dr., Mardin Artuklu University, Türkiye

Şükrü Alp Baray

Prof. Dr., Istanbul Health and Technology University, Türkiye

Ali Ülvi Özbey

Assoc. Prof. Dr., Bitlis Eren University, Türkiye

Atilla Yücel

Assoc. Prof. Dr., Fırat University, Türkiye

Duygu Yetgin Akgün

Assoc. Prof. Dr., Anadolu University, Türkiye

Ersin Namlı

Assoc. Prof. Dr. Istanbul University-Cerrahpaşa, Türkiye

Esen Şahin

Esra Varol

Assoc. Prof. Dr. Niğde Ömer Halisdemir University, Türkiye

Gülay Özdemir Yılmaz

Assoc. Prof. Dr. Balıkesir University, Türkiye

Gülsel Çiftçi

Assoc. Prof. Dr., Trakya University, Türkiye

İbrahim Karataş

Assoc. Prof. Dr., Independent Researcher, Türkiye

Kudbeddin Şeker

Assoc. Prof. Dr., Kütahya Dumlupınar University, Türkiye

Levent Karadağ

Assoc. Prof. Dr., Muğla Sıtkı Kocman University, Türkiye

Mine Ceranoğlu Terece

Assoc. Prof. Dr., Çukurova University, Türkiye

Nihat Demirtas

Assoc. Prof. Dr., İskenderun Technical University, Türkiye

Osman Özdemir

Assoc. Prof. Dr., Şırnak University, Türkiye

Ozan Güler

Assoc. Prof. Dr., Mersin University, Türkiye

Şaban Karqiqlioğlu

Assoc. Prof. Dr., Muğla Sıtkı Koçman University, Türkiye

Taner Dalgın

Assoc. Prof. Dr., Muğla University, Türkiye

#### REFEREES IN THIS ISSUE BU SAYININ HAKEMLERİ

Tarık Küçükdeniz

Assoc. Prof. Dr., Istanbul University-Cerrahpaşa, Türkiye

Tuncay Özcan

Assoc. Prof. Dr., Istanbul Technical University, Türkiye

Vedat Yiğitoğlu

Assoc. Prof. Dr., Çukurova University, Türkiye

Volkan Genç

Assoc. Prof. Dr., Batman University, Türkiye

Yunus Topsakal

Assoc. Prof. Dr. Massachusetts Amherst University, USA

Abdullah Türk

Asst. Prof. Dr., Istanbul Bilgi University, Türkiye

Beyhan Pamuk

Asst. Prof. Dr., Uşak University, Türkiye

Doruk Ayberkin

Asst. Prof. Dr., Bayburt University, Türkiye

Gül Nihan Güven Yeşildağ

Asst. Prof. Dr., Istanbul Beykent University, Türkiye

Hıdır Tok

Asst. Prof. Dr., Istanbul Beykent University, Türkiye

Mehtap Erdoğan

Asst. Prof. Dr., Istanbul Beykent University, Türkiye

Mertcan Sakiyan

Asst. Prof. Dr., Istanbul Beykent University, Türkiye

Muhammed Fatih Cevher

Asst. Prof. Dr., Munzur University, Türkiye

Olcay Ölçen

Asst. Prof. Dr., Istanbul Nisantasi University, Türkiye

Ömer Erdoğan

Asst. Prof. Dr., Kastamonu University, Türkiye

Recep Şehitoğlu

Asst. Prof. Dr., Gaziantep University, Türkiye

Reyhan Başaran

Asst. Prof. Dr., Istanbul Kent University, Türkiye

Seyil Najimudinova

Asst. Prof. Dr., Kyrgyzstan-Turkey Manas University, Kırgızistan

Sultan Dedik Göçer

Asst. Prof. Dr., Kocaeli University, Türkiye

Utku Ongun

Asst. Prof. Dr., Burdur Mehmet Akif Ersoy University, Türkiye

Yeliz Akçay

Asst. Prof. Dr., Istanbul Beykent University, Türkiye

Khushboo Jha

Dr., Toronto Metropolitan University, Canada

Kağan Çağrı Karaca

Lect. Dr., Dokuz Eylül University, Türkiye

Merve Aycan

Lect. Dr., Istanbul Arel University, Türkiye

Umur Batak

Res. Asst. Dr., Kütahya Health Sciences University, Türkiye

# **İÇİNDEKİLER**CONTENTS

		CONTENTS
pp. 1-11		Aykut Karakuş / Halis Ayhan Türkiye-European Union Relations In The Framework Of Common Foreign and Security Policy: Identity and Security Ortak Dış ve Güvenlik Politikası Çerçevesinde Türkiye-Avrupa Birliği İlişkileri: Kimlik ve Güvenlik
	pp. 12-22	Sibel Bilkay The Mediating Role of Career Satisfaction in the Impact of Person-Organization Fit on Cyberloafing Kişi-Örgüt Uyumunun Sanal Kaytarmaya Etkisinde Kariyer Tatmininin Aracı Rolü
pp. 23-34		Nisa Nur Duman / Şerife Gülcü Yıldız The Approach Of Supply And Demand Parties To Second-Hand Clothing In The Context Of Ethical Fashion Etik Moda Bağlamında İkinci El Giysiye Arz-Talep Taraflarının Yaklaşımı
	pp. 35-46	Çağdaş Aydın From Ancient Paths to Modern Discoveries: The Backpacker Tourism Experience on the Lycian Way Antik Patikalardan Modern Keşiflere: Likya Yolu'nda Sırt Çantalı Turizm Deneyimi
pp. 47-56		Şimal Çelikkol / Nazife Orhan Şimşek / Özgür Aslan SWOT Analysis of Digital Marketing in Turkey Türkiye'de Dijital Pazarlama Uygulamalarının SWOT Analizi
	pp. 57-68	Sibel Önçel / Pınar Şenel Investigation of Psychological Resilience Effect on Emotional Eating; Hotel Employees Sample Psikolojik Dayanıklılığın Duygusal Yemeye Etkisi; Otel Çalışanları Örneği
pp. 69-87		Ahmet Elnur The Investigation of Live Streaming Experience as a Digital Leisure Activity Through the Case of Hellfest Dijital Boş Zaman Etkinliği Olarak Canlı Yayın Deneyiminin Hellfest Örneği Üzerinden İncelenmesi
	7	Özel Sebetci

Demographic Factors and Machine Learning Models in the Awareness and

Demografik Faktörler ve Makine Öğrenimi Modelleri ile Yapay Zeka Araçlarının

Experience of Using Artificial Intelligence Tool

Kullanım Bilinci ve Deneyimi

pp. 195-211

#### **Abdullah Türk**

Performance Appraisal In Human Resource Management Function's Qualitative Roles From Employee Focus

İnsan Kaynakları Yönetiminde Performans Değerlendirme Fonksiyonun Çalışan Odağından Nitelsel Rolleri

# Emine Yılmaz / Nur Çelik İlal

Analyzing Of Articles On Blue Economy Studies In Tourism

Turizmde Mavi Ekonomi Çalışmaları Üzerine Makalelerin Analizi

# İrem Ünal / Duygu Yetgin Akgün /

The Effect Of Social Media On The Travel Decision-Making Process For Glamping Businesses

Glamping İşletmelerine Yönelik Seyahat Kararı Verme Sürecinde Sosyal Medyanın Etkisi

# Burhan Sevim / Serkan Çalışkan / Filiz Okur

The Effect of Green Kitchen Practices on Restaurant Choice Intentions

Yeşil Mutfak Uygulamalarının Restoran Seçim Niyetine Etkisi

### Semra Aycı / Aysel Kaya

Istanbul In Russian Hojdenies Within The Scope Of Religious Tourism İnanç Turizmi Kapsamında Rusça Hacnamelerde İstanbul

### Aysel Erciş / Kadir Deligöz / Yıldız Çelebi

Bilişsel ve Duygusal Ülke İmajı Algısının Tüketicilerin Ekonomik Düşmanlık Hissi, Ürün Kalite Yargısı ve Satın Alma Niyeti Üzerindeki Etkisi

The Impact Of Cognitive And Affective Perception Of The Country Image On Consumers' Sense Of Economic Animosity, Product Quality Judgment, And Purchase Intention

### Canan Hazal Akarsu / Tarık Küçükdeniz

Hybrid Tabu Search Algorithm for Container Loading Problems Konteyner Yükleme Problemleri için Hibrit Tabu Arama Algoritması

### Altuğ Ocak

From Anxiety to Satisfaction: The Influence of Technological Innovation on Shaping Customer Experience and Perceived Value in Leisure Services

Anksiyeteden Memnuniyete: Eğlence Hizmetlerinde Müşteri Deneyimi ve Algılanan Değerin Şekillenmesinde Teknolojik Yeniliklerin Etkisi

# Nezih Ziroğlu / Yasemin Şahbaz / Nergiz Batur / Melike Kaymaz / Deniz Su Öztunali / Havva Sude Gür / Gizem Buse Kurt

Comparison of Pain, Kinesiophobia, Anxiety, Sleep, and Quality of Life Conditions of Patients with Lower and Upper Extremity Fractures

Alt ve Üst Ekstremite Kırıklı Hastaların Ağrı, Kinezyofobi, Anksiyete, Uyku ve Yaşam Kalitesi Koşullarının Karşılaştırılması

# İlker Sakınç / Sıdıka Öznur Sakınç / Fatih Konak / Diler Türkoğlu

Comparing the Islamic and Conventional Indices Focusing on Fractal Market Hypothesis

Fraktal Piyasa Hipotezi Odağında İslami ve Konvansiyonel Endekslerin Karşılaştırılması

# Hasan Burak Aycan / Mert Bal

Investigation of Turnover Tendency Predictions with Artificial Intelligence and Mathematical Models

Yapay Zekâ ve Matematiksel Modeller İle Yapılan İşten Ayrılma Eğilim Tahminlerinin İncelenmesi

# Research Article

ROMAYA - Researches on Multidisiplinary Approaches 2024, 4(2): 1-11

ISSN:2791-9099

# Türkiye-European Union Relations In The Framework Of Common Foreign and Security Policy: Identity and Security<sup>1</sup> 🐿

Ortak Dış ve Güvenlik Politikası Çerçevesinde Türkiye-Avrupa Birliği İlişkileri: Kimlik ve Güvenlik

#### Aykut Karakuş / Res. Asst. Dr. (D)

Istanbul Beykent University, Faculty of Economic and Administrative Sciences, aykutkarakus@beykent.edu.tr

### Halis Ayhan / Assoc. Prof. Dr. (D)

Kırıkkale University, Faculty of Economic and Administrative Sciences halisayhan@kku.edu.tr

#### **Abstract**

After the Cold War, Türkiye was called a security-consuming actor due to its closeness to conflict zones, terror trouble and its with neighbors territory issues. Both these reasons and the identity-based security approaches of European Union (EU) member states have: it also created reasons for Türkiye's exception from Common Foreign and Security Policy (CFSP) and EU. Subsequently, Russia's intervention to Georgia, Arab Spring, migration and humanistic crises, the annexation of Crimea, Brexit, the COVID-19 pandemic and the occupation of Ukraine have threatened the global and regional security. Against these threats, Türkiye has contributed to security by taking on a mediator role in the Russian and Ukrainian crises, initiating initiatives to ensure food and energy security, taking the lead in the migration and refugee crisis, and participating in UN, NATO and EU operations. However, these contributions were overshadowed by the opposition of Greece and the Rum Cypriot Administration of Southern Cyprus to Türkiye within the Union. Although Türkiye was an actor producing security after 2010, it was criticized in the 2022 Strategic Compass Document. In this manner, both evolving security approaches and current developments; Its requires examining and reanalyzing the relations Türkiye-EU, focusing on security.

**Keywords:** Energy Security, Security Approaches, CFSP, The Strategic Compass, Turkish Foreign Policy.

**JEL Codes:** 00, H56, N70

# Özet

Soğuk Savaş sonrası Türkiye, çatışma bölgelerine yakınlığı, terör sorunu ve komşuları ile yaşadığı ülkesel sorunlar nedeniyle güvenlik tüketen bir aktör olarak adlandırılmıştır. Hem bu nedenler hem de Avrupa Birliği (AB) üye devletlerinin kimliksel güvenlik yaklaşımları; Türkiye'nin Ortak Dış ve Güvenlik Politikası (ODGP) ve AB'den dışlanmasına da gerekçe oluşturmuştur. Sonrasında Rusya'nın Gürcistan müdahalesi, Arap Baharı, göç ve insani krizler, Kırım'ın ilhakı, Brexit, Koronavirüs salgını ve Ukrayna'nın işgali; küresel ve bölgesel güvenliği tehdit etmiştir. Bu tehditlere karşı Türkiye, Rusya ve Ukrayna krizinde arabulucu rol üstlenerek, gıda ve enerji güvenliğinin sağlanması için girişimler başlatarak, göç ve mülteci krizinde inisiyatif alarak, BM, NATO ve AB operasyonlarına dâhil olarak güvenliğe katkı sunmuştur. Ancak bu katkılar Yunanistan ve Güney Kıbrıs Rum Yönetimi'nin Birlik içindeki Türkiye karşıtlığının gölgesinde kalmıştır. Türkiye 2010 sonrası güvenlik üreten bir aktör olmasına rağmen 2022 Stratejik Pusula Belgesi'nde eleştirilmiştir. Bu minvalde hem değişen güvenlik yaklaşımları hem de güncel gelişmeler; güvenliği odağa alarak Türkiye-AB ilişkilerinin incelenmesini ve yeniden analiz edilmesini gerektirmektedir.

**Anahtar Kelimeler:** Enerji Güvenliği, Güvenlik Yaklaşımları, ODGP, Stratejik Pusula, Türk Dış Politikası.

**JEL Kodları:** 00, H56, N70

<sup>&</sup>lt;sup>1</sup> This study is derived from the first author's doctoral dissertation titled "The Balkans as an Area of Competition and Cooperation in Turkish and Russian Foreign Policies".

### Introduction

Türkiye, with 5% of its territory located in Thrace, is both a Balkan and a European state (Oran, 2010, p. 623). Therefore, Türkiye is an important strategic partner for the EU and its security, both in terms of its geopolitical and geocultural identity as well as its military and power capacity. At the same time, as a state with a liberal and democratic identity, Türkiye shares relatively common interests and needs with European states. Especially, Russia's military intervention in Georgia, the annexation of Crimea, and the invasion of Ukraine have triggered crises, especially in food and energy supply security, as well as migration and refugee issues. As a result, this situation has increased the need for Türkiye in ensuring European security.

With the end of the bipolar system and the perceived threats from the Eastern Bloc, identity issues emerged at both the state and system levels. This situation has led state-level actors, including NATO, to engage in a process of re-constructing their identities. For Türkiye, perceiving itself as having lost significance after the Cold War, this transformation process has produced both new opportunities and certain limitations. Türkiye has sought to overcome this relative sense of isolation by recognizing newly independent Turkic states and establishing good relations with Balkan countries. However, the wars and conflicts occurring in the Balkans and the Middle East have increased the security concerns for Türkiye and the EU. Indeed, the statement "Türkiye's security interests begin in Bosnia" after the conflicts in the Balkans describes a symbiotic relationship between the two actors in the context of security.

The end of the bipolar system, the increased influence of non-state actors in decision-making processes, changes in security perception paradigms,2 the inability of states to combat threats independently, and the impact of asymmetric power/threat elements have all contributed to a transformation in the security relations between the EU, which aspires to be a global security actor, and Türkiye, which exceeds regional actor capacity. Indeed, Türkiye, which acted as a mediator among the parties in the conflicts in the Balkans, also provided effective support to UN and NATO operations. However, after 1992, Türkiye was excluded from the integration of the Western European Union (WEU) and the institutionalization process of the European Security and Defense Policy (ESDP). At the same time, the fact that the WEU

would utilize NATO's capabilities and resources raised some reservations and concerns for Türkiye. Despite these concerns, Türkiye was also excluded from the ESDP process, which represents the integration of the WEU into the EU. Its concerns were not alleviated until the Feira Summit. After the Lisbon Treaty, which restructured the ESDP into the Common Security and Defense Policy, Türkiye's contributions to European security were overlooked. Its contributions to global and regional security were overshadowed by identity-based approaches and the populist stances of actors such as Greece, the Rum Administration of Southern Cyprus (RASC), and France. Indeed, this attitude is reflected in the 2003, 2008, and 2016 Strategy Documents, as well as the 2022 Strategic Compass, where Türkiye's candidate status for EU membership is not mentioned, and its security contributions are implied to be consumed.

Although, following the dissolution of the Warsaw Pact, narratives suggesting that Türkiye did not produce security and had lost its importance for the West became prominent, Türkiye, which adopted an active foreign policy as a conflict-resolution actor after 2010, has reached a level where it produces security and contributes to peace and stability in European security. In this context, the increasing migration to the EU, the instability resulting from regional crises, the expansion of the security dimension,3 energy supply security, climate change, and pandemics being viewed as new threats have all enhanced Türkiye's geopolitical, economic, and strategic importance. At the same time, Türkiye's liberal and democratic state identity has facilitated the deepening of bilateral relations and the adoption of common interests in the EU's search for potential security collaborations. Especially with recent developments, Türkiye's role as a mediator in regional issues, along with its military capacity, success in combating terrorism, and liberal state identity, highlights the security dimension in EU-Türkiye relations. However, Türkiye's humanitarian approach and emphasis on mutual dialogue in addressing issues within the Mediterranean hinterland have been interpreted differently by the West, particularly by EU member states.

In summary, Türkiye's membership in NATO, the UN, and the Organization for Security and Co-operation in Europe (OSCE), along with its developing military capabilities, liberal and democratic state identity, and effective use of both soft and hard power tools, continue to contribute to international peace and

<sup>&</sup>lt;sup>2</sup> The transformation of the traditional security perception based on the distinction between high and low politics.

<sup>&</sup>lt;sup>3</sup> Individual, climate, environment, economy, energy, food security, etc.

stability. These factors also complicate the achievement of a Europe-wide security framework independent of Türkiye.

Ultimately, the European Security Strategy Documents, along with the new threat classifications and current developments<sup>4</sup> make it essential to examine and reanalyze Türkiye-EU relations with a focus on security. In the study, with the assumption that Türkiye, characterized as a security-consuming actor, has become a security-producing actor post-2010, security is taken as the focal point. An analytical-explanatory method is employed to analyze Türkiye-EU relations chronologically. In this context, the relationship between security and identity is examined from a theoretical perspective, utilizing case studies and data that test the assumption.

# Security, Identity and New Threats: Theoretical Framework

Accepted as date of the emergence of modern nation state from 1648's to today, Security is among the primary agenda of states and non-state actors. However, within the discipline of international relations, there is no definitive definition of what security fully encompasses or what it precisely is. Additionally, there are ongoing institutional debates regarding which issues should be included within the scope of security. In this context, the functionality of both traditional and modern security approaches in foreign policy, as well as in how actors perceive each other, is noteworthy. However, in foreign policy analyzes conducted at the state level, it is seen that the notion of identity and abstract elements (such as religion and culture), which were ignored during the Cold War, gradually gain meaning and direct the state's perception of security and threat behavior. Ultimately, these elements also have an impact on Türkiye and the EU relations and are decisive in the threat, interest, purpose and foreign policy quadrant.

The "First Great Debate" between liberalism and realism provides insight into how the concept of security was perceived during that period. These debates form the foundation of the traditional security approach. However, when examining these approaches, it is important not to overlook the role of the international system in the emergence of the traditional security approach, which was not only a determining factor but also acted as a catalyst. Indeed, while it was possible to understand and analyze inter-bloc relations during the rigid bipolar system, dominated by the two major powers, the USA and the USSR, using the traditional security approach, it becomes more challenging to base inter-state re-

lations on this approach in the post-Cold War era, characterized by a multipolar and unipolar system.

Realist theorists view the state of insecurity in individuals as natural in the state of nature, assuming that the instinct for self-preservation and security concerns trigger violence and shape human actions. Consequently, they argue that wars are a result of human nature (Hobbes, 2007, pp. 94-95). Realists, particularly those who argue that the state of nature is anarchic, consider that this condition is also decisive in inter-state relations (Herz, 1981, p. 186). Ultimately, realists accept inter-state relations as a zero-sum game. In this context, realists emphasize that there is no higher authority with the power to limit the actions of states, that actors prioritize power politics, and that states pursue their interests within an anarchic system, using power as a means to this end (Mearsheimer, 2019, p. 16). Realists point out that power politics heightens mutual security concerns and accelerates the arms race. Thus, the security dilemma has led realists to classify issues into high and low politics, with matters related to war, security, and national boundaries being categorized as high politics, while issues such as health, environment, and climate are classified as low politics (Kaufman, 2022, pp. 62-63). Building on this, realists have proposed the maxim "if you want peace, prepare for war" (si vis pacem, para bellum) (Henderson, 1997, p. 315). Ultimately, realism considers security as a primary interest for the continuity and survival of states, and treating security as a comprehensive concern encompassing military threats. According to realism, while the need for security is met through the power that states possess, National elements are among the primary interest. Realists also indicate competition in geopolitical and influence struggles, indicating that the ability to compete is proportional to power. Realist and geopolitical theorists, who see physical and military elements as parameters for acquiring power, suggest that power can be calculated using the formula: "military power = military expenditures (0.652) + active military personnel (0.217) + territoriality (0.109)".5

Liberals, unlike realists, do not view international relations as a zero-sum game. They emphasize the existence and role of non-state actors alongside states. Therefore, liberals do not view wars as a result of human nature (Kaufman, 2022, p. 62). They assume that low politics issues can also be included in the security equation (Kaufman, 2022, p. 62). In this context, issues such as the economy, environment, climate, and individual security-considered insufficiently emphasized by realists-are evaluated within this framework. Additionally, liberals emphasize that

<sup>&</sup>lt;sup>4</sup> The high risk of conflict carried by Balkan states, the current conflicts, instability, and governance crises in North Africa, Russia's revisionist foreign policy that continued with the annexation of Crimea following its intervention in Georgia, and the increasing asymmetric threats in the Middle East after the Arab Spring are accepted within this classification.

<sup>&</sup>lt;sup>5</sup> In the realist paradigm, power calculations are made using similar parameters. Therefore, an empirical method for the calculation model was preferred in this study. For different power calculation formulations, see also (Chang, 2004, p. 5; Sułek, 2020, p. 47).

the increase in the number of democratic states within the system is crucial for achieving global peace and security (Fukuyama, 2012, pp. 22-24). Just as realists, liberals also regard states as rational actors. However, in contrast to realists, they assume that as a result of this rationality, interests can actually be harmonized. Liberals, who assume that non-state actors, particularly international institutions, can reduce states' security concerns, believe that these actors (e.g., the UN, NATO) contribute to global security by addressing misperceptions and resolving conflicts (Nye and Welch, 2011, p. 96). Ultimately, focusing on both military and economic power, liberals propose that economic power can be calculated using the formula: "Economic power = GDP (0.652) × Population (0.217) × Spatial factors/Area (0.109)" (Kiczma and Sułek, 2020, p. 19).

Theories such as pluralism, functionalism, and neofunctionalism, which emphasize the importance of the economy and draw from liberalism, also operate under similar assumptions. These theories argue that economic-based cooperation, which slows down inter-state competition and fosters mutual dependence, will transition into a political phase and eventually manifest as a security community (Haas, 1961, pp. 366-367). Based on this, they assume that through consensus, the process of harmonizing interests and communication, political units will establish a relationship of trust with each other, and thus the security conflict can be put to an end. It is also emphasized that actors can achieve a pluralistic security community by coming together under a supranational authority (Dedeoğlu, 2004, p. 11). In this context, the conceptualizations of Emitai Etzioni's 'take off,' David Mitrany's 'ramification,' and Ernst Haas' 'spill over' offer meaningful propositions about how the EU and security are established (Mitrany, 1948; Haas, 1964).

It is evident that the traditional security approaches outlined above provide rational propositions regarding the scope of security within a bipolar system and contribute to the understanding of security policies. Traditions, security; They see it as a complex mosaic of separate agendas and interests in which each political unit emerges with its own selfish interests, poses its own threats and forms stable alliances (Buzan and Wæver, 2009, p. 253). Moreover, asymmetric threats that emerged after the Cold War began to have global effects, and it became difficult for actors to combat these threats individually. Wars, irregular migration, terrorism, humanitarian crises, and genocides, as well as attacks on historical and cultural heritage, have paved the way for security to expand from a regional to a global scale. As a result, the cost of meeting security needs has increased. In addition, the state, which had the monopoly on the use of force, began to lose this monopoly, and new security areas emerged with the involvement of non-state actors in the process. The expansion of these security domains has paralleled globalization and technological advancements. Areas such as cybersecurity, personal information security, energy supply security, proliferation of weapons of mass destruction, global pandemics, data security, and combating disinformation have been assessed within the realm of security. Ultimately, the constructivists, who managed to offer consistent propositions in making sense of the actors after 1990 and analyzing the system, tried to clarify the system and the actions of the actors in the triangle of security, perception and identity.

Constructivists, who argue that rationalist theories make assumptions devoid of elements such as culture, language/discourse, religion, and identity, emphasize that interests are not predetermined but are directly related to identity. At the same time, constructivists, who challenge the rationalists' assumption of an anarchic system, focus on the relationship between identity and interests and argue that anarchy is mutually constructed. From this point of view, constructivists, who view the system as a structure that emerges as a result of social relations, defines identity as the distinction between 'us' and 'them,' answering the question of 'who,' providing ideas about areas of interest, and helping to interpret and imply actions" (Hopf, 1998, p. 175; Koslowski and Kratochwil, p. 216). Claiming that concepts such as security dilemma and threat legitimize existing power relations, Wendt (1992, pp. 407-408; 2016, pp. 281-287) states that one of the states has the aim of gaining power, or at least it is accepted as such by the others, and therefore he argues that others also had to "chase for power". Based on this, constructivists assume that actors unable to integrate into a system characterized by high levels of competition have heightened threat perceptions and shape their actions accordingly (Wendt, 1992, p. 407). Constructivists emphasize that the condition for ensuring international security lies in the export of ideas and intercultural dialogues (Snyder, 2004, p. 26). Indeed, in the constructivist perspective focused on discourse, it is highlighted that both material and discursive power are necessary for understanding global events in any meaningful way (Hopf, 1998, p. 177). Indeed, Onuf (2010, p. 68) emphasizes that discourse is not merely a reflection of social reality but also reflects the perspectives of those who use the language.

With the proposition that identities construct interests, constructivists approach power from a different perspective on the grounds that the international system has changed. Constructivists, who evaluate the rationalists' definitions of power as hard power, draw attention to the parameters of soft power. Soft power is defined as "the ability of actors to persuade and attract one another to make others want what they want" (Nye and Welch, 2011, pp. 64-65). Soft power, which provides benefits in a longer period of time compared to hard power gains, is less risky and costly than hard power. However, it should

be noted that hard and soft power are not independent of each other.

The Copenhagen School, which carried the concept of security beyond the state monopoly, became the trigger for new security studies. As a matter of fact, the School includes areas other than military and physical security elements within the scope of securitization. According to this perspective, nourished by constructivism, "security issues are constructed as security threats through speech-acts, and extraordinary means are used against the constructed security threats" (Baysal and Lüleci, 2015, p. 63).

The Copenhagen School, which highlights the discourse, defines "moving it into the field of security and turning it into a security problem" as "securitization", and taking a problem out of the field of security is defined as "de-security" (Köksoy and Ceyhan, 2023, p. 778). However, Buzan and Wæver (2009, pp. 255-257), who state that actors use and instrumentalize the concept of securitization in line with their own interests, focus on securitization with micro, medium and macro level analysis. Based on this, it is assumed that political units will act as a "constellation" with macro securitization, and attention is drawn to the intersubjective perception of threat. Ultimately, macro securitization is sometimes exclusive and sometimes inclusive, and can reveal a collective or global understanding of security (Buzan and Wæver, 2009, p. 264).

In summary, the area covered by the traditional security approach has been shaped according to the nature, variability and needs of the international system. With the end of the bipolar system, there was a transition to a unipolar and then a multipolar system. This situation has made it necessary to reconsider and review the concept of security and expand the areas it covers. For this reason, modern security approaches were used to test and test the basic assumption of the study. It is assumed that the identity-interest relationship is decisive in Türkiye-EU relations.

# **Exclusion of Türkiye from European Security**

Türkiye is a member of significant European security institutions, including the OSCE, the WEU, and NATO. It seems that Türkiye, which contributes to EU security especially with its OSCE and NATO membership, has been excluded along with the WEU's integration process into the EU. As a matter of fact, in Bonn, "the condition of full membership to the EU was introduced in order to become a full member of the WEU" (Efe, 2007, p. 130). In this case, Türkiye, Norway and Iceland, which are not EU members, joined the WEU as associate members in 1992 (Akgül and Dizdaroğlu, 2014, p. 140). Within the framework of ESDP, it has brought to the agenda discussions about the current status and duties of states that are

NATO members but not EU members. In this direction, with the Feira Summit held in 2000, "necessary arrangements were made for NATO allies (Poland, Hungary, Czechia, Norway, Iceland, Türkiye) and candidate countries to participate in crisis management operations carried out by the EU" (Akgül and Dizdaroğlu, 2014, p. 146).

In this case, Türkiye, Norway and Iceland, which are not EU members, joined the WEU as associate members in 1992 (Akgül and Dizdaroğlu, 2014, p. 140). Within the framework of ESDP, it has brought to the agenda discussions about the current status and duties of states that are NATO members but not EU members. In this direction, with the Feira Summit held in 2000, "necessary arrangements were made for NATO allies (Poland, Hungary, Czechia, Norway, Iceland, Türkiye) and candidate countries to participate in crisis management operations carried out by the EU" (Akgül and Dizdaroğlu, 2014, p. 146). At this Summit, NATO allies that are not EU members were granted the right to participate in EU-led operations that utilize NATO's capabilities and assets, contingent upon their own willingness to do so. It was noted that the EU's "participation in the operations that it will initiate with its own military power, without using NATO resources, may change depending on the invitation of the Council" (Çayhan, 2002, p. 50). The decision also stated that non-EU European states "will have a say in the execution of the operation through the Contributors Committee, and the decision on whether to initiate or terminate the operation will be made only by the EU" (Akgül and Dizdaroğlu, 2014, p. 146).

After the AK Party came to power in 2002, there were important developments in the course of EU-Türkiye relations until 2010. Türkiye initiated reforms primarily in the constitutional, economic, political, and judicial spheres to meet the Copenhagen Criteria, which are considered essential for EU membership. However, relations became strained again with the full EU membership of RASC in 2004. The EU presented the recognition of RASC as a prerequisite for Türkiye s membership in the Union. This situation led to a stalemate in relations. The stalled relations were pulled into a pragmatic framework due to migration and refugee issues that threatened EU security, resulting in the signing of the EU-Türkiye Readmission Agreement in 2013 (Şehitoğlu, 2024, pp. 109-111). However, Türkiye argued that the EU had not fulfilled its commitments. On the other hand, the EU claimed that Türkiye was instrumentalizing the migration crisis. The strained relations peaked with the July 15 coup, and due to national security concerns, Türkiye's fight against PKK and YPG terrorist organizations, especially FETO (Fethullah Terrorist Organization, PDY), was interpreted differently by the EU. Extending the period of state of emergency within the scope of the fight against FETO was evaluated as a human rights violation, and Türkiye was requested to fulfill its responsibilities determined in the

Visa Liberalization Road Map (Türkiye 2016 Report, p. 5). The EU also demanded that Türkiye expand its Customs Union practices to include the Republic of Cyprus.

Within the scope of CFSP, the EU has added a new dimension to Türkiye relations with the 2016 Global Strategy Document. In this regard, the EU, which has determined a new security area, especially the Western Balkans, Africa and the Middle East, based on cooperation against regional crises and the threats it perceives from the south and east, aims to prioritize human rights with Türkiye and develop cooperation in the fight against terrorism (CoE, 2016, p. 22). In the same document, it is implied that it is not possible to exclude Türkiye in the fight against migration, energy supply security, terrorism and organized crime. Türkiye's candidate status was not mentioned and it was noted that relations would be maintained within the framework of good neighborliness (CoE, 2016, p. 24). Likewise the EU has announced that it aims to deepen its relations with Türkiye in the fields of energy, education and transportation. Moreover, it was stated that Türkiye needed to normalize its position on Cyprus for its accession to the EU. It has been suggested that relations with Türkiye can be developed through the Customs Union and visa liberalization (CoE, 2016, p. 35). As a matter of fact, in the 2019 Report prepared within the scope of the Global Strategy Document, the EU announced that a successful cooperation has been established with Türkiye to address common challenges in areas such as migration, fight against terrorism, energy, transportation, economy and trade. It is mentioned that good relations have been established with Türkiye regarding the Middle East Peace Process and the common foreign policy, especially the problems experienced in Syria, Iraq, Iran, Libya and the Gulf countries (EUGS 2019 Report, 2019, p. 18). The same report noted that Türkiye had achieved a 44% alignment with the Global Strategy for the European Union, but criticized Türkiye for supporting Azerbaijan during the Nagorno-Karabakh conflict in April 2016 (Türkiye 2016 Raporu, p. 91). In the EU 2018 Report, it is stated that Türkiye has complied with the CFSP at a rate of 16%. In other reports, Türkiye's compliance with the CFSP was reported as 18% in 2019, 21% in 2020, 14% in 2021, and declined to the lowest level ever recorded at 7% in 2022. There are two main factors contributing to the decline in these compliance rates. The first is Türkiye's use of its veto power against Sweden and Finland's NATO membership due to their hosting of terrorist and extremist groups. The second one arises from the problems related to the activities of Greece and RASC in the Mediterranean that violate Türkiye's sovereign rights. As a matter of fact, in the Strategic Compass Reports adopted in 2022, the natural rights of Türkiye, which has the longest coastline in the Eastern Mediterranean, were ignored, the theses of Greece and RASC

were brought to the fore, and it was assumed that "the borders of these two countries are the borders of the Union" (Strategic Compass for Security and Defense, 2022, p. 4; Ceylan and İldem, 2022, p. 6).

Türkiye conducts extraterritorial operations on matters concerning its national security; Being physically present in Syria, Iraq and Libya and pursuing its own interests in the exclusive economic zone (EEZ) area in the Mediterranean; makes Türkiye's exclusion from CFSP more obvious. Particularly the attitude of France and Greece against Türkiye within the EU caused this situation to be further reinforced and caused Türkiye to be described as a partner rather than a candidate in the Strategic Compass in March 2022. Türkiye has not been directly named as a security consuming actor, but it has been stated that it poses a threat to EU member states. It is stated that Türkiye "engages in provocations and unilateral actions against EU members, violates sovereign rights in violation of international law, instrumentalizes irregular migration, and escalates tension in the Eastern Mediterranean" (Strategic Compass for Security and Defense, 2022, p. 9). Ultimately, it was also noted in the Strategic Compass that the EU is willing to establish a mutually beneficial partnership relationship with Türkiye, continuing its cooperation within the scope of CFSP.

Türkiye's application to Permanent Structured Cooperation (PESCO); despite being excluded from the CFSP, it shows its efforts to develop and deepen bilateral relations. However, associating the problems with identity in the case of Greece and RASC reduces Türkiye's compliance with the CFSP and causes tensions in relations with the EU. The context in which Türkiye-PESCO relations will be developed has not yet gone beyond discussions. In this regard, the fundamental interests of the Union members disrupt the EU's ambition to become a global actor. As a matter of fact, Türkiye's CFSP concerns continue. In this regard, Türkiye continues to display an opposing attitude to the Berlin Plus regulations in EU-NATO relations. At the same time, Türkiye continues to make efforts to ensure that the Berlin Plus arrangement does not include all Union members in EU-NATO relations.

# Türkiye as a Security Producing Actor: Sample Cases

Türkiye has contributed and continues to contribute to European security in the context of its state identity and the foreign policy principles it adopted after the Cold War. Although the discourse of 'an actor consuming security' came to the fore in Türkiye-EU relations after the Cold War, Türkiye managed to play a role as a problem-solving actor in the humanitarian crises in Yugoslavia. With the same perspective, Türkiye acted together with the West in the Gulf crisis and played a role in building regional security.

# Türkiye-European Union Relations In The Framework Of Common Foreign and Security Policy: Identity and Security

Based on this, Türkiye has reduced traditional security perceptions after 2002 and evaluated security in a wide range at global and regional levels, as expressed in contemporary security studies. After 2019, Türkiye adopted a humanitarian and multi-dimensional foreign policy principle by focusing on multilateralism, and pursued a foreign policy with the identity of a benevolent power that embraces regional problems.

Türkiye had to struggle with identity crisis, crises and loneliness syndrome after the Cold War, was accepted as a regional power as of 2000. With advancements in power and capacity<sup>6</sup> Türkiye's interest in international politics and regional issues has increased (Morgenthau, 1970, p. 31) emphasizing that it is a European country (Türkiye Ministry of Foreign Affairs, 2019).

In this regard, while discussions on recognizing the independence of Croatia, Macedonia and Slovenia continue within the European Community (EC), Türkiye has decided to recognize these states. At the same time, Türkiye made special efforts for the integration of the Balkan states into international institutions and organizations. It has revised its regional and global relations with initiatives such as the Black Sea Economic Cooperation Organization, the Turkish Cooperation and Coordination Agency and D8. Türkiye, which attaches importance to its bilateral relations with Bulgaria, Romania and Albania, which have transitioned from a communist state identity to a liberal state identity, has developed cooperation in military, commercial and infrastructure fields.

Türkiye deployed 1,400 troops to UN Protection Force, participated in Operation Alba, and played an active role in the formation of the South-Eastern Europe Brigade (SEEBRIG) (Bağbaşlıoğlu, 2018, p. 233). Türkiye provided support with a force of 1,320 personnel to the Implementation Force, which was established to ensure the implementation of the 1995 Dayton Peace Agreement that ended the war in Bosnia and Herzegovina (Bağbaşlıoğlu, 2018, p. 233; Aydın, 2018, p. 498). Similarly, Türkiye contributed to peace and stability by supporting the Southeastern European Cooperation Initiative (SECI) and the Stability Pact for the Balkans.

Türkiye's contribution to European security in this process was interpreted differently by France, especially Greece. So much so that Greece claimed that Türkiye was trying to create a "Turkish Crescent/Axis" in the Balkans (Aydın, 2018, p. 515; Uzgel, 1998, p. 416). These allegations formed the basis of the problems that Türkiye and EC relations will experience in the future. This situation was used as an argument by Greece and RASC to exclude Türkiye from ESDP. However, despite these allegations, Tür-

kiye continued to contribute to peace and stability and managed to take an active role in the Kosovo crisis that broke out in 1998. When the events that started in Pristina turned into a conflict, Türkiye quickly assumed a mediating role, and the Minister of Foreign Affairs of the time, İsmail Cem, visited Serbia and presented a 3-stage plan (Uzgel, 1998, p. 412). Later, Türkiye participated in the UN Security Council's embargo on Serbia, opened its airspace to NATO operations, and then provided support to the Kosovo Force (KFOR) with a force of 1,000 persons (Aydın, 2018, pp. 512-513).

The conflict in Kosovo spilled over into Macedonia in 2001, creating a new crisis in the Balkans. In this crisis, as in others, Türkiye acted together with NATO. The EU, which aims to be an operational actor in crises and conflicts within the scope of ESDP, remained in the shadow of NATO in this crisis, while NATO and Türkiye assumed the necessary responsibilities for the establishment of European security. Ultimately, the Albanian and Macedonian conflict ended with the Ohrid Framework Agreement signed in 2001. In this regard, Türkiye participated in NATO's Allied Harmony and Amber Fox operations and supported the Concordia and Proxima operations launched for post-conflict peacekeeping. In addition, Türkiye has contributed to peacekeeping operations outside Europe. As a matter of fact, Türkiye led the International Security Assistance Force (ISAF) launched in 2003, participated in the Iraq Training Mission initiated by NATO, and trained Iraqi security forces in Türkiye. Similarly, Türkiye participated in Operation Active Endeavor launched by NATO, Operations Ocean Shield in 2009 and Joint Protector in 2010 (Türkiye Ministry of Foreign Affairs, 2012). In 2011, Türkiye participated in the EUFOR Althea Operation in Bosnia and Herzegovina, the EU's first civilian crisis management operation, as the country that provided the largest military contribution from outside the Union (Türkiye 2021 Report, p. 92). In addition, Türkiye participated in the Bosnia and Herzegovina Police Mission (EUPM) and the EUPOL Kinshasa Police Mission initiated by the EU. However, after the coup on July 15, Türkiye had to temporarily withdraw from the military mission in Bosnia and Herzegovina and EULEX in Kosovo (Türkiye 2016 Report, p. 31). In addition, Türkiye temporarily contributed to the Palestine EUPOL COPPS and Ukraine EUAM Operations initiated by the Union outside Europe (Türkiye 2016 Report, p. 92).

Türkiye addressed the problems that emerged after the Arab Spring from a humanitarian perspective and contributed to European security. After the Arab Spring, the EU needed Türkiye more than ever. So much so that European Commission President Je-

<sup>&</sup>lt;sup>6</sup> According to Morgenthau (1970, pp. 31-32), an actor's global relations correspond to its power. The disinterest of countries like Luxembourg, Switzerland, or Andorra in international politics stems from this assumption.

an-Claude Juncker stated that "the EU should work together with Türkiye and develop policies in accepting and monitoring refugees" (Gözkaman, 2013, pp. 110-116). Türkiye has acted together with the international community in humanitarian, refugee and migration crises, especially energy supply security. At the same time, Türkiye has become a role model for these revolutionary movements with its democratic and liberal identity. In this regard, it organized an international conference titled "Arab Awakening and Peace in the Middle East: Muslim and Christian Perspectives" in Istanbul in 2012 (DİB, 2012). He contributed to NATO's humanitarian intervention in Libya and supported popular movements to reach a democratic, human rights-prioritizing and liberal structure.

Türkiye took the initiative in the irregular migration flow that caused a crisis in the EU with the Readmission Agreement in 2013. In this regard, Türkiye supported the EU's Valletta Action Plan, which aims to prevent irregular migration flows from Africa to Europe. With this contribution of Türkiye, "the number of immigrants entering the EU, whose number exceeded 1 million in 2015, decreased to 123 thousand in 2019" (Boell, 2021). Since 2016, Türkiye continues to contribute to the protection and security of the Union's air, sea and land borders in the context of the EU Border and Coast Guard Agency (Frontex). However, Greece pushed the refugees back and Frontex officials ignored this situation in their reports; It jeopardized the cooperation process that had been developed. As a matter of fact, in European Anti-Fraud Office (OLAF) investigation initiated by the EU within the scope of the fight against corruption, it was stated that "Frontex officials abused their duties and turned a blind eye to human rights violations" (Euronews, 2022). Ultimately, Türkiye, as a country on the irregular migration route, has become the country hosting the highest number of refugees today (UNHCR, 2023). In this regard, considering that the main target geography of the migration route is Europe, Türkiye has contributed to EU security by preventing a significant crisis.

With Russia's invasion of Ukraine, the EU swiftly announced the adoption of the Strategic Compass Document in March 2022. In parallel with the onset of the invasion, the EU condemned Russia and began to impose sanctions. The diplomatic initiatives initiated by the EU before the war failed. For this reason, while the war continued, it adopted a policy far from being a mediator and problem-solving actor (Şehitoğlu, 2023, pp. 239-241). As a matter of fact, the EU, which provided economic and political support to Ukraine with the start of the war, also extended its aid to military areas as the war continued. Türkiye, on the other hand, condemned Russia's invasion at almost every opportunity, but believed

that the problems would be solved through proactive diplomacy and negotiations rather than sanctions. This approach by Türkiye faced criticism for not participating in the sanctions. However, Türkiye hosted the Antalya Summit in March 2022, where the parties had high-level contact for the first time after the invasion, and prioritized dialogues to resolve the crisis. The food crisis that emerged after Russia's invasion of Ukraine had an impact on other geographical subsystems, especially Africa, and Türkiye brought together Russian and Ukrainian officials in Istanbul on July 22, 2022 and pioneered the launch of the Black Sea Grain Initiative (UN, 2022).

Türkiye, with its identity as a problem solver and playmaker, has also played a critical role in solving the energy crisis experienced by the EU. The EU, which is 27% unilaterally dependent on Russia for energy, has tried to overcome this problem with the REPowerEU Plan. Through the REPowerEU Plan, the EU aimed to reduce its dependence on Russian gas by 2/3 (Euronews, 2022). Ultimately, Eurasian and Middle Eastern energy resources have become increasingly important for the EU. As a result, Türkiye has come to the fore as the least costly and most reliable route for energy transportation, and the need for Türkiye to transport energy resources to Europe has increased.

Türkiye also contributes to global energy security with the "Baku-Tbilisi-Ceyhan (BTC), South Caucasus (SCP), Baku-Tbilisi-Erzurum (BTE), Türkiye-Greece Natural Gas Interconnection, Trans Anatolia (TANAP) and Turkish Stream" pipelines presented. At the same time, Türkiye continues to meet Europe's energy needs with the Southern Gas Corridor completed in 2020. As a matter of fact, with these initiatives, Türkiye supplied 11.3 billion m³ of gas to the EU in 2022, and this figure reached 97.3 billion m³ in 2023; It has also contributed to European security in the field of energy (Anadolu Agency, 2023).

It is seen that Türkiye's capacity in the context of military, geopolitical, economic and soft power has improved in line with its current position and foreign policy goals. Analysis shows that this capacity will increase and the competitiveness level will increase in 2030. In this regard, increasing asymmetric threats and regional instability; It has caused Türkiye to care about defense expenditures and military developments, also turning to tools that will increase its soft power capacity. As a matter of fact, it is predicted that Türkiye will rank 15th in the global military power ranking in 2030. Türkiye, which ranked 18th in 1992 and 17th in 2018 in the economic power rankings, is assumed to be 15th in 2030 (Kiczma and Sułek, 2020). In the soft power ranking, Türkiye, which was ranked 30th in 2020 and 27th in 2021, rose to 23rd place in 2023 (Brand Finance Branddirectory, 2020-2021-2022).

Türkiye-European Union Relations In The Framework Of Common Foreign and Security Policy: Identity and Security

Table 1. Power Indicators

		Military Power 2030 (Forese- en)			Economic Power 2030 (Forese- en)			Soft Power 2023
1.	Chinese	201,94	1.	Chinese	201,94	1.	USA	74,8
2.	USA	137,99	2.	USA	137,99	2.	U.Kingdom	67,3
7.	Russia	24,82	7.	Russia	24,82	3.	Germany	65,3
8.	Germany	23,06	8.	Germany	23,06	6.	France	62,4
10.	France	19,32	10.	France	19,32	9.	Italy	56,6
11.	U.Kingdom	18,86	11.	U.Kingdom	18,86	13.	Russia	54,8
14.	Italy	14,12	14.	Italy	14,12	16.	Holland	53,7
15.	Türkiye	14,03	15.	Türkiye	14,03	20.	Belgium	51,2
16.	Spain	12,50	16.	Spain	12,50	23.	Türkiye	50,4

Source: (Kiczma ve Sułek, 2020, ss. 20-74; Brand Finance, 2022)

As can be seen in the table above, Türkiye has similar values to the main EU member powers. Considering these indicators, it can be seen that Türkiye stands out as a stable center in its region in the geopolitical context. This situation makes Türkiye attractive for cooperation in security crises. At the same time, Türkiye is gaining functionality as a natural line of defense for European security in the context of power and capacity.

#### **Conclusion**

It seems that the EU and Türkiye, which were in the same camp during the Cold War, face similar threats with the end of the bipolar system. Although the perceived threats specific to the Eastern Bloc have ended, securitization and the expansion of the scope of security have led to the emergence of new areas of cooperation for the two actors. In the initial phase, this cooperation is seen to have emerged in the context of the conflicts in the Balkans. As a matter of fact, with the dissolution of Yugoslavia; It has put the security of both Türkiye and Europe at risk. Both actors tried to follow an active policy in solving the problem. Türkiye and the EU, affected by the humanitarian and migration crisis caused by these wars, took part in mediation activities to end the conflicts. At the same time, the support that Türkiye and the EU provide to NATO and UN operations stems from the fact that they have similar identity cores and common interests. The liberal and democratic structures of the two actors make it easier for them to establish a security relationship in line with common interests and contribute to the harmonization of interests.

Türkiye managed to emerge from the Cold War as a

regional power. It contributed to European security with its increasing power and capacity. However, it seems that the nationalism that has erupted again within the EU as European identity comes to the fore has a negative impact on Türkiye. Islamophobic approaches, especially those developed in Sweden, France, Greece and RASC, have paved the way for Türkiye to be perceived as the other in terms of both security and politics. In this regard, Türkiye's multifaceted foreign policy has sometimes been called Neo-Ottomanist and expansionist, and sometimes interpreted as an axis shift. In contrast, Türkiye's humanitarian approach to the migration crisis caused by the Syrian civil war, its problem-solving actor initiative in the food and energy crisis that started with Russia's invasion of Ukraine, the vaccine it produced against the Coronavirus epidemic and its mediation in disputes in the Balkans; contributed to European security.

Türkiye continues to contribute to global and regional security by pursuing an active foreign policy in the Caucasus and North Africa. The bilateral problems with Greece and RASC were reflected in the relations between the Union and Türkiye, and Türkiye's security concerns were indirectly included in the EU official documents.

Irregular migrations that emerged after the Arab Spring and the economic, social and security problems caused by these migrations; It has also led to an increase in the number of EU civilian operations. The global economic recession caused by the coronavirus epidemic, reverse globalization, and the overriding of nation-state interests over the interests of the Union have negatively affected the sustainability of the CFSP. At the same time, waves of irregular migration occurring at the EU borders, the threat

perceived by the EU from the Lukeshenko regime in Belarus and Russia's invasion of Ukraine; It has increased the importance of environment and climate, global epidemic, food and energy supply security issues. These crises also threatened European security. For these reasons, the need for Türkiye as an actor that produces security in resolving crises and disputes has increased. Türkiye has contributed to European security in this context. As a matter of fact, after these contributions, while 1 million people immigrated to the EU in 2015, this number decreased to 123 thousand in 2019. Similarly, Türkiye played an important role in reducing the EU's dependence on Russian energy resources. Türkiye, which supplied 11.3 billion m<sup>3</sup> of gas to the EU before Russia's invasion of Ukraine, will supply 97.3 billion m<sup>3</sup> of gas in 2023; It helped the EU achieve its goal of reducing its energy dependence on Russia by 2/3. At the same time, Türkiye, which assumed responsibility for the food crisis that broke out with Russia's invasion of Ukraine, also contributed to global security by leading the launch of the Black Sea Grain Initiative. Ultimately, Türkiye's attitude towards sample cases and current threats; It reveals that it is not a security-consuming actor as implied in the 2022 Strategic Compass, including the 2008 and 2016 Strategy Documents. Therefore, this situation shows that Türkiye contributes to European and global security.

#### Referance

Akgül, A. S. & Dizdaroğlu, C. (2014). NATO-AB İlişkilerinde İşbirliği ve Çatışma Dinamikleri. Uluslararası İlişkiler, 10(40), 131-164.

Aydın, M. (2018). Kafkasya ve Orta Asya'yla İlişkiler. Oran, B. (Ed.), Türk Dış Politikası Kurtuluş Savaşından Bugüne Olgular, Belgeler, Yorumlar Cilt II in (ss. 463-532), İstanbul: İletişim Yayınları.

Ayhan, H. (2018). Avrupa Parlamentosu ve Yüksek Temsilci Bağlamında AB'nin Zeytin Dalı Harekâtı'na Yaklaşımı. Mehmet Akif Ersoy Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 10(25), 437-453.

-----. (2020). Fransa ve Aachen Antlaşması Çerçevesinde Avru-pa Ordusu Çabaları. Akademik Araştırmalar ve Çalışmalar Dergisi (AKAD), 12(23), 511-531.

Bağbaşlıoğlu, A. (2018). NATO'nun Dönüşümü'nün Balkanlar'a Yansımaları: Müdahale, Genişleme, Ortaklıklar. Ankara: Nobel Akademik Yayıncılık.

Baysal, B. ve Lüleci, Ç. (2015). Kopenhag Okulu ve Güvenlikleştirme Teorisi. Güvenlik Stratejileri Dergisi, 11(22), 61-96.

Birleşmiş Milletler, (2022). Karadeniz Tahıl Girişimi: Nedir ve Neden Dünya İçin Önemlidir?. https://l24.im/GpYa [Access: 11.07.2023].

Biscop, S. ve Coelmont, J. (2010). Types of Operations: Interpreting the Petersberg Tasks. https://www.jstor.org/stable/resrep06700.7 [Erişim Tarihi: 02.01.2022].

Brand Finance, (2022). Global Soft Power Index 2020-2021-2022-2023. https://brandirectory.com/softpower/2021/report [Erişim Tarihi: 11.07.2023].

Buzan, B. ve Wæver, O. (2009). Macrosecuritisation and Security Constellations: Reconsidering Scale in Securitisation Theory. Review of International Studies, 35(2), 253-276.

Cevrioğlu, E. S., Türk Akım ve TANAP Boru Hatlarıyla Türkiye ve Avrupa'ya 97,3 Milyar Metreküp Doğalgaz Ulaştırıldı. (2023, 13 Ocak), Anadolu Ajansı, https://l24.im/LawA [Erişim Tarihi: 12.01.2024].

Ceylan, F. ve İldem, T. (2022). AB Stratejik Pusulası, Türkiye'nin

Konumu ve Bazı Gözlemler. https://l24.im/GNE7 [Erişim Tarihi: 12.01.2024].

Chang, C. L. (2004). A Measure of National Power. National University Bangi of Malaysia, 1617, 1-34.

Council of Europe, (2022). Strategic Compass for Security and Defence. Retrieved https://l24.im/p8WST.

Çayhan, B. E. (2002), Avrupa Güvenlik ve Savunma Politikası ve Türkiye. Akdeniz İİBF Dergisi, (3), 42-55.

Dedeoğlu, B. (2004). Yeniden Güvenlik Topluluğu: Benzerliklerin Karşılıklı Bağımlılığından Farklılıkların Birlikteliğine. Uluslararası İlişkiler, 1(4), 1-21.

EEAS, (2019). The European Union's Global Strategy Three Years on, Looking Forward. https://l24.im/B4nKa [Erişim Tarihi: 02.01.2024].

-----. (2019). CFSP Annual Reports. https://l24.im/wvHW [Erişim Tarihi: 23.12.2022].

------. (2023). A Global Strategy for the European Union's Foreign and Security Policy, shared vision, common action: a stronger Europe. https://l24.im/iEd4Q [Erişim Tarihi: 02.01.2024].

Efe, H. (2007). AB'nin Gelişen "Avrupa Güvenlik ve Savunma Politikası" ve Türkiye. Gazi Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi, 9(3), 127-145.

EU Border Agency Frontex Covered up Illegal Migrant Pushbacks, Says Report. (2022, 14 October), Euronews, https://l24.im/SjX4ZDq. [Erişim Tarihi: 14.01.2024].

European Centre of Excellence for Civilian Crisis Management, (2023). A Global Strategy for the European Union's Foreign and security Policy. https://l24.im/hXsmzre. [Erişim Tarihi: 15.01.2024].

Fukuyama, F. (2012). Tarihin Sonu ve Son İnsan. (Z. Dicleli, Çev.). İstanbul: Profil Yayıncılık.

Gözkaman, A. (2013). Turkey and the European Union Vis-À-Vis the Syrian Question: Parallelism with Limits. Editorial Advisory Board, 40(21), 65-175.

Haas, E. B. ve Schmitter, P. C. (1964). Economics and Differential Patterns of Political Integration: Projections about Unity in Latin America. International Organization, 18(4), 705-737.

Herz, J. H. (1981). Political Realism Revisited. International Studies Quarterly, 25(2), 182-197.

Hobbes, T. (2007). Leviathan. (S. Lim, Çev.), İstanbul: Yapı Kredi Yayınları.

Hopf, T. (1998). The Promise of Constructivism in International Relations Theory. International Security, 23(1), 171-200.

Kaufman, J. P. (2022). Introduction to International Relations: Theory And Practice. London: Rowman & Littlefield.

Kiczma, Ł. & Sułek, M. (2020). National Power Rankings of Countries 2020. Warszawa: Oficyna Wydawnicza ASPRA-JR.

Koslowski, R. & Kratochwil, F. V. (1994). Understanding Change in International Politics: the Soviet Empire's Demise and the International System. International Organization, 48(2), 215-247.

Mearsheimer, J. J. (2019). Realism and Restraint, Horizons. Journal of International Relations and Sustainable Development, 14, 12-31

Mitrany, D. (1948). The Functional Approach to World Organization. International Affairs, 24(3), 350-363.

Morgenthau, H. J. (1970). Uluslararası Politika. (B. Oran ve Ü. Oskay, Çev.), Ankara: Türk Siyasi İlimler Derneği Yayınları.

Nye, Joseph S. & Welch, David A. (2011). Küresel Çatışmayı ve İşbirliğini Anlamak. (R. Akman, Çev.), İstanbul: Türkiye İş Bankası Kültür Yayınları.

Onuf, N. (2010). Polemics: Fitting Metaphors-the Case of the European Union. Perspectives: Review of International Affairs, 18(1), 63-76.

Oran, B. (2010). Turkish Foreign Policy, 1919-2006: Facts and Analyses with Documents. Salt Lake City: The Universty Utah Press

Republic of Türkiye Ministry of Foreign Affairs, (2012). Türkiye's

# Türkiye-European Union Relations In The Framework Of Common Foreign and Security Policy: Identity and Security

International Security Initiatives and Contributions to NATO and EU Operations. https://www.mfa.gov.tr/iv\_-european-security-and-defence-identity\_policy-\_esdi\_p\_.en.mfa [Erişim Tarihi: 09.11.2023].

Şehitoğlu, R. (2023). "NATO'nun Gelecek Sorunsalı: Transatlantik İlişkiler ve Türkiye", (Ed.) Suat Dönmez, Uluslararası Sistem, Konjonktürel Değişim ve Güvenlik Trendleri, İstanbul: Akademi Titiz Yayınları.

------. (2024). Suriyeli Göçmenler Özelinde AB-Türkiye İlişkileri: Geri Kabul Anlaşması ve 18 Mart Mutabakatı. International Journal of Kurdish Studies, 10(1), 98-117.

Snyder, J. (2004). One World, Rival Theories. Foreign Policy, (145), 52-62.

Sułek, M. (2020). Measurement of National Power-A Powermetric Model. Przegląd Geopolityczny, 32, 35-57.

Türkiye Cumhuriyeti AB Başkanlığı, (2023). Avrupa Komisyonu Tarafından Hazırlanan Türkiye Raporları. https://l24.im/Zk6RW [Erişim Tarihi: 18.01.2024].

Türkiye Cumhuriyeti Dışişleri Bakanlığı, (2011). Türkiye-AB İlişkileri. https://www.mfa.gov.tr/turkiye-ab-iliskileri.tr.mfa [Erişim Tarihi: 12.01.2024].

-----. (2019). Türkiye'nin Girişimci ve İnsani Dış Politikası. https://www.mfa.gov.tr/dis-politika-genel.tr.mfa [Erişim Tarihi: 12.01.2024].

-----. (2023). Türkiye'nin Uluslararası Enerji Stratejisi. https://l24.im/e8uY5z [Erişim Tarihi: 12.01.2024].

Uzgel, İ. (1998). Doksanlarda Türkiye için Bir İşbirliği ve Rekabet Alanı Olarak Balkanlar, Gencer Özcan ve Şule Kut (Ed.), En Uzun On Yıl: Türkiye'nin Ulusal Güvenlik ve Dış Politika Gündeminde Doksanlar in (ss. 393-434), İstanbul: Büke Yayınları.

Waltz, K. N. (1979). Theory of International Politics. Boston: Addison-Wesley Publishing Company.

Wendt, A. (1992). Anarchy Is What States Make of it: The Social Construction of Power Politics. International Organization, 46(2), 391-425.

-----. (2016). Uluslararası Siyasetin Sosyal Teorisi. (S. G. Ihlamur Öner ve H. Sarı Ertem, Çev.), İstanbul: Küre Yayınları.

Western European Union Council of Ministers Bonn, (1992). Petersberg Declaration. https://l24.im/al6TW.

#### Research Article

ROMAYA - Researches on Multidisiplinary Approaches 2024, 4(2): 12-22

ISSN:2791-9099

# The Mediating Role of Career Satisfaction in the Impact of Person-Organization Fit on Cyberloafing •

Kişi-Örgüt Uyumunun Sanal Kaytarmaya Etkisinde Kariyer Tatmininin Aracı Rolü

Sibel Bilkay /Asst. Prof. Dr. (D)
Malatya Turgut Özal University, Academy Of Civil Aviation sibelbilkay@hotmail.com

#### **Abstract**

As well as the facilitating impacts of technological developments in the globalizing world on human life, it is seen that they also provide sociological, psychological, cultural and behavioral changes. This new change in social and cultural life has revealed behavioral innovations in daily habits. Perhaps the most important of these behaviors is the bond established with social media and living within the axis of this bond. This new change in social life has affected daily habits. The new habits that people acquire also bring about different behavioral changes in working life. Examining the impacts of these changes has opened a new field for researchers. In this context, the present study aimed to investigate the mediating role of career satisfaction in the impact of person-organization fit on cyberloafing. To this end, a quantitative study based on the survey technique was conducted with employees and managers of manufacturing enterprises operating in Kayseri Organized Industrial Zone. According to the data obtained from the surveys from 430 manufacturing sector employees and managers, it was concluded that person-organization fit has a negative impact on cyberloafing, a positive impact on career satisfaction, and career satisfaction has a negative impact on cyberloafing. Also, it was found that career satisfaction mediates the insignificant relationship between person-organization fit and cyberloafing.

**Keywords:** Person-Organization Fit, Career Satisfa-

JEL Codes: M10,M19,C12

ction, Cyberloafing.

# Özet

Globalleşen dünyadaki teknolojik gelişmeler insan hayatındaki kolaylaştırıcı etkilerinin yanı sıra, sosyolojik, psikolojik, kültürel ve davranışsal olarak değişmesini sağladığı görülmektedir. Sosyal ve kültürel hayatta başlayan bu yeni değişim, gündelik alışkanlıklarda davranışsal yenilikler ortaya çıkarmıştır. Bu davranışların belki de en önemlisi sosyal medya ile kurulan bağ ve bu bağ ekseninde yaşamalarıdır. Sosyal hayatta başlayan bu yeni değişim, gündelik alışkanlıkları etkilemiştir. İnsanların edindiği yeni alışkanlıklar, çalışma hayatında da farklı davranışsal değişimleri beraberinde getirmiştir. Bu değişimlerin etkilerini incelemek araştırmacılar açısından yeni bir alan açmıştır. Bu bağlamda çalışmada kişi-örgüt uyumunun sanal kaytarmaya etkisinde kariyer tatmininin aracı rolü araştırılmak istenmiştir. Bu amaçla, Kayseri Organize Sanayi Bölgesi'nde faaliyet gösteren imalat işletmelerinin çalışanları ve yöneticileri ile anket tekniğine dayalı nicel bir araştırma yapılmıştır. 430 imalat sektörü çalışan ve yöneticisinden elde edilen anketler ile elde edilen verilere göre, kişi-örgüt uyumunun sanal kaytarma üzerinde negatif, kariyer tatmini üzerinde pozitif etkiye sahip olduğu ve kariyer tatmininin sanal kaytarma üzerinde negatif etkiye sahip olduğu sonucuna varılmıştır. Ayrıca, kariyer tatmininin kişi-örgüt uyumu ile önemsiz sanal kaytarma ilişkisine aracılık ettiği belirlenmiştir.

Anahtar Kelimeler: Kişi-Örgüt Uyumu, Kariyer Tat-

mini, Sanal Kaytarma. **JEL Kodları:** M10,M19,C12

#### Introduction

The individual-organization fit of employees is a subject examined by researchers from many perspectives. Individuals with a high level of fit with the organization they work for show high performance (Sezgin, 2006: 560; Aktaş, 2011: 18; Raddatz, 2024: 2; Park & Hai, 2024:853). The examination of cyberloafing behavior, which has emerged as one of the significant factors in the decrease of individual-organization fit in recent years, is significant in terms of determining it as a factor that reduces employee performance and workplace efficiency (Henle, Kohut, & Booth, 2009: 904; Hessari, et al., 2024).

In general, cyberloafing includes using computer and internet systems, which are provided for business purposes, for personal purposes as well as using personal electronic devices during the time that must be spent on work at the workplace (Örücü & Yıldız, 2014: 99; Nweke, Jarrar & Horoub, 2024: 3). It is possible to access almost in every environment because of reasons e.g., the speed of technological developments, widespread use of the internet, its cheapness and easy availability (Wallace, 2004: 5; Krishna & Agrawal, 2023: 649).

The manufacturing sector covers the manufacturing with light or heavy industry machinery. For this reason, manufacturing sites are places where occupational safety and employee health, occupational accidents, fatal injuries, and accidents that might damage the workplace are likely to occur. A momentary inattention might cause injuries, fatal accidents, or fires. For this reason, employees need to perform their work with due care during work at the workplace. An innocent cyberloafing behavior that is not insignificant might cause irreparable or very costly outcomes. Based on this, the present study focused on the results of cyberloafing behavior in the manufacturing sector.

Career is associated with where people want to see themselves in business life. Career satisfaction is the level of satisfaction of individuals with their current career positions (Tahiry & Ekmekcioglu, 2023: 293; Granek et al., 2024: 214). Although individuals who have high career satisfaction focus on the better, those with low career satisfaction cause them to develop actions that reduce their own and others' performance.

Low individual-organization fit and high cyberloafing are two undesirable situations in a workplace. It is considered that career satisfaction will have a mediating role in controlling these two undesirable situations in an organization. For this reason, in the present study, career satisfaction was discussed as a mediating variable in the relationship between cyberloafing and individual-organization fit.

Based on the importance of the subject explained above, the study aimed to uncover the impact of

cyberloafing in the workplace on individual-organization fit and the role of career satisfaction in this relationship. In line with this purpose, the conceptual framework, study model, and hypotheses are included in the first part of the present study.

Quantitative study methods were used to conduct a survey on employees and managers in manufacturing businesses located in Kayseri Organized Industrial Zone. According to the analysis of the data obtained in the quantitative stage, it was concluded that cyberloafing reduces person-organization fit and that career satisfaction mediated the relationship between person-organization fit and cyberloafing. The present study is original in that it examines person-organization fit, cyberloafing and career satisfaction together. In the conclusion of the present study, suggestions for future studies were made in the light of the evaluation of the results obtained.

# **Conceptual Framework/Theory**

The concept of person-organization fit emerges in today's business world as a significant step, especially in the recruitment processes and as a factor that increases employee performance. Previous studies show that in organizations where person-organization fit is high, employees are problem solvers, participants in organizational activities, open to helping other workmates, willing to take on additional tasks and responsibilities to achieve organizational goals, and thus, employees show high performance (Chatman, 1991: 465; Kristof-Brown, Zimmerman, & Johnson, 2005: 283; Kristof-Brown, 2000: 651; Tsui, Pearce, Porter, & Tripoli, 1997: 1095; Kooij, Tims, & Akkermans, 2017: 9; Sezgin, 2006: 560; Loi, Hang-Yoe, & Folay, 2006: 108; Aktaş, 2011: 18; Menter, Göcke & Zeeb, 2024:930; Wuryaningrat et al., 2024:161; Jufrizen et al.,2024:360; Iqbal & Piwowar-Sulej, 2024: 301).

When the person-organization fit reaches a high level, in other words, when these actors have similar basic characteristics and meet each other's expectations and needs, the maximum benefit might be achieved, but high fit also has some disadvantages (O'Reilly et al., 1991: 492). To illustrate, according to Bakker & Demerouti (2007), high fit contains some risks over time and might create organization members who think and act in the same way over time. As a natural result of this, an organization closed to proactive and innovative thoughts might inevitably emerge (Bakker & Demerouti, 2017: 283; Raddaz, 2024: 13). Also, for employees with difficulty adapting themselves to the organization, this might cause them to show performance-reducing behaviors (Milliken, Morrison, & Hewlin, 2003: 1460; Vakola & Bouradas, 2005: 450).

Career, which is widely researched in the literature with many different definitions, is, in summary, the

# The Mediating Role of Career Satisfaction in the Impact of Person-Organization Fit on Cyberloafing

combination of the knowledge and experience a person has gained throughout their life. Career satisfaction, on the other hand, is the subjective evaluation of a person's success (Colakoglu, 2011: 50; Kong, Cheung & Song, 2012: 79). In other words, it is the positive expectations and perceptions of employees that they will achieve their future career targets associated with their jobs (Nauta, et al., 2009: 236; Yüksel, 2005: 304). Previous studies show that career satisfaction occurs when individuals are in an organization with values parallel to their own and employees are happy with all their experiences (Erdogan, Kraimer, & Liden, 2004: 307; Gürlek, 2020: 261). Employees who do not have career satisfaction or have low satisfaction levels might show negative behaviors towards the company, their performance might decrease, and might negatively affect the performance of other employees (McGinley, 2009: 12).

Despite the developing technology, one of the most significant resources in organizations is the human factor. Although the widespread use of the internet, the existence of automation systems, and the mechanization brought by technological developments reduce the workload of employees, a diversification in job requirements emerges in parallel with this new technology (Çivilidağ, 2017: 356). As the trade network in the globalizing world is based on the internet infrastructure, it provides significant contributions e.g., the establishment of cost-reducing, fast, and efficient communication networks, and the establishment of global communication and marketing networks (Liberman, Seidman, MC & Buffardġ, 2011: 2192). The necessity of intensive internet use in workplaces has become a situation that allows employees to spend their free time in a world that contains information outside of work. This is described as cyberloafing and is addressed in two categories significant cyberloafing and insignificant cyberloafing (Blanchard & Henle, 2008: 1071; Henle, Kohut, & Booth, 2009: 909; Örücü & Yıldız, 2014: 110).

Significant cyberloafing is the attitude of employees who spend time on the internet by using the technological infrastructure and consumables of the workplace for matters other than work, which allows the workplace to deliberately cause production, time, and cost losses (Ünal & Tekdemir, 2015: 95; Kaplan & Oğüt, 2012: 10; Lim, 2002: 687). Although employees use their personal mobile technologies during working hours, they are interpreted as cyberloafing because they perform this action during working hours (Keklik, Kılıç, Yıldız & Yıldız, 2015: 130; Çiçek, 2020: 199). Also, actions e.g., playing games, spending time on sites that adults might access, surfing on topics unassociated with work, and online gambling are considered serious loafing (Blanchard & Henle, 2008: 1068).

However, the attention span of a medically normal individual is 20 minutes (Dukette & Cornish, 2009:

72). Expecting an employee to focus on their work for 8-10 hours without taking a break from the start of the shift is not in line with human nature. Employees need time to relax, shop, and surf the internet for no reason at all in the workplace. They might use this time for entertainment purposes unassociated with their work (Özkalp, Aydın & Tekeli, 2012: 21). The momentary loafing behaviors that employees have, e.g., using social media, surfing the internet, and sending e-mails regarding their matters, enable them to be more productive than in the past, cope with the stress they face more easily, and increase job satisfaction (Askew, et al., 2014: 515; Kaplan & Çetinkaya, 2014: 30; Andreassen, Torheseim & Pallesen, 2014: 913; Lim & Teo, 2024: 443).

When the literature was reviewed, it was found that significant cyberloafing has negative impacts on the integration of person-organization fit and unproductive behaviors emerge (Liberman, Seidman, MC & Buffardġ, 2011: 2192; Mea, 2024: 28; Lim, 2002: 687; Dabney, 1995: 315). On the other hand, since it was found that insignificant cyberloafing has a productivity-enhancing impact (Andreassen, Torheseim & Pallesen, 2014: 913; Örücü & Yıldız, 2014: 113), it is considered that it will have positive impacts on employee-organization fit. Increasing levels of person-organization fit have increasing impacts on career satisfaction (Gürlek, 2020: 260; Akkan, 2022: 43; Park & Hai, 2024: 852).

According to the above explanations and study results, it might be speculated that career satisfaction will have a mediating role in the impact of person-organization fit on cyberloafing. In this context, the main purpose of the present study is to determine the impact of person-organization fit on cyberloafing and the mediating role of career satisfaction between the variables. The hypotheses and study model created in this framework are as follows.

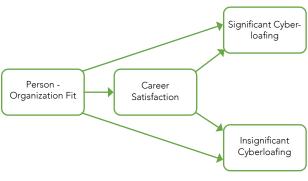


Figure 1. Research Model

**H1:** Person-organization fit has a negative impact on cyberloafing

**H2:** Person-organization fit has a negative impact on minor cyberloafing.

**H3:** Person-organization fit has a positive impact on career satisfaction.

**H4:** Career satisfaction has a negative impact on significant cyberloafing.

**H5:** Career satisfaction has a negative impact on frivolous cyberloafing.

**H6:** Career satisfaction has a mediating impact on the relationship between person-organization fit and cyberloafing.

**H7:** Career satisfaction has a mediating impact on the relationship between person-organization fit and insignificant cyberloafing.

### Method

The study was conducted to test hypotheses developed based on literature data. The present study method was quantitative. The data were collected through face-to-face surveys and were analyzed using the Structural Equation Modeling, which was preferred because it is a powerful method in that it might test multiple variables together (Russell, Kahn & Altmaier, 1998: 18) and might produce more effective results in mediation analysis (Little, Card, Bovaird, Preacher & Crandall, 2007: 212). In the analysis of the data, the SPSS v24 package program was used to determine pretests and descriptive statistics, and IBM AMOS v24 package program was used for SEM and CFA analyses.

# **Population-Sample**

The population of the present study consisted of employees and managers of manufacturing enterprises operating in Kayseri Organized Industrial Zone. The sampling method of the present study was Convenience Sampling. The reason for choosing this method is that it is an improbable method and offers advantages e.g., geographical proximity, accessibility at a certain time and voluntary participation (Etikan, Musa, & Alkassim, 2016). According to the data of Kayseri Governorship, the number of employees in Organized Industrial Zone is 70000 (kayseri.gov. tr, 2024). The sample size was calculated as 394 with a 5% error margin using the power analysis method suggested by Kadam and Bhalerao (2010) (Kadam & Bhalerao, 2010). Since 430 people participated in this study, it was concluded that the sample size was sufficient. Information about the participants is shared in the table below.

Table 1. Participant Information

		Num- ber	Percen- tage
Cl	Female	218	50.7%
Gender	Male	212	49.3%
Marital	Married	345	80.2%
status	Single	85	19.8%

	Employee		66.5%
Title Executive		286	
		144	33.5%
	Less than 1 Year	38	8.8%
	1 Year – 5 Years	76	17.7%
Total	6 Years – 10 Years	91	21.2%
Wor- king	11 Years – 15 Years	70	16.3%
Hours	16 Years – 20 Years	85	19.8%
	More Than 21 Years	70	16.3%
	18 – 25 Years Old	127	29.5%
Age	26 – 35 Years Old	210	48.8%
Infor- mation	36 – 45 Years Old	80	18.6%
	46 – 55 Years Old	13	3.1%
	Literate	3	0.7%
Educa-	Primary education	21	4.9%
tional	High school	330	76.7%
Status	Associate Degree	66	15.3%
	University	10	2.3%

#### **Scales**

Person-Organization Fit Scale: This single-dimension, four-item scale developed by Netemeyer et al. (1987) was used (Netemeyer, Boles, O. & McMurrian, 1987: 95). Sample scale items were "I think my values match well with my workplace" and "My workplace has the same values as me regarding honesty".

Career Satisfaction Scale: The single-dimension, five-item scale developed by Greenhaus et al. (1990) was used in the study (Greenhaus, Parasuraman & Wormley, 1990: 72). Sample scale items were "I am satisfied with the success I have achieved in my career" and "I am satisfied with the progress I have made towards achieving my career development goals".

Cyberloafing Scale: The scale consisting of two dimensions called significant cyberloafing activities and insignificant cyberloafing activities developed by Örücü and Yıldız (2014) was used in the study (Örücü & Yıldız, 2014: 113). The significant cyberloafing activities dimension of the scale consists of 8 items, and the insignificant cyberloafing activities dimension consists of 6 items. Sample scale items are "Downloading music, videos, movies or documents from the Internet" and "Receiving, sending or checking e-mail for non-work-related communication". The scale items consisted of 7 Likert-style statements (1-Strongly Disagree, 7-Strongly Agree).

# **Analysis of Data**

A two-stage approach was followed for the analysis of the data (Anderson & Gerbing, 1992: 322). In this

# The Mediating Role of Career Satisfaction in the Impact of Person-Organization Fit on Cyberloafing

context, firstly the prerequisites of the data e.g., factor analysis and common method variance analysis were examined. Before proceeding to this stage, the distribution normality of the data was checked and their suitability for the SEM approach was determined. To this end, skewness and kurtosis values were examined and it was seen that they were between -1.5 and +1.5. Based on these results, it was concluded that the distribution was normal (Bai & Ng, 2005: 51; Tabachnick & Fidell, 2007: 80-81). Harman's "Single Factor Test" approach was applied for the

common method variance error. Thus, since the variance value formed when all variables were forced to a single factor distribution was determined to be 29%, it was concluded that there was no common method variance error (Harman, 1976: 11). Then, confirmatory factor analysis was performed. A basic four-factor model and three alternative models were developed and the Chi-Square differences were tested to see which model fit the data better (Anderson & Gerbing, 1988: 421) (Anderson & Gerbing, 1988).

Table 2. Factor Analysis Results

Model	Factor	χ2	df	△ χ2	RMSEA	IFI	TL	CFI
Main Model	4-Factor Research Model	544.16	229		0.078	0.941	0.944	0.938
Model 1	3-Factor Model: Major and minor cyberloafing are grouped under one factor	796.32	241	252.16 p=0.00	0.096	0.886	0.884	0.880
Model 2	2-Factor Model: Major and minor cyberloafing and career satisfaction are grouped under one factor	932.61	241	388.45 p=0.00	0.112	0.861	0.880	0.842
Model 3	Single-Factor Model: All variables are gathered under a single factor.	1586.1	243	1041.94 p=0.00	0.144	0.735	0.744	0.710

As given in Table 2, the four-factor main model has the best goodness of fit values ( $\chi$  2 / df = 2.736, IFI = 0.941, TLI = 0.944, CFI = 0.938, RMSEA = 0.078). These results showed that the main model has good discriminant validity results (Hinkin, 1998: 105; Steiger, 1990: 175). To further test the discriminant validity, the steps suggested by Netemeyer et al. (1990) were followed. In this context, the square root of the variance (AVE) generated from the variables must

exceed the correlation coefficient between the variables. Also, for convergent validity, variance and factor values (AVE) and Composite Reliability (CR) coefficients were calculated and tested to find out whether they were within the accepted values (AVE = 0.50; Factor loading = 0.50; CR = 0.70) (Fornell & Larcker, 1981: 41). The results are shared in Tables 3 and 4.

Table 3. Factor Analysis Results

Variables	Items	Factor Loading	CR	AVE	Alpha
	POF1	0.811	0.811	0.519	0.818
Person-Organi-	POF2	0.716			
Person-Organi- zation Fit	POF3	0.654			
	POF4	0.691			

### Sibel Bilkay

	CS1	0.763	0.834	0.504	0.832
Career Satisfa- ction	CS2	0.781			
	CS3	0.632			
	CS4	0.625			
	CS5	0.733			
	SIGNIFICANTCA1	0.750	0.907	0.551	0.912
	SIGNIFICANTCA2	0.788			
	SIGNIFICANTCA3	0.698			
Significant	SIGNIFICANTCA4	0.646			
Cyberloafing Activities	SIGNIFICANTCA5	0.778			
	SIGNIFICANTCA6	0.824			
	SIGNIFICANTCA7	0.708			
	SIGNIFICANTCA8	0.731			
	INSIGNIFICANTCA1	0.607	0.857	0.507	0.860
	INSIGNIFICANTCA2	0.775			
Insignificant Cyberloafing Activities	INSIGNIFICANTCA3	0.603			
	INSIGNIFICANTCA4	0.544			
	INSIGNIFICANTCA5	0.793			
	INSIGNIFICANTSCA6	0.886			

As given in the table, all values meet the convergent validity criterion. Correlations between variables and other descriptive information are given in Table 4.

Table 4. Correlation Analysis Results

Scales	Standard Deviation	Mean	1	2	3	4
1. Person Organization Compliance	0.986	2.871	(0.720)			
2. Career Satisfaction	1.112	2.932	0.311**	(0.710)		
3. Significant Cyberloafing	1.205	3.954	-0.344**	-0.232**	(0.742)	
4. Insignificant Cyberloafing	1.186	3.651	-0.186*	-0.301**	0.456***	(0.712)
*p<0.05; **p < 0.01; ***p<0.001						

The correlation coefficients between the variables were significant and the square root of the variance values exceeded the correlation coefficients. When all of these results were examined together, it was concluded that the present study met all the criteria of convergent and discriminant validity, showed a

normal distribution, and there was no common method variance error in the present study. Thus, it was seen that the data showed successful results in the first step of the two-stage approach suggested by Anderson and Gerbing (1992) (Anderson & Gerbing, 1992: 322).

# **Hypothesis Tests**

In the second phase of the present study, which was hypothesis testing, the SEM approach was adopted and the goodness of fit values of the model established with the IBM AMOS v24 program are as follows:  $\chi$ 2/df = 2.908, IFI = 0.904, TLI = 0.898, CFI = 0.911, RMSEA = 0.078. These results showed that the main model had a good level of goodness of fit results (Hinkin, 1998: 112; Steiger, 1990: 178). The results obtained from the analysis are in the table below.

Table 5. Hypothesis Analysis Results

Path Analysis	β	Critical Ratio	R2
Person-organization fit →Significant Cyberloafing	-0.281***	-6,144	0,32
Person-organiza- tion fit →Insignificant Cyberloafing	-0.144*	-4,906	0,18
Person-organization fit →Career Satisfaction	0.348***	8,169	0,14
Career Satisfaction → Significant Cyberloafing	-0.186**	-5,141	0,32
Career Satisfaction →Insignificant Cyberloafing	-0.282***	-6,148	0,18
***p<0.001; **p<0	0.01; *p<0.0	 15	

As a result of the analysis, it was found that person-organization fit affected significant cyberloafing activities significantly and negatively ( $\beta = -0.281$ ; p<0.001) along with insignificant cyberloafing activities ( $\beta$  = -0.144; p<0.05). Besides person-organization fit affected career satisfaction significantly and positively ( $\beta = 0.348$ ; p<0.001). Also, career satisfaction significantly and negatively affected significant cyberloafing activities ( $\beta = -0.186$ ; p<0.01); insignificant cyberloafing activities ( $\beta = -0.282$ ; p<0.001).

According to Hair et al. (2010: 156) r2 values below 0.25 indicate a weak accuracy, below 0.50 indicate a moderate accuracy, and below 0.75 show a substantial predictive accuracy. When the R2 values were examined, it was determined that this value was respectively 0.32, 0.18 and 0.14 for the variables of significant cyberloafing, insignificant cyberloafing and career satisfaction.

The bootstrapping method was used to determine the mediating impact in the present study. The mediating impact results obtained with this method are given in the table below.

Table 6. Results of Mediation Analysis

Path Analysis	Direct Impact	Indirect Impact	Total Impact
Person-organization fit  → Career satisfaction  → Significant Cyberloafing	-0.281***	-0.065	0.346***
Person-organization fit  → Career satisfaction  → Insignificant Cyberloafing	-0.144*	-0.098**	-0.242**
***p<0.001; *p<0.05	; Bootstrap	ping samp	ole = 2000

As given in Table 6, in the analysis conducted with the bootstrapping method, the indirect impact parameter was insignificant for the "Person-organization fit →Career satisfaction →Significant Cyberloafing"  $(\beta = -0.065; p>0.05)$ , and was significant for the path "Person-organization fit →Career satisfaction →Insignificant Cyberloafing" ( $\beta$ = -0.098; p<0.01). Based on this result, it was concluded that career satisfaction mediates the relationship between person-organization fit and insignificant cyberloafing activities. The results of the hypothesis tests are given in the table below.

Table 7. Hypothesis Results

Hypothesis	Conclusion
<b>H1:</b> Person-organization fit has a negative impact on cyberloafing	Accepted
<b>H2:</b> Person-organization fit has a negative impact on minor cyberloafing.	Accepted
<b>H3:</b> Person-organization fit has a positive impact on career satisfaction.	Accepted
<b>H4:</b> Career satisfaction has a negative impact on significant cyberloafing.	Accepted

<b>H5:</b> Career satisfaction has a negative impact on frivolous cyberloafing.	Accepted
<b>H6:</b> Career satisfaction has a mediating impact on the relationship between person-organization fit and cyberloafing.	Rejected
<b>H7:</b> Career satisfaction has a mediating impact on the relationship between person-organization fit and insignificant cyberloafing.	Accepted

### **Conclusion**

Recent studies report that cyberloafing has a detrimental impact on person-organization fit (Kerse, Soyalın & Karabey, 2016; Lim & Chen, 2012: 350; Özkalp, Aydın & Tekeli, 2012: 21). The present study aimed to uncover the mediating role of career satisfaction in the impact of cyberloafing on person-organization fit. To this end, a quantitative study was conducted to test the hypotheses created through a literature review. A face-to-face survey was conducted with managers and employees of the manufacturing sector in Kayseri province to collect data for the present study.

According to the results of the relationships tested with the Structural Equation Modeling Approach, it was found that cyberloafing negative impacts on individual-organization fit. In other words, employees who commit cyberloafing at work lose their harmony with the organization and resort to using their own mobile devices or computer and internet services provided by businesses for business purposes in non-work activities. Of course, it is useful to emphasize that this is divided two significant and insignificant cyberloafing. According to the results of the present study, it was found that person-organization fit has negative impact on significant and insignificant cyberloafing. This finding of the present study is similar to the studies of Koay (2018), Gowrisankar and Vimala (2019) and Çiçek (2020). This situation is important as it shows that shirking is not a positive concept by no means.

According to another finding of the present study, it was found that person-organization fit has a positive impact on career satisfaction. The main reason for this might be the fact that a large part of the elements in Maslow's pyramid of needs (being oneself, dignity, physical needs, love) are provided by career satisfaction (Maslow, 1954: 92). This finding of the present study is similar to the studies of Akkan (2022), Gürlek (2020), Demirdelen & Ulama (2013) and McGinley (2009). Employees with high levels of satisfaction can be expected to exhibit work dedication, organizational citizenship, and other positive organizational behaviors.

Another finding of the present study is that career satisfaction has negative impacts on cyberloafing. Employees with high career satisfaction make significant contributions to business performance (Spurk, Abele, & Volmer, 2011: 316). The most significant outcomes of career satisfaction for organizations are organizational commitment, job satisfaction, increased psychological well-being in employees, and high performance (Çiçek, 2020: 210; Martin & Cullen, 2006: 177). Naturally, employees who are compatible with their workplace and have high career satisfaction levels are expected to avoid non-work, dysfunctional, and negative behaviors. For this reason, it is normal for cyberloafing and similar negative behaviors to decrease in workplaces where individuals have high career satisfaction.

The results of the mediating variable analysis showed that career satisfaction mediates the relationship between person-organization fit and insignificant cyberloafing. In other words, high individual-organization level and career satisfaction prevent cyberloafing. Based on this, it was concluded that "to have workplace efficiency, high-performance work of employees, employees who are in harmony with the workplace and have high career satisfaction, it is significant to take measures to control cyberloafing". As a result of the present study, the following suggestions are made.

- Employees who work in manufacturing businesses have to work more carefully than employees who work in other businesses. The slightest carelessness or negligence might cause irreparable outcomes. According to TURKSTAT data, in the last 3 months of 2024, the internet access rate of employees working as salaried or daily wage earners and managers was over 99% (TUIK, 2024), and according to ISIG Labor Assembly data, 878 employees lost their lives in the first 6 months of the year (ISIG, 2024). In light of this, it is recommended that measures be taken and rules be set to prevent cyberloafing, especially in manufacturing businesses.
- Instead of evaluating cyberloafing activities as manageable activities and immediately punishing them, the underlying reasons must be investigated. Another suggestion is to perform activities that increase the harmony between the individual and the organization of the employees and projects that strengthen the communication and bond between the superior and the subordinate.
- Since career satisfaction is a subjective assessment of individuals, for them to be in the place they have determined in their career plans, it is necessary to have a suitable organizational setting, to provide equal opportunities, to take into account organizational justice, and to operate mechanisms that help employees achieve their career goals. The belief that an employee who does his/her job well will get a good job will prevent the employee from

The Mediating Role of Career Satisfaction in the Impact of Person-Organization Fit on Cyberloafing

either virtual or actual loafing.

• New performance-based payment tools might be developed in manufacturing businesses. It is considered that the reward system will prevent cyberloafing.

The present study had some limitations. Firstly, it must be noted that there was a limitation in terms of generalization. The main reason for this is that the present study was conducted in one city. Also, it must be taken into account that employees might be subjective when answering variables e.g., cyberloafing, person-organization fit and career satisfaction. Finally, it is considered that the fact that the survey data were collected from all employees at the same time might cause common method variance errors.

The present study is original because it investigated the variables of cyberloafing, person-organization fit and career satisfaction together and in the manufacturing sector. It might be speculated that the present study findings are significant in terms of guiding the activities of the manufacturing sector in particular and all businesses in general. For this reason, it is expected that the present study will contribute to the relevant literature. Also, suggestions are made for future studies. In this context, it is recommended that future studies examine the impacts of cyberloafing on person-organization fit and test ethical leadership as a mediating variable.

#### References

Akkan, Ö. (2022). Okul Yöneticilerinde Kişi Örgüt Uyumunun Kariyer Tatmini Üzerine Etkisi. Balkan & Near Eastern Journal of Social Sciences (BNEJSS), 8(1), 43-47.

Aktaş, M. (2011). Kültürel değerler ve kişi örgüt-kişi iş uyumu ilişkisi: Kavramsal bir çerçeve. Selçuk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 26, 13-21. 8 22, 2024 tarihinde https://dergipark.org. tr/en/pub/susbed/issue/61803/924453 adresinden alındı

Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. Psychological Bulletin, 103(3), 411-423.

Anderson, J. C., & Gerbing, D. W. (1992). Assumptions and comparative strengths of the two-step approach: Comment on Fornell and Yi. Sociological Methods & Research, 321-333.

Andreassen, C. S., Torheseim, T., & Pallesen, S. (2014). Predictors of Use of Socia Network Sites at Work- A Specific Type of Cyberloafig. Journal of Computer-Mediated Communication, 906-921.

Askew, K., Buckner, J. E., Taing, M. U., Ilie, A., Jeremy, A., & Coovert, M. D. (2014). Explaining Cyberloafing: The Role Of Theory Of Planned Behavior. Computers in Human Behavior, 510-519.

Bai, J., & Ng, S. (2005). Tests for skewness, kurtosis, and normality for time series data. Journal of Business & Economic Statistics, 23(1), 49-60.

Bakker, A. B., & Demerouti, E. (2017). Job demands–resources theory: Taking stock and looking forward. Journal of occupational health psychology, 22(3), 273-285.

Blanchard, A., & Henle, C. A. (2008). Correlates of Different Forms of Cyberloafing: The Role of Norms and External Locus of Control. Computers In Human Behavior, 1067-84.

Chatman, J. A. (1991). Matching People and Organizations: Selection and Socialization in Public Accounting Firms. Administrative Science Quarterly, 36, 459-484.

Colakoglu, S. N. (2011). The Impact of Career Boundarylessness

on Subjective Career Success: The Role of Compencies, Career Autonomy and Career Insecurity. Journal of Vocational Behavior, 79(1), 47-59.

Çiçek, B. (2020). Organizasyonları Aşındırıcı Unsurlar Olarak Sosyal Dışlanma ve Sanal Kaytarma İlişkisi ve Bu İlişkide Etik İklimin Rolü. Journal of Management and Economics Research,, 18(2), 198-217.

Çivilidağ, A. (2017). İş Yaşamında Sanal Kaytarmanın İş Stresi, İş Doyumu İle İlişkisi Üzerine Bir Araştırma. Akademik Bakış Uluslararası Hakemli Sosyal Bilimler Dergisi, 59, 355-373.

Dabney, D. (1995). Neutralization And Deviance in the Workplace: Theft of Supplies and Medicines by Hospital Nurses. Deviant Behavior, 16(4), 313-331.

Demirdelen, D., & Ulama, Ş. (2013). Demografik Değişkenlerin Kariyer Tatminine Etkileri: Antalya'da 5 Yıldızlı Otel İşletmelerinde Bir Araştırma. İşletme Bilimi Dergisi, 1(2), 65-89.

Dukette, D., & Cornish, D. (2009). The Essential 20: Twenty Components of an Excellent Health Care Team (ISBN 1-4349-9555-0 b.). Pittsburgh, USA: Dorrance Publishing.

Erdogan, B., Kraimer, M. L., & Liden, R. C. (2004). Work Value Congruence and Intrinsic Career Success: The Compensatory Roles of Leader Member Exchange and Perceived Organizational Suppor. Personel Psychology, 57(2), 305-332.

Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. American journal of theoretical and applied statistics, 5(1), 1-4.

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. Journal of Marketing Research, 18(1), 39-50.

Gowrisankar, M., & Vimala, K. (2019). Antecedents of Cyberloafing in Automobile Parts Manufacturing Industry: A Descriptive Study. Cikitusi Journal for Multidisciplinary Research, 6(4), 416-419.

Granek, L., Barron, D. J., Kulkarni, A. V., & Wong, A. M. F. (2024). The role of gender in career satisfaction for female surgeons. Qualitative Psychology, 11(2), 213–234. https://doi.org/10.1037/qup0000280

Greenhaus, J. H., Parasuraman, S., & Wormley, W. M. (1990). Effects of race on organizational experiences, job performance evaluations, and career outcomes. Academy of management Journal, 33(1), 64-86.

Gürlek, M. (2020). Kişi-Çevre Uyumu ve Kariyer Tatmini Arasındaki İlişkilerin Modellenmesi. Balıkesir Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 23(43), 255-281.

Hair J. F., Black, W. C., Babin, B. J. & Anderson, R. E. (2010). Multivariate data analysis (Vol. 7). Prentice Hall.

Harman, H. H. (1976). Modern factor analysis. Chicago: University of Chicago press.

Henle, C. A., Kohut, G., & Booth, R. (2009). Designing Electronic Use Policies to Enhance Employee Perceptions of Fairness and to Reduce Cyberloafing: An Empirical Test of Justice Theory. Computers in Human Behavior, 25, 902-910.

Hessari, H., Daneshmandi, F., Busch, P., & Smith, S. (2024). Mitigating cyberloafing through employee adaptability: the roles of temporal leadership, teamwork attitudes and competitive work environment. Asia-Pacific Journal of Business Administration Advance online publication. https://doi.org/10.1108/APJ-BA-02-2024-0065.

Hinkin, T. R. (1998). A brief tutorial on the development of measures for use in survey questionnaires. Organizational Research Methods, 11(1), 104-121.

Iqbal, Q., & Piwowar-Sulej, K. (2023). Organizational citizenship behavior for the environment decoded: sustainable leaders, green organizational climate and person-organization fit. Baltic Journal of Management, 18(3), 300-316.

ISIG Meclisi: https://ankahaber.net/haber/detay/isig\_meclisi\_2024\_yilinin\_ilk\_6\_ayinda\_en\_az\_878\_isci\_hayatini\_kaybetti\_187396 [Access Date: 29.08.2021].

### Sibel Bilkay

Jufrizen, J., Khair, H., Siregar, A. P. W., & Hawariyuni, W. (2023). Person-Organization Fit and Employee Performance: Mediation Role Job Satisfaction and Organizational Commitment. Jurnal Organisasi dan Manajemen, 19(2), 360-378.

Kadam, P., & Bhalerao, S. (2010). Sample size calculation. International journal of Ayurveda research, 1(1), 55.

Kaplan, M., & Çetinkaya, A. Ş. (2014). Sanal Kaytarma Ve Demografik Özellikler Açısından Farklılıklar. Anatolia: Turizm Araştırmaları Dergisi, 26-34.

Kaplan, M., & Öğüt, A. (2012). Algılanan örgütsel adalet ile sanal kaytarma arasındaki ilişkinin analizi: Hastane çalişanlari örneği. İşletme Fakültesi Dergisi, 13(1), 1-13.

Keklik, B., Kılıç, R., Yıldız, H., & Yıldız, B. (2015). Sanal kaytarma davranışlarının örgütsel öğrenme kapasitesi üzerindeki etkisinin incelenmesi. Business and Economics Research Journal, 129-144.

Kerse, G., Soyalın, M., & Karabey, C. N. (2016). Kişi-örgüt uyumu, nötrleştirme ve algılanan yönetici desteğinin sanal kaytarmaya etkisi: Ampirik bir çalışma. Aksaray Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi, 8(4), 100-113.

Koay, K. Y. (2018). Workplace Ostracism and Cyberloafing: A Moderated–Mediation Model. Internet Research, 28(4), 1122-1141.

Kong, H., Cheung, C., & Song, H. (2012). From Hotel Career Management to Employees' Career Satisfication: The Mediating Effect of Career Compency. International Journal of Hospitality Management, 31(1), 76-85.

Kooij, D. T., Tims, M., & Akkermans, J. (2017). The influence of future time perspective on work engagement and job performance: The role of job crafting. European Journal of Work and Organizational Psychology, 26(1), 4-15. doi:https://doi.org/10.1080/1

Kristof-Brown, A. L. (2000). Perceived applicant fit: Distinguishing between recruiters' perceptions of person-job and person-organization fit. Personnel Psychology, 53(3), 643-671. doi:https://doi.org/10.1111/j.1744-6570.2000.tb00217.x

Kristof-Brown, A. L., Zimmerman, R. D., & Johnson, E. C. (2005). Consequences of individuals' fit at work: A meta-analysis of person-jop, person-organization, person-group, and person-supervisor fit. Personnel Psychology, 58(2), 281-342. doi:https://doi.org/1

Liberman, B., Seidman, G., M. K., & Buffardġ, L. E. (2011). Employeejobattitudes and organizational characteristics as predictors of cyberloafing. ComputersinHuman Behavior, 27(6), 2192-2199.

Lim, V. K. (2002). The IT way of loafing on the job: Cyberloafing, neutralizing and organizational justice. Journal of Organizational Behavior, 23, 675-694.

Lim, V. K., & Chen, D. J. (2012). Cyberloafing at the Workplace: Gain or Drain on Work? Behaviour&Information Technology, 31(4), 343-353.

Lim, V. K., & Teo, T. S. (2024). Cyberloafing: A review and research agenda. Applied Psychology, 73(1), 441-484.

Little, T. D., Card, N. A., Bovaird, J. A., Preacher, K. J., & Crandall, C. S. (2007). Structural equation modeling of mediation and moderation with contextual factors. Modeling contextual effects in longitudinal studies, 1, 207-230.

Loi, R., Hang-Yoe, N., & Folay, S. (2006). Linking Employees' Justice Perceptions to Organizational Commitment and Intention to Leave: the Mediating Role of Perceived Organizational Support. Journal of Occupational and Organizational Psychology, 79, 101-120

Martin, K. D., & Cullen, J. B. (2006). Continuities and Extensions of Ethical Climate Theory: A metaAnalytic Review. Journal of Business Ethics, 69(2), 175-194.

Maslow, A. (1954). Motivation and personality. New York: Harper. McGinley, D. M. (2009). Phd Thesis. Effects of career and marriage on newlywed individuals' marital and career satisfaction. University of Florida.

Mea, M. H. C. D. (2024). Can Ethical Leadership Using the Person-Organization Fit As A Mediating Role Encouraging Subordinate Ethical Behavior?. Maker: Jurnal Manajemen, 10(1), 24-38.

Menter, M., Göcke, L., & Zeeb, C. (2024). The organizational impa-

ct of business model innovation: assessing the person®organization fit. Journal of Management Studies, 61(3), 926-967.

Milliken, F. J., Morrison, E. W., & Hewlin, P. F. (2003). An exploratory study of employee silence: Issues that employees don't communicate upward and why. Journal of management studies, 40(6), 1453-1476.

Nauta, A., Van Vianen, A., Van der Heijden, B., Van Dam, K., & Willemsen, M. (2009). Understanding the Factors that Promote Employability Orientation: The İmpact of Employability Culture, Career Satisfaction and Role Breadth Self©Efficacy. Journal of Occupational and Organizational Psychology, 82(2), 233-251.

Netemeyer, R. G., Johnston, M. W., & Burton, S. (1990). Analysis of role conflict and role ambiguity in a structural equations framework. Journal of Applied Psychology, 75(2), 148-157.

Netemeyer, R. G., Boles, J. S., O., M. D., & McMurrian, R. (1987). An investigation into the antecedents of organizational citizenship behaviors in a personal selling context. Journal of marketing, 61(3), 85-98.

Nweke, G. E., Jarrar, Y., & Horoub, I. (2024). Academic stress and cyberloafing among university students: the mediating role of fatigue and self-control. Humanities and Social Sciences Communications, 11(1), 1-8.

O'Reilly III, C. A., Chatman, J., & Caldwell, D. F. (1991). People and organizational culture: A profile comparison approach to assessing person-organization fit. Academy of management journal, 34(3), 487-516.

Örücü, E., & Yıldız, H. (2014). İşyerinde kişisel internet ve teknoloji kullanımı: Sanal kaytarma. Ege Akademik Bakış, 14(1), 99-114.

Özkalp, E., Aydın, U., & Tekeli, S. (2012). Sapkın Örgütsel Davranışlar Ve Çalışma Yaşamında Yeni Bir Olgu: Sanal Kaytarma ( Cyberloafing) Ve İş İlişkilerine Etkisi. Çimento Endüstrisi İşverenleri Sendikası, 18-33.

Park, I. J., & Hai, S. (2024). Person-organization fit, person-job fit and organizational commitment among hotel employees: the roles of positive affect and calling. International Journal of Contemporary Hospitality Management, 36(3), 852-872.

Raddatz, P. A. (2024). Event-driven changes in person-organization fit: A conceptual integration and research agenda. Human Resource Management Review, 101040, https://doi.org/10.1016/j.hrmr.2024.101040.

Russell, D. W., Kahn, J. H., & Altmaier, E. M. (1998). Analyzing data from experimental studies: A latent variable structural equation modeling approach. Journal of counseling psychology, 45(1), 18-29

Sezgin, F. (2006). İlköğretim okulu öğretmenlerinin birey-örgüt değer uyumuna ilişkin algıları. Kuram ve Uygulamada Eğitim Yönetimi, 557-583. https://dergipark.org.tr/en/pub/kuey/issue/10349/126751 adresinden alındı

Spurk, D., Abele, A. E., & Volmer, J. (2011). The Career Satisfaction Scale: Longitudinal Measurement Invariance and Latent Growth Analysis. Journal of Occupational and Organizational Psychology, 15, 315-326.

Steiger, J. H. (1990). Structural model evaluation and modification: An interval estimation approach. Multivariate behavioral research, 25(2), 173-180.

Tabachnick, B. G. & Fidell, L. S. (2007). Using multivariate statistics (Vol. 5). Boston, MA: Pearson.

Tahiry, M. A., & Ekmekcioglu, E. B. (2023). Supervisor support, career satisfaction, and career adaptability of healthcare sector employees. Vilakshan-XIMB Journal of Management, 20(2), 292-301

Tsui, A. S., Pearce, J. L., Porter, L. W., & Tripoli, A. M. (1997). Alternative approaches to the employee-organization relationship: Does investment in employees pay off? Academy of Management Journal, 40(5), 1089-1121. doi:https://doi.org/10.2307/256928

TUIK: https://data.tuik.gov.tr/Bulten/Index?p=Hanehalki-Bilisim-Teknolojileri-(BT)-Kullanim-Arastirmasi-2023-49407 [Access

# The Mediating Role of Career Satisfaction in the Impact of Person-Organization Fit on Cyberloafing

Date: 29.08.2024].

Ünal, Ö. F., & Tekdemir, S. (2015). Sanal Kaytarma: Bir Kamu Kurumunda Ampirik Bir Araştırma . Süleyman Demirel Üniversitesi İİBF Dergisi, 20(2), 95-118.

Vakola, M., & Bouradas, D. (2005). Antecedents and consequences of organisational silence: an empirical investigation. Employee relations, 27(5), 441-458.

Kayseri Valiliği: http://www.kayseri.gov.tr/sanayii [Access Date: 29.08.2024].

Krishna, S. M., & Agrawal, S. (2023). Cyberloafing: exploring the role of psychological wellbeing and social media learning. Behavioral Sciences, 13(8), 649, https://doi.org/10.3390/bs13080649.

Wallace, P. (2004). The Internet in the Workplace: How New Technology is Transforming Work. Cambridge University Press.

Wuryaningrat, N. F., Paulus, A. L., Rantung, D. I., & Mandagi, D. W. (2024). The Relationship of Trust, Knowledge Transfer and the Person-Job and Person-Organization Fit as Moderating Effects. Journal of Indonesian Economy and Business, 39(2), 160-173.

Yüksel, İ.,. (2005). İletişimin İş Tatmini Üzeriindeki Etkileri: Bir İşletmede Yapılan Görgül Çalışma. Doğuş Üniversitesi Dergisi, 6(2), 291-306.

# Research Article

ROMAYA - Researches on Multidisiplinary Approaches 2024, 4(2): 23-34

ISSN:2791-9099

# The Approach Of Supply And Demand Parties To Second-Hand Clothing In The Context Of Ethical Fashion 60

Etik Moda Bağlamında İkinci El Giysiye Arz-Talep Taraflarının Yaklaşımı

### Nisa Nur Duman / Lect. (PHD Stu.)

Istanbul Beykent University, Vocational School, Fashion Design nisanurduman@beykent.edu.tr

#### Şerife Gülcü Yıldız / Assoc. Prof. Dr. (D)

Selçuk University, Faculty of Architecture and Design sgulcu@selcuk.edu.tr

#### **Abstract**

In recent years, arising from the fact that societies have realized the harmful impacts of consumption on the environment, ethics and sustainability have gained more significance. The increase in the second-hand consumption market has gained momentum based on the fact that both demand and supply components started to become conscious of these factors, acting in this direction in their shopping preferences. The aim of this research is to reveal the approaches of supply and demand parties in second-hand clothing stores to the concept of sustainability within the scope of ethical fashion and the reasons concerning selling and buying second-hand products. The population of the research consists of store owners/employees selling second-hand clothes in Kadıköy, Balat, and Galata regions in Istanbul and consumers making their purchases from these stores. In the study, the study group was determined by the criterion sampling technique, one of the purposeful sampling methods.

The data of this research carried out by utilizing qualitative research methods, were collected with a semi-structured interview form. The interview questions were prepared by consulting expert opinion. The study data were evaluated by content analysis and MAXQDA 2022 package program was used in the evaluation and coding of the data. When the obtained data was analyzed, it was found that the reasons for the second-hand clothing preference of the participants constituting the supply and demand sides were primarily economic reasons, followed by sustainable environment awareness.

**Keywords:** Sustainability, ethical fashion, second-hand clothing, supply and demand.

**JEL Codes:** L67, S56, Q01

# Özet

Son yıllarda tüketimin çevreye olan zararlı etkilerinin toplum tarafından fark edilmeye başlaması ile birlikte etik ve sürdürülebilirlik konuları hızla öne çıkmaktadır. Arz taraflarının olduğu kadar talep taraflarının bu konular ile ilgili bilinçlenmeye başlaması ve alış veriş tercihlerinde bu doğrultuda hareket etmeye başlaması ile ikinci el tüketim piyasasında artış meydana gelmiştir. Bu araştırmanın amacı, ikinci el giysi satan mağazalardaki arz ve talep taraflarının etik moda kapsamında yer alan sürdürülebilirlik kavramına yaklaşımlarını ve ikinci el ürün satma ve alma nedenlerini ortaya koymaktır. Araştırmanın evrenini, İstanbul ilinde yer alan Kadıköy, Balat ve Galata bölgelerinde ikinci el giysi satışı yapan mağaza sahipleri/çalışanları ve bu mağazalardan alışveriş yapan tüketiciler oluşturmaktadır. Araştırmada, çalışma grubunun amaçlı örnekleme yöntemlerinden ölçüt örnekleme tekniği ile belirlenmiştir. Nitel araştırma yöntemlerinden faydalanılarak gerçekleştirilen bu araştırmanın verileri, yarı yapılandırılmış görüşme formu ile toplanmıştır. Araştırmacılar tarafından geliştirilen görüşme sorularının hazırlanması sırasında alanda uzman akademisyenlerin görüşlerine başvurulmuş ve gerekli düzenlemelerin ardından sorulara son şekli verilerek araştırmaya başlanmıştır. Çalışma verileri içerik analizi ile değerlendirilmiş olup, verilerinin değerlendirilmesi ve kodlanmasında MAXQ-DA 2022 paket programı kullanılmıştır. Elde edilen bulgular incelendiğinde arz ve talep taraflarını oluşturun katılımcıların ikinci el giysi tercih nedenlerinin öncelikli olarak ekonomik sebepler ardından ise sürdürülebilir çevre bilinci olduğu görüşüne ulaşılmıştır.

Anahtar Kelimeler: Sürdürülebilirlik, etik moda,

ikinci el giysi

**JEL Kodları:** L67, S56, Q01

#### Introduction

As one of the oldest and largest sectors in the world, the textile and fashion industry is an indispensable part of people's daily lives, nonetheless, it is one of the sectors causing the most damage to the environment in the production and consumption phases. This sector is the second largest industry worldwide with the amount of water used in production processes and the chemical ratios released to the environment. The rapid growth and expansion of the sector within the last twenty years have brought the sector to an unsustainable status. Clothing production has approximately doubled owing to the growing middle-class population worldwide and increasing per capita sales in developed economies. On the other hand, with the increase in the number of collections and low prices, the concept of "fast fashion" in the textile and fashion world has taken producers to the final level of the linear production and consumption system (Gabriel & Delgado Luque, 2020: 21). It is believed that the solution to eradicating environmental and social problems caused by the global market will only be feasible if more companies and consumers adopt and implement sustainable strategies (Dağcı Büyük, Ünal & Erciş, 2020: 1159).

Bringing together the concepts of sustainable development and fashion, despite the fact that the concept of "sustainable fashion" has been contradictory until recently, it is of vital importance today. In "Our Common Future", also known as the Bruntland Report published by the World Commission on Environment and Development (WCED, 1987), the concept of sustainable development is defined as "development that meets the needs of present generations without jeopardizing the ability of future generations to meet their own needs". In the report, it is mentioned that to achieve sustainable development, three vital dimensions, namely environmental, social, and economic, should be emphasized simultaneously (Sætra, 2022: 2). A negative change in any of these components implies that the other two dimensions may also encounter long-term losses. For this reason, sustainability may suffer serious damage as the balance between dimensions will be disturbed (Özender Yücel, 2022: 9). Although the goal of sustainability in fashion is quite clear, the methods of achieving sustainability are not clear. Sustainable fashion is a complex endeavor involving many idealisms, but many of its elements need to be considered on a practical level (Aakko & Koskennurmi-Sivonen, 2013: 14).

Throughout history, people have often had difficulties accessing clothes. Since clothes produced from natural resources were limited and limited production was allowed for bartering, people had very few clothes in ancient times. Due to these constraints, clothing production was essentially ecologically sustainable through the artisanal production system.

Throughout the long history of mankind, the global circulation of clothing has been a key force in economic globalization (Brooks, 2015: 8). Today, rapid and dynamic garment production driven by cutting-edge technologies has many negative environmental and social impacts occurring within the product life cycle (Parthiban, Srikrishnan & Kandhavadivu, 2017: 9). For each garment purchased, more than the price tag is paid considering factors such as the reduction of resources as a result of overconsumption, environmental pollution, and labor force exploitation. The fashion industry has increasingly complicated the environmental and social relationships over the past fifty years by adopting a "fast fashion" business model and moving its production processes from the north to the south and east in search of low labor costs. This has increasingly complicated the environmental and social relationships over the past fifty years (Köse & Aydın, 2020: 89).

The fashion industry has determined the "fast fashion" business model in the last fifty years and has largely moved its production from the north to the south and east in search of low operating costs, thus the relationships on the environment and social society have become even more complicated.

The textile and fashion industry employs twenty-five million people worldwide and is a source of livelihood for societies, also contributing to women's independence and the establishment of important infrastructures in underdeveloped countries. Thus, fashion can be seen as a vibrant and innovative economic and socio-cultural field offering values at individual, social, institutional and national levels. The easy accessibility of fashion, its emotional language along with its central role in identity formation and communication experiences position it as the driving force of consumption and potentially as a means of change, nevertheless, the harmful impacts of clothing on the deterioration of natural systems due to its relatively high carbon footprint is also increasing (Fletcher & Tham, 2015).

In this study, second-hand clothing consumption is discussed in the context of ethical fashion and its importance for sustainability. Second-hand product consumption has made rapid progress in recent years. The behavior of using second-hand products appears as a process consisting of resale, recycling, gifting, exchange and reuse activities of consumers. Consumers obtain second-hand products through sales channels consisting of online sales sites, flea markets as well as vintage stores.

The aim of this research is to reveal the approaches of supply and demand parts in second-hand product markets to the concept of sustainability within the scope of ethical fashion and the reasons for selling and buying second-hand products. In the research conducted for this purpose, after explaining the relationship between sustainability and ethical fas-

The Approach Of Supply And Demand Parties To Second-Hand Clothing In The Context Of Ethical Fashion

hion, the opinions of the supply parties selling second-hand clothes and the demand parties buying second-hand clothes were evaluated in light of the data collected.

# **Sub-objectives**

- 1. To reveal the reasons of second-hand clothing sellers for selling second-hand products,
- 2. To reveal the reasons for second-hand product preference by consumers,
- 3. To reveal the level of knowledge of second-hand clothing supply and demand parties regarding the concept of ethical fashion,
- 4. To reveal the demand intensity of second-hand clothing,
- 5. To reveal the approaches of second-hand clothing consumers towards their old and worn clothes.

# The Concept of Sustainability

In recent years, it is seen that many researchers have addressed the environmental sustainability problems and social responsibility concerns of the fashion industry in comprehensive studies carried out on sustainability. Sustainable fashion, which emerged as a movement against the use of clothes harming the environment, unnecessary shopping, the injustice against the labor force working in production, wasting water and energy, is achieved by including the people, processes and the natural environment in the system (Janigo, Wu & DeLong, 2017: 256). Due to negative environmental impacts and lack of sustainability, changes in consumption behavior need to be directed toward reducing, recycling and reusing. For decades many countries have tried to change misusage and overconsumption by establishing sustainable practices in various fields, including the fashion industry. The expansion of the fashion industry is driven by the growth of economies and the global population, as well as fast fashion cycles (Yoo, Jung, & Oh, 2021: 2584). However, the fashion industry has faced many environmental and social challenges arising from a global network of suppliers, manufacturers, retailers, transport companies, and warehouses involved in the complex supply chain structure (Fletcher, 2014: 169).

Environmental and human health risks arise at the very beginning of the fashion life cycle and continue to exist. Toxic chemicals in pesticides have increased yields in conventional cotton production, but have caused illness and death among workers, especially in countries with inadequate environmental regulations. In addition, fabric dyeing and other finishing processes use harmful chemicals polluting great amounts of water. Concerns have also been raised about workers' welfare and social rights in garment

factories, with problems of forced labor, exploitation of child labor and safety violations (Janigo, Wu & De Long, 2017: 259).

According to a study conducted by Cambridge University on sustainable clothing, it is observed that approximately 2.15 million tonnes of clothes are purchased annually and 1.1 million tonnes of clothes are thrown away. In order to shed light on the mentioned amount, it is worth mentioning that one tonne of clothing fits in approximately 200 large garbage bags. For this reason, instead of throwing away clothes, it is increasingly necessary to get rid of habits, reduce purchases, and search for ways to reuse old clothes (Tekin Akbulut, 2012: 40). The concept of sustainable fashion is not limited to the purchasing process, it encompasses the post-purchase phase as well. The post-purchase phase is concerns with whether the consumer reuses, recycles, or simply throws away the garments (Başar, 2022: 17).

Sustainable design in fashion needs to comprise not only economic but also cultural, social, ethical and environmental values. In order to establish the concept of sustainability in the fashion sector, fashion designers, manufacturers, the market and consumers need to change their behavior (Mangır, 2016: 148). In parallel with this objective, designers tend to design using the cradle-to-cradle model, which directs them to design a product considering all stages of the garment's life cycle, including what happens to the garment when it is dispensed or discarded (Başar, 2022: 10).

# Sustainability and Ethical Fashion Relationship

The concept of ethics is one of the basic elements of sustainable fashion. In the discipline of sustainable fashion, it is necessary to delineate certain ethical values to tackle current ecological problems. Consumers are less aware of the environmental and social aspects of their fashion choices (Connell, 2011). Fashion production is a long, complex and exploitative process involving collective labor abuses such as low wages, overtime hours, ignored trade union rights, illegal child labor, etc, also being considered one of the largest industrial polluters (Başar, 2022).

When the issue of sustainability in the clothing and textile sector is approached from the consumer perspective, it is seen that consumers are turning towards sustainable or environmental products with the increase in their awareness and concerns about environmental issues. However, sustainable consumption does not adequately affect the clothing purchasing decisions individuals make. Because individuals find sustainable clothing products quite costly, they think there are few product options and that the products have some disadvantages concerning the aesthetic and functional aspects (Büyük,

Ünal & Erciş, 2020).

Clothing choice often reflects the identity of consumers and identity is of high significance as far as the fashion consumers are concerned. Therefore, sustainable and ethical factors are not taken into consideration by consumers in their purchasing decisions, which implies that encouraging consumers' environmental interest and sustainable purchasing behaviours in the clothing and textile sector is important for promoting sustainable consumption (Büyük, Ünal, & Erciş, 2020). In this context, the ethical fashion concept is among the orientations of individuals with social awareness and social responsibility. Issues such as how the clothes are produced, by whom and under what conditions, whether an environmentalist approach is observed during the period from production to consumption, and if textile raw materials are examined under the ethical fashion concept (Tekin Akbulut, 2012).

Considering the fact that there is no single industry standard, Ethical fashion is difficult to define. Moreover, it often has characteristics in common with other movements such as fair trade, ecology or green fashion. Ethical Fashion is an all-encompassing term describing ethical fashion design, production, retailing and purchasing. It covers a range of issues such as working conditions, exploitation, fair trade, sustainable production, environment and animal welfare (Parthiban, Srikrishnan & Kandhavadivu, 2017). The principle is to source garments ethically while ensuring charitable labor standards and conditions for workers and a sustainable business model in the source country. In addition, organic material is used to minimize the impact on the environment. As a result, ethical fashion can be defined as fashionable garments that combine fair trade principles with sweatshop-free working conditions that by using biodegradable and organic cotton do not harm the environment or workers (Joergens, 2006: 361). There are a number of negative environmental consequences associated with the production processes that take place before consumers acquire and use apparel, including reduced biodiversity, air, water and soil quality and increased greenhouse gas emissions, depleted water resources and other renewable resources, as well as diminishing non-renewable resources. Therefore, the negative environmental impacts of garment and textile production are also indirect environmental impacts of garment consumption (Connell, 2011: 62).

### **Second-Hand Clothing Consumption**

One approach for consumers to promote sustainability in fashion is to use second-hand clothing. Second-hand clothing is an example of recycling extending its useful life. Second-hand shopping also reduces the amount of discarded clothing sent to landfills through reuse and the negative environ-

mental impact caused by the accumulation of textile waste. Second-hand shopping also provides a sense of adventure and a valuable shopping experience at a low cost. For consumers, second-hand shopping is a way of creating and expressing a socially conscious self (Başar, 2022: 15). Items used before by at least one person are defined as second-hand goods. Clothing items have a large share in the second-hand goods market, which is usually evaluated together with antique, retro and vintage products (Deniz, 2020: 1493).

Analyzing the historical process of second-hand consumption, it is observable that it has existed for a long time in Europe and America. When the related field studies are analyzed, it is determined that second-hand consumption is divided into three periods. The period when second-hand consumption emerged and spread in the 18th and 19th centuries, the period when it fell out of favour in the 20th century and finally the 21st century when it regained popularity. When these periods are analyzed, it is revealed that factors such as the Industrial Revolution, capitalism and mass production in the 20th century gave momentum to production-consumption relations, and in the following period, the understanding of producing and consuming was replaced by the perception of consumption beyond compulsory needs. As a consequence of this awareness, second-hand consumption has attained popularity (İşçioğlu & Yurdakul, 2018: 254). Today, the second-hand clothing trade in Western societies is dominated by mostly non-profit charitable organisations and recycling firms, both in domestic and foreign markets. In recent years, growing environmental concerns in the West have increased both the profitability and the prestige of this trade besides giving its practitioners a new prestige as textile rescuers and waste recyclers (Palmer & Clark, 2005).

Many American and European tourists who have recently travelled to African cities have noticed that used clothes from Western countries are being sold in clothing markets. In developed and wealthy countries thousands of kilometres away, such as the United States and the United Kingdom, very few people contemplate what happens to their clothes after they have disposed of them or given them to a recycling company or charity. Many of these clothes end up in stalls in third-world countries. Many people maintain that they did not realise the fact that instead of reaching those in need, their unworn/out-of-fashion clothes were being sold in Africa and that companies were making significant profits. The international trade in second-hand clothes is a counter-current to the flow of new clothes, but it only makes sense if it is considered in harmony with the production of new clothes and what is known as fast fashion (Brooks, 2015: 3). Reusing clothes is associated with reducing the amount of discarded clothing and thus reducing environmental pollution. Second-hand and vintage clothing is becoming more and more popular nowadays, both for the environmental benefits and for personal style (Park & Lin, 2020: 625). In addition, the second-hand clothing trade has changed its dimension with the opening of "vintage" stores, online sales channels and clothing libraries. Affected by the impact of digitalisation, online channels for second-hand clothing sales are growing 4 times faster than traditional retailing, in this respect, resale also encourages the production of durable products as only products designed for longevity create resale opportunities (Atalay Onur, 2020: 29).

#### Method

In this part of the study, the research model, study group, data collection tool and data analysis are presented.

This study, which was conducted with a qualitative research method, has a case study design. Qualitative research regularly seeks answers by examining different social environments and the groups or individuals constituting these environments. In addition, qualitative techniques allow researchers to share in other people's understandings and perceptions and to explore how people structure and give meaning to their daily lives (Berg & Lune, 2019: 13). The case study within the qualitative research method is defined as a qualitative in-depth investigation of one or more explanatory situations (Berg & Lune, 2019: 14). It ensures that the current phenomenon is dealt with in its real context (Akdemir & Kılıç, 2021: 489).

The universe of the study consists of second-hand stores and consumers who shop for second-Hand Clothes in Istanbul Province. Criterion sampling method, which is one of the purposeful sampling methods, was used to determine the sample group of the study. Purposive sampling helps the researcher to reach important sources of information on the subject, event or phenomenon to be investigated and allows in-depth examination of the situations to be investigated (Akdemir & Kılıç, 2021: 489). In the criterion sampling method, the main purpose is to form the sample from people, events, objects or situations with the qualifications determined in relation to the problem (Büyüköztürk, et. al.,2009). The first criterion of the study group determined by the criterion sample method the Kadıköy, Balat and Galata regions in the province of Istanbul, where there is a high density of second-hand clothes shopping, have been selected. The main criterion determined by the researchers in the selection of the stores where the application will be carried out in this research has been specified above, and the fact that the consumers participating in the research are shopping in the stores in the specified regions has been determined as the second criterion. Accordingly, the sample group consists of a total of 21

volunteer participants, 8 store owners / employees / supply side and 13 consumers / demand side who shop in these stores. The interviews were conducted with a semi-structured interview form and lasted an average of 15 minutes. The aim of the study is to select the regions with different sociocultural structures where second-hand shopping is intense and the stores that are of great interest to consumers in these regions. In this context, the study is limited to the questions in the semi-structured interview form and 8 store owners / employees / supply side and 13 consumers / demand side who shop from these stores in Kadıköy, Balat and Galata regions in Istanbul. In the study, as data collection tools, an 11-item semi-structured interview form for supply sides and a 13-item semi-structured interview form for consumers developed by the researchers were used.

The interview questions were prepared compatible to be conducted with this type of interview technique. These questions were asked to the interviewees in the same order, but the interviewee is allowed to answer the questions as broadly as he/she wishes during the interview (Yıldırım & Şimşek, 2011). In order to ensure the internal validity of the prepared interview form and to check to what extent it serves the purpose, its comprehensibility and applicability, it was submitted to the opinions of academicians who are experts in their fields. In line with the feedback from the experts, the questions in the interview form were corrected and applied to the sample.

In order to ensure external validity, the researcher who will carry out a study by utilizing qualitative research methods should inform the research participants about all stages of the research (Yıldırım & Şimşek, 2011: 257). For this reason, detailed explanations were given to the participants at all stages of the research. The participants were not forced to participate in the research and participation was voluntary.

The validity and reliability of the research were ensured by giving in-depth profiles of the study area and the participants in the research, as well as trying to ensure the consistency of the data within themselves (Yıldırım & Şimşek, 2011). In addition, the fact that the two researchers conducting this research reviewed all the data several times and made a joint decision, to make the research reliable. The interview questions were directed to each participant with the same words and intonations to evoke the same meaning. After data collection, the answers were categorised by coding method. Firstly, the data were transcribed and then the findings were interpreted. According to the ethics of scientific research, the names of the participants were kept confidential and could not be deciphered anywhere in the study. The participant store owners/supply parts A1, A2, A3, A4, A5, A6 .....; consumers/demand sides T1, T2, T3, T4, T5, T6 .... and the data were recorded in PDF format.

The data obtained from the interview form in the study group were analyzed using descriptive analysis and content analysis techniques. In the descriptive analysis approach, the aim is to present the obtained data to the reader in a regulated and interpreted state (Yıldırım & Şimşek, 2011). Content analysis is the organization and interpretation of similar data in an understandable form by bringing together similar data within the framework of certain concepts and themes (Creswell, 2013). Defined as a research technique used to make repeatable and valid inferences from the text, the Content analysis technique provides information on practical actions by increasing the researcher's understanding of specific facts and events (Polat, 2020). For this reason, it was aimed to obtain a meaningful result by coding the answers given by the participants to the interview questions within the scope of the subject. The answers given by the participants constituting the supply and demand sides to the questions in the semi-structured interview form were recorded on the form. The data obtained from the form were arranged in the Office programme and coding was created within the content. MAXQDA 2022, a qualitative data analysis programme, was used for content analysis. Qualitative analysis software packages provide various visual display possibilities to help researchers explore and analyze data and present relationships (Berg & Lune, 2019: 375).

### **Findings**

In order to ensure coding reliability, all interview data were coded by the researchers, and 6 interview forms randomly selected by two independent academicians working in the field of qualitative research methods were coded separately and the codes performed by the independent academicians, and the researchers were compared. According to the formula of consensus/(consensus+disagreement)\*100 suggested by Miles and Huberman (1994), the consensus between the coders was calculated as 100% (Miles & Huberman, 1994).

# Demographic data

Demographic data on the supply parties participating in the research are shown in the Table 1.

Table 1. Supply Side Demographic Data

Par- tici- pant	Age	Gen- der	Sector Expe- rience	Second- Hand Clothing Sales Expe- rience Year
A1	51	F	30	2
A2	69	М	45	4

26	F	2	2
22	F	3	3
35	F	15	8
27	М	2	1
21	F	2	2
30	М	8	18
	22 35 27 21	22 F 35 F 27 M 21 F	22 F 3 35 F 15 27 M 2 21 F 2

Demographic data on the demand parties participating in the research are depicted in the Table 2.

Table 2. Demand Side Demographic Data

Participant	Age	Gender	Profession	Education Status
T1	21	М	Model	High School
T2	22	F	Student	Bachelor's Deg- ree
Т3	30	М	Editor	B.A
T4	20	F	Graphic De- signer	Associate Deg- ree
T5	20	F	Accounting	Associate Deg- ree
T6	18	F	Theatre ac- tor/student	Bachelor Student
T7	36	F	Academician	PhD
T8	22	F	Student	Bachelor's Deg- ree
T9	19	F	Student	Bachelor's Deg- ree
T10	38	F	Academician	PhD
T11	21	F	Student	Associate Deg- ree
T12	19	F	Student	Associate Deg- ree
T13	39	F	Psychologist	Master's Degree

According to Table 1 and Table 2 the majority of the participants in the research are women. The total number of female participants on the supply side and demand side is 16 and constitutes 76.19% of

the total 21 participants. Fifty per cent of the supply providers are between the ages of 26-35. The majority of consumers (69, 23%) are between the ages of 15-25. 46,15% of the consumers are postgraduate and associate degree students.

# **Questions and Comments for Supply Side**

The participants, who constitute the supply side of the research, were first asked the question "Why did you prefer to sell second-hand clothes?". (A1) of the participants (A1) answered "To continue the life of the clothes, especially for economic reasons, to bring clean and usable products together with the consumer, to bring the clothes of the old period fashion together with the consumer", (A2) "It is easy to supply", (A3) "To make old fashioned clothes meet new users", (A4) "Because it is a different and more selective concept", (A5) "In order to contribute to sustainability", (A6) "In order to be ecologically beneficial to the environment", (A7) "The idea that vintage products are of better quality and special", (A8) "I decided to sell the clothes left by the family because I could not afford to throw them away".

In addition to this, when the question "Do you use second-hand clothes besides selling second-hand clothes?" was asked from the supply side participants, all participants stated that many of their clothes are second-hand products either inherited from their families or purchased.

(A1), (A2), (A5), (A8) answered the question "Do you also sell new clothes in the store?" as "No, all products are second hand", (A3), (A4), (A7) stated that "we have our products suitable for the vintage concept" and (A6) stated that all clothes are second-hand products and only accessories (hats, bags, glasses, etc.) are new products.

What is the general product group in your store? (A8) answered the question as all underwear/outerwear, evening dresses, costumes and accessories for women and men, and it was found that the product groups in the stores of all other participants were mainly women/men, upper clothing/lower clothing, daily clothing.

All participants in the study group answered the question "Where do you supply the clothes you sell in your store?" as "The majority of the products are supplied from warehouses located at certain points, especially from warehouses where second-hand products are imported from abroad". In addition to this, it was found out that it was also obtained from flea markets, from the first users who brought and delivered them, and from the unused clothes left by the family.

To the question "Do you also sell clothes through online sales channels?", (A1), (A2) stated that they sell "through Instagram" social media, (A3), (A4),

"through Instagram and website", (A5) "through the website", (A6), "through Instagram and shopping site", (A7) "through Instagram and closet site". Participant (A8) answered the question as "no, we sell all products in our store".

Concerning the question "Why do you think customers prefer second-hand clothes?" are evaluated; it is seen that the majority of the participants gave answers as "economic reasons" and "feeling special". (A1) of the participants (A1) "Economic reasons in the first place, but also to have a unique product", (A5) "First of all, for authenticity, as well as not harming the environment and affordable price". (A4) "They say that it gives a sense of experience", (A6) "Customers think that the clothes have a story and carry traces of the past, and this is more interesting to them", (A4) "Customers think that the clothes have a story and carry traces of the past, and this is more interesting to them", and they also stated that the consumers' sense of experience and the connection of the clothes with the past also affect their preference. In addition, participants (A7) and (A8) stated that "Since second-hand clothes are much more specialised pieces, customers find the pieces produced from selected, quality materials more valuable" and that the fact that the pieces are unique and different from the current fashion is also an important factor in consumers' second-hand clothing preferences.

Regarding the question "Do you know about the concept of sustainability?", it was concluded that (A4) and (A6) of the supply side participants did not have any information. One of the participants (A3) said "Yes, I know the concept of sustainability, I also receive fashion education. The fact that the used products are sustainable and vegan, and local production makes me happy. I make my clothing preferences in this way", while (A5) responded "Yes, the concept of sustainability is our existential reason. In addition, the majority of supply-side participants think that they serve sustainability through the sale of second-hand clothes". Participants (A4) and (A6), who were not informed about the concept, concluded that their supply is actually within the scope of sustainability after being informed about the subje-

In response to the question "Do you have information about the concept of ethical fashion?", only one of the participants (A5) stated that he had information concerning the concept of ethical fashion and that he was trying to act upon this purpose. It was concluded that the other participants did not have information about the concept of ethical fashion, and all participants were informed about the subject.

Finally, the question "The demand of consumers for second-hand clothes and the number of daily sales" was answered by all participants as "the demand is

quite intense". In addition, (A1) "It met the expectation quite well when we consider the average, we saw that there was an intense interest", (A3) "The consumer's interest in second-hand products is quite intense, vintage products are more preferred than brand new products in the store. Especially the customers of this region are fixed customers, they also demand intensively in order to avoid monotonous clothing", (A6) "The interest of consumers is very good, it is expected that there will be a 50% increase in demand by the end of 2024 with the effect of economic factors".

#### Questions and Comments for the Demand Side

The participants, who constitute the demand side of the research, were first asked the question "Why do you prefer to buy second-hand clothes?". When the answers were analyzed, "being economical", "the importance is given to the environment" and "the ties of the clothes with the past" were the prominent answers. One of the participants (T4) stated that "second-hand clothes are both economically more suitable and more appropriate to be used for a long time because they are of better quality and durable". Similarly, (T12) stated that "it is much more affordable than new clothes, so I can have more clothes" and (T7) stated that "sometimes the product I want is only available as second-hand, so I prefer it. Sometimes the price I can pay for the product I like is only available second-hand, so I prefer it. Even if I can afford it, I may also prefer second-hand, in which I think "Why should I pay so much money when I will wear not long?". On the other hand, one of the participants (T6) answered in line with the importance of sustainability: "I prefer second-hand clothes because I care about the environment, and if the product I want is already available, I think there is no need to bring waste into the cycle by buying a new one". Participants (T1), (T2) and (T8) responded "I feel more emotional because the clothes have a history with their first owners", and "I like the ties with the past", it makes me feel different and special".

To the question "Do you mostly prefer second-hand or new clothes in the clothes you buy?"; 8 participants stated that they "prefer new products more" and 1 participant stated that they "prefer second-hand products more". Participant (T9) explained the reason for second-hand preference as "I prefer second-hand both economically and design-wise. I also find it important in terms of sustainability." The other 4 participants stated that "it varies a lot according to the periods, while in some months they prefer new products, sometimes they buy more second-hand clothes". One of the participants (T3) stated "It can change depending on finding what I am looking for. In some periods, I can buy more second-hand products and in some periods I can buy new products.", (T4) "Of course, I buy new clothes, but my priority is generally vintage stores and flea

markets.", (T7) "In general, my priority is new clothes. But at the same time, I also look for similar ones in second hand."

When we look at the clothing categories particularly preferred by the participants on the demand side; it is seen that they mainly prefer coats, sweaters and dress-style products for outerwear and upper body clothing group, while they prefer trousers and lower group products less. In addition, when the participants were asked "the product group that they would never prefer second-hand", the majority of the participants gave answers such as "underwear, swimwear, socks and pajamas".

"(T2), (T3), (T4), (T10) and (T13) stated that they use the products directly, (T5), (T6), (T8), (T11) and (T12) stated that they make repairs and modifications in case of a worn/damaged product. Among the participants (T1), (T1) stated that "I do not prefer to use it directly, I make changes on it and then use it", (T7) stated that "I can use some products directly, but after using the product for a while, I can make changes on it - in line with my skill - so that I can wear it for a longer period of time", (T9) stated that "I make some fixing on some pieces according to my style. For example, if I find the jacket long, I have it shortened, I make a bag out of jeans."

As for the question "Do you have knowledge about the concept of sustainability?, it is seen that (T1), (T3), (T4), (T5), (T6), (T7), (T8), (T9), (T11), (T12), and (T13) of the demand side participants stated that they have knowledge about sustainability. In addition, (T1); "Many designers follow sustainable clothing collections, second-hand clothing markets also support this issue." (T9); "Producing products with a more environmentally friendly approach with respect to fast fashion.", (T11); "Contributing to our world ecologically by extending the life cycle of products.", (T12); "To continue the life cycle of a product. To reuse it, to reduce its harm to the environment.". Based on the answers obtained from other participants, it was concluded that (T2), (T3), (T4), (T10) and (T13) did not have much information, and (T10) of the participants did not know the concept of sustainability.

To the question "Are you familiar with the concept of ethical fashion?"; (T1), (T2) and (T5) stated that they had not heard of the concept before and did not have any information, while (T3), and (T6) stated that they had very little information. On the other hand, it was concluded that (T4), (T7), (T8), (T9), (T10), (T11), (T12), and (T13) participants had knowledge about the concept of ethical fashion. According to the answers given by the participants (T7); "Ethical fashion can be explained as prioritising transparency and sensitivity at every stage from the production of everything in the fashion sector until it reaches the consumer", (T8); "It stipulates that animal skins and furs are not used in textile production." (T9); "Produ-

cing products with a more environmentally friendly approach against fast fashion.", (T10); "Protection of workers' rights, companies' production in accordance with ethical rules while producing." (T11); "Tests on living things, the effect of chemicals." (T12), "Environmentally harmless production in terms of sustainability, reducing the damage of chemicals to the environment."

When the answers given by the participants to the question "How does it make you feel to support sustainable fashion by buying second-hand clothes?" are analyzed (T3); "I do think that consumption is more than necessary. For this reason, I think I make a more useful purchase with second-hand clothes." (T6); "It makes me feel good because I contribute a little, I think I am doing something useful for the society." (T7); "When such questions raised, I thought that I support this issue because I was always making such a choice by acting at the point of my sustainability, but I think I will take this point into consideration now thanks to you. I hope I can give more conscious answers in your similar studies from now on." (T9); "Knowing that I have made a contribution to preventing the destruction of nature makes me feel happy." (T10); "I feel happy because I don't pay a lot of money and I can buy the products I want." (T11); "Making an economic profit makes me feel happy." (T12); "First of all, I make a profit economically. In addition, knowing that I am beneficial to the environment, consuming this kind of consumption makes me feel psychologically and emotionally happy." (T13); "I think I strengthen my connection with the past. I like to wear clothes with a story. It excites me and makes me curious. I like to wear a garment for a long time. Thus, I think we increase our responsibility towards the environment."

When the answers given to the question "Do you think that buying second-hand products reduces the environmental impact of fashion?" are evaluated, it is revealed that the majority of the demand side participants stated that "yes, second-hand clothing consumption is beneficial in preventing the harmful environmental effects of fashion". Participant (T9) stated that the consumption of second-hand clothes is a beneficial behaviour towards the environment and commented: "Everyone thinks how much contribution can I make with my purchase, but it is a great benefit for the environment that not even a single product goes to waste". On the other hand, participant (T6) stated; "No, I don't think so, fast production continues" and (T7) stated that "It would be more accurate to say that I think it should actually decrease in this regard, but I think that fashion continues in the same course, irrespective of being second-hand products or not".

When the answers to the question "Can you repair your clothes with simple modifications to extend

the life of your clothes or do you have someone else do the repairing?" were analysed, (T1) and (T0) of the participants answered as "no, I do not repair or have someone else repair the worn or damaged clothes". The other majority of the participants gave the answer "yes, I do alterations or have them modified". Among the participants (T2); "I cannot do it, but I get help from my family for the repair process", (T4); "Sometimes when a part of my garment is ripped or torn, I patch it according to the condition of the torn area or I cut the garment into pieces and combine it with my other clothes. This both prolongs the life of my garment and provides me with the opportunity to contribute to sustainability", (T5); "If it is not in a very bad condition, I repair it, but if I cannot do it, I give it to the tailor to repair it". (T7); "If I can handle it with my own skills, of course, I repair it or turn it into other things, for example, shorts from jeans or tracksuits with torn hems, turning long-sleeved clothes into short sleeves, sewing small rips. However, if there is a situation I cannot modify and product modification requires mastery, I get professional help. I wear all my clothes as long as they can be worn, and when they become unwearable, that product continues its life as a cleaning cloth for a while. In case of weight gain and loss, if the clothes are still wearable, I can sell them second-hand or give them to people in need".

The question "Do you find it ethical to produce long-lasting clothes?" was answered as yes by all participants. Among the participants (T1); "Yes, I think that the long-lasting production of clothes is a system that should continue, but it is much more ethical and correct in this period, but I don't think it can continue much due to the fast fashion system", (T3); "Yes, I find it more ethical. I don't like that the clothes wear out very quickly. Clothes that wear out quickly leave consumers in a difficult situation financially and emotionally", (T4); "Yes, I think it would be healthier if the clothes were produced in long-lasting and limited quantities, I find fast fashion unnecessary", (T6); "If harmful factors are not used to extend the life of the product, I find it ethical". (T6); "Here, it is necessary to look at the situation from two sides, it is ethical for the consumer, less money is spent, but in the second direction, there are manufacturers, they may find it profitable to produce shorter-lasting products for their maintenance. Since the situation here changes according to the direction in which it is looked at, maybe we should not look for ethics at this point". (T8); "Yes, I find it ethical. Even if it is not long-lasting, I think it should be suitable for recycling". (T9); "I find it ethical, but long-lasting clothes are very expensive financially". (T11); "Yes, long-lasting clothes are more ethical in terms of ecological and sustainability".

Table 3. Code Statistics



Table 3 sheds light on the general code statistics. In the table where the usage frequency of the codes between the consumer and supply sides is shown, the code "garment life" is identified with "ethical fashion" in the eyes of consumers. No feedback was received from the consumers on the conceptual definition of "ethical fashion", nonetheless, having made the necessary definition of the concept during the interview, it was concluded that the production of long-lasting clothes was the equivalent of the concept for them. "Do you find the production of long-lasting clothes ethical?" "Yes, long-lasting clothes are more ethical in terms of ecological and sustainability (T-11)", and "It should definitely exist (T-2)". In addition, the vast majority of second-hand clothing supply providers and consumers expressed their second-hand preference with "affordability". While affordability is perceived as "being affordable" by consumers, it is perceived as "affordable price in supply and cheap product due to the harsh economic conditions" by supply parties.

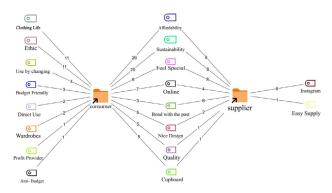


Figure 1. Relationship between Supply and Demand Parties

Figure 1 illustrates the code frequencies of consumers and supply parties by comparing two case models obtained with MAXQDA 2022 package program. Although the relevant figure helps to make general evaluations, the unequal number of participation of consumers and supply sides constitutes a limitation in thorough evaluation. Consumers' perceptions of "ethical fashion" are expressed with the codes "garment life", "budget-friendly", and "budget-hostile". Consumers who find second-hand clothing consumption "economical" also think that it contributes to "sustainability". Although the main

reason for preference is seen as the economy. In response to the question "Why do you prefer to buy second-hand clothes?" consumers responded: "I feel more emotional because the clothes have a history with their first owners. In addition, having more special pieces that not everyone has is also a reason of preference for me (T-2)", "I think I strengthen my connection with the past. I like to wear clothes with a story. It excites me and makes me curious (T-13)", "connection with the past", "finding the design beautiful", "and feeling special". The supply sides were asked the question "Why do you think customers prefer second-hand clothes?" under the same codes and similar answers were received. This similarity between the answers shows that the supply sides recognise their consumers in a sense. Percentage distributions of the codes related to the preference for second-hand clothes by supply and demand sides are given in Table 4.

Table 4. Why do you prefer second-hand clothes?

Codes	Supply Sides	Request Parties
Feeling Special	75,00%	38,50%
Finding Design Beautiful	12,50%	38,50%
Connecting with the Past	62,50%	15,40%
Sustainability	62,50%	84,60%

As the visual expression of the frequency of use of the codes, The code cloud was created separately for supply providers and consumers, as shown in Figure 2 and Figure 3. The sizes and thicknesses of the codes in the code cloud show the frequency of use of the code.



Figure 2. Vocabulary Cloud for Supply Side



Figure 3. Word Cloud on Consumer Parties

### 4. Conclusion

Second-hand consumption activities associated with low status in the past years have gained significance again today with consumers having more ecological awareness. These consumption activities become much more sustainable if they prevent the purchase of a new product. Consumers considering the resale value of high-quality products can shape their preferences and behaviours accordingly. For example, they may exhibit sustainable consumption behaviour by preferring high-quality and resalable clothes over disposable clothes. In addition to purchasing preferences, changes in consumers' attitudes can also be translated into practical behaviours. Consumers can take better care of the products they use in order to ensure the resale value of the products they buy, thus extending the life cycle of the products (Çelik Varol, 2022: 53).

Billions of second-hand garments are traded worldwide every year, spanning North and South America, connecting Europe to East and West Africa, and stretching across Asia and around the Pacific. Used clothing networks differ from other trade patterns in that they reverse the flow of clothing produced for sale. While new clothes are predominantly produced in low-income countries and emerging economies such as China, used clothes travel from rich countries to poor countries. Moreover, they are bonds of intimate connection, as they physically link consumers wearing new clothes in the global North (Australia, Europe, Japan and North America) with some of the poorest people in the global South (Africa, most of Asia, the Middle East) (Brooks, 2015:4).

The results obtained in line with the findings of this study, which was conducted to determine the approaches of supply and demand sides to second-hand clothing in the context of sustainability and ethical fashion, are as follows. It is observed that second-hand clothing supply parties support the sustainability approach with their answers to the questions posed. When the reasons why the sellers prefer the second-hand market are analyzed, it is seen that in addition to economic reasons, the ea-

sier supply of second-hand products compared to the new products is an important factor for them to operate in the second-hand clothing market. All of the sellers choose their products from imported products from foreign markets. In this way, they can create a special ossified customer group by offering clothes with a higher quality, special and selective concept for consumers. On the other hand, many sellers try to reach more audiences more easily by selling through social media and web pages. These answers of the supply sides, who stated that the reasons for customers' preference for second-hand clothes are primarily economic reasons and then the desire to have unique clothes with a story and experience, are in line with the demand side.

Although only two participants have no knowledge about the concept of sustainability, it is stated in the answers given that all other participants know the concept and that this is one of the purposes of their existence and that they were established to serve this purpose. Contrary to the answers given for the concept of sustainability, it is seen that the supply-side participants do not have much information about the concept of ethical fashion. Only one participant a comprehensive explanation about ethical fashion, and the other participants who could not express an opinion on the subject were explained about ethical fashion, and after the explanation, they stated that they actually serve within the scope of ethical fashion.

Finally, the participants, who stated that consumers are more interested than they expected, put forward the view that this rate will increase even more in the coming years. It is seen that second-hand clothing demand parties support the ethical fashion and sustainability approach with their answers to the questions posed. When the reasons why consumers prefer the second-hand market are analyzed, economic reasons come to the fore. Then, environmental impacts and the ties of the clothes with the past were expressed by many participants. In addition to finding second-hand clothes guite economical compared to new products, consumers also stated that the designs of the clothes produced in the past were more special and emphasized that the raw materials were of much higher quality. Participants mostly prefer upper body and outer garments such as sweaters, shirts, dresses, coats, and it has been observed that they never prefer products such as underwear and swimwear for hygienic purposes.

Some of the participants use second-hand clothes as they are, and some of them state that they make changes on the clothes they buy if they are defective/damaged. In addition, it was concluded that in order to prolong the life of their old or worn-out clothes, they make alterations / have them made or make changes to the products, sometimes even combining two separate products and obtaining a

single product. Old or outdated clothes can be used as new garments or accessories by making some changes on them.

On the demand side, only two participants stated that fast fashion is an ecological threat and does not provide an environmental benefit despite second-hand consumption, while the other participants think that the consumption of second-hand clothes reduces the environmental impact, but it is seen that by consuming second-hand clothes, they care for others and the natural world and feel more special and happy.

#### Reference

Aakko, M., & Koskennurmi-Sivonen, R. (2013). Sustainable Fashion Design: Possibilities and Challenges. Research Journal of Textile and Apparel, 17(1), 13-22. doi:https://doi.org/10.1108/RJTA-17-01-2013-R002

Akdemir, A. B., & Kılıç, A. (2021). Nitel Makalelerin Yöntem Analizi. Muğla Sıtkı Koçman üniversitesi Eğitim Fakültesi Dergisi, 8(2), 486-502. doi:10.21666/muefd.834707.

Atalay Onur, D. (2020). Moda Tasarımında Döngüsel Ekonomi Kavramı ve Farklı Tasarım Seviyerlerinde Benimsenen Stratejiler. Sanat ve Tasarım Dergisi, 10(1), 24-40. doi:10.20488/sanattasarım.828900.

Başar, A. (2022). İkinci El Giysi Satışı Yapan İnternet Uygulamalarının İncelenmesi. Yayınlanmamış Yüksek Lisans Tezi, Ankara Hacı Bayram Veli Üniversitesi, Lisansüstü Eğitim Enstitüsü, Moda Tasarımı Bölümü, Ankara.

Berg, B. L., & Lune, H. (2019). Qualitative Research Methods in Social Sciences (A. Arı , Çev.). in Konya: Eğitim Publishing House.

Brooks, A. (2015). Clothing Poverty: The Hidden World of Fast Fashion and Second-hand Clothes. London: Zed Books. doi:ISBN: 1783600683,9781783600687.

Büyüköztürk, Ş., Kılıç Çakmak, E., Akgün, Ö. E., Karadeniz, Ş., & Demirel, F. (2009). Sampling Methods, Scientific Research Methods Book Presentation.

Connell, K. Y. (2011). Exploring consumers' perceptions of eco-conscious apparel acquisition behaviours. Social Responsibility Journal, 7(1), 61-73. doi:10.1108/174711111111111114549.

Creswell, J. W. (2013). Research Design: Qualitative, Quantitative, and Mixed Method Approaches. California: SAGE Publications.

Çelik Varol, M. (2022). Second Hand Consumption as an Example of Sustainability. Journal of Critical Communication Studies, 4(1), 51-68. doi:10.53281/kritik.1130993.

Dağcı Büyük, H., Ünal, S., & Erciş, A. (2020). Sürdürülebilir Giysi Satın Almada Etik Unsurların Değerlendirilmesi: Sosyal Ağ Kullanıcıları Üzerine Bir Araştırma. Eskişehir Osmangazi Üniversitesi İktisadi ve İdari Bilimler Dergisi, 15(3), 1159-1184. https://doi.org/10.17153/oguiibf.622873

Deniz, E. (2020). Çevrimiçi ikinci-el Giyim Eşyası Satın Almaya Etki Eden Faktörlerin İncelenmesi. İnsan ve Toplum Bilimleri Araştırmaları Dergisi, 9(2), 1487-1519. https://doi.org/10.15869/itobiad.700919

Fletcher, K. (2014). Sustainable Fashion and Textiles, Design Journeys. (Second Edition). New York: Routledge Taylor & Francis Group. doi:https://doi.org/10.4324/9781315857930.

Fletcher, K., & Tham, M. (2015). Routledge Handbook Of Sustainability And Fashion, First published,. New York: Routledge.

Gabriel , M., & Delgado Luque, M. L. (2020). Sustainable Development Goal 12 and Its Relationship with the Textile Industry. In M. A. Gardetti, & S. S. Muthu, The UN Sustainable Development Goals for the Textile and Fashion Industry (p. 21). Singapore: Textile Science and Clothing Technology, Springer. doi:DOI: 10.1007/978-981-13-8787-6\_2.

İşçioğlu, T.E. ve Yurdakul D. (2018). İkinci el giyim motivasyonları ve sürdürülebilirlik üzerine keşifsel bir araştırma, Pazarlama Teorisi ve Uygulamaları Dergisi, 4(2):253-280.

Janigo, K. A., Wu, J., & DeLong, M. (2017). Redesigning Fashion: An Analysis and Categorisation of Women's Clothing Upcycling Behaviour. The Journal of Design, Creative Process & the Fashion Industry, 9(2), 254-279. doi:10.1080/17569370.2017.1314114.

Joergens, C. (2006). Current Research Development Ethical fashion: myth or future trend? Journal of Fashion Marketing and Management: An International Journal, 10(3), 360-371. doi:Doi. org/10.1108/13612020610679321.

Köse, Ş. G., & Aydın, K. (2020). Sürdürülebilir Moda Perakendiciliği: Tüketici Algıları Üzerine Bir Araştırma. Istanbul Business Research, 49(1), 86-116. http://doi.org/10.26650/ibr.2020.49.0099

Mangır, A. F. (2016). Sürdürülebilir Kalkınma İçin Yavaş ve Hızlı Moda. Selçuk Üniversitesi Sosyal Bilimler Meslek Yüksekokulu Dergisi, 19 (41. Özel Sayı) 143-154.

Miles, M. B., & Huberman, A. M. (1994). Qualitative Data Analysis: An Expanded Sourcebook. California: Sage Publications.

Özender Yücel, B. (2022). İngiltere "Charity Shop" Örneği Üzerinden Türkiye'de Yardım Dernekleri İkinci El Giysi Satış Mağazaları Model Önerisi. Yayınlanmaış Yüksek Lisans Tezi, Başkent Üniversitesi, Sosyal Bilimler Enstitüsü, Tekstil ve Moda Tasarımı Ana Bilim Dalı. Ankara.

Palmer, A., & Clark, H. (2005). Old Clothes, New Looks; Second-Hand Fashion. Berg Publishers. doi:ISBN: 1859738575,9781859738573.

Park, H. J., & Lin, L. M. (2020). Exploring attitude-behaviour gap in sustainable consumption: comparison of recycled and upcycled fashion products,. Journal of Business Research(117), 623-628.

Parthiban, M., Srikrishnan, M. R., & Kandhavadivu, P. (2017). Sustainability in Fashion and Apparels, Challenges and Solutions. New Delhi, India: Woodhead Publishing India PVT LTD.

Polat, H. (2020). Halkla İlişkiler Alanındaki Doktora Tezlerinde Yeni Medya Olgusu: Nitel Bir Veri Analizi. Uluslararası Anadolu Sosyal Bilimler Dergisi, 4(4), 289-306. https://doi.org/10.47525/ulas-bid 823915

Sætra , H. S. (2022, 24 February). Al For The Sustainable Development Goals. (First Edition). Boca Raton: CRC Press. doi:https://doi.org/10.1201/9781003193180.

Tekin Akbulut, A. S. (2012). Türkiye'de Etik Moda Üzerine Bir Araştırma. Akdeniz Üniversitesi, G.S.F., I. Uluslararası Moda ve Tekstil Tasarımı Sempozyumu, s.s. 39-43. Antalya: Akdeniz Sanat Dergisi.

Yıldırım, A., & Şimşek, H. (2011). Sosyal Bilimlerde Nitel Araştırma Yöntemleri (8. Baskı). Ankara: Seçkin Yayıncılık.

Yoo, F., Jung, H. J., & Oh, K. W. (2021). Motivators and Barriers for Buying Intention of Upcycled Fashion Products in China. MDPI, Sustainability, 13(5), 2584-2602. doi:https://doi.org/10.3390/su13052584.

## Research Article

ROMAYA - Researches on Multidisiplinary Approaches 2024, 4(2): 35-46

ISSN:2791-9099

# From Ancient Paths to Modern Discoveries: The Backpacker Tourism **Experience on the Lycian Way**

Antik Patikalardan Modern Keşiflere: Likya Yolu'nda Sırt Çantalı Turizm Deneyimi

Çağdaş Aydın / Asst. Prof. Dr. 📵 Kastamonu University, Faculty of Tourism cagdasaydin@kastamonu.edu.tr

#### **Abstract**

The experiences of backpackers hiking the Lycian Way have been thoroughly examined in this study. The study indicates that the path can be a means of experiencing several dimensions at once. The analysis of user comments collected on Google Maps revealed that the experiences of tourists were gathered into four primary dimensions. These dimensions are Emotional, Physical, Intellectual, and Spiritual. Gratefully, on one hand, the emotional dimension impresses the natural scenery to tourists which include the feelings of awe and peace they have. On the other hand, the physical dimension highlights the difficulties of the walk that require endurance. The intellectual dimension is an opportunity to gain new historical and cultural impressions of sites along the route while the spiritual dimension involves the deep connection to nature and self-growth aspect. The research shows that the Lycian Way is not only a physical activity but also an emotional, intellectual, and spiritual experience. These results offer newer insights in sustainable tourism practices and destination management. Moreover, attention to tourism research through online user comments is underlined and stressed that it gives a realistic data source. Future research can be done on the influence of such occurrences in various tourist profiles and their contributions to the local economy.

**Keywords:** Lycian Way, Backpacker Tourism, Tourist

Experience, Nature Trekking. **JEL Codes:** Z39,L83,Z30

## Özet

Bu çalışma, Likya Yolu'nu yürüyen sırt çantalı turistlerin deneyimlerini derinlemesine incelemiştir. Çalışma, rotanın sunduğu çok boyutlu deneyimleri ortaya koymaktadır. Google Maps üzerinden elde edilen kullanıcı yorumlarının analizi, turist deneyimlerinin dört ana boyut altında toplandığını göstermiştir. Bu boyutlar, Duygusal, Fiziksel, Entelektüel ve Manevi boyutlardır. Duygusal boyut, turistlerin doğal güzellikler karşısında hissettikleri hayranlık ve huzur duygularını içerirken, fiziksel boyut, yürüyüşün dayanıklılık gerektiren zorluklarını vurgulamaktadır. Entelektüel boyut, rota üzerindeki tarihi ve kültürel izlenimleri öğrenme fırsatları sunarken, manevi boyut ise doğayla kurulan derin bağ ve kişisel gelişim süreçlerini kapsamaktadır. Çalışma, Likya Yolu'nun sadece fiziksel bir aktivite değil, aynı zamanda duygusal, entelektüel ve manevi bir deneyim sunduğunu ortaya koymaktadır. Bu bulgular, sürdürülebilir turizm uygulamalarına ve destinasyon yönetimine dair yeni perspektifler sunmaktadır. Ayrıca, çevrimiçi kullanıcı yorumlarının turizm araştırmalarında kullanımının önemine dikkat çekilmekte ve bu yaklaşımın, daha geniş ve otantik bir veri kaynağı sunduğu vurgulanmaktadır. Gelecekteki araştırmalar, bu deneyimlerin farklı turist profilleri üzerindeki etkilerini ve bölge ekonomisine katkılarını inceleyebilir.

Anahtar Kelimeler: Likya Yolu, Sırt Çantalı Turistler,

Turist Deneyimi, Doğa Yürüyüşü.

**JEL Kodları:** Z39,L83,Z30

## Introduction

The Lycian Way is a route rich in historical and cultural significance, featuring numerous remnants from ancient times to the present. Etymologically meaning "Land of Light," Lycia is an ancient region that spread across the area now known as the Teke Peninsula, between the Gulf of Antalya and Fethiye. This path encompasses numerous ancient cities and residences, along with different royal tombs and sarcophagi of notable figures. Travelers now perceive the region's natural beauty and rich historical knowledge. The hills brim with historical ruins from Byzantine times, further solidifying this fact. High mountains and deep canyons of the Lycian Way allow the present to go back in time to the times and reencounter the history and culture for those who look for it. Therefore, this route encompasses all the essential elements of a comprehensive tourism destination. It is also full of tourist attractions that reveal the wealth of the region, the symbols of its past, the beaches, and the settlements. This route includes the main tourist destinations such as Fethiye, Kaş, Finike, Kalkan, Adrasan, and Kekova that present vivid emotions to the travelers, and their experience blends with the memory of the trip. Furthermore, the route is well-arranged, meeting international standards that include information boards and red and white marks along the way, making it safer and easier for hikers to navigate the path. Meanwhile, another reason that grows the Lycian Way further is their out of bed creativity when it comes to an offer of the unique staying experiences along the way. The houses are spread all over the route and are available as camping sites, hostels, village houses, and bungalows. Therefore, the variety of accommodations available will make the place accessible to a wide range of individuals with varying budgets and preferences.

Just as the tourists on Lycian Way do, backpackers are motivated by travel on their own, new experiences (Pereira & Silva, 2018), as well as the search for peace and quiet (Akgündüz & Kızılcalıoğlu, 2016). Apart from this, these motivations that take after the Lycian Way in general are the most important reasons for tourist movements. The Lycian Way covers backpackers' wants with a combination of three elements: natural beauty, historical ruins, and cultural experiences. One of the other important features of backpacking tourism is the tendency to save on lodging as well as be flexible in their bookings (Loker-Murphy & Pearce, 1995; Scheyvens, 2002). In this sense, the Lycian Way is the most suitable path, and it includes many options like a campsite, hostels, village houses, and bungalows. This variety caters to the needs of backpackers from different economic scales and personal preferences.

Generally, backpackers enjoy interacting with locals and learning about their local culture. They seek to engage with the locals and discover the authentic locations of their destinations (Tomljenovic et al., 2015). The exploration of the Lycian Way, which originated in ancient times and connects to royal tombs, provides backpackers with an immersive cultural experience. This study is concerned with the experiences of the people who toured the Lycian Way, which is a long-distance trail in the southwest of Turkey. In this case, the data was taken from the reviews of Google Maps users, which is an internet platform. Online telling is a secure internet platform whereby tourists can write their reviews without the need for censorship or filtering. Unlike other correspondence or mouth-to-mouth inquiries, people naturally write these reviews inspired by their curiosity. Therefore, we can conclude that these reviews exhibit less bias (Fang et al., 2016; Chen et al., 2020).

This study aims to add a new dimension to the existing literature by analyzing the experiences of backpacking tourists on the Lycian Way. While previous research has generally focused on tourists' demographic characteristics and overall satisfaction levels (Akgündüz & Kızılcalıoğlu, 2016; Tütüncü et al., 2020), this study focuses on Pine and Gilmore's (1998) emotional, physical, spiritual and intellectual impressions felt by individuals during an event (Tung & Ritchie, 2011, p. 1368). In particular, analyzing online user comments obtained through Google Maps provides the study with a broader and more authentic data set. This approach allows tourists to express their experiences more spontaneously and unfiltered. It allows for a more diverse and comprehensive sample than traditional survey and interview methods. This study contributes to the literature by demonstrating that the Lycian Way is a physical activity area and a multidimensional experience with emotional, physical, intellectual, and spiritual effects.

## **Conceptual Framework**

In today's highly competitive marketing world, many products and services have become commonplace and do not contribute to the differentiation of organizations. Since consumers demand holistic and lasting personal experiences enriched with emotional memories, feelings, and symbolic meanings, more than these products and services are needed to meet their needs (Hosany & Witham, 2010). Therefore, consumers seek holistic and lasting experiences that appeal to them emotionally, physically, intellectually, and spiritually (Pine & Gilmore, 1998; Radder & Han, 2015: 455). In the context of the experience economy, consumers seek unique and memorable experiences rather than simply buying products and services. In this new economy, consumers demand a distinctive added value for products and services that have already achieved a high functional quality (Oh et al., 2007). Experiences can deliver exceptional value to consumers, and a business can gain a solid competitive advantage when it builds on consumer experience (Wang, 2008). Carbone (1998) found that consumers are more influenced by the subconscious sensory and emotional elements of experience than by the tangible attributes of products and services (Ayob et al., 2011).

The tourist experience is a holistic structure formed by the interactions, experiences, and perceptions tourists encounter during travel. This concept encompasses all kinds of interactions, emotions, and experiences that tourists have throughout their journeys, representing the sum of impressions they acquire during their travels. The tourist experience includes the impressions tourists gain during their travels, which are shaped by environmental, cultural, social, and personal factors (Larsen, 2007).

Subjective evaluations made by individuals regarding their touristic activities during and after their travels are explained as tourist experiences (Tung & Ritchie, 2011). In other words, the tourist experience is a comprehensive concept that includes the impressions tourists gain during their travels, shaped by the combination of environmental, cultural, social, and personal factors they encounter (Moscardo, 2017). Experiences are subjective and occur under the control of individuals (Thorne, 1963; Abrahams, 1986; Arnould & Price, 1993). Experience is an individual and personal phenomenon. Moreover, experience has a multidimensional structure. Pine and Gilmore (1998: 99) explained this situation as follows; "While prior economic offerings - commodities, goods, and services - are external to the buyer, experiences are inherently personal, existing only in the mind of an individual who has been engaged on an emotional, physical, intellectual, or even spiritual level." This perspective shows that experience is closely related not only to external factors but also to the person's inner world. This multidimensional approach reveals that experience is a comprehensive phenomenon that impacts the individual's emotions, bodily reactions, thought processes, and existential interpretations (Pine & Gilmore, 1999). Individuals want to share the experiences they have gained during their travels with their close circles and narrate what they have lived (Gretzel et al., 2006; Willson & McIntosh, 2007). Tourists with positive experiences prefer the same touristic product and destination again (Uşaklı & Yüksel, 2021).

To understand the motivations affecting tourist experiences, it is essential to focus on the travel motivations of backpackers. In this context, studies on the travel motivations of backpackers have been examined. Ross (1997) revealed that various factors effectively shape tourist motivations. These factors, especially the sense of achievement and the feeling of control over environmental conditions, stand out for backpackers. These findings emphasize the complex interaction of psychological and environmental elements that affect tourists' travel experiences and preferences. This multidimensional

structure of travel motivations is essential in shaping tourists' decisions, from destination choices to travel styles and overall travel experiences.

Mohsin and Ryan (2003) obtained interesting results in their research which looked at the motivations, behaviors, and satisfaction of backpackers who were visiting the Northern Territory of Australia. It was found that the foremost reason backpackers had for coming to this area was their desire for enhanced cognition. The above result is to be found in one of the backpacker traits which is being generally prone to the exploration of places and learning about the different cultures in them.

Jensen and Hjalager (2018) executed a survey with the aim of determining the primary driving forces of backpacking. According to the authors, the most important motivational factors that were identified are stimulation, host-site involvement, and nature. However, against them, factors like sun and beach, gastronomic experiences, recognition, and volunteering had the lowest rating of motivation. The investigation of these findings is important as they help us to identify the factors that influence the minds of tourists as well as the ways in which tourists change their manners of traveling.

Uriely et al. (2002) classified the motivations of backpackers into 4 groups: experimental-experiential, humanistic, recreational-hedonistic, and multi-purpose. This classification identifies the reasons for travel and the kinds of experiences that backpackers look for. Torres Luque and Araya (2024) divided the motivations of Chinese backpackers who come to Chile into three main groups: enjoyment of nature, getting away from the routine, and recognizing cultural heritage. These groups give us an example of how travelers may have different motives and objectives when they go on a trip.

Theories of travel motivations are a multifaceted basis for understanding the travel experience of tourists who walk the Lycian Way. These theories help us to analyze the driving forces behind tourists' motivations, expectations, and experiences, as well as to get the information needed for the launch of new destinations and marketing efficiency. Especially, by taking into account the theoretical approach and applying it to the Lycian Way, it will assist in getting a comprehensive understanding of the route and why the tourists prefer this route over others.

#### **Literature Review**

Hiking the Lycian Way was subjected to different investigations indicating the detailed motivation of the traveler at one time. Akgündüz and Kızılcalıoğlu conducted a survey in 2016 with 407 participants. The study pertain to demographic characteristics, travel motivations released, and the level of satisfaction displayed by the tourists. It appears that tourists

### Çağdaş Aydın

on the Lycian Way undertook the walk for reasons such as socialization, independent travel, exploratory nature, escape from busy life to peace and enlightning', and self-actualization. Moreover, they discovered that on a hiking trip, travelers with socialization and self-actualization motivation have more chances of being more satisfied and more likely to revisit.

Tütüncü, Pamukçu, and Tanrısever (2020) collected the data through a survey that reached 416 hikers. The exploration revealed that hikers expressed satisfaction with the safety measures in the areas they visited. Nevertheless, the hikers made the hubbub point out the issues such as water scarcity, environmental pollution, and the lack of informative signs. Kurar and Kavacık (2022) choose the Lycian Way to act through an alternative channel. The researchers examined the Lycian Way as a leisure activity and collected SWOT data from 12 representatives of various sectors. The internal environment analysis pointed out that amongst the assets could be counted the historical, cultural, and natural areas, along with the rich vegetation of that region. When it came to the external environment analysis, it was defined as being one of the alternative tourism centers, and the existence of empty buildings that can be turned into touristic areas was seen. However, the study also identified ignorance, insufficient security, and seasonal impacts as potential threats.

In conclusion, these researches present that not only are the reasons for the interest of tourists for the Lycian Way diverse, but also they have a big impact on their service experiences. The results of these studies are useful for the Lycian Way's actions and marketing.

The literature review shows that different data collection methods have been used in studies to determine backpackers' experiences. Sørensen (2003) used the participant observation method to examine the experiences of backpackers from Denmark. Although collecting data through observation can be time-consuming, this method offers the chance to experience daily life from the tourists' perspective. This ethnographic study suggests using a cultural concept to understand backpackers' social interactions, norms, and values. The results show that backpackers are a heterogeneous group and that this group forms an identity through social interactions. The concept of "road status" is an essential phenomenon in understanding the culture of backpackers. Road status includes paying local prices, finding the best deals, and experiencing dangerous adventures. This status is continuously reproduced through social interaction and status exchange among backpackers (Sørensen, 2003).

Uriely, Yonay, and Simchai (2002) used in-depth interview techniques to examine the experiences of Israeli backpackers. While using interview techniques in

qualitative research methods limits the sample size, it allows tourists to describe their experiences in their own words, thus providing rich and detailed data. The research found that some backpackers described their travels as a period of rest, while others saw it as an opportunity to expand their knowledge and explore their souls. Similarly, Maoz (2007) conducted in-depth interviews with 25 backpackers. The study shows that the travel motivations of backpackers are shaped by the desire to escape from home and build a new identity. Noy (2004) analyzed the data through narrative analysis based on in-depth interviews conducted with 40 backpackers in Israel in 1998. The results show that the travels of backpackers play an essential role in personal change and identity construction. Participants stated that their travels helped them to know themselves better and become more mature individuals. The narratives emphasize how travel's authentic and adventurous moments are connected to internal change.

These studies demonstrate how different methodologies are used to examine backpackers' experiences. Each methodology has advantages and disadvantages, and researchers generally try to choose the method or combination of methods that best suits the aims of their studies.

This study used data from user reviews on the online platform Google Maps to understand the experiences of backpackers walking the Lycian Way. Online platforms provide a large amount of data, allowing researchers to conduct large-scale analyses. These data can be used to examine various aspects of tourist experiences—satisfaction levels, complaints, suggestions, and expectations.

This study aims to deeply examine backpackers' experiences walking the Lycian Way and reveal various dimensions of these experiences. Using data obtained from user reviews on online platforms like Google Maps, a comprehensive analysis of the Lycian Way experiences of backpackers will be presented. This research aims to contribute to the backpacking tourism literature and provide new insights into understanding tourist experiences, specifically on the Lycian Way. The study's findings are expected to offer practical recommendations for destination managers, tourism businesses, and policymakers, making the Lycian Way a more attractive and satisfying experience for backpackers. Additionally, methodological contributions regarding online user reviews in tourism research are expected. This study presents a holistic analysis of the multidimensional experience of backpackers walking the Lycian Way.

## Research Area

The Lycian Way is a marked hiking route in southern Turkey, stretching from Fethiye to Antalya and totaling 760 km. Walking this route takes an average of 29 days. The path mainly consists of Roman roads, ancient trails, and mule paths; it is often rocky and stony, thus unsuitable for mountain biking. Located between the coast and the mountains, this route frequently includes steep elevations. British/Turkish amateur historian Kate Clow researched, designed, and marked it in 1999. As Turkey's first long-distance hiking route, the Lycian Way was created to identify and preserve some of Turkey's ancient roads. The route's starting point is in Ölüdeniz, which is 2 hours away from Dalaman Airport. The endpoint is Geyikbayırı, accessible by bus from Antalya. The best times for hiking are the spring (February–May) and autumn (September-November). The summer months can be too hot for long walks in Lycia. Hikers can find many places to camp near water sources (Culture Routes Society, 2024).

## Methodology

Data collection from online platforms is becoming an increasingly common and valuable method in tourism research. These platforms provide a rich data source where tourists can directly share their experiences and opinions. Online user reviews offer significant advantages, reflecting tourists' experiences and providing a broad sample (Ayeh et al., 2013). These online platforms' reliability and widespread use make them an attractive data source for tourism researchers (O'Connor, 2010). Additionally, data obtained from such platforms can provide in-depth insights into tourists' behaviors, preferences, and satisfaction levels (Filieri et al., 2015). In this study, a total of 2008 user reviews from 2018 to 2024 were analyzed using document analysis, one of the qualitative research methods. The reviews were collected from Google Maps on August 5, 2024. Of the 2008 user reviews, 994 were excluded from the analysis as they only contained rating scores. The Lycian Way appeals to backpackers by nature. In this context, the comments obtained are assumed to belong to backpacker tourists. The Lycian Way is an ideal destination for backpackers due to its challenging terrain, long distances, and the camping and hiking equipment that usually needs to be carried. These characteristics make the Lycian Way typically preferred by independent and flexible backpackers in search of nature and adventure. The accommodation and logistical options along the route are generally geared towards low-budget backpackers. In addition, the promotion and tourist attractiveness of the region is often done in a way that attracts backpackers. In this context, Google reviews frequently employ backpacker vernacular and themes pertinent to their experiences, indicative of their journeys.

Document analysis is a qualitative research method involving the extraction of information from carefully examined written materials that report on a specific phenomenon or several phenomena (Yıldırım & Şimşek, 2018). This method enables researchers to examine extant sources, saving time and resources, and reach a broad sample (Bowen, 2009). Historical research, policy analyses, and educational research frequently employ document analysis (Merriam, 1988). This method calls for the systematic collection, analysis, and interpretation of documents and visual materials that are relevant to the research topic (Corbin & Strauss, 2008). The availability of data, cost effectiveness, and retrieving original document are some of the advantages of document analysis (Bowen, 2009).

Following the criteria set by Guba in 1981 ensured the study's reliability. The audit trail method was integrated into this model to strengthen the study's comprehensibility. In this process, a proficient external research auditor properly examined and reported the findings of the study, analysis, and the used methodologies. He carried out a verification procedure and also justified the integrity of the data obtained with the contents of these sections. The point of this operation is to heighten the process of the research's trustworthiness. The detailed explanation of the methodology and the stages of the research also improves the clarity and replication of the study. According to Miles and Huberman (1994), this enables other researchers to replicate the study. The data collection, processing, analysis, interpretation, and concluding processes were clearly defined. As Yıldırım and Şimşek (2016) state, these clear definitions increase the reliability of the research and support the robustness of the findings. Thus, the scientific quality and validity of the study were strengthened. Considering all these explanations, it can be said that the study meets the reliability criteria. In order to ensure the validity and reliability of the study, the questions suggested by Miles and Huberman (1994, pp. 279-280) were answered. The methodology and other stages of the research were described in detail and clearly. The processes of collecting, processing, analyzing, interpreting and interpreting the data and obtaining the results were clearly stated. The results are linked to the data, and the researcher clearly states the methods used to collect the data. The researcher remained independent of personal biases and assumptions. Diverse views and alternative interpretations were taken into account. The raw data are available for review by other researchers. During the data analysis process, the researcher carefully read all the reviews. Expert support was sought for reviews in Russian and Ukrainian. The reviews were documented separately and transferred to a qualitative data analysis program to initiate the analysis process. Different researchers voluntarily participated in the data coding process and compared the coding.

## **Findings**

In this study, which addresses the experiences of backpacking tourists walking the Lycian Way, four categories and eight themes were obtained from data analysis. Table 1 shows each category, theme, and

the sub-themes under each theme. The naming of the categories was inspired by the work of Pine and Gilmore (1998). The meanings contained in the categories and themes are presented in detail in the findings section.

Table 1. Experience Dimensions and Themes of the Lycian Way

Categories	Theme	Sub-theme		
	Admiration and Awe	Breathtaking landscapes - Admiration of natural beauty - A sense of adventure and excitement		
Emotional Dimension	Relaxation and Renewal	A sense of peace and calm - Escape from the stress of everyday life		
	Emotional Experiences	Swimming in cool mountain waters - Feeling the fresh air and pine scents - Enjoying local food and drinks		
Physical Dimension Physical Difficulty		Challenging hiking and climbing- Endurance of difficult terrain- Sense of physical achievement		
	Learning and Discovery	Explore historical sites and ruins - Learn about local culture and traditions - Develop hiking and nature skills		
Intellectual Dimension	Reflection and Contempla- tion	Time for introspection and self-discovery - Gain new perspectives - Appreciate simple living		
C : :: ID: :	Connection with Nature	A sense of oneness with the natural environ- ment - A sense of the sublime and transcen- dent - Gratitude for the beauty of the Earth		
Spiritual Dimension	Personal Development	Overcoming challenges strengthens character - A sense of renewal and transformation - A sense of achievement and pride		

#### **Emotional Dimension**

Pine and Gilmore (1999) emphasize the importance of emotional engagement in creating lasting memories and generating economic value, highlighting that experiences are inherently personal and exist only in the individual's mind (Pine & Gilmore, 1999; Chan & Saikim, 2022). The emotional dimension is significant in forming loyalty and image in tourism experiences (Joy et al., 2021). The Emotional Dimension category articulates the emotional and sensory facets of backpacking visitors' experiences traversing the Lycian Way. This category includes tourists' emotions, moods, and inner experiences during the walk. The main topics of this category are the wonder and amazement that nature's beauty triggers, the pleasure of the hike that the walk provides, and

the sensations made by sense organs that are parts of the emotional process.

## Admiration and Awe

The Admiration and Awe theme expresses the deep admiration and respect felt by backpacking tourists walking the Lycian Way in the face of the magnificent beauty of nature. This theme encompasses the astonishment and admiration experienced by hikers in the face of breathtaking views, the enthusiasm felt when encountering natural beauties, and the sense of adventure and excitement experienced throughout the journey. It shows that tourists are deeply affected by the enchanting impact of the natural beauties around them.

From Ancient Paths to Modern Discoveries: The Backpacker Tourism Experience on the Lycian Way

"My fifth visit, and one of the rare places where I walk with peace every time. For the first time, I also entered the canyon water, which is priceless, especially in this heat of Antalya." (Participant 14, July 6, 2019)

"A dream-like walking place in magnificent nature... Natural waterfalls and ponds are magnificent. The path starting from Göynük Canyon is the most beautiful of colors: blue, green, and others. The mountains and rocks are perfect. Must be seen." (Participant 439, February 7, 2021)

"A route that will enchant you with its incredible nature, with green on one side and blue on the other. Definitely, a trail that must be walked; all you need is your backpack, tent, and a good travel companion." (Participant 52, January 31, 2023)

These statements reflect the profound impact of the natural beauties of the Lycian Way on users and the feelings of admiration and awe that these beauties evoke in them.

#### Relaxation and Renewal

The Relaxation and Renewal theme expresses the feeling of physical and mental refreshment experienced by backpacking tourists walking the Lycian Way. This theme encompasses the relaxation and peace that hikers find by spending time in nature, away from the stress of daily life. It also indicates that the time spent in the tranquility and beauty of nature helps tourists clear their minds and gain spiritual calmness.

"Peaceful, calm, relaxing..." (Participant 377, May 12, 2022)

"A place to cool off in hot weather." (Participant 525, September 1, 2019)

These statements reflect the opportunities for relaxation and renewal offered by the Lycian Way and the peace and tranquility felt by hikers during these experiences.

#### **Emotional Experiences**

The Emotional Experiences theme refers to the various emotional experiences of backpacking tourists walking the Lycian Way during their journey. This topic is about different emotions that visitors have when they are in the park: calmness they feel from nature, the adventure they encounter, and the achievement they receive from facing challenges. cultural elements encountered along the way.

"It's a really nice place that we were hiking along with our two-year-old baby for, like, two hours and that was the most fun we've ever had with nature." (Participant 13, January 19, 2021).

"My 535-kilometer journey in my imagination is just this path. I shall do my very best to carry the process out from the beginning to the very end the whole of time this life is in this body." (Participant 15, October 4, 2021).

These are the utterances of the participants who felt the deepest-most powerful emotional experiences that they dealt with while they were walking the Lycian Way and the emotions that those experiences stirred in them. Walking is not just a form of movement it is a complex set of emotions and interactions which can be reframed by personal, social, and natural elements. Appreciating the emotional aspects of walking can promote friendliness and create rewarding emotional moments during walking activities.

#### **Physical Dimension**

The Physical Dimension category deals with the Lycian Way's physical effects on hikers and their bodily experiences. This section of the test confronts the issues of the trail's toughness, the amount of physical endurance needed, the track conditions, and the landscape features. The matter of the route's appeal on the proposed fitness level, the stiffness of the walk, and the ways of coping with the tasks are, as well as those, what are involved in the testing process. Besides, the dimension also introduces the physical dimensions such as the differences in the soil, the wetness levels, and the traversing time of the path. This area is the most important one, as it helps us to grasp the way one can feel the Lycian Way physically and how people react to it.

#### **Physical Difficulty**

The Physical Difficulty theme explores the effects and requirements of the Lycian Way on hikers. This theme discusses the length and the hardness of the route, the level of the endurance one should keep, and the target places' difficulty. It assesses the sustainability of the way based on the fitness levels of the hikers, the roughness of the terrain's structure worsening of the elements such as the climate. Additionally, it takes a look at the impacts of long-distance hikes on the body, the endurance levels and damage, as well as the ways to overcome the challenges. This theme is the most important one for the nature of the Lycian Way experience and the necessary hikers' preparation.

"I have a suggestion for those of you who want to trek from Adrasan to Olympos. Commence walking from Adrasan and go towards Olympos. The slope is more gentle. We goofily got off from Olympos to Adrasan. The climbing of the steep hill was really exhausting..." (Participant 21, January 4, 2020)

"It offers a unique experience for those who trust their feet." (Participant 40, January 26, 2023)

In addition to these statements, many comments include the words "difficulty—hard." These expressions describe the physical challenges of the Lycian Way for hikers and how to cope with these challen-

ges. The theme of physical challenge emphasizes the bodily impacts and demands of the Lycian Way on hikers. The route requires hikers to have high endurance and good physical condition, as the terrain and climate conditions can be challenging. The variations in elevation along the hiking trail directly affect the hikers' experience, while the fatigue and strain levels brought about by long-distance hikes must also be considered. To cope with these challenges, hikers must prepare well and develop strategies.

#### **Intellectual Dimension**

The intellectual dimension aims to offer customers rich experiences on mental and cognitive levels (Pine and Gilmore, 1999). This dimension signifies that experiences are enriched physically, emotionally, and mentally, allowing for deeper and more meaningful experiences. The intellectual dimension includes the impact of the Lycian Way experience on hikers' cognitive and mental functions. This category examines the contributions of historical, cultural, and ecological elements along the path to the cognitive frameworks of hikers. Hikers' intellectual development increases from the knowledge they have gained about ancient sites, indigenous cultures, and biological diversity. The tests and new meetings lead to the problem-solving and creative thinking of the children. The hiking route not only comprises the understanding of the broader scope of things such as cultural diversity and ecological principles but also the realization of the interaction of nature and mankind. For this reason, the Intellectual Dimension explores such components of the Lycian Way phenomenon as the mental horizon expansions and enhance the cognitive capacities of hikers.

#### Learning and Discovery

The Learning and Discovery theme involves the cognitive and intellectual development of the hikers as they make their trek along the Lycian Way. This topic covers knowledge, discoveries, and insights that travelers have gained from old sites seen, cultures, and nature around during their travel. It includes acquiring information in diverse domains, including history, archeology, botany, geology, and regional cultures. Additionally, it addresses how this new knowledge and experience expands and enriches the worldviews of travelers. The Learning and Discovery theme emphasizes that the Lycian Way experience is not just a physical activity but also a rich intellectual and cultural exploration process.

"On one side, the endless blue of the Mediterranean appears and disappears along the way; on the other side, lush pine forests, magnificent mountain views, and ancient cities witness history..." (Participant 53, April 13, 2022).

"...Some sections of the Lycian Way are suitable

for mountain biking. In some places, experienced downhill and single-track enthusiasts can carry their bikes on their backs and traverse the entire trail. However, it is also possible to use alternative forest and village roads that are partly on and parallel to the Lycian Way." (Participant 20, May 23, 2023)

These quotes highlight the various learning experiences and discoveries encountered by hikers along the Lycian Way. They demonstrate the rich learning opportunities the Lycian Way offers, including historical ruins, natural landscapes, and different ways to explore the route.

#### Reflection and Contemplation

The Reflection and Contemplation theme encompasses the inner journeys and mental processes of hikers experiencing the Lycian Way. This theme includes the moments of deep thinking and contemplation experienced by travelers when alone with nature, their existential inquiries, and personal insights. This theme focuses on hikers distancing themselves from the chaos of daily life, turning inward in the silence of nature, contemplating the meaning of life, and feeling a spiritual connection. Additionally, it includes experiences of contemplating past civilizations among historical ruins, reflecting on the cycle of nature, and pondering the transience of human life. This theme demonstrates that the Lycian Way is a mental and spiritual journey.

"Cengiz Aytmatov has a very beautiful saying. There are not enough words to explain everything, nor is there a need... I don't have enough words to describe the Lycian Way..." (Participant 67, November 1, 2023)

"To feel the mystery of the Lycian land, the endless blue of the Mediterranean, the summit of Mount Tahtalı, the nomads collecting thyme in the mountains, the bitter taste of carob, solitude, nature, and tranquility, one needs to experience the adventure of the Lycian Way within time and space." (Participant 411, October 6, 2021)

These statements reflect that walking on the Lycian Way and being alone with nature lead to moments of deep thinking and contemplation, allowing hikers to reflect on past civilizations and the beauties of nature. Reflecting on past civilizations among historical ruins and contemplating themes such as the cycle of nature and human life's transience deepens this journey's spiritual dimension. The Lycian Way offers a physical, mental, and spiritual adventure.

#### **Spiritual Dimension**

The spiritual dimension aims to provide customers with profound spiritual and emotional experiences. This dimension seeks to enrich customers' experiences physically, mentally, spiritually, and emotionally, offering more meaningful and authentic experien-

From Ancient Paths to Modern Discoveries: The Backpacker Tourism Experience on the Lycian Way

ces. From a tourism perspective, the spiritual dimension aims to make experiences more meaningful by providing customers with inner satisfaction and spiritual fulfillment.

So the point of the category is to deal with the heart, the spirit, the whole existence of people through the Lycian Way. The close bond of individuals with natural things, experiences of quietness and the calmness they had and their personal evaluations of themselves and understanding are under the spiritual dimension. This also covers the the spiritual bond established with past civilizations among historical ruins, reflections on the cycle of nature, and thoughts on the transience of human life. Spiritual Dimension is the sum of lunging, existential curiosity, and manifesting of the inner self that a hiker may partake in when one is faced with the daily humdrum and seeks a quiet space in a natural environment.

#### Connection with Nature

The Connection with Nature theme is a multi-dimensional concept encompassing the physical, emotional, and spiritual interactions that hikers establish with the natural environment along the Lycian Way. This theme examines the existential experience of humans within nature and the inner transformations this experience creates.

"You feel at the heart of nature with the enchanting beauty of forest, mountain, and sea views. It is a route that must be walked." (Participant 61, November 28, 2023)

"On the road from the mountains to the sea, it is ours as long as we can protect it." (Participant 552, June 20, 2022)

"Perfect scenery intertwined with nature, crystal clear flowing water." (Participant 227, August 11, 2020)

"One of the most beautiful places I have seen and visited in my life. The natural life is unspoiled and peaceful, and I recommend that everyone go there at least once in their lifetime. It is a great place to clear your mind and be one with nature." (Participant 355, June 6, 2024)

These quotes emphasize the deep connection hikers establish with nature on the Lycian Way, the beauty of the landscapes, and the feeling of being in the natural environment.

## Personal Development

Within the framework of the Lycian Way experience, the Personal Development topic includes the transforming experiences individuals have throughout a nature hike that tests their physical and mental boundaries. This subject encompasses the enhancement of self-awareness, the cultivation of skills to surmount problems, the fortification of character characteristics such as patience and perseverance,

the formation of a bond with nature, and the achievement of inner tranquility. It encompasses aspects such as the experience of minimalist living, the cultivation of empathy and communication skills through social interactions, and the transformation of life perspectives.

"I believe it is an endeavor that everyone ought to undertake in their lifetime..." Participant 372, August 14, 2020

"The vistas are extraordinary, awe-inspiring at the summits, and excellent locations for meditation and spiritual purification." Participant 789, April 1, 2024

"An incredible place with an untouched atmosphere. You feel so small, and all your problems become insignificant." (Participant 808, October 20, 2020)

These statements show that the Lycian Way offers personal development experiences such as overcoming challenges, personal transformation, and a sense of accomplishment.

#### **Conclusion**

This study seeks to thoroughly investigate the experiences of hikers traversing the Lycian Way. Following the examination of user reviews sourced from the Google Maps platform, tourists' experiences were categorized into four primary dimensions: emotional, physical, intellectual, and spiritual. These categories thoroughly represent the many experiences of tourists, consistent with the experience levels outlined in Pine and Gilmore's "Welcome to the Experience Economy," published in the Harvard Business Review in 1998. The experiences provided by the Lycian Way throughout the four primary dimensions enhance the comprehensiveness and validity of the feelings. In the emotional dimension, the feelings of admiration and peace that visitors feel in the face of natural beauty stand out. These emotions represent the connection of tourists with nature at a deeply emotional level and escapism from the turbulences of everyday life. In the physical aspect, obstacles along the way and the actual experience of overcoming them make it possible for the participants to see how far they can go with respect to their physical strength. This is a tour during which people get to know themselves better instead of simply being passengers. On the intellectual level, the Lycian Way is like an open book on the history of these places and a great place to learn and interact with people from different cultures. This openness, in return, to the tourist's perspective and the consequent diverse experiences they have of different ways of thinking or living, changes and affects them positively. In the spiritual dimension, the relationship between man and nature and their inner growth are of ultimate importance for their personal development and spiritual realization. The research results confirm the Lycian Way to be a vibrant area and an experience that changes people in many ways—mentally, intellectually and even spiritually. Furthermore, these discoveries are beneficial both to managing the destination, and the tourism market development through directing their marketing efforts, and also in which way to uplift the Lycian Way and make it a positive experience. Besides, it lays out locuses for future studies on the intensity and pattern of the effects of the Lycian Way on the local community and the economy.

Emotional Dimension group emotions of the purposefulness of silence, the mind-defying capabilities or mindfulness, happiness, self-renewal, and comfort, are some of the most evident ones. The finding is in agreement with those retrieved by Akgündüz and Kızılcalıoğlu (2016) who underscore natural tranquility as a significant drive. Also, these findings corroborate the literature on the experiential motivation mentioned by Pereira and Silva (2018). The Physical Dimension category identified factors that have different effects on the route and make it challenging for the tourists to reach the end. This point consistent the study by Tütüncü, Pamukçu, and Tanrısever (2020), who pointed out the difficulties hikers face. The Intellectual Dimension category, by contrast, emphasized the range of potential educational and discovery opportunities one can take at the Lycian Way. This is in tune with the aspiration for authentic experiences mentioned by Tomljenović et al. (2015). Furthermore, the theme of contemplation and reflection embodies the psychological and spiritual journey that this path pursues. The Spiritual Dimension category revealed the tourists' qualities of oneness with nature and their personal development experiences. These outcomes are akin to Uriely, Yonay, and Simchai's (2002) thoughts on the transfiguring power of backpackers' encounters. The findings of this study reveal the multidimensional and transformative nature of the Lycian Way experience. Tourists' experiences go beyond being merely a physical activity, encompassing emotional, intellectual, and spiritual dimensions. This agrees with Moscardo's (2017) idea about the multifaceted nature of tourist experiences.

The study comprehensively analyzes backpackers' experiences on the Lycian Way. This analysis reveals not only the physical challenges of the route but also its emotional, intellectual, and spiritual dimensions. In particular, the tourists' deep connection with nature and personal growth experiences are unique findings of this study. Pine and Gilmore's (1998) four impressions (emotional, physical, intellectual, and spiritual) were applied in the tourism context. These impressions also formed the dimensions of the research and showed how effective they can be in understanding tourism experiences. The effectiveness of these four impressions in clarifying the Lycian Way experience provides a basis for their broader use in trekking research as a form of tourism.

The study employed internet user reviews to obtain more authentic and diverse data by capturing tourists' unfiltered and spontaneous viewpoints. This strategy facilitated the involvement of a broader sample compared to traditional survey or interview procedures. Within the scope of practical suggestions within the scope of the study, considering that the Lycian Way offers a four-dimensional (emotional, physical, intellectual, and spiritual) experience, activities and services on the route can be designed to strengthen these dimensions. For example, scenic spots can be created to emphasize natural beauty for the emotional dimension; alternative routes can be offered according to difficulty levels for the physical dimension; historical and cultural information boards can be increased for the intellectual dimension, and meditation and yoga areas can be created for the spiritual dimension. Customized route suggestions and activities can be offered according to different tourist profiles. Environmentally friendly practices (recycling points, eco-lodging options, etc.) can be increased to protect the natural beauty of the route. Projects can be developed to increase the participation of local people in tourism. Security measures on the route can be increased, and emergency contact points can be established. Special events (e.g., winter walks and photography tours) can be organized to make the route attractive during low seasons. Theoretically, longitudinal studies can be conducted to examine the long-term transformative effects of the Lycian Way experience on tourists. New methodological approaches can be developed to analyze tourist comments on social media and online platforms. Studies can be conducted comparing the Lycian Way experiences of tourists from different cultures. How the Lycian Way can be used as a model for sustainable tourism can be investigated. The effects of trekking and long-distance routes on psychological health can be examined in more detail. Future research can examine the long-term effects of these experiences and possible differences among different tourist profiles. Comprehensive studies can be conducted to measure the impact of the Lycian Way on the regional economy. These recommendations aim to place the study's findings in a broader context and advance both practical applications and academic research.

Among the study's limitations are the collection of data only from the Google Maps platform and examining reviews from only a specific period. Future research can overcome these limitations by including different online platforms and covering a more extended period. Additionally, quantitative data can support qualitative findings for a more comprehensive analysis.

In conclusion, this study contributes to the literature and practical applications by revealing the multidimensional and transformative nature of backpackers' experiences walking the Lycian Way. The studFrom Ancient Paths to Modern Discoveries: The Backpacker Tourism Experience on the Lycian Way

y's findings show that the Lycian Way is not just a hiking route but also a platform offering profound emotional, intellectual, and spiritual experiences. These results provide new perspectives on sustainable tourism and experience-oriented destination management.

#### References

Abrahams, R. (1986). Ordinary and Extraordinary Experience. (Ed.) Turner V. & Bruner E.: The Anthropology of Experience. Urbana: University of Illinois Press.

Akgündüz, Y., & Kızılcalıoğlu, G. (2016). Likya Yolu'nu Yürüyen Turistlerin Seyahat Motivasyonları ve Memnuniyet Düzeyleri. Yönetim ve Ekonomi Dergisi, 23(3): 817-836. https://doi.org/10.18657/yonveek.281972

Arnould, E. J. ve Price, L. L. (1993). River Magic: Extraordinary Experience and the Extended Service Encounter. Journal of Consumer Research, 20(1): 24-45

Ayeh, J. K., Au, N., & Law, R. (2013). Do We Believe in TripAdvisor? Examining Credibility Perceptions and Online Travelers' Attitude toward Using User-Generated Content. Journal of Travel Research, 52(4): 437-452.

Ayob, N., Wahid, N. & Omar, A. (2011). A measurement model of visitor's event experience within festivals and special events. Proceeding of the 5th International Conference of the Asian Academy of Applied Business (AAAB), 9-10 June 2011, Phhom Penh, Cambodia.

Bowen, G. A. (2009). Document Analysis as a Qualitative Research Method. Qualitative Research Journal, 9(2): 27-40.

Carbone, L. P. (1998). Total customer experience drives value. Management review, 87(7), 62.

Chan, J. K. L., & Saikim, F. H. (2022). Exploring the Ecotourism Service Experience Framework Using the Dimensions of Motivation, Expectation and Ecotourism Experience. Tourism and Hospitality Research, 22(4): 425-443.

Chen, W., Xu, Z., Zheng, X., Yu, Q., & Luo, Y. (2020). Research on Sentiment Classification of Online Travel Review Text. Applied Sciences, 10(15): 5275.

Corbin, J., & Strauss, A. (2008). Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory (3rd ed.). USA: Sage Publications.

Fang, B., Ye, Q., Kucukusta, D., & Law, R. (2016). Analysis of the Perceived Value of Online Tourism Reviews: Influence of Readability and Reviewer Characteristics. Tourism Management, 52: 498–506.

Filieri, R., Alguezaui, S., & McLeay, F. (2015). Why Do Travelers Trust Tripadvisor? Antecedents of Trust Towards Consumer-Generated Media and Its Influence on Recommendation Adoption and Word of Mouth. Tourism Management, 51: 174-185.

Gretzel, U., Fesenmaier, D. R., & O'leary, J. T. (2006). The Transformation of Consumer Behaviour". (Ed.) Buhalis D. & Costa C.: Tourism Business Frontiers: Consumers, Products and Industry. UK: Elsevier.

Guba, E. G. (1981). Criteria for Assessing the Trustworthiness of Naturalistic Inquiries. Educational Communication and Technology Journal, 29(2), 75-91.

Hosany, S., & Witham, M. (2010). Dimensions of cruisers' experiences, satisfaction, and intention to recommend. Journal of travel research, 49(3), 351-364.

Jensen, J. M. and Hjalager, A. (2018). Travel Motivations of First-Time, Repeat, and Serial Backpackers. Tourism and Hospitality Research, 19(4): 465-477. https://doi.org/10.1177/1467358418781440

Joy, A., Yoon, S., Grohmann, B., & LaTour, K. (2021). How winery tourism experience builds brand image and brand loyalty. Wine Business Journal. https://doi.org/10.26813/001c.30210

Kurar, İ., & Kavacık, M. (2022). Alternatif Turizm Kapsamında Likya

Yolu ve Rekreasyon Aktiviteleri. Journal of History Culture and Art Research, 11(4): 1-23.

Culture Routes Society. (2024). Likya Yolu: Türkiye'nin Ilk Uzun Mesafeli Yürüyüş rotası. Retrieved from https://cultureroutesinturkey.com/tr/likya-yolu/ (Accessed: July 10, 2024)

Larsen, S. (2007). Aspects of a Psychology of the Tourist Experience. Scandinavian Journal of Hospitality and Tourism, 7(1): 7-18. https://doi.org/10.1080/15022250701226014

Loker-Murphy, L., & Pearce, P. L. (1995). Young Budget Travelers: Backpackers in Australia. Annals of Tourism Research, 22(4): 819-843

Maoz, D. (2007). Backpackers' Motivations the Role of Culture and Nationality. Annals of Tourism Research, 34(1): 122-140.

Merriam, S. B. (1988). Case Study Research in Education: A Qualitative Approach. NJ: Jossey-Bass.

Miles, M. B., & Huberman, A. M. (1994). Qualitative Data Analysis: An Expanded Sourcebook. Sage Publications.

Mohsin, A., & Ryan, C. (2003). Backpackers in the Northern Territory of Australia—Motives, Behaviours and Satisfactions. International Journal of Tourism Research, 5(2): 113-131. https://doi.org/10.1002/jtr.421

Moscardo, G. (2017). Exploring Mindfulness and Stories in Tourist Experiences. International Journal of Culture, Tourism and Hospitality Research, 11(2): 111-124. https://doi.org/10.1108/ijcthr-11-2016-0108

Noy, C. (2004). This Trip Really Changed Me: Backpackers' Narratives of Self-Change. Annals of Tourism Research, 31(1): 78-102.

O'connor, P. (2010). Managing A Hotel's Image on Tripadvisor. Journal of Hospitality Marketing & Management, 19(7): 754-772.

Oh, H., Fiore, A. M., & Jeoung, M. (2007). Measuring experience economy concepts: Tourism applications. Journal of travel research, 46(2), 119-132.

Pereira, A., & Silva, C. (2018). Motivations and Experiences of Women Solo Travellers. International Journal of Multidisciplinarity in Business and Science, 4(5): 134-138.

Pine, B. J., & Gilmore, J. H. (1999). The Experience Economy: Work Is Theatre & Every Business A Stage. Brighton: Harvard Business Press.

Radder, L., & Han, X. (2015). An examination of the museum experience based on Pine and Gilmore's experience economy realms. Journal of Applied Business Research, 31(2), 455.

Ross, G. F. (1997). Backpacker Achievement and Environmental Controllability as Visitor Motivators. Journal of Travel & Tourism Marketing, 6(2): 69-82. https://doi.org/10.1300/j073v06n02\_04

Scheyvens, R. (2002). Backpacker Tourism and Third World Development. Annals of Tourism Research, 29(1): 144-164.

Sørensen, A. (2003). Backpacker Ethnography. Annals of tourism research, 30(4): 847-867.

Thorne, F. (1963). The Clinical Use of Peak and Nadir Experience Reports. Journal of Clinical Psychology, 19(2): 248-250.

Tomljenović, R. Ateljević, I. Đukić, L., & Senkić, M. (2015). Transtourism–Operational Definition and Typology of Transformative Travel Experiences, http://www. transtourism.com/perch/resources/Files/a1o2-tt-workingdefinition-and-typology.pdf, (Accessed: July 31, 2024).

Torres Luque, P., & Araya, B. (2024). Exploring the Motivations of Chinese Backpackers that Traveled to Chile. Journal of Law and Sustainable Development, 12(4): e2610. https://doi.org/10.55908/sdgs.v12i4.2610

Tung, V. W. S., & Ritchie, J. B. (2011). Exploring The Essence of Memorable Tourism Experiences. Annals of Tourism Research, 38 (4): 1367-1386.

Tütüncü, B., Pamukçu, H., & Tanrısever, C. (2020). Likya Yolu Yürüyüşçülerinin Profilleri Ve Memnuniyet Düzeyleri. Anatolia: Turizm Araştırmaları Dergisi, 31(2): 113-124. https://doi.org/10.17123/ atad.641641

Uriely, N., Yonay, Y., & Simchai, D. (2002). Backpacking Experien-

## Çağdaş Aydın

ces: A Type and Form Analysis. Annals of Tourism Research, 29(2): 520-538.

Uşaklı, A., & Yüksel, Ö. (2021). Resort Otel Deneyiminin Turist Memnuniyeti ve Sadakati Üzerindeki Etkileri. Journal of Tourism and Gastronomy Studies, 9(4): 2854-2873.

Wang, Y. Y. (2008). A means-end approach to the analysis of visitors' perceived values of leisure farms in Taiwan. Journal of American Academy of Business, 12(2), 45-52.

Willson, G. B., & McIntosh, A. J. (2007). Heritage Buildings and Tourism: An Experiential View. Journal of Heritage Tourism, 2(2): 75-93.

Yıldırım, A., & Şimşek, H. (2018). Sosyal Bilimlerde Nitel Araştırma Yöntemleri (11. baskı). Ankara: Seçkin Yayıncılık.

#### Research Article

ROMAYA - Researches on Multidisiplinary Approaches 2024, 4(2): 47-56

ISSN:2791-9099

# SWOT Analysis of Digital Marketing in Turkey 🐠

Türkiye'de Dijital Pazarlama Uygulamalarının SWOT Analizi

## Şimal Çelikkol / Assoc. Prof. Dr. (D)

Istanbul Beykent University, Vocational School, Management and Organization simalcelikkol@beykent.edu.tr

## Nazife Orhan Şimşek / Asst. Prof. Dr. Dr.

Istanbul Beykent University, Vocational School, Foreign Trade nazifeorhan@beykent.edu.tr

## Özgür Aslan / Prof. Dr. 📵

Istanbul University - Cerrahpaşa, Faculty of Health Sciences aslanozgurr@yahoo.com

#### **Abstract**

Digital marketing has become a critical strategy for modern businesses, and Turkey is rapidly developing in this field. With the widespread use of the internet and technological advancements, Turkey's digital marketing environment holds significant potential. However, along with challenges, there are also opportunities in this area. This paper aims to evaluate the SWOT analysis of digital marketing in Turkey, highlighting the sector's strengths, weaknesses, opportunities, and threats. To support the SWOT analysis, various academic studies have been reviewed. The relevant studies are listed under the sections of SWOT analysis and methodology. Secondary data has been used based on selected studies directly related to the topic. In this context, databases such as Web of Science, Scopus and ULAKBIM were scanned to access sufficient literature on the subject. The findings include that Turkey, as an emerging country in digital marketing, has strengths; areas with low-skilled labor and inadequate infrastructure represent weaknesses; a young and open population presents opportunities; and a highly competitive market poses threats. Based on the findings, recommendations have been made for businesses and decision-makers. Additionally, a review of the literature reveals that there is no study specifically focused on the SWOT analysis of digital marketing in Turkey. This study is expected to fill a significant gap in the literature in this regard.

**Keywords:** Marketing, Digital Marketing, SWOT,

Strategic Management. **JEL Codes:** M31,M39,O32

## Özet

Dijital pazarlama, modern işletmeler için kritik bir strateji haline gelmiştir ve Türkiye bu alanda hızla gelişmektedir. İnternetin yaygın kullanımı ve teknolojik gelişmeler sayesinde Türkiye'nin dijital pazarlama ortamı büyük bir potansiyele sahiptir. Ancak bu alanda zorlukların yanı sıra fırsatlar da bulunmaktadır. Bu makale, dijital pazarlamaya yönelik Türkiye'nin SWOT analizini değerlendirmeyi ve sektördeki güçlü, zayıf yönleri, fırsatları ve tehditleri ortaya koymayı amaçlamaktadır. Bu çalışma yürütülürken, SWOT analizini desteklemek için birçok akademik çalışma taranmıştır. İncelenen söz konusu çalışmalar, SWOT analizi ve yöntem başlıkları altında belirtilmiştir. Konuyla doğrudan ilgili seçilmiş çalışmalardan yararlanılarak ikincil veriler kullanılmıştır. Bu doğrultuda konu ile ilgili yeterli literatüre ulaşmak için Web of Science, Scopus ve ULAKBIM gibi veri tabanları taranmıştır. Elde edilen bulgular arasında; Türkiye'nin dijital pazarlama açısından gelişmekte olan bir ülke olması güçlü yönler, düşük eğitimli iş gücüne ve yetersiz altyapıya sahip bölgelere sahip olması zayıf yönler, genç ve açık bir nüfusa sahip olması fırsat, yüksek rekabete maruz bir pazar olması tehdit olarak yer almaktadır. Elde edilen bulgulara dayanarak işletmelere ve karar vericilere önerilerde bulunulmuştur. Ayrıca literatür incelendiğinde, doğrudan Türkiye'nin dijital pazarlama SWOT analizi içeren bir çalışmaya rastlanmamıştır. Çalışmanın bu boyutunun literatürde önemli bir boşluğu dolduracağı düşünülmektedir.

Anahtar Kelimeler: Pazarlama, Dijital Pazarlama,

SWOT, Stratejik Yönetim. **JEL Kodları:** M31,M39,O32

## Introduction

Türkiye, The concept of digital marketing has gained increasing importance since the 2000s, especially in helping businesses develop new market strategies. It is stated that digital marketing is used as a tool particularly in determining management strategies and has many impacts on maintaining and growing a company's presence in the market. Today, managers or decision-makers want to understand the strengths and weaknesses of their organizations and be prepared for the opportunities and threats emerging in their environment. Conducting a SWOT analysis plays a significant role in observing current realities objectively and developing new strategies when necessary. In fact, evaluating the organization impartially from within, especially identifying and addressing weaknesses, can be quite challenging. Therefore, businesses that aim to maintain their current position in the market or expand their market share must identify the advantages and disadvantages that digital marketing brings to them, considering the rapid pace of technological development. In this context, performing a SWOT analysis of digital marketing and clearly revealing the contributions or challenges it brings to businesses is of great importance.

In 2024, the fact that 86.5% of Turkey's population are internet users, placing the country 36th in the world in terms of penetration and 3rd globally in e-commerce with a rate of 64.6%, shows that Turkey is still developing in this area and that the number of users is increasing rapidly (Ministry of Transport and Infrastructure of the Republic of Turkey, 2024). The internet appears as a method that consumers use as a secondary data source for various purposes (such as purchasing, acquiring information, and communication).

This study aims to perform a SWOT analysis of digital marketing in Turkey by utilizing secondary data from national and international literature. Additionally, the goal is to help businesses identify the strengths and weaknesses of digital marketing during their decision-making and strategic management processes and develop plans for the opportunities or threats they may face in the future. Although the literature review referred to studies supporting SWOT analysis, there is a significant lack of studies specifically focusing on SWOT analysis of digital marketing in Turkey. This aspect of the study is expected to contribute to the national literature and the field as a whole, providing valuable insights and recommendations for both businesses and public sector decision-makers in developing digital marketing strategies, particularly regarding opportunities and threats.

# The Concept of Digital Marketing and Its Historical Process

When discussing digital marketing, the first things that come to mind are technologies used in media tools such as email campaigns, websites, smart TVs, and Wi-Fi. Digital marketing is often confused with online marketing. However, digital marketing encompasses all marketing efforts that use an electronic device or the internet. Businesses leverage digital channels such as search engines, social media, email, and websites to connect with current and potential customers. It is also referred to as "internet marketing" or "web marketing." Digital marketing is defined using various digital tactics and channels to connect with customers online, where they spend most of their time (Desai & Vidyapeeth, 2019).

The first signs of digitalization were heard in 1969 when the first message was sent over the internet at the University of California, Los Angeles. The primary goal was merely to communicate in a digital environment. No one could have predicted that such technology would one day be used as a marketing tool. The concept of "digital marketing" first entered our lives in the 1990s with the spread of personal computers into homes and the increased use of the internet, applied through Web 1.0 platforms, the earliest web-based applications. The digital transformation in marketing strategies began with the first clickable banner ad on the Hotwired.com website in October 1994 (The First Banner Ad, 2024). Simultaneously, while search engine companies like Yahoo, HotBot, and LookSmart were gradually entering the market; Google, now one of the most influential players, emerged in 1998. After Google's introduction, marketers aiming to appear in search engine results quickly realized the potential of search engine optimization (SEO) even at that time. Another significant digital advancement in this period was the introduction and use of browser-based cookies. From a marketing perspective, cookies allowed businesses to track and record information about users who left their websites. Even today, cookie technology is regarded as a critical tool in marketing. During the same years, with the rise of the internet sector, many websites, especially e-commerce sites (such as Amazon, Google, eBay), received investments far exceeding their value. The failure of these investments to turn into profitability and the fact that users were not yet ready for online shopping were seen as major reasons for the Internet Bubble crisis (Dot-Com Bubble Burst) of 2000. As a result of the crisis, many small-scale internet companies went out of business. For example, Cisco's NASDAQ shares fell by 86%, and even large firms like Amazon saw their shares drop from \$107 to \$7. During this period, Google, recognizing the increasing volume of search engines as an opportunity, introduced its AdWords product, which displayed ads in search results by targeting user queries. This innovation marked a new era in digital marketing, allowing brands to effectively market their products or services in the digital space through AdWords advertisements. Later, with the advent of Web 2.0 technology, the ability for users to create content became one of the most significant milestones in the historical development of digital marketing. While Web 1.0 internet sites hosted only static, readable content, Web 2.0 technology introduced the era of dynamic content. This technology allowed users to upload their desired content to websites and interact with other users. This content-sharing approach led to the emergence of social media, with platforms like Facebook and Twitter (now known as X) becoming significant marketing channels due to their widespread usage (Ünvan and Badlo, 2021; Terziu, 2020; DeLong and Magin, 2006).

In recent history, as the 21st century began, many businesses developed or were in the final stages of developing web-based marketing strategies. During this period, email communication became widespread, and technologies emerged that made managing communication through this medium quite eaz Additionally, businesses started utilizing Customer Relationship Management (CRM) concepts through databases as part of their digitalization processes. Some businesses (in sectors such as furniture, automotive, healthcare, education, food, etc.) changed their advertising strategies from print and visual media to web presence. More visionary businesses during this period appeared on search engines within their websites and added online marketing to their overall marketing processes. They began to change their organizational and managerial approaches to find or train experts in this area. However, this process, which may seem like a distant past but is quite recent, has been revolutionized by the significant role of social media today. The data shared by We are Social (WAS) in February 2024 is quite striking. The digital journey that began at the start of the 21st century saw the number of users in Turkey increase from 39.4 million in 2014 to 74.4 million in January 2024, representing 86.5% of the total population (WAS, 2024). This rapid development is altering consumer behaviours and prompting businesses to establish new marketing strategies. The broad bandwidth penetration provided by infrastructure increases internet usage and user expectations, leading to more than 66% of the world being online and over 90% online activity in many developed countries (such as the UK, Canada, South Korea, the Netherlands, Japan, etc.) (Statista, 2024).

Of course, consumers are not limited to just web pages; with technological and digital advancements, the use of mobile devices, smart tablets, and smart

TVs is also increasing. Particularly in the last two years, the rise in artificial intelligence has created opportunities for information retrieval supported by ChatGPT. This digital transformation is pushing businesses to become part of the digital transformation and develop new learning and action plans. However, it is also important to mention that there is a small portion of the population, which is somewhat technophobic and aging, that is hesitant towards new learning practices. Many reasons contribute to their reluctance (such as consumer cynicism, distrust, resistance to learning, underdeveloped legal regulations, etc.). Nevertheless, businesses aim to spread their digital marketing strategies across a broad market base to take advantage of the benefits offered (Kingsnorth, 2022: 20-21).

## The Importance of Digital Marketing

Sommarberg and Mäkinen (2019) define digital technology as "corporate marketing programs that can communicate with partners and customers on an integrated platform or system to create new value." Furthermore, these strategies enable the use of business intelligence to collect customer data and implement multiple strategies to encourage interaction with customers. Today, businesses face significant challenges in collecting, storing, and interacting with current customer data. One major reason for these difficulties is being restricted by legal regulations, and another is customers' reluctance to share their data (Bhimani et al., 2019).

The rapid development of the digital economy is recognized as a driving force for high-quality economic growth plans. Today, transactions between businesses and customers are increasingly conducted through web-based access. This development influences not only the growth of the internet but also the advancements in digital technologies such as big data, blockchain, and digital currencies, ultimately transforming consumer purchasing behaviours. The evolution of the digital economy strengthens the connection between businesses and consumers, affecting marketing strategies as businesses respond to changing consumer behaviour (Cheng et al., 2023; Brock and Kohli, 2023; Tabares et al., 2023). Traditional marketing is seen to adapt to shifts in consumer behaviour by combining with digital technology to optimize the sales process and improve the user experience, which further enhances business performance. With new management approaches, new marketing strategies are evolving, enabling businesses to adapt to the changing global order. One of the key advantages of digital marketing is its ability to facilitate rapid adaptation to change (Du et al., 2024).

As the use of internet platforms and technology spreads across a wider foundation, digital marketing is becoming an increasingly important component

of modern business operations. Chatbots, used for customer communication, offer businesses a simple and personalized approach to interacting with consumers, thus contributing to the improvement of the customer experience. Customer experience refers to the overall perception that develops through interactions throughout the customer journey and is a crucial factor in creating customer loyalty. This digital method (Chatbot), which can be programmed to perform various tasks such as answering consumer questions, offering recommendations, and assisting with transactions, enhances the effectiveness of customer relationship management processes (Abdelkader, 2023: 1-2).

Another significant aspect of digital marketing is its measurability through digital media tools. The ability to measure digital media tools has been touted as one of the greatest advantages over other media since the mid-1990s when what was then known as internet marketing was first implemented. Many marketers have stated that the ability to measure website visitors' interactions through log files has provided unprecedented insights into the effectiveness of marketing communications (Chaffey and Patron, 2012: 30-31).

Digital marketing is also known to provide significant contributions to businesses in the establishment phase, often referred to as start-ups. Start-up companies, by their nature, are businesses designed to respond to specific problems for their customers. One of the most challenging aspects for start-ups is to take solid steps in the early stages to establish their presence in the market. According to Giardino et al. (2015), solely focusing on technological solutions does not guarantee survival for early-stage start-ups. However, new companies face a high level of resource constraints and time pressure to solve customer problems (Conway and Hemphill, 2019).

Businesses that can access customer data through digital marketing applications gain a significant advantage in enhancing their marketing capabilities. Utilizing digital marketing platforms provides a crucial advantage for forecasting market trends, tracking new business opportunities, and understanding customer expectations and needs. In this context, businesses use digital marketing platforms to predict market trends and assess consumer preferences or forecasts to monitor business opportunities (Mention et al., 2019).

For early-stage businesses, digital marketing offers a valuable opportunity not only to announce their existence but also to conduct initial market tests. During these trial processes, by combining data obtained from the market with insights gained from digital marketing, an expanded impact can be created, leading to more accurate decision-making (Bland and Osterwalder, 2020). One of the most important advantages that digital marketing offers in terms of

gathering market information is the ability to collect data from a broader market base at a lower cost. It also provides the ability to interact at low costs, measure consumer trust through trust questions, and test working prototypes (Giardino et al., 2015). Additionally, according to Bland and Osterwalder (2020), digital marketing applications allow businesses to optimize and understand customer behaviour by analysing traffic data from websites.

Another advantage of digital marketing is the contribution it provides to branding. By leveraging the power of digital marketing, brands can identify their target audience and manage their advertising strategies by using scarce resources in the most effective way. To achieve and maintain competitive advantage, it is essential to implement steps such as speed, engagement, targeting, measurement, and optimization. Digital marketing strategies enable advertisements on social media and web pages to reach the target audience quickly. Additionally, flexible and low-cost advertising strategies make it easier for businesses to manage their marketing strategies. Digital interactions that reach the desired audience at the desired time enable a two-way flow of interactive information. For example, digital advertising strategies allow businesses to instantly learn the opinions and suggestions of consumers about a launched advertising campaign. Furthermore, digital tools make it easy to reach consumers on either national or international platforms. Some search engines (Google, Yandex, Yahoo, Microsoft Bing) can narrow the target audience to a specific city, district, or even neighbourhood. Measurement processes provide detailed and rapid feedback on metrics such as clicks, display time, and viewing periods. When comparing the number of people reached to the total cost, the cost per person remains more optimal than with traditional tools. For instance, the number of people reached through a newspaper ad is limited to those who read that particular newspaper, whereas the number of people reached via social media platforms or web-based news sites can be much higher. In this context, the optimization step also allows for the freedom to make instant decisions, and the process can continue flexibly according to desired decisions (Gökşin, 2018: 7-8).

However, there are also critical views on digital marketing. One such view is that new technologies represent significant challenges for organizational development. Another criticism is that digitization increases the distance between businesses and customers, making interactions more virtual (Wu et al., 2024).

To improve digital marketing and ensure that processes are conducted more effectively and efficiently, it is necessary to review key performance indicators (KPIs). Along with working with the right people and using the right tools, it is crucial to outline a

framework for KPIs that enhance the digital marketing strategy. In summary, for those responsible in any area, it is necessary to make a clear distinction between the evaluation of customer acquisition, conversion, and retention for reporting and analysing the effectiveness of marketing activities. Chaffey and Bosomworth (2013) state that businesses that have adopted digital marketing strategies often lack proper planning. To conduct this planning process more effectively, they have developed the RACE model, which outlines the steps to be taken after planning. The RACE model consists of four steps: Reach, Act, Convert, and Engage. Reach aims to increase traffic by directing visits to websites and creating brand, product, and service awareness and visibility on other websites and offline media. The goal of the Act step is to generate online potential customers that can later be "nurtured towards purchase" for most businesses. It involves persuading visitors or potential customers to take the next step in their customer journey, namely action. Convert is a vital step that transforms the target audience into paying customers through online or e-commerce transactions. Finally, Engage focuses on long-term customer engagement and communication, aiming to develop customer loyalty by using communications, social presence, email, and direct interactions on the website to enhance customer lifetime value (Chaffey and Patron, 2012).

#### Method

By examining the SWOT analysis of digital marketing in Turkey, this study aims to provide an in-depth analysis by identifying the strengths, weaknesses, opportunities, and threats related to the subject. This analysis is designed to help the reader understand both the positive and negative aspects of the topic. SWOT analysis plays a critical role in the strategic planning processes of organizations. SWOT stands for Strengths, Weaknesses, Opportunities, and Threats (Suguna and Selladurai, 2017). This analysis allows organizations to evaluate internal and external factors and is used to guide strategic decisions. As stated below, SWOT analysis consists of four main components (Kumar and Praveena, 2023; Kotler and Keller, 2016; Mintzberg et al., 1998; Wheelen and Hunger, 2017; Barney, 2007; Puyt et al., 2023; Helms and Nixon, 2010).

**Strengths:** Strengths are internal characteristics of the organization that provide a competitive advantage. Strengths are often defined as the things the organization does well, as well as its resources and capabilities. In this context, a strong brand image or innovative product development capacity is considered a strength.

Weaknesses: Weaknesses are internal areas that

the organization needs to improve. These weaknesses can negatively affect the organization's performance. For example, inadequate financial resources or low employee motivation can be considered weaknesses.

**Opportunities:** Opportunities are external areas where the organization can benefit from positive developments in its environment. Opportunities may include factors such as market trends, technological innovations, or economic growth.

**Threats:** Threats are risks arising from negative external factors that can affect the organization. These threats and risks may include elements such as competition, economic downturns, or regulatory practices.

SWOT analysis offers several advantages. The most notable advantages include helping organizations systematically evaluate internal and external factors and providing crucial information for strategic planning. According to Johnson et al. (2008), strategic opportunities can be identified by focusing on strengths and opportunities, while risks can be mitigated by considering weaknesses and threats. However, SWOT analysis also has some limitations. It can often be subjective and may not accurately reflect the true situation. Additionally, SWOT analysis may frequently remain superficial and require more in-depth analysis (Thompson et al., 2022).

In general, SWOT analysis functions as an effective tool in the strategic planning processes of organizations. The systematic evaluation of strengths, weaknesses, opportunities, and threats enables organizations to make more informed strategic decisions. However, it is important to consider the limitations of SWOT analysis and to support it with other strategic analysis tools (Porter, 1998).

## **SWOT Analysis**

When the literature is examined, it can be said that there are significant deficiencies in studies focusing on the SWOT analysis of digital marketing in Turkey. To support the SWOT analysis in this study, a comprehensive review of both national and international literature on the topic was conducted. Expressions to be used for the SWOT analysis of digital marketing in Turkey were identified based on relevant research (Keke, 2022; Karaoğlan and Durukan, 2020; Saçan and Eren, 2021; Geçit and Taşkın, 2018; Şahin, 2023; TUIK, 2023; Bulunmaz, 2016; Çayırağası and Sakıcı, 2021; Ministry of Commerce of the Republic of Turkey, 2024; Suguna and Selladurai, 2017; Güzel, 2015; TÜBİSAD, 2020; Pratiwi and Rohman, 2023; Hanis and Yusuf, 2022; Rifai and Witriantino, 2022; Kahraman et al., 2007). In this regard, the study fills a significant gap in the literature.

## **Strengths**

- Turkey's e-commerce sector has been growing rapidly in recent years. According to the "Overview of E-Commerce in Turkey" report by the Ministry of Trade, "Turkey's e-commerce volume in 2023 reached 1.85 trillion Turkish lira. In 2023, the volume of e-commerce in Turkey increased by 115.15% compared to the previous year, reaching 1.85 trillion Turkish lira (77.89 billion USD), with the number of transactions rising by 22.25% to 5.87 billion transactions. The Ministry of Trade predicts that the e-commerce volume in 2024 will reach 3.4 trillion Turkish lira with 6.67 billion transactions". This growth increases the importance of digital marketing strategies and supports the effectiveness of online sales channels.
- According to the Household Information Technologies Usage Survey, the rate of households with internet access was 95.5%. In 2023, the proportion of households with internet access from home increased by 1.4 percentage points from the previous year to 95.5%. The proportion of individuals using the internet reached 87.1%. In the 16-74 age group, the rate of internet usage was 85.0% in 2022 and rose to 87.1% in 2023. This high internet penetration ensures that digital marketing campaigns can reach a broad audience.
- Turkey has shown significant progress in digital infrastructure and technological investments. The spread of fiber internet infrastructure and digital transformation projects enhances the effectiveness of digital marketing activities.
- The strengthening of technological infrastructure enables more efficient use of digital marketing tools such as data analysis, automation, and artificial intelligence. Moreover, investments in digital marketing allow brands to quickly adapt to technological innovations.
- Turkey's young population quickly adapts to digital technologies. Younger age groups heavily use digital and social media platforms, offering effective targeting opportunities for brands. Social media is a powerful tool for brands to reach consumers directly, and a significant portion of social media users in Turkey actively engage with brands.
- Digital marketing campaigns can be easily customized and tailored to meet specific business needs, making them more targeted.
- Unlike traditional methods, digital marketing campaigns do not require a large team, saving money, time, and effort while also increasing return on investment.
- As statistical reviews have shown, Turkey's e-commerce platforms demonstrated notable resilience during the COVID-19 pandemic.

#### Weaknesses

- In some sectors in Turkey (such as food, cosmetics, home cleaning products, personal care, construction, etc.), digital marketing investments are insufficient. Especially, small and medium-sized enterprises (SMEs) tend to keep their digital marketing budgets limited, which reduces their competitive advantage. According to the Advertisers Association Report (2024) prepared at the end of 2023, despite a technological transformation brought about by the internet, traditional media still maintains its effectiveness in Turkey amid changing media processes.
- There is a limited number of skilled professionals capable of effectively implementing digital marketing strategies. The lack of experts with digital marketing skills can restrict the effectiveness of campaigns.
- Data security and privacy issues on digital platforms present significant challenges for brands. In Turkey, legal regulations and practices concerning data security and personal information protection can affect user trust.
- In Turkey, some brands face challenges in rapidly adapting to technological innovations in digital marketing. Examples include those in the food sector that adhere to traditional production and distribution methods and SMEs in the industrial sector. The fast-evolving nature of technology and digital trends can make it difficult for brands to keep their strategies updated. Slow technological adaptation can limit the effectiveness of digital campaigns and cause brands to lose their competitive edge. Transitioning to innovative technologies such as artificial intelligence, data analytics, and automation can be costly and complex for some businesses.
- Problems caused by high commission rates of marketplaces. E-commerce operates on a dual-sided structure that connects sellers and buyers. Sellers aim to create a sustainable business model on online platforms and maintain long-term relationships with customers under a strong brand name. Especially in Turkey, marketplace commission fees typically include both platform usage fees and a fee for each sales transaction. Commission rates vary by product segment, but on average, they are around 10-15%, pushing new entrants to online stores. Digital advertisements, which sellers must use, further increase operational costs.
- Legal and regulatory challenges encountered during digital marketing activities can impact brands' strategic plans. Some businesses in Turkey may lack sufficient knowledge of legal regulations related to digital advertising and data protection. Non-compliance with legal requirements can lead to legal issues and penalties. Additionally, keeping up with and implementing regulatory changes poses an additional burden for businesses.

- There is a lack of academic studies on this subject. As of August 15, 2024, a search of the "Scopus" database for publications with "digital marketing" in the title yielded a total of "1559" publications, of which only "46" were from Turkey. Similarly, a search of the "Web of Science" database produced "714" publications, but only "7" were Turkish based.
- The legal system is not highly effective in resolving disputes. The enforcement power of the laws is weak, and intellectual property rights are not adequately protected.
- Restrictions on internet access negatively impact access to information, originality, and creativity, which are critical elements of this ecosystem. The prevalence of personal entrepreneurship over corporate entrepreneurship hinders the use of economies of scale.
- University graduates do not possess the qualifications required by the industry. Additionally, in terms of skilled labor, data analysis remains a significant concern, and very few people are professionals in this area.
- There is a need for a clear vision for information and communication technologies. Low societal awareness of digital transformation negatively affects the development of digital marketing. Since digitalization policies are not created with a holistic approach, resources are utilized inefficiently.
- It is challenging to reach certain populations, particularly rural and elderly individuals, who still do not use the internet.
- There is a need for a deep understanding of changing human behaviours and needs.
- Barriers exist to the adoption of digital payment methods.

## **Opportunities**

- The e-commerce sector in Turkey is rapidly growing. The expansion of e-commerce broadens digital marketing opportunities for brands and encourages the adoption of strategic steps to increase online sales.
- The impact of significant developments in technological innovations is important. Technological advancements such as artificial intelligence, big data analytics, and automation enhance the personalization and effectiveness of digital marketing campaigns. These technologies enable brands to better understand consumer behaviour and create targeted campaigns.
- Digital marketing offers opportunities for Turkish brands to enter international markets. Turkey's strategic location and digital infrastructure support the competitiveness of Turkish brands in global markets.
- Increasing employment opportunities for

- young people are emerging, as this field is growing, and the number of professionals is limited.
- The comprehensive adoption of digital marketing across all sectors could assist the country's overall digitalization, leading to a smarter lifestyle for a large portion of the population.
- Digital marketing can assist the digitalization of governmental institutions in Turkey. Operations from sectors like railways, municipal organizations, and others could become faster and more efficient.
- The promotion of small businesses is becoming easier during this process since digital marketing is cost-effective.

#### **Threats**

- The high level of competition in the digital marketing field can make it difficult for brands to stand out. The presence of numerous players in the market requires brands to constantly update their marketing strategies and remain innovative.
- The speed of technological advancements can make it challenging to keep digital marketing strategies up to date. Brands need to quickly adapt to technological innovations.
- Legal regulations related to digital advertising and data protection may affect the feasibility of strategies. Data protection laws and regulations in Turkey could limit brands' digital marketing strategies or complicate their compliance processes.
- Constant awareness and adaptation are required due to continuously changing marketing trends and the ever-evolving rules of search engine optimization, making it difficult to keep up.
- The full security of data storage remains a significant concern.
- Misinterpreting data can lead to negative outcomes for many companies.
- The confusion arising from the numerous marketing options available (such as face-to-face sales, referral sales, TV and newspaper advertisements, etc.) can contribute to the potential failure of digital marketing campaigns.
- Damage control for negative reviews or complaints on social media or digital platforms is crucial. This issue could even lead to the closure of businesses.
- Challenges related to logistics and delivery, along with their negative impacts on other areas.
- The potential adverse effects of a global economic recession.
- Issues arising in the digital marketing landscape can harm brands.

## **Conclusion and Recommendations**

Marketing management is one of the most important management strategies that determines the future position of businesses in the market. In the transformative developments of the changing world, the role of digital transformation is substantial. Particularly, the increase in technological investments has led to a global transformation, thus introducing a digital dimension to marketing. Understanding the strengths and weaknesses of digital marketing is as crucial as being able to foresee the opportunities and threats in the immediate and distant environment that the business cannot change. Developments occurring outside of businesses, which may sometimes be perceived as threats, can unexpectedly turn into opportunities. A prime example of this is the significant growth in e-commerce during the Covid-19 pandemic lockdown, which resulted in record revenues. While this situation posed a threat to many sectors (such as tourism, travel, restaurants, gyms, hairdressers, etc.), it created opportunities for businesses selling digital-based services/products.

Digital literacy in Turkey is increasing each year, and as seen in TÜİK data, the number of users has exceeded 87% of the population. This transformation clearly indicates that businesses need to increase their digital-based investments. Moreover, a SWOT analysis of the situation in Turkey reveals the following findings:

Regarding strengths: The e-commerce volume is projected to reach 3.4 trillion TL, internet access has reached 95.5% of households, and developments such as the increase in fiber internet infrastructure and general growth in businesses' digital infrastructure investments present advantages for all businesses in terms of digital marketing strategies.

On the other hand, weaknesses include insufficient budgets for digital investments by especially medium-sized enterprises in Turkey, the still limited number of skilled professionals nationwide, difficulties faced by businesses in adopting innovative technologies like artificial intelligence, data analytics, and automation, legal and regulatory challenges encountered during digital marketing activities, and the inadequacy of academic research in Turkey are areas that need improvement. Additionally, resistance to change and a reluctance to digital payment methods and purchasing behaviour are also considered weaknesses.

When evaluating opportunities, the most significant opportunity is the rapid growth of the e-commerce sector in Turkey. Other opportunities include digital marketing offering Turkish brands a chance to enter international markets, its appeal to the young population, and the role of government institutions in leading digital transformation in Turkey.

Finally, regarding threats: Businesses in Turkey need

to develop strategies to compete with strong brands in digital marketing, address the threats posed by data protection laws and regulations, and manage the impact of negative reviews or complaints on social media or digital platforms. Based on these findings, recommendations for businesses and public decision-makers include:

- Digital marketing is an effective way to reach consumers and the public online (Suguna & Selladurai, 2017). It makes it easier to reach and target a larger audience at a lower cost, providing significant savings compared to traditional marketing strategies. Small businesses can promote themselves more easily and conduct marketing activities at more affordable costs. Digital marketing is a 24/7 global marketplace (Okay, 2023). Therefore, especially small businesses and startups should leverage the advantages offered by digital marketing.
- The advancements in digitalization and digital transformation in the Turkish market are also driving the development of information and communication technologies. Therefore, digital marketing should be expanded and developed to encompass not only businesses but also public institutions and even entire countries. With the impact of globalization, businesses in the global market should utilize the benefits of digital marketing to gain an advantage in the face of intense and disruptive competition. Businesses should also adapt to international standards and innovative developments. To improve resource efficiency or use existing resources most effectively, public institutions should develop integrative policies with digitalization practices. This will make workflow processes faster and more efficient. A more liberal approach to internet accessibility should be adopted in public institutions (TÜBİSAD, 2020).
- In Turkey, incentives and legal regulations should be developed to promote the widespread adoption of digitalization and digital marketing policies in the business world. This will improve the competitive environment and pave the way for the institutionalization of both public institutions and businesses. In the market where the public sector and the private sector face each other, the public sector should focus on activities that enhance the competitive environment rather than competing directly with the private sector (TÜBİSAD, 2020).
- Firms should consider the social media practices of competing firms when determining future strategies, and develop advertising campaigns, discounts, and contests to engage customers and enhance brand image (Saçan & Eren, 2021).
- Another crucial aspect of digitalization is skilled workforce. It is essential to remember that qualified workforce is needed to utilize, develop, and monitor digital marketing practices. In Turkey, the development of a skilled workforce requires

support from both public institutions and organizations as well as practitioners in the private sector. The education system should be revised from basic education to university education to support and expand digital literacy. When planning university education programs, digital competencies should be increased according to sector requirements (Yalap & Gazioğlu, 2023).

Finally, recommendations for future academic studies can be summarized as follows: The SWOT analysis of digital marketing specific to Turkey could be compared with that of another country. Data collection through interviews could be conducted to address the improvement of weaknesses and measures against threats in specific sectors (such as automotive, textiles, tourism, etc.). Field studies could be carried out to reinforce strengths and forecast opportunities. Additionally, different research techniques or methods accompanying SWOT analysis could be applied to address the limitations observed in this study.

#### References

Abdelkader, O. A. (2023). ChatGPT's influence on customer experience in digital marketing: Investigating the moderating roles. Heliyon, 9(8).

Barney, J. B. (2007). Gaining and Sustaining Competitive Advantage. Pearson Education.

Bhimani, H., Mention, A. L., & Barlatier, P. J. (2019). Social media and innovation: A systematic literature review and future research directions. Technological Forecasting and Social Change, 144, 251-269.

Bland, D.J., Osterwalder, A. (2020). Testing Business Ideas: A Field Guide for Rapid Experimentation. John Wiley & Sons, Inc, Hoboken, New Jersey.

Brock, J. K., & Kohli, A. K. (2023). The emerging world of digital exploration services. Journal of Business Research, 155, 113434.

Bulunmaz, B. (2016). Gelişen teknolojiyle birlikte değişen pazarlama yöntemleri ve dijital pazarlama. TRT Akademi, 1(2), 348-365.

Chaffey, D., & Bosomworth, D. (2013). Digital marketing strategy planning template. Smart Insights, 1-14.

Chaffey, D., & Patron, M. (2012). From web analytics to digital marketing optimization: Increasing the commercial value of digital analytics. Journal of Direct, Data and Digital Marketing Practice, 14, 30-45.

Cheng, Y. R., Zhou, X. R., & Li, Y. J. (2023). The effect of digital transformation on real economy enterprises' total factor productivity. International Review of Economics & Finance, 85, 488-501.

Conway, T. & Hemphill, T. (2019). Growth hacking as an approach to producing growth amongst UK technology start-ups: an evaluation. Journal of Research in Marketing and Entrepreneurship. 21 (2), 163–179.

Çayırağası, F., & Sakıcı, Ş. (2021). Avrupa Yeşil Mutabakatı (Green Deal) ve Birleşmiş Milletler Sürdürülebilir Kalkınma Hedefleri Perspektifinde Sürdürülebilir Dijital Pazarlama Stratejileri. Gaziantep University Journal of Social Sciences, 20(4), 1916-1937.

Delong, J. & Magin, K. (2006). A Short Note on the Size of the Dot-Com Bubble. National Bureau of Economic Research, Inc, NBER Working Papers.

Desai, V., & Vidyapeeth, B. (2019). Digital marketing: A review. International Journal of Trend in Scientific Research and Development, 5(5), 196-200.

Du, K., Zhao, Q., Yin, Y., & Zhang, T. (2024). Marketing executives

and corporate performance: From the perspective of marketing digitalization. International Review of Economics & Finance, 93, 631-644. S:631

Geçit, B. B., & Taşkın, E. (2018). Digital marketing usage and measurement in Turkey. In International Conference of Eurasian Economies, Vol. 10.

Giardino, C., Paternoster, N., Unterkalmsteiner, M., Gorschek, T., & Abrahamsson, P. (2015). Software development in startup companies: the greenfield startup model. IEEE Transactions on Software Engineering, 42(6), 585-604.

Gökşin, E. (2018). Dijital Pazarlama Temelleri. Abaküs Yayınları.

Güzel, E. (2015). Digital Marketing In Turkey and The Generation Y Consumer Behaviour In Social Media: A University Sample. International Journal of Multidisciplinary Thought, 5(3): 507-522.

Hanis, R., & Yusuf, M. (2022, December). Applying A Swot Analysis Approach To A Sharia Marketing Perspective At Alunicorn Shops In Bandung. In Proceeding of The International Conference on Economics and Business (Vol. 1, No. 2, pp. 653-670).

Helms, M. M., & Nixon, J. (2010). Exploring SWOT analysis—where are we now? A review of academic research from the last decade. Journal of strategy and management, 3(3), 215-251.

Johnson, G., Scholes, K., & Whittington, R. (2008). Exploring Corporate Strategy, 8th ed.. Pearson Education.

Kahraman, C., Demirel, N. Ç., & Demirel, T. (2007). Prioritization of e-Government strategies using a SWOT-AHP analysis: the case of Turkey. European Journal of Information Systems, 16(3), 284-298.

Karaoğlan, S., & Durukan, T. (2020). Dijital pazarlama çağında çevrimiçi alışverişin fayda ve risk algısı. İşletme Araştırmaları Dergisi, 12(2), 1072-1082.

Keke, M. E. (2022). The use of digital marketing in information transport in social media: the example of Turkish companies. Transportation Research Procedia, 63, 2579-2588.

Kingsnorth, S. (2022). Digital marketing strategy: an integrated approach to online marketing. Kogan Page Publishers.

Kotler, P., & Keller, K. L. (2016). Marketing Management. 15th ed.. Pearson Education.

Kumar Sharath & Praveena K.B. (2023). SWOT Analysis, International Journal of Advanced Research, 11(09), 744-748.

Mention, A. L., Barlatier, P. J., & Josserand, E. (2019). Using social media to leverage and develop dynamic capabilities for innovation. Technological Forecasting and Social Change, 144, 242-250.

Ministry of Commerce of the Republic of Turkey (2024). Türkiye'de E-Ticaretin Görünümü Raporu, T.C. Ticaret Bakanlığı Yayınları. Ankara.

Ministry of Transport and Infrastructure of the Republic of Turkey (2024). Dijital 2024 Global Genel Bakış ve Türkiye Raporu. Ankara.

Mintzberg, H., Ahlstrand, B., & Lampel, J. (1998). Strategy Safari: A Guided Tour Through The Wilds of Strategic Management. Free Press.

Okay, S. (2023). Dijital Pazarlama Stratejileri ve Hiper Kişiselleştirme. Avrupa Bilim ve Teknoloji Dergisi, (51), 21-28.

Porter, M. E. (1998). Competitive Advantage: Creating and Sustaining Superior Performance. Free Press.

Puyt, R. W., Lie, F. B., & Wilderom, C. P. (2023). The origins of SWOT analysis. Long Range Planning, 56(3), 102304.

Reklamcılar Derneği (2024). https://www.rd.org.tr/medya-yatirimlari (E.T. 28.08.2024)

Rifai, Z., & Witriantino, D. A. (2022). Analisis Digital Marketing Website Hompimpaa. id Menggunakan Metode Analisis SWOT, Value Proposition Canvas, dan Competitive Five Force. Indonesian Journal on Software Engineering (IJSE), 8(1), 75-82.

Pratiwi, A. M., & Rohman, A. (2023). Penerapan Strategi Digital Marketing Dalam Meningkatkan Omset Dengan Pendekatan Analisis Swot Perspektif Marketing Syariah Pada Toko Fihadaessie Surabaya. Jesya (Jurnal Ekonomi dan Ekonomi Syariah), 6(1), 881-898.

Saçan, B., & Eren, T. (2021). Dijital pazarlama strateji seçimi:

## Şimal Çelikkol / Nazife Orhan Şimşek / Özgür Aslan

SWOT analizi ve çok ölçütlü karar verme yöntemleri. Politeknik Dergisi, 25(4), 1411-1421.

Sommarberg, M., & Mäkinen, S. J. (2019). A method for anticipating the disruptive nature of digitalization in the machine-building industry. Technological Forecasting and Social Change, 146, 808-819

Statista (2024). https://www.statista.com/statistics/617136/digital-population-worldwide/ (E.T. 02.07.2024).

Suguna, D., & Selladurai, V. (2019). SWOT analysis of digital marketing in India. International Journal of Multidisciplinary Education And Research, 2(2), 37-40.

Şahin, B. (2023). A SWOT Analysis of Turkish e-commerce activities in post COVID-19 era, Bmij. 11 (4): 1308-1320.

Tabares, S., Parida, V., & Visnjic, I. (2023). Revenue models for digital services in the railway industry: A framework for choosing the right revenue model. Journal of Business Research, 165, Article 114041

Terziu, H. (2021). The role of the internet in the development of marketing and electronic services in business. European Journal of Economics and Business Studies. 6(2). 1-12.

The First Banner AD (2024). http://thefirstbannerad.com/story. html (E.T. 01.08.2024)

Thompson, A. A., Peteraf, M. A., Gamble, J. E., & Strickland, A. J. (2022). Crafting & Executing Strategy: The Quest for Competitive Advantage, 23rd ed.. McGraw-Hill Education.

TÜBİSAD (2020). Turkey's Digital Transformation Index, TÜBİSAD Publication, https://www.tubisad.org.tr/tr/images/pdf/tubisad\_dde\_endeks\_report\_eng.pdf. (E.T. 02.07.2024).

TÜİK (2023). Hanehalkı Bilişim Teknolojileri (BT) Kullanım Araştırması, 2023. Türkiye İstatistik Kurumu. https://data.tuik.gov.tr/Bulten/Index?p=Hanehalki-Bilisim-Teknolojileri-(BT)-Kullanim-Arastirmasi-2023-49407. (E.T. 02.07.2024).

Ünvan, Y. & Badlo, Y. (2021). Digital Marketing and Social Media: A Review. E-business technologies Conferences Proceedings. 61-66.

WAS (2024). https://wearesocial.com/us/ (E.T. 04.07.2024).

Wheelen, T. L., & Hunger, J. D. (2017). Strategic Management and Business Policy: Globalization, Innovation and Sustainability. 15th ed.. Pearson Education.

Wu, C. W., Botella-Carrubi, D., & Blanco-González-Tejero, C. (2024). The empirical study of digital marketing strategy and performance in small and medium-sized enterprises (SMEs). Technological Forecasting and Social Change, 200, 123142.

Yalap, H., & Gazioğlu, M. (2023). Türk eğitim sisteminde dijitalleşmeye yönelik uygulamalar. Manas Sosyal Araştırmalar Dergisi, 12 (Özel Sayı), 80-90.

## Research Article

ROMAYA - Researches on Multidisiplinary Approaches 2024, 4(2): 57-68

ISSN:2791-9099

## Investigation of Psychological Resilience Effect on Emotional Eating; Hotel Employees Sample 🚭

Psikolojik Dayanıklılığın Duygusal Yemeye Etkisi; Otel Çalışanları Örneği

Sibel Önçel / Assoc. Prof. Dr. 📵

Anadolu University, Faculty of Tourism sguler@anadolu.edu.tr

Pinar Şenel / Asst. Prof. Dr. (D)

Anadolu University, Faculty of Tourism pinargoksu@anadolu.edu.tr

#### **Abstract**

Negative emotions effect to psychology and lead to eating disorders. Emotional eating occurs in response to negative emotional states. Hotel employees who have high workload and stress levels they are constantly exposed to food as part of their work processes. The research aims to measure the effect of hotel employees' psychological resilience on emotional eating behavior. The survey method was used in the study. The preliminary research was conducted with 200 participants and the final research with 410 participants. Participants were selected from individuals who working different departments of four-star and five-star hotels in Istanbul. Data were analyzed with regression analyses. As a result, it was found that self-perception, future perception, and social resources, which are the sub-dimensions of psychological resilience, had a statistically significant and negative effect on emotional eating. Also, no statistically significant effect of family cohesion and social competence, which are the other sub-dimensions of psychological resilience, on emotional eating was detected. The research is expected to contribute theoretically to the interdisciplinary literature in the fields of tourism, gastronomy, nutrition and psychology. In addition, practical contributions to hotel sector employees in terms of physiological and psychological aspects are aimed.

**Keywords:** Eating Disorders, Emotional Eating, Psychological Resilience, Hotel Employees.

**JEL Codes:** L83,L80,M10

# Özet

Olumsuz duygu durumları psikolojiyi etkileyerek yeme bozukluklarına yol açmaktadır. Duygusal yeme, olumsuz duygu durumlarına tepki olarak ortaya çıkan bir yeme bozukluğudur. İş yükü ve stres düzeyi yüksek olan otel çalışanları iş süreçleri kapsamında sürekli olarak yemeğe maruz kalan bireylerdir. Araştırma, otel çalışanlarının psikolojik dayanıklılıklarının duygusal yeme üzerindeki etkisini ölçmeyi amaçlamaktadır. Çalışmada nicel yöntemlerden yararlanılmıştır. Veriler anket yöntemi ile toplanmıştır. Ön araştırma 200, nihai araştırma 410 katılımcıyla gerçekleştirilmiştir. Katılımcılar İstanbul'daki dört ve beş yıldızlı otellerin farklı departmanlarında çalışan bireyler arasından seçilmiştir. Veriler regresyon analizleri ile analiz edilmiştir. Araştırma sonucunda psikolojik dayanıklılığın alt boyutları olan benlik algısı, gelecek algısı ve sosyal kaynakların duygusal yeme üzerinde istatistiksel olarak anlamlı ve negatif bir etkiye sahip olduğu tespit edilmiştir. Aynı zamanda psikolojik dayanıklılığın alt boyutları olan aile uyumu ve sosyal yeterliliğin duygusal yeme üzerinde istatistiksel olarak anlamlı bir etkisi saptanamamıştır. Araştırmanın turizm, gastronomi, beslenme ve psikoloji alanındaki disiplinler arası literatüre teorik açıdan katkı sağlaması beklenmektedir. Ayrıca, otel sektörü çalışanlarına fizyolojik ve psikolojik açıdan pratik katkılar hedeflenmektedir.

Anahtar Kelimeler: Yeme Bozuklukları, Duygusal Yeme, Psikolojik Dayanıklılık, Otel Çalışanları.

JEL Kodları: L83,L80,M10

## Introduction

The eating phenomenon is related to many different factors, including psychological factors (Enriquez & Archila-Godinez, 2022; Simone et al., 2021; Van Den Berg et al., 2019). On the other hand, the fact that eating disorders are among the most prominent factors that negatively effect the health of individuals (Himmerich, 2021; O'Brien et al., 2017) has caused the problem to be studied from many different perspectives, including psychology. Numerous studies define eating disorders and investigate their causes in literature (Saha et al., 2022; Streatfeild et al., 2021; Li et al., 2020).

Individuals may acquire eating disorders due to psychological factors and tend to consume high-calorie, harmful foods during times of frustration and depression (Badri et al., 2021). Also, individuals with atypical depression may have weight gain (Schafer et al., 2022; Barchiesi et al., 2016). Studies have shown that individuals tend to consume more carbohydrates while facing psychological issues, while obese people often eat to alleviate discomfort and tension (Daneshzad et al., 2020; Gallagher et al., 2019). Along with all these, emotional eating is revealed as a result of psychological factors.

The hotel industry affects the psychology of employees with intense and stressful work processes. Many studies reveal that intense and long working hours negatively affect the psychology of hotel employees (Kalargyrou et al., 2023; Haddoud et al., 2022; Ross, 2017) and emphasize the importance of psychological resilience for hotel employees (Anasori et al., 2023; Yucel et al., 2021). In addition, access or exposure to food in the hotel is extremely high and leads to eating disorders (Okumus et al., 2019; Kim et al., 2016). There are very limited studies investigating the emotional eating or eating disorders of hotel employees (Okumus et al, 2022) and no study investigating the relationship between emotional eating and psychological resilience in the hotel sector. In addition, even though several studies focus on eating disorders within the scope of psychological factors and resilience (Chang et al., 2021; Isaksson et al., 2021; Coleman & Caswell, 2020), studies investigating the effect of psychological resilience on emotional eating were very limited in the literature.

The study aims to examine the effect of psychological resilience on emotional eating in the context of hotel employees. The regression analyses were used in the study. The research aims to make theoretical contributions to interdisciplinary literature in the field of tourism gastronomy, nutrition and psychology. In addition, practical contributions are aimed to improve the physiological and psychological health status of hotel employees and to the development of human resources in the tourism industry as well as hotel sector.

#### Literature

## **Psychological Resilience**

Psychological resilience is an individual's ability to cope with negative situations such as various obstacles, stress, disappointment, and sadness encountered in the life process. In this context, it refers to the ability to adapt to challenging conditions in life (Sisto et al., 2019). If the psychological resilience of the individual is addressed comprehensively and in a way that is not independent of the environmental factors, it is seen that the factors of perception of self, perception of the future, structured style, family cohesion, social competence, and social resources emerge (Friborg et al., 2003). Perception of self, perception of future, structural style, and social competence are individual characteristics related to resilience. Perception of self is the ability of individuals to direct their future by learning lessons from the events they have experienced before. Individuals assess and adjust their behaviors and relationships in response to bad results stemming from the relationships formed throughout their lives (Cazan & Dumitrescu, 2016). Perception of the future is how individuals guide their present actions and thoughts according to their future intentions. People with a strong sense of long-term perception can demonstrate intentional and deliberate actions toward achieving their future goals (Kooji et al., 2018). Structural style is connected to an individual's personality, self-assurance, capabilities, and self-control. The capacity to plan, organize, and analyze one's daily responsibilities is defined as social competency (Friborg et al., 2005). Social competency is the ability of individuals to rely on their skills. It was detected that individuals with high social competence are more determined to solve events because they believe in their abilities (Taborsky & Oliveira, 2012).

Social resources are interactions in social life that influence psychological resilience as an environmental component. The social environment has effects such as changing negative conditions for individuals or reducing their degree of importance (Kılınc & Sis Celik, 2021). Family cohesion elucidates the collaboration among family members during challenging circumstances (Mohd-Zaharim & Hashim, 2023).

## **Emotional Eating**

Eating is a biological necessity for survival, but it is also intertwined with psychology (Himmerich et al., 2021). Emotions like stress, anxiety, and anger can lead to overeating beyond what is required for basic sustenance (Linardon et al., 2021). In this context, food intake with more calories than the daily energy requirement leads to unbalanced nutrition and health problems (Stewart et al., 2022).

Emotional eating occurs as a reaction to individu-

als' negative emotional states and affects healthy eating habits (Konttinen, 2020). People may engage in overeating due to several factors when experiencing bad emotions. Various ideas, including the escape theory, limitation theory, and internal-external obesity theory, have been proposed to explain why individuals engage in overeating when experiencing negative emotional states (Sevincer & Konuk, 2013). Individuals exhibit overeating behavior in this context as a means to avoid negative emotional states, the pressure to control their eating habits, or external stimuli in the environment rather than internal factors like hunger and energy requirements (Wang et al., 2023). Additionally, it has been observed that individuals with emotional eating behaviors eat outside of main meals and late at night and prefer unhealthy foods. People who engage in emotional eating tend to favor unhealthy foods that are rich in carbohydrates, fat, and sugar (Kaur et al., 2022). The fact that these high-calorie and unhealthy food types are consumed with overeating behavior in negative emotional states constitutes the research problem.

# Psychological Resilience, Eating Disorders, and Emotional Eating

The relationship between eating disorders and psychological factors was discussed in many studies (Isaksson et al., 2021; Coleman & Caswell, 2020). Nishimi and his colleagues (2022), found that psychological resilience negatively effected eating disorders and weight gain, Süss and friends (2020), found that psychological resilience positively effects the diet quality of individuals. Milligan and her colleagues (2024), have shown that eating control can be achieved by increasing psychological resilience while Las Hayas and friends (2016), identified the relationship between emotional eating and the variables of active coping, increasing well-being, initiating new projects, and receiving social support associated with eating disorders and psychological resilience. However, there are very limited studies investigating the relationship between psychological resilience and emotional eating in the literature. Robert and his colleagues (2022), found that psychological resilience negatively effects emotional eating in their study on adults in France, and Spinosa and friends (2019), found that psychological resilience may have a partial effect on emotional eating by effecting coping with stress. Considering all these studies, 6 hypotheses were determined in the research.

**H1:** As perception of self increases, emotional eating decreases.

**H2:** As perception of the future increases, emotional eating decreases.

**H3:** As structured style increases, emotional eating decreases.

**H4:** As family cohesion increases, emotional eating

decreases.

**H5:** As social competence increases, emotional eating decreases.

**H6:** As social resources increase, emotional eating decreases.

## Methodology

The study aims to analyze the effect of psychological resilience on emotional eating. Six hypotheses were formulated to align with the study's purpose. The model for the hypotheses is presented in Figure 1. The study data were collected by the survey method.

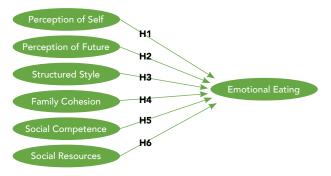


Figure 1. Research Model

## Sample

The population of the study is hotel employees. The sample consisted of 610 participants working in four-star and five-star hotels in Istanbul. Participants were selected from individuals working in different departments, such as the front office, reception, housekeeping, kitchen, service personnel, and administrative departments. Considering that Istanbul benefits the tourism industry, especially in the context of hotels, the sample was selected among hotel employees in this city (Yozcu, 2017). Also, work stress and psychological wear are high for the employees of four-star and five-star hotels in Istanbul (Arslan et al., 2023) and employees may be individuals from different countries of the world (Celik, 2023). For the preliminary research, data were collected from 200 people working in different departments of the hotels. For the final phase, data were collected from 103 participants working in the front office and reception department, 100 in housekeeping, 104 in the kitchen and service department, and 103 in administrative departments. Data were collected upon the decision of the Anadolu University Ethics Commission dated 28.02.2023 with protocol number 488278. Preliminary research data were collected between May 20, 2023, and June 28, 2023, and final research data were collected between July and September 27, 2023.

## Scale

"The Resilience Scale for Adults" developed by Friborg et al. (2005), which was adapted into Turkish (Basim & Cetin, 2011), and "Dutch Eating Behavior Questionnaire (DEBQ)" (Van Strien et al., 1986), whose reliability and validity for Turkey was tested in 2011 (Bozan et al., 2011) were used to collect the study data. The study questionnaire included all dimensions (self-perception, future perception, structural style, social competence, social resources, and family cohesion) and sub-items of "The Resilience Scale for Adults" and the emotional eating sub-dimension and items of the DEBQ Questionnaire to measure psychological resilience. The questionnaire in this context comprised 46 questions, with 33 focusing on psychological resilience and 13 on emotional eating behavior. The questionnaire was employed in the preliminary study process. As a result of the Cronbach alpha test and factor analysis of the preliminary research, all items related to the structured style dimension (four items), three items related to the family cohesion dimension, one item related to the social competence dimension, and three items related to the social resources dimension were removed from the preliminary questionnaire, and the final questionnaire was created. The final questionnaire consisted of six items on perception of style, four items on perception of the future, three items on family cohesion, five items on social competence, four items on social resources, and 13 items on emotional eating.

## **Data analysis**

The Kaiser-Meier-Olkin Test was first applied to the preliminary and final research data, and then the Cronbach Alpha test and factor analysis were performed to measure reliability and validity. After the reliability and validity of the final research data were determined by Cronbach's Alpha test and factor analysis, the normality test was used to determine whether the data were normally distributed. Following the normality test, the study hypotheses were assessed with regression analysis. Additionally, frequency analysis was conducted.

## Findings and Interpretation Preliminary research results

The Kaiser-Meier-Olkin (KMO) test was first performed on the preliminary research data, and the test result was calculated as 0.854. Following the KMO test, the Cronbach Alpha test and factor analysis were conducted to determine the reliability and validity of the scale. The test revealed that the Cronbach Alpha value of all dimensions of the scale except the structured style dimension was above 0.60 and was found to be reliable. The results of the Cronba-

ch Alpha test for the preliminary research are presented in Table 1.

Table 1. Cronbach Alpha Results of Preliminary Survey

Dimensions	Cronbach alpha
Perception of self	0.707
Structured style	-0.269
Perception of future	0.802
Family cohesion	0.767
Social competence	0.686
Social resources	0.708
Emotional eating	0.932

Considering the reliability analysis of the preliminary research, the structured style dimension in the scale was removed from the scale. Also, factor analysis revealed that seven items with insufficient factor loadings. These items removed from the scale are three items related to the family cohesion dimension, one item related to the social competence dimension, and three items related to the social resources dimension. Following this process, the questionnaire was reorganized, and the final research was conducted.

## **Research Results**

### Frequency analysis results

Frequency analysis was conducted to determine the demographic information, departments, and length of service of the participants.

Table 2. Frequency Analysis Results

Sex	F	%	Having children	F	%
Female	239	58.3	Yes	172	42
Male	171	41.7	No	238	58
Total	410	100	Total	410	100
Age	F	%	% Department		%
	224	54.6	Housekeeping	100	24.4
20-35 36-45 46-60	144	35.1	Kitchen& Food and Beve- rage Service	104	25.4
61+	34	8.3	Front Office	103	25.1
Total	8	2.0	Others	103	25.1
	410	100	Total	410	100
Marital status	F	%	Income	F	%
Married	236	57.6	0-15000 TRY	136	33.15
Celibate	174	42.4	15001 TRY -25000 TRY	186	45.35
Total	410	100	25001 + TRY	88	21.5
	-		2000	00	-
Working year	F	%	Total	410	100
0-5	F	%			
	<b>F</b> 118	% 28.8			
0-5 6-10 11-20 21-25	<b>F</b> 118 144	% 28.8 35.1			
0-5 6-10 11-20	F 118 144 95	% 28.8 35.1 23.2			

As can be seen in Table 2, 239 of the participants were female and 171 were male. More than 50% of the participants are between the ages of 20 and 35 and single with no children. 100 participants work in housekeeping, 103 in the front office, 104 in food and beverage, and 103 in administrative departments such as human resources, accounting, and finance. 78.5% of the participants have an income of TRY 25000 and below. More than 70% of the participants have more than five years of working experience in the hotel.

## Reliability and validity

The Kaiser-Meier-Olkin (KMO) test was first performed on the final research data, and the test result was calculated as 0.862. Following the KMO test, the Cronbach Alpha test and factor analysis were conducted to determine the reliability and validity of the scale. Cronbach Alpha values of all dimensions of the scale were higher than 0.70. Considering the Cronbach Alpha values, it can be said that scale

items are consistent with each other, represent dimensions and the scale is quite reliable (Kline, 2000). The factor loadings of the items related to the dimensions were higher than 0.50. Cronbach's alpha test results for the dimensions of the scale were presented in Table 3. The items and factor loadings for the dimensions were presented in Table 4.

Table 3. Scale Dimensions and Cronbach Alpha Values

Dimensions	Cronbach alpha
Perception of self	0.858
Perception of future	0.881
Family cohesion	0.900
Social competence	0.745
Social resources	0.844
Emotional eating	0.940
Emotional eating	0.932

# Sibel Önçel / Pınar Şenel

Table 4. Factor Analysis Results

					_	
Item no	1	2	3	4	5	6
1	0.825					
2	0.730					
3	0.698					
4	0.783					
5	0.787					
6	0.669					
7		0.712				
8		0.803				
9		0.788				
10		0.805				
11			0.851			
12			0.894			
13			0.891			
14				0.623		
15				0.542		
16				0.755		
17				0.657		
18				0.807		
19					0.855	
20					0.883	
21					0.861	
22					0.505	
23						0.633
24						0.600
25						0.839
26						0.731
27						0.841
28						0.824
29						0.741
30						0.793
31						0.750
32						0.758
33						0.770
34						0.775
35						0.800

## Regression analysis results

The skewness and kurtosis values for the items were taken as references to determine whether the data were normally distributed before the hypothesis testing. The skewness and kurtosis values of all items related to the scale were found to be in the range of +3 to -3. The regression analysis revealed that the independent variables, perception of self, per-

ception of the future, and social resources, significantly predicted the dependent variable, emotional eating. The model that family cohesion and social competence independent variables effect emotional eating dependent variables was not statistically significant (H4 and H5 were rejected). The relevant parameters are presented in Table 5.

Table 5. Regression Analysis Results

Indepen- dent vari- able	Depen- dent vari- able	В	Std. error	(b)	t	Р	R	R2	F	Р
Perception of self	Emotional eating	-0.241	0.059	-0.197	-4.057	0.001	0.197a	0.039	16.459	0.001b
Perception of future	Emotional eating	-0.152	0.044	-0.170	-3.485	0.001	0.170a	0.029	12.146	0.001b
Social re- sources	Emotional eating	-0.156	0.049	-0.157	-3.211	0.001	0.157a	0.025	10.308	0.001b

Considering the regression analysis results in Table 5, the models are significant (for the perception of self, F: 16.459, p: 0.001 for the perception of self, F: 12.146 p: 0.001 for the perception of the future, F: 10.308 p: 0.001). Furthermore, while perception of self increases, emotional eating decreases (B:-0.241, p:0.001) (H1 accepted). 3.9% of emotional eating behavior can be explained by the perception of self (R2: 0.039). While the perception of the future variable increases, the emotional eating variable decreases (B:-0.152, p:0.001). (H2 accepted). 2.9% of emotional eating behavior can be explained by the perception of the future (R2:0.029). While the social

resources variable increases, the emotional eating variable decreases (B:-0.156, p:0.001) (H6 accepted). 2.5% of emotional eating behavior can be explained by the social resources variable (R2:0.025).

### T-test and ANOVA results

In the study, also t-test and ANOVA were made. A t-test was made to examine whether the variables related to psychological resilience and the emotional eating variable differed statistically according to gender and marital status variables. The T-test results are presented in Table 6.

Table 6. T-test Results

	Levene's test	F	Sig.	t	df	Sig. 2
	Equal variances assumed	5.029	.025	2.076	408	.038
	Equal variances not assu- med			2.043	378.821	.042
Perception of future	Marital status	N	Mean	Std.	Mean dif- ference	Std. Error dif- ferene
	Married	236	3.7998	.98683	.21502	.10355
	Celibate	174	3.5848	1.09995	.21502	.10526

	Levene's test	F	Sig.	t	df	Sig. 2
	Equal variances assumed	3.821	.051	-2.020	408	.044
	Equal variances not assu- med			-1.988	349.876	.048
Emotional eating	Marital status	N	Mean	Std.	Mean dif- ference	Std. Error dif- ferene
	Married	236	2.1721	.88359	18688	.09252
	Celibate	174	2.3590	.98041	18688	.09398

As can be seen in Table 6, there is a significant difference between the perception of the future of the married and celibate participants (Sig. 2: 0.42). Married participants have a higher perception of the future (Mean: 3.7998) than single participants (Mean: 3.5848). Also, there is a significant difference between the emotional eating of the married and celibate participants (Sig. 2: 0.44). Single participants had a higher rate of emotional eating (Mean: 2.3590) than married participants (Mean: 2.1721).

ANOVA test was made to examine whether the variables related to psychological resilience and the emotional eating variable differed statistically according to age, income, having children, working year, and department. ANOVA results are presented in Table 7.

Table 7. Anova Test Results

		F	F	Mean
Perception of		0.45000 TDV	15001 TRY-25000 TRY	.11397
		0-15000 TRY	25001 + TRY	.28443*
	Tukey HSD	15001 TDV 25000 TDV	0-15000 TRY	1139
		15001 TRY-25000 TRY	25001 + TRY	17045
		25001 + TRY	0-15000 TRY	28443*
self		23001 + TKT	15001 TRY-25000 TRY	17045
	F	N	Mean	Std.
	0-15000 TRY	136	4.1140	.70527
	15001 TRY-25000 TRY	186	4.0000	.72348
	25001 + TRY	88	3.8295	.88624
	Total	410	4.0012	.76064

		F	F	Mean
		0.45000 TDV	15001 TRY-25000 TRY	.43461*
		0-15000 TRY	25001 + TRY	.35495
	Tukey HSD	15001 TDV 25000 TDV	0-15000 TRY	43461*
		15001 TRY-25000 TRY	25001 + TRY	07967
		25001 + TRY	0-15000 TRY	35495
Family cohesion			15001 TRY-25000 TRY	.07967
	F	N	Mean	Std.
	0-15000 TRY	136	3.2034	1.35183
	15001 TRY-25000 TRY	186	2.7688	1.35246
	25001 + TRY	88	2.8485	1.29041
	Total	410	2.9301	1.35013

As can be seen in Table 7, there was a statistically significant difference between the perception of self of participants who had 0-15000 TRY and 25001 TRY monthly income. As a result of the Tukey test (Sig.023), it was determined that the self-perception of the participants who had 15000 TRY and below monthly income (Mean: 4.1140) was higher than the participants who had 25001 TRY and above (Sig: .017, Mean: 3.8295). Additionally, there was a statistically significant difference between the family cohesion of participants who had 0-15000 TRY and 15001 TRY- 25001 TRY monthly income. As a result of the Tukey test (Sig.014), the family cohesion of the participants who had an income of 15000 TRY and below (Sig: .012, Mean: 3.2034) was higher than the participants 25000 and above (Mean: 2.8485).

#### **Conclusion and Discussion**

As a result of the hypothesis tests in the study, it was determined that emotional eating decreased as self-perception, future perception, and social resources increased. The studies explaining the relationship between self-perception and eating disorders (Hymowitz et al., 2017) and research findings relating perception of self (Bekker et al., 2004), perception of future and social resources increase, when emotional eating decrease (Cecchetto et al., 2021; Altheimer & Urry, 2019; Benard et al., 2018) supports this finding. In addition, some studies found that work stress in the hotel sector increases emotional eating (Okumus et al., 2019). The hypotheses that increased family cohesion and social competence reduce emotional eating were rejected. This finding can be explained by the fact that individuals may increase the act of eating in social environments (Herman, 2017). On the other hand, there are studies that family cohesion positively effects intuitive eating, a type of emotional eating, and social competence

positively effects eating disorders (Arroyo & Segrin, 2013). In addition to hypothesis tests, the relationship between variables and demographic variables was investigated in the study. It was determined that married individuals' emotional eating is lower but perception of future is higher than single. The findings are line with studies that found that married individuals have more motivation to stop eating for psychological reasons (Bussolotti et al., 2002). Also, it was found that perception of self and family cohesion levels increase when monthly income decrease. The findings are supported by studies that found that low income had no effect on family cohesion (Kim et al., 2015) and showed that psychological resilience is independent of income (Wingo et al., 2010).

## **Theoretical Implications**

As a result of the study, determining the effect of some variables related to psychological resilience on emotional eating offers opportunities for gastronomy and tourism researchers to investigate related variables in different sectors and businesses of tourism. Examining psychological resilience and emotional eating with qualitative research methods, especially in sectors where employees are exposed to food, such as the food and beverage sector, will reveal studies that can increase data diversity. Whether individuals with high self-perception, future perception and social resources are less likely to have different eating disorders compared to other individuals constitutes new research problems for the fields of psychology, tourism, gastronomy and nutrition. Comparing the results of studies investigating the relationship between psychological resilience and eating disorders reveals contributions that will benefit the development of literature in the field of psychology, tourism, gastronomy and nutrition.

Investigating the tendency of employees to eating disorders in terms of different psychological variables reveals new research topics that should be examined in hotels and different sectors. In addition, considering the studies showing that psychological resilience positively affects performance and job satisfaction (Hou et al., 2020), examining the relationship between psychological resilience, eating disorders, job performance and satisfaction variables creates new research problems.

### **Practical Implications**

This study shows that some variables of psychological resilience affect emotional eating. Considering that eating disorders alternately negatively affect both psychology and psychological resilience (Zhang et al., 2021), the study will be able to contribute to the psychological and physical health of employees with the measures that can be taken by hotel and tourism managers. The fact that psychological resilience positively affects the performance and job satisfaction of tourism sector employees (Prayag et al., 2020) reveals that creating recreation areas for physical and mental relaxation for employees and serving healthy snacks in these areas can also contribute to service quality. The promotion and certification of healthy eating and physical relaxation facilities, which are hardly offered for employees in hotels and other tourism businesses, reveal the responsibilities of the authorities in the field of hotels and tourism. The spread of businesses of this nature may create opportunities related to tourism managements in terms of hiring more qualified personnel or ensuring employee satisfaction.

### **Limitations and suggestions**

The study was conducted only for the employees of four-star and five-star hotels operating in Istanbul. The relationship between psychological resilience and emotional eating should be examined in different destinations and other employees in the tourism sector such as food and beverage workers, and chefs, tourist guides. On the other hand, quantitative research methods were used in the study and psychological resilience and emotional eating were determined as a result of the answers given by individuals. The relevant variables should be measured in studies using qualitative research methods such as observation and in-depth interviews.

#### References

Altheimer, G., & Urry, H. L. (2019). Do Emotions Cause Eating? The Role of Previous Experiences and Social Context in Emotional Eating, Current Directions in Psychological Science, 28 (23): 234-240.

Anasori, E., De Vita, G., & Kucukergin, K. G. (2023). Workplace Bullying, Psychological Distress, Job Performance and Employee

Creativity: The Moderating Effect of Psychological Resilience. The Service Industries Journal, 43 (5-6): 336-357.

Arroyo, A. & Segrin, C., (2013). Family Interactions and Disordered Eating Attitudes: The Mediating Roles of Social Competence and Psychological Distress, Communication Monographs, 80 (4): 399-424.

Arslan, E., Kendir, H., & Bozkurt, H. Ö. (2023). The relationship between job stress and presenteeism in five-star hotel employees: An example from Istanbul province. Journal of Business Research, 15 (4), 2795-2806.

Badri, M. A., Alkhaili, M., Aldhaheri, H., Alnahyan, H., Yang, G., Albahar, M., & Alrashdi, A. (2021). Understanding The Interactions of Happiness, Self-Rated Health, Mental Feelings, Habit of Eating Healthy and Sport/Activities: A Path Model for Abu Dhabi. Nutrients, 14 (1): 1-15.

Barchiesi, M., Martellini, M., Oriani, M. G., & Nardi, B. (2016). The Effect of Atipical Antipsychotic Medications in Anorexia Nervosa. European Psychiatry, 33 (1): 430-430.

Basim, H. N., & Cetin, F. (2011). The reliability and validity of the Resilience Scale for Adults-Turkish Version. Turkish Journal of Psychiatry, 22 (2): 1-9.

Bekker, M. H., Van De Meerendonk, C., & Mollerus, J. (2004). Effects Of Negative Mood Induction and Impulsivity on Self@Perceived Emotional Eating. International Journal of Eating Disorders, 36 (4): 461-469.

Benard, M., Bellisle, F., Etile, F., Reach, G., Kesse-Guyot, E., Hercberg, S., & Peneau, S. (2018). Impulsivity and Consideration of Future Consequences as Moderators of The Association Between Emotional Eating and Body Weight Status. ", International Journal of Behavioral Nutrition And Physical Activity, 15 (1): 1-11.

Bozan, N., Bas, M., & Asci, F. H. (2011). Psychometric Properties of Turkish Version of Dutch Eating Behaviour Questionnaire (DEBQ). A Preliminary Results. Appetite, 56 (3): 564-566.

Bussolotti, D., Fernandez-Aranda, F., Solano, R., Jiménez-Murcia, S., Turon, V., & Vallejo, J. (2002). Marital Status and Eating Disorders: An Analysis of Its Relevance. Journal of Psychosomatic Research, 53 (6), 1139-1145.

Cazan, A. M., & Dumitrescu, S. A. (2016). Exploring the Relationship Between Adolescent Resilience, Self-Perception and Locus of Control. Romanian Journal of Experimental Applied Psychology, 7 (1): 283-286.

Cecchetto, C., Aiello, M., Gentili, C., Ionta, S., & Osimo, S. A. (2021). Increased Emotional Eating During COVID-19 Associated with Lockdown, Psychological and Social Distress. Appetite, 160: 1-9

Celik, C. (2023). Immigrants and refugees, tourists and vagabonds: Why and how they integrate differently. Comparative Migration Studies, 11 (14): 1-19.

Chang, P. G., Delgadillo, J., & Waller, G. (2021). Early Response to Psychological Treatment for Eating Disorders: A Systematic Review and Meta-Analysis. Clinical Psychology Review, 86, 1-13.

Coleman, S. E., & Caswell, N. (2020). Diabetes and Eating Disorders: An Exploration of 'Diabulimia'. BMC Psychology, 8 (1), 1-7.

Daneshzad, E., Keshavarz, S. A., Qorbani, M., Larijani, B., & Azadbakht, L. (2020). Association Between a Low@Carbohydrate Diet and Sleep Status, Depression, Anxiety, and Stress Score. Journal of The Science of Food and Agriculture, 100 (7): 2946-2952.

Enriquez, J. P. & Archila-Godinez, J. C. (2022). Social and cultural influences on food choices: A review. Critical Reviews of Food Science and Nutrition, 62 (13): 3698-3704.

Friborg, O., Barlaug, D., Martinussen, M., Rosenvinge, J.H., & Hjemdal, O. (2005). Resilience in Relation to Personality and Intelligence. International Journal of Methods in Psychiatric Research, 14 (1): 29-42.

Friborg, O., Hjemdal, O., Rosenvinge, J. H. & Martinussen, M. (2003). A New Rating Scale for Adult Resilience: What are the Central Protective Resources Behind Healthy Adjustment? International Journal of Methods in Psychiatric Research, 12 (2): 65-76.

### Investigation of Psychological Resilience Effect on Emotional Eating; Hotel Employees Sample

Gallagher, K. A., Desalvo, D., Gregory, J., & Hilliard, M. E. (2019). Medical and Psychological Considerations for Carbohydrate-Restricted Diets in Youth With Type 1 Diabetes. Current Diabetes Reports, 19: 1-8.

Haddoud, M. Y., Onjewu, A. K. E., Al-Azab, M. R., & Elbaz, A. M. (2022). The Psychological Drivers of Entrepreneurial Resilience in The Tourism Sector. Journal Of Business Research, 141: 702-712.

Herman, C. P. (2017). The Social Facilitation of Eating or the Facilitation of Social Eating? Journal Of Eating Disorders, 5: 1-5.

Himmerich, H., Kan, C., Au, K., & Treasure, J. (2021). Pharmacological Treatment of Eating Disorders, Comorbid Mental Health Problems, Malnutrition and Physical Health Consequences. Pharmacology & Therapeutics, 217: 1-16.

Hou, J., He, Y., Zhao, X., Thai, J., Fan, M., Feng, Y., & Huang, L. (2020). The Effects of Job Satisfaction And Psychological Resilience On Job Performance Among Residents of the Standardized Residency Training: A Nationwide Study in China, Psychology, Health & Medicine, 25 (9): 1106-1118.

Hymowitz, G., Salwen, J., & Salis, K. L. (2017). A Mediational Model of Obesity Related Disordered Eating: The Roles of Childhood Emotional Abuse and Self-Perception. Eating Behaviors, 26: 27-32

Isaksson, M., Ghaderi, A., Wolf-Arehult, M., & Ramklint, M. (2021). Overcontrolled, Undercontrolled, and Resilient Personality Styles Among Patients with Eating Disorders. Journal of Eating Disorder, 9 (1): 1-9.

Kalargyrou, V., Sundar, V., & Jahani, S. (2023). Managers' Attitudes Toward Employees with Depression and Organizational Citizenship Behaviors in The Hospitality Industry: Assessing The Mediating Role of Personality. International Journal of Contemporary Hospitality Management, 35 (2): 602-629.

Kaur, J., Dang, A. B., Gan, J., An, Z., & Krug, I. (2022). Night Eating Syndrome in Patients with Obesity and Binge Eating Disorder: A Systematic Review. Frontiers in Psychology, 12: 1-17.

Kilinc, T., & Sis Celik, A. (2021). Relationship Between the Social Support and Psychological Resilience Levels Perceived by Nurses During the COVID®19 Pandemic: A Study from Turkey. Perspective in Psychiatric Care, 57 (3): 1000-1008.

Kim, J. J., Lee, E. J., & Lee, K. R. (2016). Study On Health Consciousness and Eating Habits of Workers at Deluxe Hotels in Seoul and Gyonggi-Do Regions. Korean Journal of Food Culture, 31 (6): 587-596.

Kim, Y. P., Kim, S., & Joh, J. Y. (2015). Family Adaptability and Cohesion in Families Consisting of a Sian immigrant women living in South Korea: A 3@year Longitudinal Study. Asia@Pacific Psychiatry, 7 (2): 206-214.

Kline, R. B. (2000). Beyond Significance Testing: Reforming Data Analysis Methods in Behavioural Research. Washington, DC: American Psychological Association.

Konttinen, H. (2020). Emotional Eating and Obesity in Adults: The Role of Depression, Sleep and Genes. Proceedings of The Nutrition Society, 79 (3): 283-289.

Kooij, D. T., Kanfer, R., Betts, M., & Rudolph, C. W. (2018). Future Time Perspective: A Systematic Review and Meta-Analysis. Journal of Applied Psychology, 103 (8): 867-893.

Las Hayas, C., Padierna, J. A., Munoz, P., Aguirre, M., Gomez Del Barrio, A., Beato-Fernandez, L., & Calvete, E. (2016). Resilience in Eating Disorders: A Qualitative Study. Women & Health, 56 (5): 576-594.

Li, L., Sun, N., Zhang, L., Xu, Gu, J., Hu, J., Zhang, Z., Lou, J., Deng, H., Shen, Z., & Han, L. (2020). Fast Food Consumption among Young Adolescents aged 12-15 years in 54 Low and Middle-Income Countries. Global Health Action, 13 (1): 1-9.

Linardon, J., Tylka, T. L., & Fuller@Tyszkiewicz, M. (2021). Intuitive Eating and Its Psychological Correlates: A Meta@Analysis. International Journal of Eating Disorders, 54 (7): 1073-1098.

Lipowska, M., Lipowski, M., Kosakowska-Berezecka, N., Dykalska, D., Lada-Masko, A., & Izydorczyk, B. (2022). Does Obesity Rule out Happiness? Preschool Children's Perceptions of Beauty-Related

Happiness. BMC Pediatrics, 22 (1): 1-9.

Milligan, M. A., Deyo, A. G., Vrabec, A., Snyder, M., & Kidwell, K. M. (2024). Attention-Deficit/Hyperactivity Symptoms and Loss of Control Eating in Emerging Adults: Role of Psychological Resilience. Eating Behaviors, 54: 1-6.

Mohd@Zaharim, N., & Hashim, I. H. (2023). Child Well@Being in the Context of Family Harmony: Parental Marital Relationship as Mediator and Parent-Child Attachment Style as Moderator. Asian Social Work and Policy Review, 17 (1): 52-63.

Nishimi, K. M., Koenen, K. C., Coull, B. A., & Kubzansky, L. D. (2022). Association of Psychological Resilience with Healthy Lifestyle and Body Weight in Young Adulthood. Journal Of Adolescent Health, 70 (2): 258-266.

O'Brien, K. M., Whelan, D. R., Sandler, D. P., Hall, J. E., & Weinberg, C. R. (2017). Predictors and Long-Term Health Outcomes of Eating Disorders. Plos One, 12 (7): 1-13.

Okumus, B., Chaulagain, S., & Giritlioglu, I. (2019). Examining The Impacts of Job Stress and Job Satisfaction on Hotel Employees' Eating Behavior. Journal of Hospitality Marketing & Management, 28 (5): 558-575.

Okumus, B., Chaulagain, S., & Giritlioglu, I. (2022). The Effects of Demographics and Nutritional Knowledge on Hotel Employees' External and Emotional Eating. Journal of Culinary Science & Technology, 20 (3): 266-277.

Prayag, G., Spector, S., Orchiston, C., & Chowdhury, M. (2020), Psychological Resilience, Organizational Resilience and Life Satisfaction in Tourism Firms: Insights from the Canterbury Earthquakes. Current Issues in Tourism, 23 (10): 1216-1233.

Robert, M., Shankland, R., Bellicha, A., Kesse-Guyot, E., Deschasaux-Tanguy, M., Andreeva, V. A., Srour, B., Hercberg, S., Touvier, M., Leys, C., & Peneau, S. (2022). Associations Between Resilience and Food Intake are Mediated by Emotional Eating in the Nutrinet-Sante Study. The Journal of Nutrition, 152 (8): 1907-1915.

Ross, G. F. (2017). Tourism Industry Employee Workstress-A Present and Future Crisis, E. Laws & B.R. Prideaux, (Eds.).: Tourism Crises: Management Responses and Theoretical Insight, New York: Routledge.

Saha, S., Al Mamun, M. A., & Kabir, M. R. (2022). Factors Affecting Fast Food Consumption Among College Students in South Asia: A Systematic Review. International Journal of The American Nutrition Association, 41 (6): 626-636.

Schafer, K. M., Lieberman, A., Sever, A. C., & Joiner, T., (2022). Prevalence Rates of Anxiety, Depressive, and Eating Pathology Symptoms Between the Pre-and Peri-COVID-19 Eras: A Meta-Analysis. Journal Of Affective Disorders, 298. 364-372.

Sevincer, G. M., & Konuk, N. (2013). Emotional Eating. Moodis, 3 (4), 171-178.

Simone, M., Emery, R. L., Hazzard, V. M., Eisenberg, M. E., Larson, N., & Neumark\subseteq Sztainer, D. (2021). Disordered Eating in a Population\subseteq Based Sample of Young Adults During the COVID\subseteq 19 Outbreak. International Journal of Eating Disorders, 54 (7): 1189-1201.

Sisto, A., Vicinanza, F., Campanozzi, L. L., Ricci, G., Tartaglini, D., & Tambone, V. (2019). Towards a Transversal Definition of Psychological Resilience: A Literature Review. Medicina, 55 (11): 1-22.

Spinosa, J., Christiansen, P., Dickson, J. M., Lorenzetti, V., & Hardman, C. A. (2019). From Socioeconomic Disadvantage to Obesity: The Mediating Role of Psychological Distress and Emotional Eating. Obesity, 27 (4): 559-564.

Stewart, T. M., Martin, C. K., & Williamson, D. A. (2022). The Complicated Relationship Between Dieting, Dietary Restraint, Caloric Restriction, and Eating Disorders: Is A Shift In Public Health Messaging Warranted? International Journal of Environmental Research and Public Health, 19 (1): 1-14.

Streatfeild, J., Hickson, J., Austin, S. B., Hutcheson, R., Kandel, J. S., Lampert, J. G., Myers, E. M., Richmond, T. K., Samnaliev, M., Velasquez, K., Weissman, R. S., & Pezzullo, L. (2021). Social and Economic Cost of Eating Disorders in the United States: Evidence to Inform Policy Action. International Journal of Eating Disorders, 54 (5): 851-868.

### Sibel Önçel / Pınar Şenel

Süss, H., & Ehlert, U. (2020). Psychological Resilience During the Perimenopause. Maturitas, 131: 48-56.

Taborsky, B., & Oliveira, R. F. (2012), Social Competence: An Evolutionary Approach. Trends in Ecology and Evolution, 27 (12): 679-688.

Van Den Berg, E., Houtzager, L., De Vos, J., Daemen, I., Katsaragaki, G., Karyotaki, E., Cuijpers, P., & Dekker, J. (2019). Metal? Analysis on The Efficacy of Psychological Treatments for Anorexia Nervosa. European Eating Disorders Review, 27 (4): 331-351.

Van Strien, T., Frijters, J. E. R., Bergers, G. P. A., & Defares, P. B. (1986). The Dutch Eating Behavior Questionnaire (DEBQ) For Assessment Of Restrained, Emotional, and External Eating Behavior. International Journal of Eating Disorders, 5: 295-315.

Wang, Y., Ho, M., Chau, P. H., Schembre, S. M., & Fong, D. Y. T. (2023). Emotional Eating as a Mediator in The Relationship Between Dietary Restraint and Body Weight. Nutrients, 15 (8): 1 -11.

Wingo, A. P., Wrenn, G., Pelletier, T., Gutman, A. R., Bradley, B., & Ressler, K. J. (2010). Moderating Effects of Resilience on Depression in Individuals with a History of Childhood Abuse or Trauma Exposure. Journal of Affective Disorders, 126 (3): 411-414.

Yang, C., Wen, H., Zhou, Y., Wang, Y., Sun, Y., & Yuan, F. (2023). Family Cohesion and Intuitive Eating in Chinese College Students: A Serial Mediation Model. Appetite, 190: 1-6.

Yozcu, O. K. (2017). Competitiveness of Istanbul as a tourism destination for luxury market. Journal of Tourismology, 3 (2): 2-13.

Yucel, E., Aksoz, E. O., & Aydin, B. (2021). Psychological Resilience of Tourism Workers: The Case of Antalya. Journal of Mehmet Akif Ersoy University Economics and Administrative Sciences Faculty, 8 (3): 1806-1823.

Zhang, Z., Robinson, L., Jia, T., Quinlan, E. B., Tay, N., Chu, C., & Desrivieres, S. (2021). Development of disordered eating behaviors and comorbid depressive symptoms in adolescence: Neural and psychopathological predictors. Biological Psychiatry, 90 (12): 853-862.

### Research Article

ROMAYA - Researches on Multidisiplinary Approaches 2024, 4(2): 69-87

ISSN:2791-9099

# The Investigation of Live Streaming Experience as a Digital Leisure Activity Through the Case of Hellfest ©

Dijital Boş Zaman Etkinliği Olarak Canlı Yayın Deneyiminin Hellfest Örneği Üzerinden İncelenmesi

### Ahmet Elnur / Lect. Dr. (D)

Süleyman Demirel University, Rectorate ahmetelnur@gmail.com

### **Abstract**

The purpose of this study is to reveal the main characteristics of participation in live-streamed music festivals as a new form of digital leisure and to examine in depth how digital platforms transform the music festival experience. In this regard, the audience comments during the YouTube live streaming of Hellfest, which was held on June 27-30, 2024, in Clisson, France, were analyzed by the qualitative content analysis method. As a result of the data analysis conducted within the framework of the Miles-Huberman model; the themes of digital festival experience, music consumption and fan interaction, and the intersection of physical and digital festival experiences were obtained. Within the context of these themes, the research findings show that while live-streamed music festivals are unable to fully replace the experience provided by physical attendance, they offer the potential to reach a wider audience by overcoming geographical and economic barriers. At this point, the re-evaluation of digital festival experiences as a subcultural leisure activity becomes functional in understanding new forms of subcultural participation in the digital age by reinforcing a sense of belonging and community among the audience. Therefore, considering the potential of digital leisure opportunities to create new spaces for social groups becomes crucial.

**Keywords:** Digital Leisure, Hellfest, Live Streaming,

Music Festival, Subcultural Leisure. **JEL Codes:** D83, L82, L83, O33, Z10

### Özet

Canlı yayınlanan müzik festivallerine katılımın yeni bir dijital boş zaman değerlendirme biçimi olarak temel özelliklerinin açığa çıkarılması ve dijital platformların müzik festivali deneyimini nasıl dönüştürdüğünün derinlemesine irdelenmesi, bu çalışmanın amacını oluşturmaktadır. Bu doğrultuda 27-30 Haziran 2024 tarihlerinde Fransa'nın Clisson kasabasında düzenlenen Hellfest'in YouTube canlı yayını sırasındaki izleyici yorumları, niteliksel içerik çözümlemesi yöntemiyle analiz edilmiştir. Miles-Huberman modeli çerçevesinde gerçekleştirilen veri analizi sonucunda; dijital festival deneyimi, müzik tüketimi ve hayran etkileşimi ile fiziksel ve dijital festival deneyimlerinin kesişimi temaları elde edilmiştir. Söz konusu temalar bağlamında araştırma bulguları, canlı yayınlanan müzik festivallerinin fiziksel katılımın sağladığı deneyimi tam olarak ikame edememesine rağmen coğrafi ve ekonomik engelleri aşarak daha geniş bir izleyici kitlesine erişim potansiyeli sunduğunu göstermektedir. Bununla birlikte dijital platformların sağladığı gerçek zamanlı etkileşimlerin altkültürel toplulukların oluşumu ve ortak festival deneyimlerinin zenginleştirilmesine katkıda bulunarak, geleneksel ve dijital festival deneyimlerinin bütünleşik bir şekilde harmanlanmasını mümkün kıldığı anlaşılmaktadır. Bu noktada dijital festival deneyimlerinin bir altkültürel boş zaman etkinliği olarak yeniden değerlendirilmesi, izleyiciler arasında aidiyet ve topluluk duygusunun pekiştirilmesi sayesinde dijital çağda altkültürel katılımın yeni biçimlerinin anlaşılması açısından işlevsellik kazanmaktadır. Dolayısıyla toplumsal grupların kendilerini ifade etmeleri için yeni bir alan oluşturulması açısından dijital boş zaman olanaklarının taşıdığı potansiyelin göz önünde bulundurulması önemli hale etmektedir.

**Anahtar Kelimeler:** Altkültürel Boş Zaman, Canlı Yayın, Dijital Boş Zaman, Hellfest, Müzik Festivali.

**JEL Kodları:** D83, L82, L83, O33, Z10

### Introduction

The digitalization processes, which affect different areas of everyday life in different ways, have led to significant transformations in leisure activities. The proliferation of digital platforms has radically transformed participation trends by making these activities more accessible and interactive. Particularly, events with large participation, such as music festivals, have moved beyond physical boundaries due to technological opportunities and have gained a new dimension in online platforms. These events, which traditionally emphasize physical participation, are now accessible to wider audiences through virtual platforms and offer participants more diverse experience options. In this context, the concept of digital leisure necessitates a rethinking of the activities that individuals engage in within virtual environments, as well as the social consequences of these actions. Music festivals, which have historically been one of the most important venues for social interaction and cultural exchange, are changing in terms of the way they are experienced in the digitalizing world. The experiences of social interaction and cultural participation offered by physical participation in face-to-face music festivals are redefined and gain a different meaning on digital platforms. The participation of viewers in live chats, instant reactions to performances, and virtual community-building processes create a new perspective in the context of digital leisure.

The process of transforming leisure activities into digital forms has significantly impacted how people access and engage in these activities, presenting both opportunities and challenges in reshaping the landscape of cultural events and subcultural participation, particularly in the context of music festivals. In other words, digital leisure activities are important in terms of the quality of the experience that individuals obtain in virtual environments, as well as the effects of this experience on social interactions. Digital entertainment, as a rapidly evolving form of leisure, has fundamentally altered how individuals engage with cultural events like music festivals (Holt, 2020; Bennett & Rogers, 2016). Subcultural participation, traditionally rooted in physical gatherings, is currently being redefined through digital platforms that offer new avenues for community building and identity expression (Pietrzak-Franger et al., 2023; Hassan, 2021). At this point, music festivals offer a new form of digital subcultural participation by redefining the way participants spend their leisure time on digital platforms. The way in which audiences spend their leisure time is transformed by music festivals that are accomplished through the use of online platforms, which also leads to the establishment of new digital communities.

The digital transformation of music festivals represents a paradigm shift in how audiences engage

with live music events and cultural experiences. A more nuanced comparison between digital and traditional music festival experiences reveals both the limitations and unique affordances of virtual participation (Rendell, 2021; Onderdijk et al., 2021). While digital platforms cannot fully replicate the sensory immersion of physical attendance, they offer unprecedented accessibility and novel forms of interaction that complement and extend the festival experience (Wang, 2021; Fraser et al., 2021). These digital innovations are not only transforming the nature of music festivals but also challenging our understanding of authenticity and community in subcultural spaces, necessitating further research into the long-term implications for cultural identity and social cohesion. Addressing the phenomenon of digital leisure within the framework of music festivals allows us to understand the sociocultural effects of digital platforms by comparing traditional and virtual forms of leisure participation. Therefore, this research aims to explore the ways in which virtual participation interacts with the traditional live music experience and to explore and reveal unique patterns of cultural participation, social interaction, and community building in digital leisure environments.

The limited examination of the transformations of music festival experiences through virtual participation and live streaming platforms in previous studies constitutes the main rationale for this research. In this context, there is a lack of a comprehensive perspective in the literature on how audience participation takes place in these digital environments and how the experiential dimensions of online music communities are shaped. As a result, the need to uncover the ways in which virtual festival participation interacts with the traditional live music experience and the unique patterns of cultural participation, social interaction, and community building in the digital leisure environment gains importance. In other words, this research is shaped on the basis that virtual festival participation represents a new form of subcultural participation that challenges traditional understandings of live music experiences and reshapes leisure activities in the digital age through the case of the live streaming of Hellfest held in 2024 on the YouTube platform. Furthermore, this research reveals that the digital format of the festival has led to the emergence of various online music communities that are characterized by their own norms, behaviors, and modes of interaction (Ghaffari et al., 2024: 13230). These virtual communities are not only complementary to the traditional concept of the festival experience but also extend and redefine its scope, thereby offering new opportunities for fan engagement and subcultural participation (Webster, 2014: 33). By analyzing audience comments, the study aims to contribute to the understanding of how digital technologies are reshaping music consumption, fan experiences, and the nature of live The Investigation of Live Streaming Experience as a Digital Leisure Activity Through the Case of Hellfest

music events in the contemporary media environment.

The choice of Hellfest as the subject of this study is based on its unique approach to digital engagement and its significant position within the global metal music scene. Since 2006, Hellfest has grown into one of the largest metal festivals, showcasing a diverse range of metal subgenres, thereby reflecting the genre's rich musical history and cultural evolution. From a social history perspective, Hellfest represents the culmination of decades of metal music's development, from its origins in working-class communities to its current status as a global cultural phenomenon, encompassing various subcultures and ideologies (Weinstein, 2000; Kahn-Harris, 2007). The festival's embrace of live streaming technology not only expands access to metal music but also offers a unique lens through which to examine the socio-psychological dynamics of metal fandom in the digital age (Guibert et al., 2021; Holt, 2020). Metal music, characterized by its intensity and often transgressive themes, provides a powerful outlet for emotional expression and identity formation among its enthusiasts, fostering a strong sense of community and belonging (Riches et al., 2014; Schulz, 2022). Moreover, the virtual participation enabled by Hel-Ifest's digital platform allows for an examination of how metal fans negotiate their subcultural identities and social connections in online spaces, offering insights into the evolving nature of music fandom and community.

### **Conceptual Framework**

The digitalization of music festivals has profoundly transformed cultural participation, necessitating a deeper theoretical examination of its effects within the context of digital leisure and virtual community formation (Aleksiev, 2011: 75; Hesmondhalgh & Meier, 2018, p. 1555 Mattar, 2003: 293). Theories exploring the impact of digitalization on cultural participation, such as the concept of "liveness" in digital environments, offer valuable insights into how live-streamed festivals attempt to recreate the immediacy and authenticity of physical events while leveraging the unique affordances of virtual spaces (Auslander, 2012: 3; Eriksson et al., 2020: 1-2). Comparative analyses of digitalization's impact across different music genres and festival types could illuminate genre-specific patterns of online engagement and reveal broader trends in digital cultural participation (Borges et al., 2020; Chen & Lei, 2021). Cross-genre comparisons might also elucidate how various subcultures adapt to and utilize digital platforms, potentially uncovering innovative practices that could inform future festival design and digital engagement strategies (McKenna, 2022: 143-144; Schaap et al., 2023: 298). By situating the analysis of live-streamed music festivals within these theoretical

frameworks and comparative approaches, researchers can develop a more nuanced understanding of how digitalization is reshaping cultural experiences and subcultural identities in the contemporary media landscape.

Live streaming, which has become an important leisure activity in recent years, has radically changed the nature of music festival experiences. This change, which has emerged in the context of the proliferation of high-speed internet and mobile technologies, has made real-time and remote participation possible in events that previously could only be attended physically (Holt, 2020: 234-235). At the same time, this digital transformation, which has redefined the boundaries of music consumption, has enabled unprecedented access to performances and led to the emergence of new forms of audience participation (Bennett & Rogers, 2016: 141-144). In this context, live streaming technology enables individuals who are unable to physically attend music festivals to participate virtually, thus enabling these events to transcend geographical restrictions (Dahl, 2021: 58; Rendell, 2021: 1097). In addition to diversifying access to live music, this shift creates a sense of community among remote audiences, enabling new ways of interaction and participation (Vandenberg et al., 2021: S144). Blurring the lines between live and mediated experiences, digital platforms challenge traditional notions of presence and participation in music events (Charron, 2017; Danielsen & Kjus, 2019: 722; Schmidt, 2021: 13). Additionally, it is stated that live streaming allows festivals to adapt to unpredictable situations, such as the global pandemic, ensuring their continuity and even expanding their audience base (Van Winkle & Bueddefeld, 2020: 7). Therefore, live streaming is becoming an integral part of the contemporary music festival landscape, offering a complementary medium that enhances both access and quality in music consumption (Naveed et. al., 2017: 12-14). This technological transformation appears to be reshaping the music festival ecosystem, offering new possibilities for artistic participation, and redefining the nature of live music experiences in the digital age.

Individuals in musical subcultures are alienated by being subjected to processes such as exclusion, marginalization and labeling by dominant groups in social power relations (Güven, 2017: 83). Philips & Cogan (2009: 92-93) underline that despite being marginalized by the mainstream media, metal music can be directly experienced by members of this subculture through festivals. In this context, the importance of subcultural festivals stems from their role as a subcultural space that celebrates and supports the diversity and richness of the subcultural structure, as well as fosters a sense of community and identity among participants (Mall, 2016; Xu, 2023). Hellfest, organized since 2006 in Clisson, France, has become one of the largest and most important metal music

festivals in the global music scene, with more than 180,000 people from all over the world attending each year, bringing together various metal music subgenres (Guibert & Sklower, 2011: 101; Pulh, 2022: 67). Through the strategic adoption of live streaming technology, Hellfest has expanded its reach, enabling audiences around the world to virtually participate in the experience and allowing fans who are unable to attend the festival in person (physically) to be engaged with the festival remotely (Guibert, 2020: 166; Guibert et al., 2021: 243). The proliferation of digital platforms is not only increasing the impact of events, but also transforming the traditional festival experience by enabling digital participation through real-time interactions (Holt, 2020: 234-235). Hellfest exemplifies the evolution of music festivals in the digital age by integrating live streaming into the event process, making it a significant example for examining the effects of live streaming on audience participation and festival dynamics.

The theoretical underpinnings of this study necessitate a comprehensive exploration of the sociological concept of "leisure" as it pertains to digital environments. From a sociological perspective, leisure is not merely "free time", but a socially constructed phenomenon through which individuals engage in activities that reflect and reinforce social norms, values, and power structures within society (Adam, 2018: 358; Aytaç, 2004: 115; Jensen & Guthrie, 2006: 6). Leisure, particularly in the context of virtual music festivals, emerges as a multifaceted social construct that intertwines individual and collective experiences, fostering identity formation and social connections, while music transcends mere personal enjoyment to become an integral part of our social being and a vital conduit for human connection, challenging the beliefs of Aristotle's contemporaries (Cross, 2005: 114; Lehman, 2021: 274; Spracklen, 2015: 82). It is crucial to articulate a nuanced definition of "culture" and, more specifically, "subculture" as they relate to the digital music festival experience. Culture can be defined as the shared values, beliefs, behaviors, and artifacts that characterize a group, shaping their identity and interactions within society (Alhadar et al., 2024: 84; Hofstede, 1984: 82). Subcultures, in this context, can be conceptualized as distinct groups within the broader cultural landscape that share common values, practices, and modes of expression, particularly in relation to music consumption and community formation (Hodkinson, 2015: 636; Mahdi, 2018: 21-22). The notion of "subcultural identity formation" emerges as a key theoretical lens through which to examine the ways in which participants in digital music festivals construct and negotiate their identities within these virtual spaces. This process of identity formation is intrinsically linked to the shared experiences, rituals, and symbolic interactions that occur within the digital festival environment (Riches, 2012: 36; Venkatesh et al., 2015: 68-69). These conceptual underpinnings provide a robust foundation for examining how digital music festivals, especially within metal subcultures, are redefining notions of leisure, cultural engagement, and identity construction in an increasingly virtualized musical landscape.

### Methodology

The aim of this study is to examine audience participation as a leisure experience by comprehensively analyzing the comments of the viewers who participated in the live streaming of Hellfest held between 27/06/2024-30/06/2024 on the YouTube platform. This research focuses on exploring audience participation in the context of digital leisure, including the patterns of interaction among the audience and the content, the motivations underlying their participation in the live chat, and their real-time reactions to the performances. In this regard, it explores how the comments section contributes to community building among virtual participants, as well as the effects of visual factors and interactions on participation and viewing tendencies. Through the analysis of these aspects, the research seeks to understand how the live streaming experience can be compared to physical participation in a festival as a leisure activity. Overall, this study aims to provide new insights into the key characteristics of participation in live-streamed music festivals as a new form of digital leisure and to contribute to the understanding of how digital platforms are transforming the music festival experience.

Nethnographic research methodologies offer a valuable approach to investigating the complex dynamics of digital music festival participation and subcultural identity formation (Csiszár, 2016: 15; Lu, 2024: 76). By employing these techniques, researchers can gain rich, contextual insights into the lived experiences of festival participants, their interactions within virtual spaces, and the meanings they ascribe to these experiences (Kozinets, 2010: 96). The concept of "digital ethnography" becomes particularly relevant in this context, as it allows for the systematic observation and analysis of online behaviors, interactions, and cultural practices within the virtual festival environment (Pink et al., 2016: 102). This methodological approach enables a deep exploration of how subcultural identities are negotiated, performed, and reinforced through digital means. Furthermore, nethnographic research can illuminate the ways in which virtual participation in music festivals contributes to the formation and maintenance of subcultural communities, transcending geographical boundaries (Delli Paoli & D'Auria, 2021: 247; Nedungadi et al., 2017: 119). By adopting an nethnographic perspective, this study aims to provide a nuanced understanding of the sociocultural dimensions of digital leisure activities and their implications for subcultural identity formation in the context of online music festivals.

This study adopts a qualitative content analysis approach in line with the in-depth analysis of audience comments and focuses on revealing the deep and complex meanings constructed through audience participation. The qualitative content analysis approach is utilized to code and analyze data, as it systematically identifies the meaning of qualitative data and allows for a detailed examination of the themes and patterns expressed by the audience, in line with netnography's reliance on the observation of textual discourse (Kozinets, 2002: 64; Hsieh & Shannon, 2005: 1278). This approach allows for the exploration of both explicit content (directly expressed words) and latent meanings (observed expressions or interpretations of sentences), enabling the analysis of audience emotional reactions, interaction processes, and the construction of collective festival experience in the digital environment (Mazzi, 2011: 236). In this context, the study follows an inductive approach that allows themes and categories to emerge from the data itself rather than the application of predetermined frameworks (Elo & Kyngäs, 2008: 109). This perspective is particularly useful for exploring the complexity of online audience engagement in the context of live streaming music festivals, where existing theories struggle to fully explain the evolving nature of digital leisure experiences. Therefore, through the analysis of comments, this study aims to provide detailed insights into the nature of audience interactions and the processes of community building that are occurring online.

The qualitative content analysis of online interactions becomes highly functional in terms of revealing new perspectives on individuals' meaning and community construction processes in virtual environments, considering the increasing importance of digital texts in understanding contemporary social phenomena (Simeonova & Galliers, 2023: 69). In this regard, this methodological choice is particularly appropriate, given the study's focus on revealing new perspectives on individuals' meaning-making and community construction processes within virtual environments. The data collection process involved a comprehensive examination of viewer comments from eight YouTube live streaming videos of Hellfest 2024 performances, ensuring a robust representation of the digital festival experience. The selection of comments was guided by their relevance to the research objectives, with a particular emphasis on expressions of digital festival experience, music consumption patterns, fan interaction dynamics, and

comparative analyses between physical and digital attendance modalities. MAXQDA Analytics Pro 2024 program was utilized for data management, coding, and analysis, facilitating a rigorous and systematic approach to identifying emergent themes and patterns within the framework of the Miles-Huberman (1994) data analysis model. This tripartite model, comprising data reduction, display, and conclusion drawing, provided a structured yet flexible framework for a nuanced examination of viewers' interactions during the live streaming event. The coding process was conducted iteratively, employing a constant comparative method, with initial codes being refined and categorized into broader thematic constructs through collaborative discussions, thus enhancing the interpretive trustworthiness of the findings.

The concept of data saturation, a critical methodological consideration in qualitative research, was rigorously applied in this study. Data saturation refers to the point at which new information ceases to emerge and further coding becomes infeasible (Fusch & Ness, 2015: 1408; Hagaman & Wutich, 2017: 25; Sebele-Mpofu, 2020). In the context of this research, where data collection and analysis were conducted concurrently by the researcher, data saturation was achieved upon examining the 2986 comments of 8 videos (Table 1). The analysis process was terminated when it became evident that the codes derived from subsequent comments were reiterations of previously identified themes, and no novel codes could form new categorical constructs (Fusch & Ness, 2015: 1409; Kyngäs, 2020: 8; Urquhart, 2013: 194). To enhance the trustworthiness of the findings, the codes associated with the categories, derived from viewer expressions in the live streaming comments, were compared with previous studies and presented within the framework of the themes created over the categories. While acknowledging the limitations inherent in focusing on a single festival (Hellfest) and a specific musical genre (metal), this constraint is critically examined within the broader context of the study's implications and generalizability. Notwithstanding these limitations, the rich, contextual data obtained through this methodological approach provides valuable insights into the digital leisure experience of live-streamed music festivals. This contributes substantively to the broader scholarly discourse on how digital platforms are transforming music consumption practices and subcultural participation in the contemporary media landscape, offering a nuanced understanding of the evolving dynamics between virtual and physical modes of cultural engagement.

To provide a more illuminating presentation of the data, the analysis focused on the nuanced ways di-

Table 1. Reviewed YouTube Live Streaming Videos

Channel Name	Video Title	Video Link
ARTE Concert	Accept - Hellfest 2024 – ARTE Concert	https://www.youtube.com/watch?v=- NeiZWnNvhEA
ARTE Concert	BABYMETAL - Hellfest 2024 – ARTE Concert	https://www.youtube.com/watch?v=iM- puhm_M01w
ARTE Concert	Cradle of Filth - Hellfest 2024 – ARTE Concert	https://www.youtube.com/watch?v=- GKTKke-nYQk
ARTE Concert	Corey Taylor - Hellfest 2024 – ARTE Concert	https://www.youtube.com/watch?v=- cHqlYxMnfJA
ARTE Concert	Emperor - Hellfest 2024 – ARTE Concert	https://www.youtube.com/watch?v=u- B0kYXbBaBA
ARTE Concert	Machine Head - Hellfest 2024 – ARTE Concert	https://www.youtube.com/watch?v=- 30F4UEmfgg0
ARTE Concert	Megadeth - Hellfest 2024 – ARTE Concert	https://www.youtube.com/wat- ch?v=qNp9TtRWjHk
ARTE Concert	Suicidal Tendencies - Hellfest 2024 – ARTE Concert	https://www.youtube.com/watch?v=EP- gAxGD_Yns

gital platforms are transforming music festival experiences and subcultural participation (Lizzo & Liechty, 2022; Wang et al., 2024: 231). By adopting a netnographic perspective, this study aims to provide a nuanced understanding of the sociocultural dimensions of digital leisure activities and their implications for subcultural identity formation in the context of online music festivals. Negative comments were not solely categorized as dislikes but were subjected to a thorough content analysis, revealing critiques of sound quality, performance issues, and technical difficulties. The qualitative content analysis approach is employed to code and analyze data, as it systematically identifies the meaning of qualitative data and allows for a detailed examination of the themes and patterns expressed by the audience, in line with netnography's reliance on the observation of textual discourse. This granular examination of audience feedback provided valuable insights into the challenges and expectations associated with virtual music events. The study also considered the broader context of each band's fanbase and subcultural significance within the metal community, offering insights into the complex dynamics of online audience engagement (Allett, 2010: 179-181; Rendell, 2021: 1104). This contextual analysis enabled a more nuanced understanding of how different subcultures within the metal genre interact and express themselves in digital spaces. By focusing on these specific aspects, the research aims to provide a more comprehensive understanding of how digital leisure opportunities are creating new spaces for social groups to express themselves and interact within the context of online music festivals. This holistic approach allows for a deeper exploration of the ways in which techno-

logy is reshaping cultural practices and social interactions in the digital age, ultimately contributing to the growing body of literature on digital culture and subcultural studies.

### **Findings and Discussion**

### **Digital Festival Experience**

In this section of the study, audience comments regarding the digital festival experience are examined. In this regard, data on how virtual participation is shaped, the meanings attributed to community building by the audience, and the technological elements during live streaming are analyzed



Figure 1. Categories and Codes of the Digital Festival Experience Theme

#### Virtual Attendance

The profound changes brought by technological advancements at all phases of festival events are also significantly transforming the ways participants explore the festival environment, interact, and share their experiences (King, 2021: 99; Lee et al., 2022:

The Investigation of Live Streaming Experience as a Digital Leisure Activity Through the Case of Hellfest

1153). The participation of individuals who are unable to physically attend festivals through online platforms is referred to as virtual participation (Estanyol, 2022: 656; Riga, 2022: 10). The ways music festivals are experienced in the digital age are also undergoing a significant transformation due to virtual participation opportunities. This study reveals how the experience of virtual participation is perceived by audiences participating in the festival through live streaming. In this context, audience comments reflect various emotions, expressing the feeling of "being there" or participating remotely. For example, a viewer humorously conveys the feeling of being physically present at the festival by referencing the frequently muddy ground at Hellfest due to climatic conditions, using the phrase "Won't fall in mud today." Similarly, the comment "Monstrueux!! Une ambiance de tarés!" (Monstrous!! A crazy atmosphere!) shows that the viewer experiences the festival atmosphere "as if they were there." In the context of Goffman's (1959) concept of "presentation of self," the viewers' comments demonstrate how individuals engage in impression management and perform their festival identities in the virtual space, adapting their self-presentation to maintain the illusion of physical presence and shared experience despite the digital medium. The comment "C'est pas mal d'enfin entendre sa voix, le mastering n'était vraiment pas bon sur place" (It's nice to finally hear his voice, the mastering was really not good on site) emphasizes the advantages of remote participation by stating that the live streaming sound quality is better than physical participation. The comment "I was there and once more their concert was amazingly powerful and epic! Emperor¹ rules" expresses that the viewer continues to sustain the experience of being physically present through live streaming. As Garay and Morales (2020: 96-97) point out, festivals now encompass both physical and virtual spaces because social media enables the formation of virtual communities around festival brands. At this point, live streaming comments reveal how audiences perceive their loyalty and experience with the festival through virtual participation.

Integration of digital platforms into festival environments is important not only for increasing audience participation, but also for enriching the shared common festival experiences among participants (Stevens, 2018: 20; Van Hemert & Ellison, 2022: 538). At this point, analyzing festival participants' social network participation patterns provides important

information for understanding the sustainability of digital music festival communities (Lei & Li, 2021: 27). When examining audience comments, it is seen that the advantages provided by the opportunity to participate in the festival remotely are expressed in different ways. Comments like "Circle pit"<sup>2</sup> and "Caught in a mosh" reflect the desire of the audience to participate in the energy of the festival even from their homes. The comment "Lesssgooooooo" expresses the excitement and participation of the audience in the live streaming. Comments like "Wish I was there!" and "Wish I could have been there... this is second best!" express the desire of the audience to be physically present and convey that the live streaming partially meets this desire. Additionally, comments like "Thanks Arte for the post - great band" and "Thank you Arte for all of us around the world who couldn't be there." explain the gratitude of the audience to Arte for making the live streaming of the festival possible. As Pessina (2023: 62) points out, virtual environments are quite effective in developing a sense of belonging in music and festival communities, especially due to the immersive visual and auditory experiences they offer. At this point, audience comments highlight the benefits of remote participation opportunities, indicating that virtual participation creates a sense of physical participation. These comments, which reveal the dynamic relationship between physical and virtual participation, also demonstrate that virtual participation offers a new and interactive audience experience that expands the traditional boundaries of music festivals.

### **Community Building**

Pietrzak-Franger et al. (2023: 2) highlight the potential of virtual platforms in promoting community³ building. Therefore, digital spacescan serve as places where people with common interests can come together. In this study, community building refers to the process of creating a virtual sense of togetherness through interactions and shared experiences among viewers on live streaming platforms. When examining comments, it is observed that direct interactions among viewers play a significant role in community building. For example, the comment "Nice!" initiates a conversation by directly responding to another viewer. The comment "BD en 2 hrs" (in 2 hours) encourages interaction by providing direct information in response to a question. The

<sup>&</sup>lt;sup>1</sup> Emperor is a Norwegian symphonic black metal band formed in 1991 in Notodden, known for themes of divination, nature, mythology, individualism, and mysticism, with an active status and currently signed to Candlelight Records (metal-archives.com).

<sup>&</sup>lt;sup>2</sup> Circle pit is a lively concert event where a large group of people run in a circular formation, usually holding onto each other to maintain balance and adjusting their speed in sync with the tempo of the music (Surmanski, 2016: 117).

<sup>&</sup>lt;sup>3</sup> The formation of these online communities challenges traditional notions of "community" by enabling real-time interactions and shared experiences that can rival the intensity of physical gatherings, albeit in a different modality (Habibi et al., 2014: 127; Häkkänen-N-yholm, 2021: 699). However, the ambiguity surrounding the concept of community in digital contexts necessitates further exploration, particularly in how these virtual bonds translate to offline social capital and subcultural identity formation among metal music fans.

comment "Metallica will not be transmitted" enhances interaction by directly informing a user that the Metallica performance will not be broadcast. The comment "Dear Emperor's fans, tell me please what he said 0:10 here:..." encourages interaction by making a specific request to Emperor fans. In this way, expressing shared excitement and passion, which is another important aspect of community building, is achieved through comments that strengthen the feeling of sharing the concert experience, even in a virtual environment. On the other hand, the comment "Pour le concert là ou pour la France / Belgique lundi soir à 18h ? :D" (For the concert there, or for the France/Belgium match on Monday evening at 6 PM?:D) initiates interaction by asking another user a completely different question during Cradle of Filth<sup>4</sup> 's performance. As Rendell (2021: 1103) points out, viewers often participate in interactions in the chat sections of the websites where performances are broadcast (next to or below the videos) during live streams. The above comments, which highlight the importance of direct interaction among viewers for community building, also demonstrate that these interactions reinforce the sense of community.

Lizzo & Liechty (2022) argue that virtual communities have the potential to enhance leisure experiences and strengthen the feeling of belonging. In general, viewer comments convey how online communities form during live streaming and how these communities become more interactive. The comment "Good concert everyone!" reinforces the sense of togetherness by emphasizing the shared experience among viewers. Similarly, the comment "Merci beaucoup Arte for sharing this with us!! Rock on, greetings from Barcelona" expresses gratitude to Arte while also sharing the viewer's location, thereby strengthening the sense of community. This comment, which shows an effort to establish a connection based on geographical location, strengthens the bonds among community members by encouraging communication among viewers. The geographical distribution of social media users is significant because it facilitates the gathering of nearby people, who may then strengthen their sense of community through shared experiences and a stronger sense of belonging (Liu & Huang, 2014). In the comment "Hello, à tout les métaleux et les metaleuses, je voulais remercier Arte pour tout les lives du Hellfest" (Hello, all metalheads, I wanted to thank Arte for all the Hellfest live streaming), the viewer greets all viewers and reinforces the sense of community by emphasizing the shared appreciation for the live streaming. The comment "OMG thank you for uploading this" reflects the shared anticipation and excitement among viewers by expressing common gratitude for the uploaded content. The comment "Hi everybody! We finish this 1st day at Hellfest with 3 simultaneous livestreams! Here we are, team Cradle of Filth!" develops a sense of community by referring to the togetherness among viewers due to live streaming opportunities. The development processes of virtual communities that evolve during live streaming can be observed through viewer comments, which reveal how communication and shared experiences among viewers strengthen the sense of togetherness. These actions, carried out by individuals within online communities via social media, reflect the dynamic nature of viewer participation in digital environments (Gallant & Boone, 2021: 184). Consequently, by engaging in online exchanges, viewers foster a profound sense of community based on common interests and passions, regardless of their physical distance.

### **Technological Aspects**

Virtual tools are taking the place of conventional face-to-face interactions in modern leisure activities, according to Oppenbergerová and Stoffová (2022: 151), who discuss the incorporation of digital technologies into the planning of leisure. In this context, the accessibility of virtual events has significantly increased with the development of live streaming technologies. Therefore, the technological elements that shape the leisure experience of viewers are among the critical factors determining the success of the event. Upon analyzing comments pertaining to viewers' responses on broadcast quality and technical issues, it becomes evident that the quality of the broadcast has a substantial influence on viewer satisfaction. Viewer comments include various evaluations, especially related to video and audio quality. For example, the comments "great audio" and "Sound quality is good!" provide a positive assessment of audio quality, whereas the comment "High quality picture, high quality sound, amazing" praises both visual and auditory qualities. Similarly, the comment "The sound and visual are immaculate" serves as a favorable assessment of the audio and video quality, highlighting the exceptional streaming experience. The comment during Machine Head<sup>5</sup> 's performance, "The Band sounds super tight and the recording is superb. Shout out to the sound guys for this one", praises both the band's performance and the quality of the sound recording, thus appreciating the work of the sound engineers. Wang (2021:

<sup>&</sup>lt;sup>4</sup> Cradle of Filth is a British extreme metal band formed in 1991 in Ipswich, Suffolk, known for their evolving sound from death metal to symphonic black metal and extreme gothic metal, with themes including occultism, vampirism, erotica, romance, mythology, horror, and blasphemy, currently active and signed to Napalm Records (metal-archives.com).

<sup>&</sup>lt;sup>5</sup> Machine Head is an American groove/thrash metal and nu-metal band formed in 1991 in Oakland, California, known for themes including violence, domination, respect, inner struggles, politics, society, and anti-religion, currently active and signed to Nuclear Blast (metal-archives.com).

The Investigation of Live Streaming Experience as a Digital Leisure Activity Through the Case of Hellfest

56) states that the visual and auditory tools used in online live-streamed music events create immersive environments for viewers. The above comments emphasize the favorable assessments of viewers on the quality of the broadcast, underscoring the significance of technical components in live streaming.

In order to ensure high-quality live streaming, providing videos that are continuously accessible, quickly initiated, and played smoothly without any interruptions is among the primary elements (Sitaraman & Barton, 2006: 5). The focus that viewers place on technical faults and shortcomings in broadcast quality highlights the potential detrimental effects these flaws can have on the viewer's experience. In this context, the comment "Bad video quality" directly criticizes the video quality, while the comment "Somebody tell the cameraman to zoom on to lead quitarist while he's performing" shows a criticism due to the camera not focusing on the right spot during the performance. The comment "Crappy audio volume" expresses a complaint about the low audio volume, whereas the comment "Terrible mix, great performers" praises the band's performance but indicates issues with the audio mix. The comment "The audio mix for this video is mediocre." is another critical evaluation that highlights issues with the audio mix. In order to decrease feelings of loneliness and increase a sense of community, event planners and/or artists should set up internet broadcasts in a way that encourages physical proximity and social interaction (Onderdijk et al., 2021). In general, viewer comments include both positive and negative evaluations of streaming quality and demonstrate how technical elements affect the viewer experience. Evaluating these comments emphasizes the need for continuous improvement in these technological applications and provides important insights for offering a smoother and more satisfying experience at future virtual events.

The digital festival experience transcends the boundaries of traditional music events, offering a new form of leisure participation and enabling viewers to experience a strong festival atmosphere and a sense of community despite physical distances. Virtual participation eliminates geographical barriers, allowing for the formation of a global audience, and clearly demonstrates the potential of digital platforms to transform music consumption and leisure experiences. This transformation creates a shared experience and sense of community among viewers, offering a new form of interaction that goes beyond traditional festival participation. Technological elements play a critical role in shaping the digital festival experience, and in this context, it is observed that streaming quality and technical issues directly affect user satisfaction. The variety of positive and negative feedback highlights how leisure experiences in digital environments differ based on individual perceptions and technical conditions. Viewer comments demonstrate how live streaming enhances the Hellfest experience by complementing and expanding the physical festival, serving as an important indicator of the opportunities and added value that digital leisure experiences offer to viewers. In conclusion, the digital festival experience provides important insights into the potential of music events in terms of leisure evaluation, due to the blending of traditional and innovative elements.

### **Music Consumption and Fan Interaction**

In this section of the study, audience comments regarding the digital festival experience are examined. In this regard, data on how real-time music criticism is shaped, music information sharing among audiences, and fan behavior in the digital environment are analyzed.

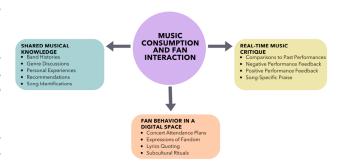


Figure 2. Categories and Codes of the Music Consumption and Fan Interaction Theme

### **Shared Musical Knowledge**

The trends toward personalization, mobility, and connectivity in music consumption are becoming more prevalent in accordance with technological advancements (Hesmondhalgh and Meier, 2018: 1566). Consequently, the constant transformation of music culture through digital platforms results in the modification of individuals' music experiences via these platforms, thereby introducing novel aspects to musical interaction. When examining viewer comments, it is observed that the interaction carried out through the sharing of music knowledge reflects the interactive and information-focused nature of the digital festival experience. The sharing of music knowledge, which expresses the exchange of information about bands, songs, and subgenres of metal music, reveals the viewers' desire to contribute to the music culture. These comments contribute to the enrichment of knowledge within the subcultural community by facilitating the sharing of important information and personal experiences related to music. For example, during Suicidal Tendencies6' performance, the comment "since 1981" indicates the band's founding year, while the comment "93 Vincennes... Trujillo was on bass with suicidal tendencies... few minutes before Metallica Black album tour" shares details about a specific concert, its location, and information about the band's former bassist Robert Trujillo (1989-1995). In the comment "First time I saw them live was 1984", both a personal experience and the date of one of the band's past concerts are shared. Another viewer emphasizes the importance of the Accept<sup>7</sup> album released in 1985 with the comment "Started listening to Metal with the Metal Heart Album Back in 1985. Greetings from Germany." The comment "1984 I watched them together with AC/DC and Ozzy Osbourne," where the viewer shares their past concert experiences, also provides information about the details of a concert held in 1984. The widespread adoption of live streaming technology has allowed music festivals to evolve into immersive experiences that incorporate interactive entertainment and social bonding, extending beyond conventional online and mobile platforms (Sher & Su, 2023). Within this particular framework, the aforementioned comments illustrate how individuals enhance their digital leisure experiences by exchanging music-related information and nostalgic

Being defined as a "metal fan" significantly shapes individuals' social identities, while it is noted that subgenres like black and death metal represent the (subcultural) metal community more authentically, whereas genres like gothic and industrial metal are emphasized as having less representative qualities (Dieckmann et al., 2016: 354; Schulz, 2022: 49). Comments regarding the subgenres of metal music during live streaming reflect viewers' motivations for exchanging subcultural information. In the comment "Crossover thrash mes frères" (Crossover thrash, my brothers), the music performed by Suicidal Tendencies is categorized as "crossover thrash," while the comment "Hardcore 4 life" expresses a passion for the "hardcore" genre for the same band. On the other hand, in the comment "Good old thrash metal," the music of Accept is classified as "thrash metal," while in the comment "classic metal," it is defined differently as "classic metal." Similarly, the comment "Cradle of Filth - melodian metal" attempts to define the music genre of Cradle of Filth. YouTube, as the most widely used platform for sharing video content online, also serves an important promotional function for artists (Montoro-Pons, 2023: 2954). In this context, viewers' comments about the subgenres and music definitions of metal music reveal how the sharing of music knowledge occurs within the community and the impact these bands have on the community.

### **Real-Time Music Critique**

Emphasizing the significant role of real-time communication technologies in shaping leisure experiences, Korolenko (2021: 78) asserts that with the widespread use of these technologies today, they have become more integrated into individuals' daily lives. Social media platforms facilitate real-time information exchange, allowing all stakeholders, especially artists, to receive instant feedback on shared content, thus enabling dynamic fan interactions (Brasseur, 2021: 26; Rashid, 2023: 68). In this respect, it is observed that the ability of viewers to evaluate and critique stage performances in real-time has led to the increasing importance of instant feedback during live streams. Viewer comments, which include opinions about performances, showcase a variety of manifestations of music criticism. For instance, Suicidal Tendencies' live performance receives clear praise in the comment "ST are one of the best live bands ever." The comment "Mike never lets us down!!" provides an evaluation of vocalist Mike Muir's consistent performance with the same band. Similarly, the comment "Mark Tornillo ripping it right from the start" offers a positive evaluation of the performance of Accept's vocalist. The comment "Machine Head consistently put on one of the best live performances of any band in metal." indicates that the band consistently delivers excellent live performances. These comments show that viewers positively evaluate performances in their real-time feedback.

On the other hand, viewer comments that express negative opinions regarding band performances constitute a significant aspect of real-time music criticism. The comment "The mix is horrible. One guitar is way louder than the other one." indicates that the performance is negatively affected due to issues with the sound mix. In the comment "It's painful to watch when a vocalist can't sing his part and suffocates on stage," the vocalist's performance is harshly criticized, and in the comment "Ça chante quand même super mal, plus de voix et le guitariste est super faux... sérieusement là un des pires live de Suicidal" (The vocals are really bad, there's no voice, and the guitarist is really off... seriously, one of the worst live performances from Suicidal), the vocalist's performance is also negatively evaluated, along with criticism of the guitarist's performance, expressing that the band was generally disappointing. Similarly, the comment "Probably one of the worst live performances I've ever witnessed in person." conveys a general sense of disappointment caused by the performance. Live streams provide real-time communi-

<sup>&</sup>lt;sup>6</sup> Suicidal Tendencies is an American thrash metal/crossover and hardcore punk band formed in 1981 in Venice Beach, Los Angeles, known for themes including life, politics, society, angst, comedy, humor, street life, and struggles, currently active and signed to their own label, Suicidal Records (metal-archives.com).

<sup>&</sup>lt;sup>7</sup> Accept is a German heavy metal band formed in 1976, originally from Solingen, North Rhine-Westphalia, now based in both the United States and Germany, known for themes including social issues, sex, rock'n'roll/metal, fantasy, and war, currently active and signed to Napalm Records (metal-archives.com).

cation between users and content creators (in the comment sections), taking interaction beyond traditional blog posts (Dorr, 2023: 30). This situation is exemplified in the above comments, where viewers provide negative feedback containing criticisms of various aspects of the performances. From a broad standpoint, the comments offered by viewers demonstrate that rapid feedback makes it possible to conduct real-time evaluations of performances.

### Fan Behavior in a Digital Space

Music streams on YouTube, especially during the COVID-19 pandemic, have contributed to the establishment of strong bonds among viewers and the development of emotional support, thereby enhancing social cohesion, intercultural understanding, and community resilience (Fraser et al., 2021). The shared passion of metal music fans for social bonding reflects the strong sense of community within the subculture and also demonstrates how metal environments can support the sustainability of relationships formed among fans (Hassan, 2021: 80; Olsen et al., 2020: 367). Fan behavior in digital environments reveals how they express their loyalty to specific bands and metal music in general. In this context, fans' loyalty to bands and the subculture is expressed in various ways in viewer comments such as "St4life!!," a classic cheer expressing lifelong loyalty to Suicidal Tendencies, and "Accept goats," where Accept is declared "the greatest of all time" with strong admiration. Similarly, the comment "My idol" conveys admiration for Corey Taylor<sup>8</sup> in a simple yet heartfelt manner, while the comment "Long live Emperor" expresses support and enduring appreciation for Emperor in a traditional way, both reflecting fans' excitement and strong feelings of loyalty. Perkins (2012: 354) notes that music fans exhibit four different behavioral tendencies online: casual, loyal, die-hard, and dysfunctional. The above comments show that viewers express their admiration for bands in the digital environment within the framework of these different behavioral tendencies.

In the digital environment, music fans develop loyalty based on the balance between the length of time spent as a fan, commitment and preference, and necessity (Obiegbu et al., 2019: 463). Viewer comments quoting lyrics during performances highlight a unique way of expressing their loyalty and admiration for bands. For instance, the comment "War inside my head" quotes the lyrics of Suicidal Tendencies' song "War Inside My Head," demonstrating familiarity and affection for the song, while the comment "BallIIIIIs to the waaaaaaalIIIIIs!" passionately extends the lyrics of Accept's song "Balls

to the Wall," emphasizing fandom. In the comment "Love will tear us apart again at the end of song 3. with mask without one I love you Corey!" admiration for Corey Taylor is expressed by quoting the lyrics of Joy Division's song "Love Will Tear Us Apart." The comment "We are the black wizards!" quotes the lyrics of Emperor's song "I am the Black Wizards," demonstrating deep appreciation and adoration for the song. Music subcultures are extremely dynamic forms that are molded by their members' everyday interactions and the profound emotional attachments they form with music, rather than representing fixed identities defined solely by notable characteristics (Allett, 2010: 16-17). The comments made by viewers in this context demonstrate that the actions of fans in the digital environment display subcultural allegiance and passion for metal music in a variety of different ways.

Music consumption and fan interaction are gaining new dimensions within the framework of the opportunities offered by digital platforms, and they play an important role in shaping leisure experiences in digital environments. In the case of the Hellfest live stream examined in this research, viewers engage interactively by sharing music knowledge, offering real-time music criticism, and displaying fan behavior in digital environments. Within the framework of the digital environment, it can be observed that the leisure experiences of viewers are being reconstructed and personalized. The exchange of information among viewers about bands, songs, and subgenres of metal music creates a wealth of knowledge within the community and strengthens subcultural bonds. Real-time music criticism allows for the instant evaluation of performances, while fan behaviors exhibited in the digital environment enable various expressions of loyalty to bands and metal music in general. The transformation of leisure experiences on digital platforms in this way partially compensates for the lack of physical participation and enriches viewer experiences. In online music communities, the ways in which viewers enrich their digital leisure experiences by sharing music-related knowledge and memories constitute an important dimension of interactive participation. The consumption of music and the interactions between fans in the digital environment shed light on the ways in which leisure activities and online music communities are transforming concurrently. These interactions enable fans to demonstrate their allegiance to bands and the genre of metal music as a whole, while also fostering the development of a robust network of engagement within the community.

<sup>&</sup>lt;sup>8</sup> Corey Taylor is an American musician best known as the lead vocalist of Slipknot and Stone Sour, who began his career in Des Moines, lowa, has contributed to various other musical projects, and has produced for other bands while maintaining active roles in both of his main bands (metalstorm.net).

# Intersection of Physical and Digital Festival Experiences

In this section of the study, audience comments regarding the digital festival experience are examined. In this regard, data on how virtual participation is shaped, the enriched festival experience, the fear of missing out, and future plans are analyzed.

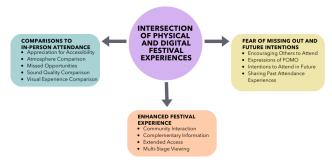


Figure 3. Categories and Codes of the Intersection of Physical and Digital Festival Experiences Theme

### **Comparisons to In-Person Attendance**

The transformation of festival experiences in the digital age necessitates addressing the dynamic relationship between face-to-face and online participation, thereby revealing perceived similarities and differences through the comparison of these two forms of experience. The use of digital media communication in music festivals supports the creation of a sense of community among participants by enabling the emergence of new information and emotional responses, thus significantly transforming pre-festival, during-festival, and post-festival experiences (Brown et al., 2019: 75). At this point, viewer comments appear as expressions explaining how the live streaming is related to past physical festival experiences, particularly featuring various assessments related to its sound quality and atmosphere. For instance, in the comment "C'est pas mal d'enfin entendre sa voix, le mastering n'était vraiment pas bon sur place" (It's nice to finally hear his voice, the mastering was really not good on site), the sound quality of the live broadcast is highlighted, also drawing attention to the sound issues experienced during physical attendance. In the comment "J'étais sur place, c'était très bien, rien à redire du mix. C'est juste un soucis du broadcast" (I was there, it was very good, nothing to say about the mix. It's just a broadcast issue), it is conveyed that the sound mixing was good during physical attendance, but there were problems in the live streaming. The comment "The sound is so badly mixed haha" is presented as a direct criticism of the sound quality in the live streaming. In the comment "Sound is amazing at Hell-Fest, in général in France sound is great from outdoor or indoor exception for stadium, I think in stadium it is made for sport not for show like that," a general evaluation of the sound quality at music events in France is provided. These comments reveal how viewers compare festival experiences in the context of sound quality by contrasting their face-to-face attendance with their online participation, highlighting the differences and similarities perceived in live and digital environments.

Based on the research on indie music live-streamed festivals, Zhao (2022) concludes that these types of events fail to foster an engaged atmosphere that is on par with traditional, in-person music festivals since they don't allow for the building of new social ties, shared meanings, and cultural engagement. A comparison of the overall atmosphere perceived during physical and virtual participation emerges as a significant topic in viewer evaluations, emphasizing the contrasting nuances in audience interaction, the vibrancy of the event, and the sense of community experienced in each format. At this point, the comment "audience seems really quiet" indicates that the live stream does not fully capture the energy of physical attendance, while the comment "best crowd ever" shows that the enthusiasm of the live audience is effectively reflected in the live stream. In the comment "Dead crowd... He even says at 27.00 guys is black metal too much for you?" it is mentioned that audience participation is insufficient and does not reflect the energy of physical attendance. The comment "La fosse s'est endormie" (Pit has fallen asleep) indicates a lack of mosh pit energy, while the comment "Now that's a proper crowd" expresses that the live stream successfully captures the festival atmosphere. Viewers of live-streamed performances can be motivated by various factors, including meaningful use of their time and the importance of high-quality sound experiences offered by virtual participation (Philips & Krause, 2024: 336). Overall, viewer comments reveal how sound quality and the general atmosphere of online participation are compared with physical attendance, thereby explaining through various examples how these experiences affect the viewer experience in terms of similarities and differences.

## Fear of Missing Out and Future Intentions

Social media platforms are considered real-time interaction resources that allow users to keep up with instant updates about events, incidents, and conversations happening across various social networks. Fear of missing out (FoMO) is characterized by the desire of individuals to constantly monitor what others are doing on social media due to the concern that others might be having satisfying experiences (Przybylski et al., 2013: 1841). Within this particular framework, viewer comments convey their dissatisfaction at not being able to participate in Hellfest while also expressing their intentions to join the

event at a later time through diverse means. For instance, the comment "I'm sad that I missed this live in person and online." directly conveys the sadness of missing the festival. A viewer who sold the festival ticket expresses this situation and their regret for not being able to attend with the comment "Pourquoi j'ai revendu ma place du Hellfest d'aujourd'hui. je suis con." (Why did I sell my ticket to today's Hellfest? I'm an idiot.). Similarly, the expression of regret in the comment "Wish I could have been there... this is second best!" indicates that the live stream does not fully replace physical attendance. The comment "Damn, was hoping they'd play Empty." reflects the disappointment of a specific song (Emperor's song Empty) not being played. These comments serve as reflections of the feelings experienced by the audience as a result of their inability to physically participate in Hellfest, which was held in 2024.

Participation in music festivals through social networks is associated with high participation rates due to the specific reasons for participation unique to these platforms, while the motivation to re-attend festivals is shaped by the complex interaction of factors such as sociodemographic characteristics, past experiences, destination features, and overall satisfaction levels (Lei & Li, 2020: 27; Borges et al., 2020: 314). At this point, the expression of viewers' intentions to participate in future festivals and concerts emerges as another prominent aspect of the comments. The comments "I will definitely tune in for Hellfest 2025" and "One day, I will actually go to Hellfest" reveal viewers' intentions to attend festivals in the coming years. On the other hand, comments like "Tomorrow, they will be in Lisbon on Evil Live Festival and I will be there", "rdv a paris Elysée Montmartre!!!" (Let's meet at Paris Elysée Montmartre!!!), and "See you in Italy soon" confirm plans to participate in events to be held in different locations (Lisbon, Paris, and Italy) in the near future following the festival. Overall, viewer comments illustrate not only the disappointment and regret of not being able to attend Hellfest but also provide a detailed insight into how they express their plans and intentions to participate in future events. These comments highlight an intense anticipation and desire for upcoming events, underscoring the significance of live music experiences and the deep emotional connection that attendees have with such concerts.

### **Enhanced Festival Experience**

Although live broadcasts, which challenge traditional concepts of space and experience, are widely ac-

cepted due to the phenomenon of "liveness," they are compelled to ambitiously mimic the spatial elements of face-to-face festivals while simultaneously offering a virtual alternative that particularly appeals to younger audiences, providing a sense of happiness, stress relief, flow, and interaction (Chen & Lin, 2018: 293; Green, 2023). At this point, the ability of live streaming to complement or enhance the physically conducted festival experience reveals an enriched festival experience. Viewer comments highlight how the live streaming adds value to the overall Hel-Ifest experience. For instance, the comment "Did someone ID the bassist?" shows that viewers enrich the festival experience by sharing information during the live streaming. The comment "Anyone has timecodes?" indicates that viewers personalize their experience by requesting time codes to easily access specific moments of the performance. The comment "Whose bright idea was it to pan the drums and vocals almost all the way right..." demonstrates that viewers analyze the production quality of the live streaming by paying attention to technical details. In the comment "Replaced by Jay Weinberg, ex drummer of Slipknot," it is seen that viewers enrich their experience by sharing information about band members. Chen and Lin (2023: 301) state that live streaming platforms need to prioritize the development of more functional interactive features to make communication more effective in order to increase viewer engagement and activity. The comments above reveal how live streaming enriches the festival experience by fostering a sense of community and engagement among viewers, encouraging real-time interaction, information sharing, and collective participation, thereby enhancing the overall enjoyment and depth of the festival experience.

Among the opportunities provided by live streaming, ease of access and multi-stage videos stand out as prominent topics highlighted by viewers in their comments. For instance, the comment "Heureusement qu'il y a ce live quand même" (Luckily, there is this live stream) emphasizes that viewers who cannot attend in person can access the festival through the live stream. The comment "Mais au moins je peux regarder le replay" (But at least I can watch the replay) shows that viewers appreciate the option to rewatch performances they missed. The comment "No pude ver landmvrks, lo sacaron junto con el de megadeth, pero este ultimo si lo pude ver, ojala lo resuban" (I couldn't watch Landmvrks, they streamed it along with Megadeth<sup>9</sup>, but at least I could watch Megadeth, I hope they re-upload it) reveals viewers' desire to rewatch performances they missed. The comment "I'd like to watch Babymetal<sup>10</sup>

<sup>&</sup>lt;sup>9</sup> Megadeth is an American thrash metal band formed in 1983 in Los Angeles, California, with a brief period of heavy metal/rock, known for themes including society, politics, history, death, religion, new world order, addiction, and love, currently active and signed to Tradecraft (metal-archives.com).

### Ahmet Elnur

but after sound post production (hopefully)" indicates that viewers expect sound improvements for a better festival experience. These comments demonstrate how the extended access and multi-stage viewing opportunities provided by live streaming enrich the viewer experience. Viewer comments explain how live streaming enhances the extent of the in-person festival, introducing novel aspects to the Hellfest experience. Ma et al. (2022) emphasize that live-streamed music events are an important tool for both parasocial interaction and viewer engagement. Therefore, these platforms offer an extremely functional perspective on how digital environments can meaningfully contribute to viewer participation, emotional interaction, and a more comprehensive, engaging festival experience overall.

The intersection of physical and digital festival experiences is becoming increasingly prominent in contemporary music festival culture. Analyses conducted on the Hellfest live stream within the scope of this research reveal various dimensions of this intersection. Viewer comments highlight how live streaming compares to physical attendance in terms of sound quality and overall atmosphere, thereby explaining through various examples how the similarities and differences between these experiences shape the viewer experience. Live streams offer viewers the opportunity to experience the festival atmosphere from the comfort of their homes, while also allowing them to analyze production quality by considering technical aspects. Therefore, individuals who are unable to physically attend the festival enhance their leisure experiences by accessing live streaming and foster greater connection among the subcultural community by exchanging information. On the other hand, it is understood that the experiences viewers gain through live streams do not completely substitute for being physically present. Live streaming is observed to play a complimentary role rather than being a substitute for actual events, despite the fact that it is acknowledged that this leisure experience does not entirely reflect the same ambiance that is present at a festival that is attended in person. Additionally, the potential of live streams to reach a wider audience by overcoming geographical and economic barriers highlights the functional role of digital platforms in disseminating the music festivals and increasing accessibility. Overall, viewer comments clearly demonstrate that the mutually beneficial and nurturing relationship between digital and physical festival experiences enhances multiple aspects of the festival experience.

The analysis of audience comments reveals a multifaceted impact on individuals' social identities and their place within the metal community, highlighting the complex interplay between digital participation and subcultural belonging (Schulz, 2022: 330; Simões & Campos, 2017: 27). The use of different languages and cultural references in audience comments underscores the global nature of Hellfest, reflecting the diverse linguistic and cultural backgrounds of participants. This linguistic diversity not only enriches the digital leisure experience but also contributes to the formation of a transnational metal community, transcending geographical boundaries (Chiu, 2020: 32; Wallach et al., 2011: 7). While the study acknowledges YouTube's role as a promotional tool for artists, a more in-depth examination of how the platform's algorithms and content recommendation systems shape audience interactions could provide valuable insights into the evolving dynamics of digital music culture (Apostolidis et al., 2022; Fleischer, 2017: 146). The sociocultural context of metal music genres and subgenres, as reflected in audience comments, reveals how digital platforms serve as spaces for the reproduction and negotiation of subcultural identities (March, 2024: 40-43; McKenna, 2012: 93). Furthermore, the analysis of audience comments demonstrates how digital participation both reinforces and challenges traditional notions of authenticity within metal subcultures, reflecting the ongoing tension between physical and virtual modes of subcultural engagement (Haenfler, 2022: 12; Riches, 2014: 157). These findings underscore the need for a broader sociocultural analysis that considers the complex interplay between digital technologies, subcultural practices, and the evolving landscape of music consumption in the contemporary era.

#### Conclusion

Within the scope of the study, it was aimed to reveal the main characteristics of participation in live-streamed music festivals as a new form of digital leisure and to examine in depth how digital platforms transform the music festival experience. In this regard, the qualitative content analysis conducted through the audience comments during the live streaming of Hellfest, which was held on 27/06/2024-30/06/2024, on the YouTube platform, reveals various dimensions of the digital festival experience. The findings under the themes of "Digital festival experience," "Music consumption and fan interaction," and "Intersection of physical and digital festival experiences" demonstrate how the digitalization of leisure reshapes the ways of participation in music festivals. At this point, live streaming technologies offer virtual participation opportunities for individuals who are unable to physically participate in festivals, allowing them to overcome the geographical limitations of

<sup>&</sup>lt;sup>10</sup> BABYMETAL is a Japanese Kawaii Metal band formed in 2010, known for their fusion of metal and idol music, who have achieved international success with performances at major venues and festivals worldwide (toysfactory.co.jp).

these events. In the context of digital leisure, the configuration of audience interactions contributes to the development of subcultural community building and collective festival experiences, thus enabling an integrated combination of traditional festival experiences and digital experiences. On the other hand, the effects of live streaming on music consumption and fan experiences are redefining the music festival ecosystem, along with the role played by digital platforms in interaction between audiences and community-building processes. In this context, the re-evaluation of the digital festival experience as a leisure activity gains importance in terms of understanding new forms of subcultural participation in the digital age by reinforcing a sense of belonging and community among the audience.

The digital transformation of music festivals, particularly through live-streaming platforms, has precipitated a paradigm shift in audience engagement and subcultural community sustainability. This metamorphosis transcends geographical and economic constraints, expanding access to cultural experiences while concurrently redefining the parameters of participation. Qualitative content analysis of viewer interactions during Hellfest's live stream elucidates the nuanced interplay between virtual and physical attendance, revealing that digital platforms foster a robust sense of community. These platforms offer novel avenues for subcultural identity formation, catalyzing the emergence of online music communities with distinct norms and behaviors. The real-time interactions and information sharing facilitated by digital media enrich the festival experience, expanding the conceptual boundaries of subcultural participation in leisure pursuits. Consequently, this digital shift necessitates the development of new theoretical frameworks to comprehend the evolving landscape of festival experiences and digital leisure consumption.

The netnographic approach employed in this study illuminates the complex ecosystem of digital leisure activities, demonstrating their capacity to create innovative spaces for social cohesion and intercultural communication within the metal subculture. While acknowledging that digital experiences cannot fully replicate the immersive nature of physical attendance, this research underscores the transformative potential of virtual festivals in reshaping audience dynamics and cultural exchange. The findings highlight the ability of live-streamed events to reach a wider audience by overcoming traditional barriers, thereby extending the boundaries of festival experiences and redefining leisure participation. Moreover, the study reveals that virtual participation can be partially as satisfying as physical attendance, emphasizing the need for a nuanced understanding of how online engagement complements traditional festival formats. This research accentuates the emergence of unique online communities characterized by distinctive interaction patterns and modes of cultural expression. Ultimately, these insights underscore the imperative to reconceptualize subcultural participation in the digital age, recognizing the unprecedented opportunities for cultural expression and community building afforded by virtual platforms in contemporary leisure practices.

The versatile effects of technological developments on leisure activities enable festivals to reach wider audiences through innovative and diversified event models. Within this process, which paves the way for the emergence of new sources of income, it is essential that festival events focus not only on commercial concerns, but also on supporting cultural diversity and freedom of artistic expression. At this point, virtual participation options have the potential to contribute to the preservation and development of cultural richness by providing a platform for non-mainstream music genres and subcultures. Therefore, it is important to consider the potential of these digital leisure opportunities to create a new space for different social groups to express themselves and interact with each other, both in terms of strengthening intercultural communication and increasing social cohesion. At this point, the fact that virtual festival experiences support traditional forms of events in a complementary way and offer new spaces of expression to various social groups emerges as an important transformative factor in shaping the future of the music industry. Through the preservation of cultural diversity and artistic freedom, the creation of a more inclusive and open festival culture is expected to contribute to the formation of a new ecosystem by reshaping the processes of music consumption and questioning the traditional structure of the music industry.

The implications of this research on digital leisure experiences, exemplified by the Hellfest case study, extend to music festival organizers, digital platform providers, and policymakers. The study highlights the potential of high-quality live streaming options to facilitate access to cultural events, expand reach, and enhance audience engagement, thereby reshaping the landscape of music consumption and subcultural participation. However, the limitations of focusing on a single festival and genre necessitate further investigation across diverse musical subcultures and event types. Future research should employ ethnographic methods to explore the long-term effects of virtual festival experiences on subcultural identity formation and community ties, examining how these digital interactions may be transforming metal subculture and fan behaviors. Additionally, investigating the emergence of new social groups or fan typologies resulting from digital broadcasts could provide valuable insights into the evolving landscape of digital leisure activities and their impact on music consumption patterns. The findings of this study contribute to the growing body of literature on the digitalization of cultural experiences, offering a foundation for future research on the intersection of technology, subcultures, and event management.

To address these research gaps, comprehensive and multifaceted strategies are required. Longitudinal studies are required to investigate the evolution of virtual participation over time and its transformative impact on the festival ecosystem. Comparative studies examining the experiences of various demographic groups during virtual festivals may contribute to the development of initiatives promoting attendance diversity. Further empirical research is needed to explore how technological advancements, such as virtual and augmented reality applications, can enhance the festival experience. Studies focusing on the economic models and sustainability of virtual festivals are crucial for understanding the effects of digital transformation on the industry. Moreover, investigating the potential of these digital platforms to reshape metal subculture and fan behaviors could offer nuanced perspectives on the intersection of virtual and physical festival participation, contributing to our understanding of how digital platforms are transforming leisure experiences and their implications for subcultural communities in the digital age. The insights gained from these proposed research directions may inform policy decisions and industry practices, ultimately shaping the future landscape of music festivals and digital cultural engagement.

### References

Adam, I. (2017). Leisure Aspirations of People with Visual Impairment in the Kumasi Metropolis, Ghana. Annals of Leisure Research, 21(3): 347–363. https://doi.org/10.1080/11745398.2017.1387798

Aleksiev, K. (2011). How European International Niche-Music Festivals Reach and Attract Their Audience, Master's Thesis, Erasmus School of History, Culture and Communication, Rotterdam.

Alhadar, M., Rahmat, R., Assagaf, F., Khitab, W.M. (2024). Exploring the Intersection of Religion and Culture: A Phenomenological Inquiry into the Cokaiba Tradition among the Fagogoru Community in Central Halmahera Regency. Tribakti: Jurnal Pemikiran Keislaman, 35(1): 79-94. https://doi.org/10.33367/tribakti. v35i1.4227

Allett, N. F. (2010). 'Love's Labours': Extreme Metal Music and Its Feeling Community, Doctoral Dissertation, University of Warwick, Warwick.

Auslander, P. (2012). Digital Liveness: A Historico-Philosophical Perspective. PAJ: A Journal of Performance and Art, 34(3): 3-11. https://doi.org/10.1162/PAJJ\_a\_00106

Apostolidis, K., Mezaris, V., Papadogiorgaki, M., Bei, E. S., Livanos, G., & Zervakis, M. E. (2022). Content and Other Resources Recommendations for Individuals with Intellectual Disability: A Review. Electronics, 11(21): 3472. https://doi.org/10.3390/electronics11213472

Aytaç, Ö. (2004). Kapitalizm ve Hegemonya İlişkileri Bağlaminda Boş Zaman. Cumhuriyet Üniversitesi Sosyal Bilimler Dergisi, 28 (2): 115-138

Bennett, A., & Rogers, I. (2016). Popular Music Scenes and Cultural Memory. London: Palgrave Macmillan.

Borges, A., Cunha, C., & Lopes, J. (2020). The Main Factors That Determine the Intention to Revisit a Music Festival. Journal of Policy Research in Tourism, Leisure and Events, 13: 314-335. https://

doi.org/10.1080/19407963.2020.1817051

Brasseur, M. (2021). BAND: A Strategic Framework to Help Indie Rock Musicians Build Their Audience via Streaming Platforms and Social Media, Master's Thesis, Louvain School of Management, Louvain-la-Neuve.

Brown, A., Donne, K., Fallon, P., & Sharpley, R. (2019). From Headliners to Hangovers: Digital Media Communication in the British Rock Music Festival Experience. Tourist Studies, 20: 75-95. https://doi.org/10.1177/1468797619885954

Charron, J. P. (2017). Music Audiences 3.0: Concert-Goers' Psychological Motivations at the Dawn of Virtual Reality. Frontiers in Psychology, 8: 800. https://doi.org/10.3389/fpsyg.2017.00800

Chen, Y., & Lei, W. S. C. (2021). Behavioral Study of Social Media Followers of a Music Event: A Case Study of a Chinese Music Festival. Journal of Hospitality and Tourism Insights, 4(2): 163-182. http://doi.org/10.1108/JHTI-09-2020-0168

Chen, C., & Lin, Y. (2018). What Drives Live-Stream Usage Intention? The Perspectives of Flow, Entertainment, Social Interaction, and Endorsement. Telematics Informatics, 35: 293-303. https://doi.org/10.1016/j.tele.2017.12.003

Chiu, K. (2020). Phónè and the Political Potential of Metal Music: A Scholarly Intervention, Doctoral Dissertation, University of Leiden, Leiden.

Cross, I. (2005). Music and Social Being. Musicology Australia, 28(1): 114-126. https://doi.org/10.1080/08145857.2005.10415281

Csiszár, S. (2016). An Exploratory Research on Co-Creation in a Festival's Virtual Community, Master's Thesis, Aalborg University, Copenhagen.

Dahl, E. (2021). May You Stream in Interesting Times: Streamed Music During the Pandemic Era, Master's Thesis, Norwegian University of Science and Technology, Trondheim.

Danielsen, A., & Kjus, Y. (2019). The Mediated Festival: Live Music as a Trigger of Streaming and Social Media Engagement. Convergence, 25(5): 865-880. https://doi.org/10.1177/1354856517721808

Delli Paoli, A., & D'Auria, V. (2021). Digital Ethnography: A Systematic Literature Review. Italian Sociological Review, 11(4S): 243-267. http://doi.org/10.13136/isr.v11i4S

Dieckmann, J., Steffens, M., & Methner, N. (2016). Back to the Roots: When Diversity Evokes Increased Group-Based Conventionalism. Group Processes & Intergroup Relations, 21(2): 351-367. https://doi.org/10.1177/1368430216670245

Dorr, M. M. (2023). Exploring Non-Activist Alternative Media: Audiences and Content, Doctoral Dissertation, Bowling Green State University, Bowling Green.

Elo, S., & Kyngäs, H. (2008). The Qualitative Content Analysis Process. Journal of Advanced Nursing, 62(1): 107-115. https://doi.org/10.1111/j.1365-2648.2007.04569.x

Eriksson, B., Stage, C., & Valtysson, B. (Eds.). (2020). Cultures of Participation: Arts, Digital Media and Cultural Institutions. Oxon: Routledge.

Estanyol, E. (2022). Traditional Festivals and COVID-19: Event Management and Digitalization in Times of Physical Distancing. Event Management, 26(3): 647-659. https://doi.org/10.3727/1525 99521X16288665119305

Fleischer, R. (2017). If the Song has No Price, is it Still a Commodity? Rethinking the Commodification of Digital Music. Culture Unbound, 9(2): 146-162. https://doi.org/10.3384/cu.2000.1525.1792146

Fraser, T., Crooke, A. H. D., & Davidson, J. W. (2021). "Music Has No Borders": An Exploratory Study of Audience Engagement With YouTube Music Broadcasts During COVID-19 Lockdown, 2020. Frontiers in Psychology, 12: 643893. https://doi.org/10.3389/fpsyg.2021.643893

Fusch, P. I., & Ness, L. R. (2015). Are We There Yet? Data Saturation in Qualitative Research. The Qualitative Report, 20(9): 1408-1416. https://doi.org/10.46743/2160-3715/2015.2281

Gallant, L., & Boone, G. (2021). Communicative Informatics: A Social Media Perspective for Online Communities, International

### The Investigation of Live Streaming Experience as a Digital Leisure Activity Through the Case of Hellfest

AAAI Conference on Web and Social Media.

Garay, L., & Morales, S. (2020). Decomposing and Relating User Engagement in Festivals' Virtual Brand Communities: An Analysis of Sónar's Twitter and Facebook. Tourist Studies, 20(1): 96-119. https://doi.org/10.1177/1468797619873109

Ghaffari, M., Khan, G. F., Singh, S. P., & Ferwerda, B. (2024). The Impact of COVID-19 on Online Music Listening Behaviors in Light of Listeners' Social Interactions. Multimedia Tools and Applications, 83(5): 13197-13239. https://doi.org/10.1007/s11042-023-16079-1

Goffman, E. (1959). The Presentation of Self in Everyday Life. New York: Anchor. Books

Green, B. (2023). Splendour XR: Place, Experience and Liveness at a Virtual Music Festival. Leisure Sciences, 1-18. https://doi.org/10.1080/01490400.2023.2171519

Guibert, G. (2020). La Musique Metal, Une Mondialisation Minoritaire. Hermès, La Revue, 86: 164-169. https://doi.org/10.3917/herm.086.0164

Guibert, G., Spanu, M., & Rudent, C. (2021). Beyond Live Shows: Regulation and Innovation in the French Live Music Video Economy. In C. Anderton & S. Pisfil (Eds.), Researching Live Music. London: Focal Press.

Guibert, G., & Sklower, J. (2011). Hellfest: The Thing That Should Not Be. Local Perceptions and Catholic Discourses on Metal Culture in France. Popular Music History, 6(2): 100-115. http://doi.org/10.1558/pomh.v6i1/2.100

Güven, U. Z. (2018). Müzik Kültürleri İncelemelerinde "Öteki" Kavramı Üzerine Sosyolojik ve Antropolojik Yaklaşımlar. Sosyoloji Dergisi, 38: 67@88. http://doi.org/10.26650/SJ.38.1.0003

Habibi, M. R., Laroche, M., & Richard, M. O. (2014). Brand Communities Based in Social Media: How Unique Are They? Evidence from Two Exemplary Brand Communities. International Journal of Information Management, 34(2): 123-132. https://doi.org/10.1016/j.ijinfomgt.2013.11.010

Haenfler, R. (2022). The Past, Present and Future of Subculture. In A. Bennett (Ed.), The Bloomsbury Handbook of Popular Music and Youth Culture. London: Bloomsbury.

Hagaman, A. K., & Wutich, A. (2017). How Many Interviews Are Enough to Identify Metathemes in Multisited and Cross-Cultural Research? Another Perspective on Guest, Bunce, and Johnson's (2006) Landmark Study. Field Methods, 29(1): 23-41. https://doi.org/10.1177/1525822X16640447

Häkkänen-Nyholm, H. (2020). Bruce Springsteen Fan Behavior and Identification. Psychology of Music, 49(4): 691-703. https://doi.org/10.1177/0305735619891774

Hassan, N. (2021). Metal on Merseyside: Music Scenes, Community and Locality. London: Palgrave Macmillan.

Hesmondhalgh, D., & Meier, L. M. (2018). What the Digitalisation of Music Tells Us About Capitalism, Culture and the Power of the Information Technology Sector. Information, Communication & Society, 21(11): 1555-1570. https://doi.org/10.1080/1369118X.2017.1340498

Hodkinson, P. (2015). Youth Cultures and the Rest of Life: Subcultures, Post-Subcultures and Beyond. Journal of Youth Studies, 19(5), 629-645. https://doi.org/10.1080/13676261.2015.1098778

Hofstede, G. (1984). Cultural Dimensions in Management and Planning. Asia Pacific Journal of Management, 1(2): 81-99. https://doi.org/10.1007/BF01733682

Hsieh, H. F., & Shannon, S. H. (2005). The Three Approaches to Qualitative Content Analysis. Qualitative Health Research, 15(9): 1277-1288. https://doi.org/10.1177/1049732305276687

Holt, F. (2020). Everyone Loves Live Music: A Theory of Performance Institutions. Chicago: University of Chicago Press.

Jensen, C. R., & Guthrie, S. (2006). Outdoor Recreation in America. Champaign: Human Kinetics.

Kahn-Harris, K. (2007). Extreme Metal: Music and Culture on the Edge. New York: Berg.

King, A. (2021). Tomorrowland Around the World 2020: A Virtual

Pilgrimage. Journal of Communication Technology, 4(3): 80-103. https://doi.org/10.51548/joctec-2021-018

Korolenko, Y. (2021). Industriia Dozvillia v Umovakh Pandemii Covid-19: Antykryzovi Rishennia ta Perspektyvy [Leisure Industry in the Convention of the Covid-19 Pandemic: Anti-Crisis Solutions and Prospects]. Visnik Mariupol@s@kogo Deržavnogo Universitetu. Seriâ: Filosofia, Kulturologia, Sociologia, 22: 72-78. https://doi.org/10.34079/2226-2830-2021-11-22-72-78

Kozinets, R. V. (2010). Netnography: Doing Ethnographic Research Online. London: Sage.

Kozinets, R. V. (2002). The Field Behind the Screen: Using Netnography for Marketing Research in Online Communities. Journal of Marketing Research, 39(1): 61-72. https://doi.org/10.1509/jmkr.39.1.61.18935

Kyngäs, H. (2020). Qualitative Research and Content Analysis. In H. Kyngäs, K. Mikkonen, & M. Kääriäinen (Eds.), The Application of Content Analysis in Nursing Science Research. Cham: Springer.

Lee, D., Ng, P., & Wut, T. (2022). Virtual Reality in Festivals: A Systematic Literature Review and Implications for Consumer Research. Emerging Science Journal, 6(5): 1153-1166. https://doi.org/10.28991/esj-2022-06-05-016

Lehman, E. T. (2021). "Washing Hands, Reaching Out" - Popular Music, Digital Leisure and Touch during the COVID-19 Pandemic. Leisure Sciences, 43(1-2): 273-279. https://doi.org/10.1080/01490 400.2020.1774013

Lei, W., & Li, C. (2021). The Mechanism of Linkages Between Online Community Participation and Festival Attendance: A Case Study of a Chinese Music Festival. Event Management, 25(1): 27-40. https://doi.org/10.3727/152599520x15894679115457

Liu, Z., & Huang, Y. (2014). Community Detection from Location-Tagged Networks, The 22nd ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems.

Lizzo, R., & Liechty, T. (2022). Benefits and Motivations for Virtual Community Participation: A Netnography of the Hogwarts Running Club. Journal of Park and Recreation Administration, 40(2). https://doi.org/10.18666/jpra-2021-10778

Lu, X. (2023). Music Festivals and Edutainment in a Digital Age. In G. Rossetti, B. Wyatt, & J. Ali-Knight (Eds.), Festivals and Edutainment. Oxon: Routledge.

Ma, Z., Song, L., Zhou, J., Chong, W. K., & Xiong, W. (2022). How Do Comeback Korean Pop Performers Acquire Audience Empathetic Attachment and Sustained Loyalty? Parasocial Interactions Through Live Stream Shows. Frontiers in Psychology, 13. https://doi.org/10.3389/fpsyg.2022.865698

Mahdi, T.C. (2018). Membership vs. Being of the Community: A Qualitative Study of the Go-Go Music - Cultural Community, Doctoral Dissertation, University of Maryland, Baltimore.

Mall, A. (2015). 'This Is a Chance to Come Together': Subcultural Resistance and Community at Cornerstone Festival. In A. E. Nekola & T. Wagner (Eds.), Congregational Music-Making and Community in a Mediated Age. London: Routledge.

March, K. L. (2024). Extremely Online: Cultural Borrowing, Mixing, and Transformation in Internet Music, Doctoral Dissertation, Temple University, Philadelphia.

Mattar, Y. (2003). Virtual Communities and Hip@Hop Music Consumers in Singapore: Interplaying Global, Local and Subcultural Identities. Leisure Studies, 22(4): 283-300. https://doi.org/10.1080/02614360310001594168

Mazzi, M. A. (2011). Quantitative Methods for the Analysis of Verbal Interactions in Psychotherapy. In M. Rimondini (Ed.), Communication in Cognitive Behavioral Therapy. New York: Springer.

McKenna, J. (2022). Exploring Subcultural Expressions of 'Transgression 'in the Global Extreme Metal Scene: A Theoretical and Case Study Analysis, Master's Thesis, University of Liverpool, Liverpool.

Metal Archives: https://metal-archives.com/bands/Accept [Access Date: 26.09.2024]

Metal Archives: https://metal-archives.com/bands/Cradle\_of\_

#### Ahmet Elnur

Filth [Access Date: 26.09.2024]

Metal Archives: https://metal-archives.com/bands/Emperor/30 [Access Date: 26.09.2024]

Metal Archives: https://metal-archives.com/bands/Machine\_ Head/335 [Access Date: 26.09.2024]

Metal Archives: https://metal-archives.com/bands/Megadeth [Access Date: 26.09.2024]

Metal Archives: https://metal-archives.com/bands/Suicidal\_Tendencies [Access Date: 26.09.2024]

Metal Storm: https://metalstorm.net/bands/bandmember.php?-member\_id=3251 [Access Date: 26.09.2024]

Miles, M. B., & Huberman, M. A. (1994). Qualitative Analysis: An Expanded Sourcebook. Thousand Oaks: Sage.

Montoro–Pons, J., Caballer-Tarazona, M., & García, M. (2023). Assessing Complementarities Between Live Performances and You-Tube Video Streaming. Empirical Economics, 65(6): 2953-2978. https://doi.org/10.1007/s00181-023-02444-4

Naveed, K., Watanabe, C., & Neittaanmäki, P. (2017). Co-Evolution Between Streaming and Live Music Leads a Way to the Sustainable Growth of Music Industry – Lessons From the US Experiences. Technology in Society, 50: 1-19. http://doi.org/10.1016/j.techsoc.2017.03.005

Nedungadi, P., Mulki, K., & Raman, R. (2018). Improving Educational Outcomes & Reducing Absenteeism at Remote Villages with Mobile Technology and WhatsApp: Findings from Rural India. Education and Information Technologies, 23: 113-127. https://doi.org/10.1007/s10639-017-9588-z

Obiegbu, C. J., Larsen, G., Ellis, N., & O'Reilly, D. (2019). Co-Constructing Loyalty in an Era of Digital Music Fandom: An Experiential-Discursive Perspective. European Journal of Marketing, 53(3): 463-482. https://doi.org/10.1108/EJM-10-2017-0754

Olsen, K., Powell, M., Anic, A., Vallerand, R., & Thompson, W. (2020). Fans of Violent Music: The Role of Passion in Positive and Negative Emotional Experience. Musicae Scientiae, 26(2): 364-387. https://doi.org/10.1177/1029864920951611

Onderdijk, K. E., Swarbrick, D., Van Kerrebroeck, B., Mantei, M., Vuoskoski, J. K., Maes, P. J., & Leman, M. (2021). Livestream Experiments: The Role of COVID-19, Agency, Presence, and Social Context in Facilitating Social Connectedness. Frontiers in Psychology, 12: 647929. https://doi.org/10.3389/fpsyg.2021.647929

Oppenbergerová, H., & Stoffová, V. (2022). ICT in Dance Leisure Time Activities of Children and Youth. Journal of Technology and Information, 14(2): 151-159. https://doi.org/10.5507/jtie.2022.010

Perkins, A. (2012). How Devoted Are You? An Examination of Online Music Fan Behaviour. Annals of Leisure Research, 15: 354-365. https://doi.org/10.1080/11745398.2012.737301

Pessina, L. (2024). Encountering Irish Traditional Music Through Virtual Space: The Experience of FleadhFest 2021. International Journal of Event and Festival Management, 15(1): 62-84. https://doi.org/10.1108/ijefm-12-2022-0106

Phillips, W., & Cogan, B. (2009). Encyclopedia of Heavy Metal Music. London: Bloomsbury Publishing.

Phillips, M., & Krause, A. E. (2024). Audiences of the Future – How Can Streamed Music Performance Replicate the Live Music Experience? In N. T. Smith, P. Peters, & K. Molina (Eds.), Classical Music Futures: Practices of Innovation. Cambridge: Open Book Publishers

Pietrzak-Franger, M., Liedke, H. L., & Radak, T. (2023). Presence and Precarity in (Post-) Pandemic Theatre and Performance. Theatre Research International, 48(1): 2-8. https://doi.org/10.1017/S0307883322000360

Pink, S., Horst, H., Postill, J., Hjorth, L., Lewis, T., & Tacchi, J. (2016). Digital Ethnography: Principles and Practice. London: Sage.

Przybylski, A. K., Murayama, K., DeHaan, C. R., & Gladwell, V. (2013). Motivational, Emotional, and Behavioral Correlates of Fear of Missing Out. Computers in Human Behavior, 29(4): 1841-1848. https://doi.org/10.1016/j.chb.2013.02.014

Pulh, M. (2022). Differentiation Through the Over-Experientializa-

tion of Cultural Offers: The Case of Contemporary Music Festivals. International Journal of Arts Management, 24(2): 62-76.

Rashid, H. (2023). Collaborative Music Production via Live Streaming. IASPM Journal, 13(3): 66-75. https://doi.org/10.5429/2079-3871(2023)v13i3.6en

Rendell, J. (2021). Staying In, Rocking Out: Online Live Music Portal Shows During the Coronavirus Pandemic. Convergence, 27(4): 1092-1111. https://doi.org/10.1177/1354856520976451

Riches, G. (2012). 'Caught in a Mosh': Moshpit Culture, Extreme Metal Music, and the Reconceptualization of Leisure, Master's Thesis, University of Alberta, Alberta.

Riches, G. (2014). Distorted Riffs of Authenticity: The Production of Extreme Metal Music in Context of the Live Gig. In E. Forcier & T. Ravy (Eds.), Words, Worlds, Narratives: Transmedia and Immersion. Oxford: Inter-Disciplinary Press.

Riches, G., Lashua, B., & Spracklen, K. (2014). Female, Mosher, Transgressor: A 'Moshography' of Transgressive Practices within the Leeds Extreme Metal Scene. IASPM Journal, 4(1): 87-100. https://doi.org/10.5429/652

Riga, V. (2022). A Children's Festival During the COVID-19 Pandemic. European Journal of Education Studies, 9(5): 1-15. https://doi.org/10.46827/ejes.v9i5.4266

Schaap, J., Berghman, M., & Calkins, T. (2023). Attractive People Make Better Music? How Gender and Perceived Attractiveness Affect the Evaluation of Electronic Dance Music Artists. Empirical Studies of the Arts, 41(1): 284-303. https://doi.org/10.1177/02762374221118526

Schmidt, D. (2021). The Digital Revolution of the Music Industry and Its Emerging Future Trends, Master's Thesis, Nova School of Business and Economics, Lisbon.

Schulz, D. H. (2022). Expressing Identity, Experiencing Belonging, and Everyday Life in Heavy Metal Music, Doctoral Dissertation, University of Bradford, Bradford.

Sebele-Mpofu, F. Y. (2020). Saturation Controversy in Qualitative Research: Complexities and Underlying Assumptions. A Literature Review. Cogent Social Sciences, 6(1): 1838706. https://doi.org/10.1080/23311886.2020.1838706

Sher, S. T. H., & Su, N. M. (2023). From Screens to Projector, Wall, and TVs: Conceptualizing Livestreams as Design Material for Direct and Indirect Viewership Experiences. ACM on Human-Computer Interaction.

Simeonova, B., & Galliers, R. D. (2023). Power, Knowledge and Digitalization: A Qualitative Research Agenda. In B. Simeonova & R. D. Galliers (Eds.), Cambridge Handbook of Qualitative Digital Research. Cambridge: Cambridge University Press.

Simões, J. A., & Campos, R. (2017). Digital Media, Subcultural Activity and Youth Participation: The Cases of Protest Rap and Graffiti in Portugal. Journal of Youth Studies, 20(1): 16-31. https://doi.org/10.1080/13676261.2016.1166190

Sitaraman R. K. & Barton R. W. (2006). Method and Apparatus for Measuring Stream Availability, Quality and Performance. Google Patents.

Spracklen, K. (2015). Digital Leisure, the Internet and Popular Culture: Communities and Identities in a Digital Age. New York: Palgrave Macmillan.

Stevens, K. (2018). "You Had to Be There": Film Festival "Liveness" and the Digitally Connected Audience. In T. Jenkins (Ed.), International Film Festivals: Contemporary Cultures and History Beyond Cannes and Venice. London: I.B. Tauris.

Surmanski, T. C. (2016). Mosh Pits or Liability Pits: Criminal and Tortious Liability at Concerts. Cambridge Law Review, 1: 115-134.

Toy's Factory: https://www.toysfactory.co.jp/artist/babymetal/bio [Access Date: 26.09.2024]

Urquhart, C. (2013). Grounded Theory for Qualitative Research: A Practical Guide. London: Sage.

Vandenberg, F., Berghman, M., & Schaap, J. (2021). The 'Lonely Raver': Music Livestreams During COVID-19 as a Hotline to Collective Consciousness? European Societies, 23(sup1): S141-S152.

### The Investigation of Live Streaming Experience as a Digital Leisure Activity Through the Case of Hellfest

https://doi.org/10.1080/14616696.2020.1818271

Van Hemert, T., & Ellison, E. (2022). 'Punching Above Our Weight': Industry Visibility and Community Engagement in Rural and Regional Film Festivals. New Review of Film and Television Studies, 20(4): 522-545. https://doi.org/10.1080/17400309.2022.2122652

Van Winkle, C., & Bueddefeld, J. (2020). Information and Communication Technology in Event Management. In Z. Xiang, M. Fuchs, U. Gretzel, & W. Hopken (Eds.), Handbook of e-Tourism. Cham: Springer.

Venkatesh, V., Podoshen, J. S., Urbaniak, K., & Wallin, J. J. (2015). Eschewing Community: Black Metal. Journal of Community & Applied Social Psychology, 25(1): 66-81. https://doi.org/10.1002/casp.2197

Wallach, J., Berger, H. M., & Greene, P. D. (Eds.). (2011). Metal Rules the Globe: Heavy Metal Music Around the World. Durham: Duke University Press.

Wang, R., Codina, R., Sun, Y., & Ding, X. (2024). Experience, satisfaction and loyalty in the context of online music festivals in China. International Journal of Event and Festival Management, 15(2): 228-248. https://doi.org/10.1108/IJEFM-04-2023-0034

Wang, W. (2021). Standing In/Out: The Platformization of Tencent's TME Live in Post-Pandemic China. Perfect Beat, 21(1): 56-62. https://doi.org/10.1558/prbt.19293

Webster, E. (2014). Association of Independent Festivals Six-Year Report 2014. The Live Music Exchange. https://livemusicexchange.org/wp-content/uploads/AIF-2014-FINAL-FINAL-pdf [Access Date: 20.07.2024]

Weinstein, D. (2000). Heavy Metal: The Music and its Culture. New York: Da Capo Press.

Xu, Y. (2023). The Stylistic Significance of the "Hippie" Youth Subculture – Using the Woodstock Festival as a Case Study. Advances in Applied Sociology, 13(5): 410-421. https://doi.org/10.4236/aasoci.2023.135025

Zhao, S. (2022). Why Live Music Matters: Implications from Streaming Music Festivals in the Chinese Indie Music Scene. Cultural Sociology, 17: 457-475. https://doi.org/10.1177/17499755221125147

### Research Article

ROMAYA - Researches on Multidisiplinary Approaches 2024, 4(2): 88-97

ISSN:2791-9099

# Demographic Factors and Machine Learning Models in the Awareness and Experience of Using Artificial Intelligence Tool

Demografik Faktörler ve Makine Öğrenimi Modelleri ile Yapay Zeka Araçlarının Kullanım Bilinci ve Deneyimi

Özel Sebetci / Assoc. Prof. Dr.

Adnan Menderes University, Aydın Vocational School, Computer Technologies osebetci@adu.edu.tr

### **Abstract**

This study aims to analyze the awareness and experience of using artificial intelligence (AI) tools among different demographic groups across Turkey. The data collected through surveys were used to evaluate the impact of demographic variables such as age, gender, education level, and frequency of technology use on AI tools. The analyses conducted using correlation, regression, and machine learning models (Decision Trees, Random Forests, SVM, and LinearSVR) revealed that younger, educated, and frequent technology users are more familiar with Al tools. Additionally, tree-based models were found to perform better in predicting AI experience and awareness. These findings provide significant insights for the societal acceptance of AI tools and the broader dissemination of these technologies. Furthermore, targeted educational programs are necessary to bridge digital divides and ensure the effective use of AI technologies. The results of the study propose actionable strategies to enhance the effective utilization of AI tools in the digital transformation process.

**Keywords:** Artificial Intelligence (AI), Machine Learning Models, AI Awareness, AI Experience, Technology Usage.

**JEL Codes:** O33, D83, M15

### Özet

Bu çalışma, Türkiye genelinde farklı demografik grupların yapay zeka (YZ) araçları kullanım bilinci ve deneyimini analiz etmeyi amaçlamaktadır. Anket yoluyla elde edilen veriler, yaş, cinsiyet, eğitim seviyesi ve teknoloji kullanım sıklığı gibi demografik değişkenlerin YZ araçları üzerindeki etkisini değerlendirmek için kullanılmıştır. Korelasyon, regresyon ve makine öğrenimi modelleri (Karar Ağaçları, Rastgele Ormanlar, SVM ve LinearSVR) aracılığıyla gerçekleştirilen analizler, özellikle genç, eğitimli ve teknolojiyi sık kullanan bireylerin YZ araçlarına daha aşina olduklarını ortaya koymaktadır. Bunun yanı sıra, ağaç tabanlı modellerin, YZ deneyimi ve bilinci üzerine daha yüksek performans sergilediği belirlenmiştir. Bu bulgular, YZ araçlarının toplumsal kabulü ve bu teknolojilerin daha geniş kitlelere yayılması için önemli çıkarımlar sunmaktadır. Ayrıca, dijital eşitsizliklerin giderilmesi ve YZ teknolojilerinin etkin kullanımının sağlanması için daha hedefli eğitim programlarının geliştirilmesi gerekmektedir. Çalışmanın sonuçları, dijital dönüşüm sürecinde yapay zeka araçlarının etkin kullanımını artırmak için uygulanabilir stratejiler önermektedir.

**Anahtar Kelimeler:** Yapay Zeka (YZ), Makine Öğrenimi Modelleri, Yapay Zeka Bilinci, Yapay Zeka Deneyimi, Teknoloji Kullanımı.

**JEL Kodları:** O33, D83, M15

### Introduction

Artificial Intelligence (AI) has rapidly evolved into a field of technology that drives revolutionary changes across various industries in recent years. Al tools are employed to solve complex problems, enhance efficiency, and offer innovative solutions across diverse sectors. These tools are not only prevalent in the technology industry but are also widely adopted in fields such as healthcare, education, finance, manufacturing, and even creative industries. The swift proliferation of AI tools has underscored the necessity for both individuals and institutions to understand and effectively utilize this technology.

# The Importance and Prevalence of Artificial Intelligence Tools

The advancement of AI has gained momentum, particularly with the progress in technologies such as big data, machine learning, natural language processing, and image processing. These technologies have the capacity to process large amounts of data, perform complex modeling, and carry out tasks that resemble human abilities. For instance, chatbots like Google's Bard or OpenAI's ChatGPT can communicate effectively with humans and provide customized solutions based on users' needs, thanks to their natural language processing capabilities.

Another significant reason for the widespread adoption of AI tools is the increased ease of use and accessibility of these technologies. AI applications, which traditionally required high levels of technical expertise, are now more accessible to a broader audience due to user-friendly interfaces and cloud-based services. For example, tools like Midjourney or Capcut enable users to create visual and video content quickly and easily. Such tools are particularly popular among content creators, marketing professionals, and small businesses.

# The Impact of Demographic Factors on the Use of Al Tools

The broad usage of AI tools raises questions about how this technology is perceived and utilized by different segments of society. Demographic factors play a significant role in the adoption and usage patterns of AI tools. Factors such as age, gender, education level, profession, and exposure to technology can influence how individuals use AI tools and their awareness levels regarding these tools.

Research indicates that individuals with greater exposure to technology, particularly younger people and those with higher education levels, tend to be more aware of Al tools and use them more frequently. Additionally, there are variations among different occupational groups. For instance, individuals

working in technical professions, such as software developers and data scientists, are generally more proficient with AI tools, while those in less technical occupations may be less familiar with these tools.

### **Purpose and Significance of the Study**

This study aims to examine the frequency of use and awareness levels of AI tools among various demographic groups in Turkey. The data obtained through surveys were used to assess the awareness of AI tools and how frequently these tools are used by different demographic groups. This study provides a significant contribution to understanding how demographic factors influence the use of AI tools.

Understanding the impact of AI on society is crucial for ensuring the broader dissemination of this technology and making it more accessible to everyone. The findings of this study will offer valuable insights for educational programs, policymakers, and technology developers to promote and disseminate AI tools more effectively.

### **Literature Review**

### **Artificial Intelligence and Society**

Artificial Intelligence (AI) technologies have profound effects on various aspects of societal structures and individual lives. The development and widespread adoption of AI, especially in the past decade, have been at the core of digital transformation, leading to revolutionary changes in many industries. Studies on the societal impacts of AI emphasize that it should be considered not only as a technological innovation but also as a phenomenon with social, ethical, and economic consequences (Eynon & Geniets, 2021; Zuboff, 2019; Brynjolfsson & McAfee, 2021).

Research on the societal impacts of AI examines how this technology shapes human behavior, business practices, and decision-making processes. For example, a study by Brynjolfsson and McAfee (2014) addressed the effects of AI on the labor market, highlighting that while AI could lead to job losses, it also has the potential to create new job opportunities. Similarly, Ford (2015) pointed out that AI could exacerbate income inequality, with significant implications for social justice and balance.

# The Impact of Demographic Factors on Technology Usage

The impact of demographic factors on technology usage is emerging as an important area of research in the adoption processes of information technologies and AI. Venkatesh and Davis (2000) developed the Technology Acceptance Model (TAM), pro-

Demographic Factors and Machine Learning Models in the Awareness and Experience of Using Artificial Intelligence Tools

viding a crucial framework for understanding users' behavior in adopting and using technology. This model suggests that factors such as perceived ease of use and perceived usefulness directly influence technology usage.

Studies on technology acceptance have also examined the role of demographic factors in this process. For instance, Compeau and Higgins (1995) demonstrated that individuals' perceptions of self-efficacy in using technology are significant determinants of technology usage and that these perceptions vary according to factors such as gender, age, and education level. Research on gender differences has shown that women may generally be more hesitant to adopt technology, but this gap tends to narrow with higher education levels.

# Usage and Awareness Levels of Artificial Intelligence Tools

The frequency of usage and awareness levels of Al tools are critical in understanding to what extent individuals have adopted and can effectively use these technologies. Studies show that younger generations and individuals with higher exposure to technology use Al tools more widely and effectively. For instance, a study by Çelik and Şahin (2020) found that university students are more knowledgeable about Al tools and use these tools more frequently in their daily lives.

On the other hand, differences among occupational groups are also notable. Individuals working in technical professions, such as software developers and data analysts, are generally more proficient with Al tools, while those in less technical occupations may be less familiar with these tools. A study explaining this situation emphasizes that Al tools often require technical knowledge, making certain occupational groups more advantageous in using these tools (Zhao, 2021; Davenport & Ronanki, 2018; Acemoglu & Restrepo, 2020).

### **Education and Artificial Intelligence Awareness**

Education significantly impacts individuals' awareness of AI tools and their ability to use these tools effectively. Numerous studies have emphasized that individuals with higher education levels, particularly university graduates, possess more knowledge about AI technologies and use them more effectively. Hargittai and Hinnant (2008) explained this by noting that educated individuals can more easily learn and apply information technologies.

Moreover, the integration of AI technologies into educational curricula allows students to become familiar with these technologies and use them effectively in their future careers. This is especially relevant

for students in STEM (Science, Technology, Engineering, Mathematics) fields. STEM education enhances students' analytical thinking, problem-solving, and adaptability to technological innovations, providing an advantage in using Al tools (Wai, 2021; Holmes, 2020; Luckin et al., 2016).

# Frequency of Technology Usage and Artificial Intelligence Awareness

The level of exposure to technology directly affects the awareness of Al tools. Research indicates a direct relationship between the frequency of technology usage and individuals' knowledge about Al tools. Particularly the younger generations, often referred to as digital natives, are more exposed to digital technologies, increasing their familiarity with Al tools. Prensky (2001) suggested that digital natives develop an inherent affinity for technology, enabling them to adapt more quickly to advanced technologies like Al.

This relationship between the frequency of technology usage and AI tool awareness is also related to the concept of the digital divide. The digital divide refers to disparities in access to and usage of technology within society, affecting individuals' access to information technologies and AI. DiMaggio and Hargittai (2001) emphasized that the digital divide poses a significant barrier, especially for individuals living in rural areas, older adults, and those with lower education levels.

### Methodology

### Research Design

This study was designed to examine the frequency of use of artificial intelligence (AI) tools and the levels of awareness regarding these tools within various demographic factors. The study adopted a descriptive research approach, utilizing quantitative data collection methods. Descriptive research aims to define a particular phenomenon or condition as it exists and identify the factors related to this condition (Creswell, 2014). In this study, the relationship between the use and awareness levels of AI tools and demographic variables was investigated.

### **Participants**

The research was conducted among individuals across Turkey from various age groups, genders, education levels, and occupational groups. A total of 1,022 participants completed the online survey. Participation was voluntary, and the principle of anonymity was maintained throughout the data collection process. Participants' ages ranged from 18 to 65+, and their education levels varied from elementary to doctoral degrees. The occupational groups inclu-

### Özel Sebetci

ded a diverse array of professions such as software developers, academics, public sector employees, students, engineers, and artists. This broad participant profile was used to compare the awareness and usage frequency of AI tools across different demographic groups.

#### **Data Collection Instruments**

A structured questionnaire was used as the data collection instrument. The survey was designed to measure participants' demographic information, frequency of technology use, awareness of Al tools, and experiences with these tools. The content of the questionnaire consisted of the following sections:

Demographic Information: Collected data on participants' age, gender, education level, and occupation.

Technology Usage Frequency: Measured participants' frequency of exposure to technology using a four-point scale: "Rarely," "Occasionally," "Often," and "Very Often."

Awareness and Usage of AI Tools: Asked participants if they were aware of specific AI tools and how frequently they used these tools. This section listed various AI tools, including chatbots, image and video processing tools, and software development tools.

Previous Experience with Al Tools: Measured participants' prior experience with these tools using a four-point scale: "No Experience," "Some Experience," "Experienced," and "Expert."

### Al Tools Included in the Study

Chatbots: Examples include Google Bard, Bing Al, ChatGPT.

Image and Video Creation Tools: Examples include Midjourney, Capcut, Civitai, Hotpot.ai.

Image and Video Processing Tools: Examples include Photoroom.

Software Development Tools: Examples include Git-Hub Copilot.

Data Analysis and Statistical Tools: Examples include Hugging Face, Neuraltext, Prisync.

Design Tools: Examples include Brandmark.io, Beautiful.ai.

Automated Translation Services: Examples include Google Translate.

Recommendation Systems: Examples include Netflix, Amazon recommendations.

Image and Voice Recognition Systems: Tools used for device activation and management, such as facial recognition software and voice command systems.

Personalized News Feeds: Examples include social media feeds.

Educational and Learning Platforms: Examples inc-

lude Coursera, Khan Academy.

Automation and Control Systems: Examples include Robotic Process Automation (RPA), Autonomous Vehicles.

The questionnaire design emphasized the use of clear and straightforward language to ensure participants provided accurate information.

### **Data Collection Process**

The data collection process was conducted online during the first quarter of 2024. The survey was distributed through social media platforms, email lists, and various online communities. The online survey method allowed for a wide reach and enabled participants to complete the survey at their convenience (Dillman, Smyth & Christian, 2014). Participants voluntarily provided data, and anonymity was guaranteed. The confidentiality of participants' personal information was maintained, and the collected data was used solely for research purposes. At the end of the data collection process, 1,022 valid survey forms were obtained.

### **Data Analysis**

The collected data was analyzed using statistical analysis software such as SPSS and Python. Initially, descriptive statistics were employed to examine the relationships between demographic data and Al tool awareness. Basic statistical measures such as frequency distributions, means, and standard deviations were used to understand the general structure of the data.

Subsequently, various statistical analyses were performed on the dataset:

Correlation Analysis: A correlation analysis was conducted to measure the relationship between demographic variables and AI tool awareness. This analysis was used to determine the impact of variables such as age, gender, education level, and technology usage frequency on AI tool awareness.

Cluster Analysis: Cluster analysis was performed to group users based on similar AI tool awareness and usage habits. Using the K-means algorithm, users were divided into four distinct clusters.

Regression Analysis: Regression analysis was conducted to identify the factors influencing AI tool awareness. This analysis aimed to determine which demographic factors had the strongest impact on AI tool awareness.

During all analyses, the findings were evaluated based on significance levels, and cross-checks were performed to ensure the validity of the results. The normality of the data distribution was checked using normality tests, and data transformations were applied as necessary.

### Demographic Factors and Machine Learning Models in the Awareness and Experience of Using Artificial Intelligence Tools

#### **Ethical Considerations**

This study adhered to the principles of research ethics rigorously. Participants were provided with a clear explanation of the study's purpose, and their voluntary participation was ensured. The confidentiality of participants' personal information was protected, and the data collected was used solely for the purposes of this research. All relevant ethical guidelines and standards were meticulously followed during the research process (APA, 2010).

### **Results**

### The Relationship Between Demographic Variables and Al Tool Awareness

A correlation analysis was conducted to understand the relationship between demographic variables such as age, gender, education level, and occupation and the awareness of artificial intelligence (AI) tools. The correlation matrix illustrates the direction and strength of the relationship between different demographic variables and AI tool awareness.

Demographic Information: The table below shows the demographic distribution of individuals who participated in the study. This demographic diversity is important for understanding how AI tool awareness varies across different groups.

T     4	<b>D</b>	I . D	4	(D
Table I.	Demograp	nic Distr	ibution (	of Participants

<b>Demographic</b> Information	Category	Number of Participants	Percentage (%)
	18-24	254	24.9
Age	25-34	311	30.4
	35-44	228	22.3
Š	45-54	156	15.3
	55-64	59	5.8
	65+	14	1.4
Gender	Female	520	50.9
Gen	Male	502	49.1

	Elementary School	58	5.7
Education Level	Middle School	102	10.0
	High School	225	22.0
	University	392	38.4
	Master's Degree	165	16.1
	PhD	80	7.8
Occupation	Software Developer	207	20.3
	Academic	153	15.0
	Public Sector	211	20.6
	Student	183	17.9
	Engineer	120	11.7
	Other	148	14.5
Technology Usage Frequency	Rarely (1)	89	8.7
	Occasionally (2)	215	21.0
	Often (3)	357	35.0
	Very Often (4)	361	35.3

### **Correlation and Regression Analysis:**

According to the correlation analysis, the variables of technology usage frequency and previous experience with AI tools have the strongest positive impact on AI tool awareness. On the other hand, a negative relationship was found between age and AI tool awareness, indicating that awareness of AI tools decreases with age.



Figure 1 Correlation Matrix Between Demographic Variables and Al Tool Awareness

### Özel Sebetci

The correlation matrix shows that technology usage frequency and previous experience with AI tools significantly increase awareness of these technologies. Additionally, education level also influences familiarity with certain AI tools, although this effect is not as strong as that of technology usage frequency.

The table below shows the cross-validation results of the regression models developed for AI experience and AI awareness.

Table 2. Cross-Validation Results of Regression Models on AI Experience and AI Awareness

Model	Mean R² Score	Standard Deviation
Al Experience (Regression)	0.1785	0.0388
Al Awareness (Regression)	0.5257	0.0444

The AI Experience (Regression) model demonstrated low explanatory power, with a mean R² score of 0.1785 and a standard deviation of 0.0388. In contrast, the AI Awareness (Regression) model showed higher explanatory power, with a mean R² score of 0.5257 and a standard deviation of 0.0444. These results indicate that the model focused on AI awareness performs better than the one focused on AI experience.

## Awareness Levels and Usage Trends of Al Tools

The study analyzed awareness levels and usage trends of different AI tools. The analysis focused on how well various AI tools are known and which demographic groups are more familiar with these tools.

Awareness by Application Area: The data indicate that AI tools such as chatbots and automated translation services are among the most well-known. Conversely, tools like data analysis and statistical tools, as well as automation and control systems, are less widely recognized.

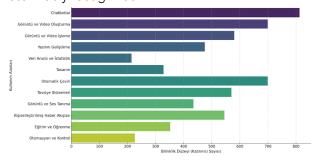


Figure 2. Awareness Levels of AI Tools by Application Area

As shown in the figure, chatbots and automated translation services are among the most well-known Al tools, while data analysis and statistical tools and automation and control systems have lower levels of awareness. These results suggest that awareness of Al tools is particularly high for more common and user-friendly tools, but lower for tools requiring more specialized and technical knowledge.

### Relationship Between User Profiles and Al Tools

Through cluster analysis, users were categorized into four distinct groups based on their awareness of AI tools. These clusters reveal which AI tools specific demographic profiles are more familiar with and how frequently they use these tools.

Cluster Analysis: The cluster analysis identified four different user groups based on AI tool awareness. Cluster 2 represents users with high awareness levels, while Clusters 0 and 3 include users with lower awareness levels. Cluster 1 represents a group with moderate awareness, particularly for certain tools.

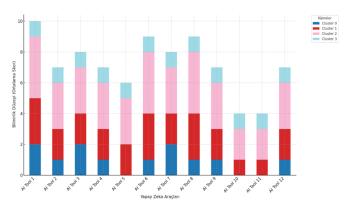


Figure 3. Al Tool Awareness Levels by User Profiles

### **Regression Analysis**

Regression analysis was conducted to determine the impact of demographic factors on AI tool awareness. The results indicate that the frequency of technology use and previous experience with AI tools have the strongest positive effects on awareness. The regression model considered AI tool awareness as the dependent variable and demographic factors as independent variables. The results show that Technology Use (1.4611) and Experience (1.8179) variables have a positive and significant impact on awareness. Conversely, Age (-0.2403) has a negative impact, indicating that as age increases, awareness of AI tools decreases.

Demographic Factors and Machine Learning Models in the Awareness and Experience of Using Artificial Intelligence Tools

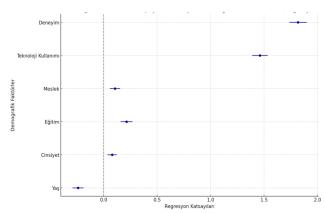


Figure 4. The Impact of Demographic Factors on Al Tool Awareness (Regression Analysis)

In Figure 4, the impact of various demographic factors on AI tool awareness is illustrated. Technology Use (1.4611) and Experience (1.8179) emerge as the factors with the most significant positive effects, showing that these factors significantly enhance AI tool awareness. Age, with a negative coefficient (-0.2403), indicates that AI tool awareness decreases as age increases. Gender, Education, and Occupation also have positive effects but are less influential.

### **Conclusion and Discussion**

The Impact of Demographic Factors on the Use of Al Tools

The findings of this study clearly demonstrate the influence of demographic factors on AI tool awareness and usage. Factors such as age, gender, education level, and frequency of technology use play a significant role in determining the awareness of AI tools.

The negative impact of age on AI tool awareness is a finding frequently encountered in the literature. For example, McMurtrey et al. (2012) noted that younger generations have a higher affinity for technology and therefore adapt more quickly to advanced technologies. Similarly, this study found that younger age groups are more knowledgeable about and more likely to use AI tools. This suggests that younger generations, often referred to as digital natives, are more naturally inclined to adopt technology and integrate AI tools into their daily lives (Prensky, 2001). Education level also emerged as an important determinant. It was observed that individuals with higher education levels, particularly those with university degrees or higher, are more knowledgeable about AI tools and use them more effectively. This finding indicates that a certain level of knowledge is necessary to understand the complex nature of Al and use it effectively. As Hargittai (2010) suggested, as education levels increase, individuals' confidence in and usage of information technologies also rise.

The frequency of technology use had one of the

strongest positive effects on AI tool awareness. This suggests that individuals who are more frequently exposed to technology are better acquainted with and more likely to use AI tools. The impact of technology usage frequency on AI tools highlights the critical role of digital literacy and familiarity with technology in the adoption of such tools (van Deursen & van Dijk, 2014).

### Awareness and Usage Trends of AI Tools

Another significant finding of the study is the analysis of awareness levels and usage trends of different AI tools. These findings indicate that more commonly used tools, such as chatbots and automated translation services, have high awareness levels among participants. In contrast, more technical and specialized tools, such as data analysis and statistical tools, were found to have lower awareness levels.

This distinction helps us understand which AI tools are more widely adopted during the dissemination of AI technologies and which tools require more education and awareness. Chatbots, with their user-friendly interfaces and wide range of applications (e.g., customer service, personal assistants), stand out as accessible AI tools for everyone. Various studies have emphasized that the increasing adoption of chatbots in daily life and the positive impact on user experience have contributed to their growing popularity (Brandtzaeg & Følstad, 2017).

On the other hand, the lower awareness of data analysis and statistical tools can be attributed to the fact that these tools require more advanced technical knowledge and are generally preferred by professional users. These tools are used for complex processes such as big data analytics and machine learning, making them harder for a broad audience to understand and use. Floridi (2014) noted that familiarity with the technical and theoretical foundations of Al is key to effectively using such tools.

Another finding regarding AI tool usage trends is that users typically choose these tools for specific purposes and according to their needs. For instance, automated translation services provide a quick and practical solution for overcoming language barriers. The widespread use of these services is directly proportional to the increasing need for communication in different languages in a globalized world (Specia et al., 2018).

Similarly, recommendation systems (e.g., Netflix and Amazon recommendations) help users better understand their preferences and provide a personalized experience by offering content tailored to their interests. The widespread use of such systems increases user satisfaction and strengthens user engagement with the platforms (Gomez-Uribe & Hunt, 2016).

# Performance Analysis on AI Experience and Awareness Using Machine Learning Models

The study also examined the performance of various machine learning models in evaluating AI experience and awareness. Models such as Decision Trees, Random Forests, Support Vector Machines (SVM), and Linear Support Vector Regression (LinearSVR) were compared, and their effects on AI experience and awareness were measured.

Tree-based models, such as Decision Trees and Random Forests, are capable of capturing variances and complex relationships within the data set more effectively. These models are particularly effective in high-dimensional data sets and situations with numerous independent variables (Breiman, 2001). In this study, the Decision Trees model provided very high R² scores for Al experience and awareness; however, it was observed that this high performance also carried the risk of overfitting. This means that while the model learns the patterns in the training data very well, it may not maintain this performance on new data (Hastie, Tibshirani, & Friedman, 2009).

The Random Forests model, on the other hand, provided more generalized and stable results compared to Decision Trees. Because this model is composed of multiple decision trees working together, it minimizes the errors of individual trees, resulting in a more robust prediction structure (Liaw & Wiener, 2002). In the study, Random Forests showed high performance in Al awareness, providing the most reliable prediction results compared to other models.

Support Vector Machines (SVM) and Linear Support Vector Regression (LinearSVR) have the capacity to model nonlinear relationships and can be particularly effective when working with complex data structures (Cortes & Vapnik, 1995). However, these models performed lower in AI experience and awareness compared to the tree-based models. The SVM and LinearSVR models showed lower R² scores, particularly when the data set was far from being linear. This is due to the limited linear relationships in AI-related data (Smola & Schölkopf, 2004).

This analysis using machine learning models helps us understand which model performs better with which type of data. While Decision Trees and Random Forests offer effective tools for modeling complex and multidimensional concepts such as AI experience and awareness, SVM and LinearSVR models may be more suitable for specific scenarios. These findings are critical in determining which model is more appropriate for analyzing the adoption of AI tools and measuring experience with these tools.

### General Evaluation of Findings and Future Research

The findings of this study highlight the importance of demographic factors and the frequency of exposure to technology in the use of AI tools. It was found that younger generations, individuals with higher education levels, and those who use technology more frequently are more knowledgeable about AI tools and use them more often. These findings suggest the need to increase technological literacy and digital participation. In particular, the conscious and effective use of AI tools should be encouraged among older age groups and individuals with lower education levels. This is important for reducing digital inequalities and ensuring that everyone benefits equally from these technologies (van Dijk, 2020).

Furthermore, it was found that there are differences in the usage of various AI tools. While user-friendly and widely used tools such as chatbots and automated translation services are known by a broad audience, more technical applications like data analysis and statistical tools are known by fewer people. These findings help us understand the adoption process of AI in different areas. Future research could explore which strategies are effective for the adoption of these tools and which educational methods could increase the use of these technologies.

The analyses conducted with machine learning models evaluated the performance of different models on AI experience and awareness. It was found that tree-based models, especially in high-dimensional and complex data sets, perform better, while linear models performed worse. These findings help us understand which techniques are more suitable for modeling multidimensional concepts such as AI experience and awareness. In the future, further development and testing of these models with more data could provide deeper insights into the adoption of AI tools.

### Societal Implications of the Findings

This research offers important societal implications by examining the impact of demographic factors on Al tool awareness and experience. The finding that younger generations and educated individuals are more knowledgeable about Al tools and use them more frequently plays a critical role in societal digital transformation processes. This finding underscores the advantages that young and highly educated individuals have in accessing and adopting technology.

However, this also suggests that digital inequalities could deepen for older individuals and those with lower education levels. Increasing awareness and Demographic Factors and Machine Learning Models in the Awareness and Experience of Using Artificial Intelligence Tools

competence in AI tools is important for addressing these inequalities. Targeted educational programs for older adults and individuals with lower education levels could accelerate their integration into the digital world. This would ensure that the benefits of AI tools are equally available to the entire society.

The widespread use of AI tools in daily life could also lead to significant changes in the labor market. Particularly, the automation of routine tasks could reduce the importance of certain job categories, while increasing the demand for jobs that require new skills related to AI. Therefore, the labor market must adapt to this transformation, and continuous education and professional development programs are needed to help individuals acquire new skills. This study offers important insights for policymakers and educational institutions to increase the societal acceptance of AI technologies and ensure their effective adoption.

### Limitations of the Research

While the findings of this study provide important insights, several limitations should be considered. First, the data collection process was conducted through online surveys, which may have excluded individuals who do not have digital access or do not frequently use digital platforms. This could affect the demographic structure of the sample and limit the generalizability of the findings.

Second, the machine learning models used in the study have certain assumptions and technical limitations. For example, the Decision Trees model tends to overfit, while the SVM and LinearSVR models may not fully capture nonlinear relationships. Additionally, the performance of these models can vary depending on the size and structure of the data set. Therefore, the findings of this study could yield different results when different data sets or modeling techniques are used.

Third, the cross-validation results of the research were obtained using a specific data set. Further advanced analyses using broader and more diverse demographic groups could better evaluate the robustness and generalizability of these findings. Moreover, cultural factors are known to play an important role in research on the societal acceptance of AI tools. The findings of this study, conducted specifically in Turkey, may differ in similar studies conducted in different cultural contexts.

Finally, the study focused only on specific AI tools. Broader research on the applications of AI in different fields and their societal impacts is needed. This would help us better understand the effects of emerging AI technologies on society and their adoption processes.

#### References

Acemoglu, D., & Restrepo, P. (2020). Robots and jobs: Evidence from US labor markets. Journal of Political Economy, 128(6), 2188-2244.

APA (2010). "Publication Manual of the American Psychological Association." American Psychological Association.

Bird, S., Menzies, T., & Zimmermann, T. (2020). "The art and science of analyzing software data." Morgan Kaufmann.

Bostrom, N., & Yudkowsky, E. (2014). "The ethics of artificial intelligence." In Cambridge Handbook of Artificial Intelligence, 316-334.

Brandtzaeg, P. B., & Følstad, A. (2017). Why people use chatbots. International Conference on Internet Science. Springer, Cham.

Breiman, L. (2001). Random forests. Machine Learning, 45(1), 5-32.

Brynjolfsson, E., & McAfee, A. (2014). "The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies." W.W. Norton & Company.

Brynjolfsson, E., & McAfee, A. (2021). The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies. W.W. Norton & Company.

Brynjolfsson, E., Rock, D., & Syverson, C. (2018). "Artificial intelligence and the modern productivity paradox: A clash of expectations and statistics." National Bureau of Economic Research.

Brynjolfsson, E., Rock, D., & Syverson, C. (2021). "The Productivity J-Curve: How Intangibles Complement General Purpose Technologies." American Economic Journal: Macroeconomics, 13(1), 333-372.

Bughin, J., Seong, J., Manyika, J., Chui, M., & Joshi, R. (2018). "Notes from the AI frontier: Modeling the impact of AI on the world economy." McKinsey Global Institute.

Cavallo, A., Ghezzi, A., & Balocco, R. (2020). "Artificial intelligence and innovation in the business context: Systematic literature review." Journal of Business Research, 115, 238-256.

Çelik, S., & Şahin, S. (2020). Artificial intelligence awareness among university students: The Turkish case. Journal of Educational Research and Reviews, 5(3), 45-57.

Choi, Y., Ganjigunte Ashok, V., & Pandey, G. (2021). "Artificial intelligence in data science: A survey and practice." Data Science and Engineering, 6(1), 1-15.

Compeau, D. R., & Higgins, C. A. (1995). "Computer Self-Efficacy: Development of a Measure and Initial Test." MIS Quarterly.

Cortes, C., & Vapnik, V. (1995). Support-vector networks. Machine Learning, 20(3), 273-297.

Creswell, J. W. (2014). "Research Design: Qualitative, Quantitative, and Mixed Methods Approaches." Sage Publications.

Davenport, T. H., & Kirby, J. (2016). "Only Humans Need Apply: Winners and Losers in the Age of Smart Machines." Harper Bu-

Davenport, T. H., & Ronanki, R. (2018). "Artificial intelligence for the real world." Harvard Business Review, 96(1), 108-116.

Dillman, D. A. (2000). "Mail and Internet Surveys: The Tailored Design Method." Wiley.

Dillman, D. A., Smyth, J. D., & Christian, L. M. (2014). "Internet, Phone, Mail, and Mixed-Mode Surveys: The Tailored Design Method." Wiley.

DiMaggio, P., & Hargittai, E. (2001). "From the 'Digital Divide' to 'Digital Inequality': Studying Internet Use as Penetration Increases." Princeton University Press.

Eynon, R., & Geniets, A. (2021). "The digital divide and social inequality in the AI era: How AI might widen the gap." AI & Society, 36(2), 395-402.

Floridi, L. (2014). "The fourth revolution: How the infosphere is reshaping human reality." Oxford University Press.

Ford, M. (2015). "Rise of the Robots: Technology and the Threat of a Jobless Future." Basic Books.

Friedman, D. (2022). "Enhancing software development with AI:

### Özel Sebetci

The case of GitHub Copilot." Journal of Software Engineering, 14(2), 125-137.

Gomez-Uribe, C. A., & Hunt, N. (2016). "The netflix recommender system: Algorithms, business value, and innovation." ACM Transactions on Management Information Systems (TMIS), 6(4), 13.

Hargittai, E. (2010). "Digital Na(t)ives? Variation in Internet Skills and Uses among Members of the 'Net Generation'." Sociological Inquiry, 80(1), 92-113.

Hargittai, E., & Hinnant, A. (2008). "Digital Inequality: Differences in Young Adults' Use of the Internet." Communication Research.

Hastie, T., Tibshirani, R., & Friedman, J. (2009). "The elements of statistical learning: data mining, inference, and prediction." Springer Science & Business Media.

Holmes, W. (2020). "Artificial intelligence in education: Promises and implications for teaching and learning." British Journal of Educational Technology, 51(5), 1356-1375.

Holmes, W., Bialik, M., & Fadel, C. (2021). "Artificial Intelligence in Education: Promises and Implications for Teaching and Learning." Center for Curriculum Redesign.

Johnson, A., & Wetzel, D. (2017). "Al for Earth: A Vision for the Future." Microsoft Research.

Liaw, A., & Wiener, M. (2002). "Classification and regression by randomForest." R news, 2(3), 18-22.

Luckin, R., Holmes, W., Griffiths, M., & Forcier, L. B. (2016). "Intelligence Unleashed: An Argument for Al in Education." Pearson.

McMurtrey, M. E., Downey, J. P., Zeltmann, S. M., & Friedman, W. H. (2012). "Critical skill sets of entry-level IT professionals: An empirical examination of perceptions from field personnel." Journal of Information Technology Education: Research, 11(1), 51-71.

Miles, M. B., & Huberman, A. M. (1994). "Qualitative Data Analysis: An Expanded Sourcebook." Sage Publications.

Mittelstadt, B. D., Allo, P., Taddeo, M., Wachter, S., & Floridi, L. (2016). "The ethics of algorithms: Mapping the debate." Big Data & Society, 3(2), 2053951716679679.

Obermeyer, Z., & Emanuel, E. J. (2016). "Predicting the Future—Big Data, Machine Learning, and Clinical Medicine." The New England Journal of Medicine.

O'Neil, C. (2016). "Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy." Crown Publishing Group.

Prensky, M. (2001). "Digital Natives, Digital Immigrants Part 1." On the Horizon, 9(5), 1-6.

Radford, A., Wu, J., Child, R., et al. (2019). "Language Models are Unsupervised Multitask Learners." OpenAI.

Rose, C. P., McLaughlin, M., & Hughes, R. (2021). "The Efficacy of Al-Powered Learning Systems in the Classroom: A Systematic Review." Computers & Education, 164, 104116.

Smola, A. J., & Schölkopf, B. (2004). "A tutorial on support vector regression." Statistics and computing, 14(3), 199-222.

Specia, L., Raj, D., Turchi, M., & Giampiccolo, D. (2018). Machine translation systems for real-time subtitling. Proceedings of the 11th International Conference on Language Resources and Evaluation (LREC 2018).

van Deursen, A. J. A. M., & van Dijk, J. A. G. M. (2014). "The digital divide shifts to differences in usage." New media & society, 16(3), 507-526.

van Dijk, J. A. G. M. (2020). The digital divide. Polity.

Venkatesh, V., & Davis, F. D. (2000). "A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Field Studies." Management Science.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). "User Acceptance of Information Technology: Toward a Unified View." MIS Quarterly.

Wai, J. (2021). "STEM education and the development of AI capabilities: How to prepare students for a world dominated by artificial intelligence." Educational Psychologist, 56(3), 215-230.

Wang, L., & Wang, L. (2021). "Artificial Intelligence and Content

Creation: How AI Tools are Revolutionizing the Creative Industry." Journal of Innovation and Entrepreneurship.

Westerman, G., Bonnet, D., & McAfee, A. (2014). "Leading Digital: Turning Technology into Business Transformation." Harvard Business Review Press.

Westerman, G., Bonnet, D., & McAfee, A. (2019). "Leading digital: Turning technology into business transformation." Harvard Business Review Press.

Williamson, B., & Eynon, R. (2020). "Historical threads, digital context: A history of learning analytics and the stakes of its past." British Journal of Educational Technology, 51(3), 1106-1123.

Zhao, H. (2021). "Artificial intelligence in the workplace: The role of AI skillsets in occupational performance." Journal of Occupational and Organizational Psychology, 94(3), 487-503.

Zuboff, S. (2019). "The age of surveillance capitalism: The fight for a human future at the new frontier of power." PublicAffairs.

### Research Article

ROMAYA - Researches on Multidisiplinary Approaches 2024, 4(2): 98-106

ISSN:2791-9099

# Qualitative Roles of Performance Appraisal Function in Human Resources Management from Employee Focus

İnsan Kaynakları Yönetiminde Performans Değerlendirme Fonksiyonunun Çalışan Odağından Niteliksel Rolleri

### Abdullah Türk / Asst. Prof. Dr. (D)



#### Abstract

Human resources management is the most important department in which the future situations of employees are dynamically planned, and task distribution and definitions are determined within the corporate relationship network. The task of career reconciliation between the organization and the employee, especially in changing sectoral dynamics The human resources management unit is responsible for optimizing the internal and external dynamics of the organization. Human resources management performs this compliance optimization with its sub-functions. In particular, the correct determination and determination of the current situation and future positions of the employees is also an indicator of output within the organization. At this point, the performance evaluation function of human resources management has an important responsibility in fulfilling this task. As the world progresses in change, the needs and expectations of employees are also changing. At this point, the task is not only to measure the employee's performance but also to put forward the arguments that increase that performance. Organizations in which only the institution's needs are prioritized in the modern organizational structure fail in the long run in terms of competition. Therefore, individuals' involvement in determining the targeted performance indicators can make serious contributions to achieving the targeted outputs. In this regard, performance evaluation is the value put forward to provide information infrastructure to many departments such as career, reward and wage, talent management, training, and development. In this context, the aim of the study is; It is to reveal qualitatively what kind of structural and employee-focus performance evaluation has. In this direction, semi-structured interviews were conducted with 10 white-collar "employee-managers" working at the

corporate level in different sectors, content analysis was made with the NVivo qualitative analysis program, the data were analyzed, and the relationship densities were transferred. Research results; Employee-level information on performance evaluation has revealed the importance of arrangements.

**Keywords:** Human Resources Management, Performance Appraisal, Employee Performance.

JEL Codes: M1,M12,M19,M54

### Özet

İnsan kaynakları departmanı, çalışanların kurumsal ilişki ağı içinde gelecek durumlarının dinamik olarak planlandığı, görev dağılımı ve tanımların belirlendiği en önemli departmandır. Özellikle değişen sektörel dinamiklerde örgüt-çalışan arası kariyer uyumlaştırma görevi İnsan kaynakları yönetimi birimi örgüt içi dinamikler ile örgüt dışı dinamikleri optimize etme sorumluluğu taşımaktadır. İnsan kaynakları yönetimi bu uyum optimizasyonunu alt fonksiyonları ile yapmaktadır. Özellikle çalışanların mevcut durumu ve gelecekteki pozisyonlarının doğru tespit ve tayini aynı zamanda örgüt içinde bir çıktı göstergesi olmaktadır. Bu noktada insan kaynakları yönetimi performans değerlendirme fonksiyonun bu görevin yerine getirilmesinde önemli bir sorumluluk taşımaktadır. Dünya değişim içinde ilerlerken, çalışanların da ihtiyaçları beklentileri değişmektedir. Bu noktada görev salt çalışanın performans ölçümü değil aslında o performansı arttırıcı argümanları da ortaya koymayı kapsamaktadır. Modern örgüt yapısı içinde sadece kurumun ihtiyaçlarının öncelendiği organizasyonlar, rekabet açısından uzun vadede başarısız olmaktadır. Dolayısı ile hedeflenen performans göstergelerini belirlemede işi yapan bireylerin de süreç içinde yer alması hedeflenen çıktılara ulaşmak için ciddi katkılar sunabilir. Bu bakımdan performans değerlendirme; ortaya koyulan değerler, kariyer, ödül ve ücret, yetenek yönetimi, eğitim ve geliştirme gibi birçok departmana bilgi altyapısı sağlamaktadır. Bu bağlamda çalışmanın amacı; performans değerlendirmenin yapısal olarak, çalışan odağında nasıl bir karşılığının olduğunu niteliksel olarak ortaya koymaktır. Bu doğrultuda farklı sektörlerde kurumsal düzeyde çalışan 10 beyaz yakalı "çalışan-yönetici" ile yarı yapılandırılmış görüşmeler sağlanmış, NVivo nitel analiz programı ile içerik analizi yapılarak veriler analiz edilmiş, ilişki yoğunlukları aktarılmıştır. Araştırma sonuçları; performans değerlendirme ile ilgili çalışan düzeyli bilgilendirme düzenlmelerin önemini ortaya koymuştur.

**Anahtar Kelimeler:** İnsan Kaynakları Yönetimi, Performans Değerlendirme, Çalışan Performansı.

JEL Kodları: M1,M12,M19,M54

### Introduction

The human resources department is the most important department where the future status of employees within the corporate relationship network is dynamically planned and where the distribution of tasks and definitions is determined. The most important task of human resources managers is to achieve the optimum level of harmony between the organization and employees. Human resources management makes this harmony with its sub-functions. In particular, the correct determination and determination of the current status and future positions of employees is among the duties of the performance evaluation function. In this respect, the values revealed provide information infrastructure to many departments such as career, reward and wage, talent management, training, and development. Performance evaluation is a formal process for regularly reviewing and improving the organizational performance of employees (Homauni, 2018). Performance evaluation is an analysis of an employee's recent successes and failures, personal strengths and weaknesses, and suitability for promotion or further training (Mani, 2002). It is also a vital component of a broader set of human resource practices; it is the mechanism that assesses the extent to which each employee's daily performance is linked to the goals set by the organization (Coutts and Schneider, 2004). Defines performance evaluation as "a periodic or annual practice of evaluating and rating all employees of an organization on the results of performance based on job content, job requirements, and personal behavior in the position" (Alumni, 2015). In this respect, it is possible to evaluate performance evaluation as an impression of how to identify an employee's strengths and weaknesses and how to target how performance can be improved.

Evolutionary change represents an attempt to im-

prove aspects of the organization that lead to better performance and do not affect the fundamental nature of the work. In this respect, in terms of fundamental nature; performance evaluation is a key factor for developing an organization effectively and efficiently. Individual performance evaluation is very useful for the growth dynamics of the organization as a whole (Burke, 2008). Clifford (1999) in his research on the collective wisdom of the workforce said: "Today, faced with competitive pressures unimaginable to an earlier generation, managers need employees who think consistently and creatively about the needs of the organization, who are intrinsically motivated and have a deep sense of corporate stewardship. To achieve this, maximum attention must be paid to everyone's participation in corporate communication. Leaders and subordinates, questioners and answerers, all must begin to challenge themselves with a new level of self-awareness, candor, and responsibility. So, as managers, leaders, and boards of directors, we have to reveal how performance evaluation is perceived. This has two practical consequences, the first of which is that if employees are aware of the system by which they are measured and are satisfied and happy with it, the process can be closely monitored and continuity can be ensured through protection and improvement, and development efforts according to the period. The other consequence is that employees are not satisfied with the system. However, it seems that employees generally do not leave a job because of a poor performance evaluation tool. Rather, they leave because employers do not provide fair compensation and clear investment in career and advancement. Such departures can only be prevented through high-quality performance management (Verasai, 2021). Employee turnover resulting from such conditions can lead to the business cost of hiring and training new employees. A constantly changing workforce is a financial burden, and time is needed to recruit new people, during which time business tends to slow down. Despite the knowledge of all this, it will be seen that a scientific method based on efficiency does not work. Approximately 80 years ago, in Hawtworne's research, the foundations of human resource management were laid by revealing the effect of the manager's management style on the productivity of the employees and by recognizing the many factors that affect intrinsic motivation such as valuing people's participation. The second practical consequence is that an environment in which employees are not happy needs to be quickly designed and the system needs to be corrected from start to finish. These two practical results construct the purpose of this research. In this context, the study aims to qualitatively reveal how performance evaluation is structurally and employee-oriented. At this point, Mohrman (1989) reports that employees' participation in the process of performance evaluation positively affects their sense of justice, and their current performance, contributes to a clearer understanding of the future goals of the organization, and encourages employees to take more responsibility for development.

# Institutional Framework for Performance Appraisal in Human Resource Management

Businesses have objectives such as profitability, growth, and sustainability. These objectives are realized with the resources available to the enterprise. Businesses want to control themselves in various ways in a competitive environment. This attitude is almost characteristic of companies that are aware of their corporate value and want to have a say on a national or international scale. Businesses use many evaluation methods. They want to determine their financial position by making ratio analyses. It makes a strategic positioning by investigating its strengths and weaknesses with Swot analysis. They want to keep their finger on the pulse of their customers through marketing research. The structure of an organization is determined externally by technology, environment, the situation of customers, the position of competitors, and internally by the talent potential of employees (Karaxha, 2019). It is noteworthy that while most of the variables affecting the structural situation are outside the direct control of businesses, employees are within the sphere of control. In this respect, for a business, employees represent dynamic skills that can directly touch and influence the organizational structure. Currently, employees play a key role in increasing dynamic skills and having a positive impact on overall business performance. At this point, the most important feature of employees is their ability to influence the performance of the organization (Zahra et al., 2006). At this point, focusing on increasing the competence of employees and improving their performance will significantly affect the performance of the organization. From this point of view, businesses that make various evaluations for all stakeholders and resources need to build a valid system of performance evaluation. This is because performance evaluation plays a vital role in any organization to develop its employees as well as to ensure that succession planning is done and that it achieves its goal of maximizing corporate profit and wealth (Alumni, 2015). It is a formal process by which employees' work activities are regularly reviewed and evaluated (Parsa et al., 2013) and stands as a prerequisite for other activities such as feedback, reward and punishment, staff development, and training in organizations (Stewart and Brown, 2019). Performance evaluation as a human resource management function has many benefits. These include an increase in employee motivation through the feedback process, information about working conditions, and a wide range of other benefits such as encouraging strengths and improving weaknesses (Holt et al, 2007). In this respect, performance evaluation has the potential to increase employee motivation. Recognizing and rewarding employees' achievements creates an incentive for them to perform at a higher level. In particular, goal-setting and performance feedback processes can positively affect employees' commitment and motivation (Pechmann & Haase, 2021; Franco-Santos et al., 2020). Performance evaluations also provide an opportunity to learn about employees' expectations, fears, potentials, and goals. First, it links employee performance to the organizational mission. Second, it enables managers and employees to reflect on how the actions of other employees and external factors affect their performance. Third, it links the evaluation process to ongoing planning, budgeting, and decision-making. Therefore, a performance evaluation conducted within the framework of organizational goals can allocate effective use of resources, and goal revisions linked to processes of change (Levinson 1987). Performance evaluation is a fundamental part of the organization's evaluation system and the most important employee-based evaluation system. From a general framework, it is the only evaluation system in the business eco-system where resources are evaluated from various aspects and where emotions can be included in the evaluation with its intangible side. Since this study deals with the employees' approaches to the performance evaluation system, the study has been handled within the scope of the theory of sensory events. This theory provides insights into the performance evaluation process by addressing how work attitudes and behaviors emerge from emotions experienced in response to important work events (Weiss & Cropanzano, 1996). Since the research is an effort to demonstrate quality, the context of the work environment, the quality and structure of the resources used in doing their jobs, and the relationships within the work environment are not independent of this process when employees evaluate the system by which they are measured, it is aimed to create a deep foundation by utilizing social cognitive theory and theoretical communication competence to strengthen the conceptual and theoretical aspect of the study. Among these theories, social cognitive theory forms the basis of situated cognition and dual processing research (Elsbach et al., 2005; Evans, 2008). Social cognitive theory can be read in terms of schemas. The schemas referred to here are cognitive phenomena that cannot be directly measured but are inferred from employees' self-reports (Fiske and Taylor, 1991). These phenomena provide information about the level of resources available to do a job and the quality of workplace communication. This stage is related to situated cognition. In the dual process, it is related to the reactive aspect that develops in the process that the employee reveals during the evaluation phase.

These approaches, which are capable of providing information and insights about the climate in the work environment, are related to the comfort of the employee in doing his/her job. For example, in a work environment with noise and heat problems, how productive can a person working with old applications and machines be and how satisfied can he/ she be with the environment he/she is in? It would not be fair to hold the person responsible for his/her job performance here, and this would hurt the performance evaluation process (Verbos et al., 2013). At this point, the adequacy of the service provided, that is, the company's support for the employee's working environment, comes to the fore. Of course, the working environment is not the only variable that affects people's attitudes in the process. At this point, the people they work with are also important. The harmony between subordinate and superior relations and peer relations also has a serious role in the performance evaluation system in the eyes of the employee. In this respect, meetings and feedback sessions during performance evaluation processes provide a platform for brainstorming. Employees can develop new ideas to improve their performance and receive feedback from managers in this process. Such interactions encourage organizational innovation and allow employees to develop themselves (Camilleri, 2021). At this point, communication competence comes to the fore. This theory considers communication competence as a feature of the psychological climate of the organization. According to this theory, it emphasizes the harmony of the upward and downward flow of information within the organization (Senatra, 1980). The point of how performance evaluation is perceived can be good or bad. However, the goal for businesses is to get a good result. At this point, it is always preferred that employees' ideas are part of the solution. At this point, people's ideas are a component of the climate of the organization. This is, of course, important for an ecosystem that values what comes out of the employee's mouth and leads to improvement. Such a workplace encourages commitment through communication and can protect against alienation (Laabs, 1998). At this point, employees' participation in the performance evaluation process and the feedback they receive can have a significant impact on their job satisfaction and engagement. Moreover, employees' positive perceptions of the process may increase the perception of organizational support and motivation (Cuccurullo, et al., 2016). Much of the performance evaluation research has focused on the relationship between subordinates and superiors. Respectful interpersonal treatment is an important relational component of the evaluation process (Findley et al., 2000). It is a key element for ensuring transparency in the process and building trust among employees (Garengo, et al., 2021). A climate for positive coworker relationships is potentially a powerful aspect of social cognitions about an organizational environment. Positive relationships with coworkers can generate positive social capital (Baker and Dutton, 2007). Bettenhausen and Fedor (1997) showed that relationship quality among coworkers influences positive reactions to peer and upward evaluation (Verbos et al., 2013).

In Masood et al, (2023), employees expressed concerns about performance evaluation in terms of reward system, incentives for improvements, health support, performance bonuses, employee capacity building, professional training, performance-based evaluations, scientific performance evaluation parameters, and social activities with colleagues. It follows that a well-structured performance evaluation process encourages employees to understand the evaluation criteria and participate in the process. Transparent communication also allows employees to voice their concerns about the process, which contributes to increased organizational trust (Garengo, et al., 2021).

### Research Method

In this study, a qualitative research technique was used as the research method. Although there are many definitions of qualitative research, the most general definition is the holistic presentation of data collected through techniques such as observation, interview, and document analysis. In the study, the data obtained through the interview method were presented with the content analysis technique developed by Strauss and Corbin (1990). Thanks to this technique, the data were coded and categorized into themes. The main issue in content analysis is to select and categorize a small number of words that are critical for the subject from a large number of words in the answers given to open-ended questions (Miles & Huberman, 2015). NVivo 20 qualitative analysis software was used for the content analysis of the study research. Thanks to this analysis software, connections are made between the answers given by the participants, and the answers are made meaningful. All the data that emerged after the focus group interviews were coded in the first stage by reading the answers given by each participant in detail. In the second stage, the codes that create a meaningful whole among themselves are brought together and categories, i.e. themes, are determined. In the third stage, strategies for determining the validity and reliability of the research are created. In the fourth stage, the findings are defined and interpreted. The interview results were organized as texts and read one by one in detail for coding, and the meanings of each interview text such as words, sentences, or paragraphs were analyzed and coded. As a result of the coding process, the codes "Motivation", "Participation", "Brainstorm", "Career", "Support", "Feedback", "Commitment", "SatisQualitative Roles of Performance Appraisal Function in Human Resources Management from Employee Focus

faction" and "Alienation" emerged. While preparing the question set for this research, Dobbins et al. (1990) Employee performance evaluation scale, Clifford's (1999) "The Collective Wisdom of The Workforce" and (Verbos et al., 2013) "Employee social cognition and performance evaluation process reactions" were utilized.

## **Findings**

When we look at the person-based frequency of use of the codes obtained through the NVivo program, data that can be explained with the similarity of a heat density map were obtained. In this map, red colors are the codes that people never mention, yellow code is the most frequently mentioned code and green code density is the most frequently mentioned code. As a result of the Code-Based Frequency Analysis, it was understood that the codes were used with a total of 98 repetitions. The main purpose of document analysis is to emphasize the main theme variable that the related research focuses on. The most important feature of this finding is to reveal the key role in the study by utilizing the focus group experiences in which the interviews were conducted. We can also call this a phenomenon role. This finding conveys to us the intensity of common role emphasis among people who are independent of each other's thoughts. As a result of the Code-Based Frequency Analysis, it was seen that the motivation code was a phenomenon and each participant emphasized this code at least once. The phenomenon variable, which takes the leading role in the research, provides information about the conclusion reached by the relevant participants. Accordingly, performance evaluation for employees is characterized by motivation. The results of the document analysis are presented in Figure 1. Another finding obtained from the Nvivo program is the code relationship browser presented in Figure 2. This finding describes the relationship between the codes that stand out in the study.

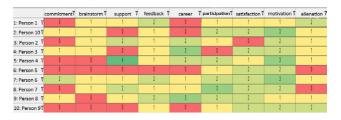


Figure 1. Code-Based Frequency Analysis

As a result of the analysis, the matrix in Figure 2 was obtained. The interaction between different codes was quantitatively transferred with the code relati-

onship scanner. At this point, the aim is to interpret the relationship link between the codes qualitatively and quantitatively. The correlations revealed the elements that the managers included in the study used in their evaluations. The purpose of the evaluation is to show the strong and weak correlations between the codes. According to this matrix, the first findings show that the most important dyadic relationship is between "Motivation" and "Satisfaction". At this point, revealing what the drivers of satisfaction are will be instructive for the internal variables of motivation. At this point, participation, which is used 15 times, and brainstorming, which is used 6 times; it has been understood that people's participation in the performance evaluation process is not only a physical effect but also mental, the communication process of their direct voices and ideas should be emphasized. At this point, the feedback code used 12 times, which is another of the providers of satisfaction, provides a different perspective on the subject and adds strength. All this relationship network intensity emphasizes the intrinsic side of motivation, which has non-material providers. This can be explained by commitment, which is in the relationship intensity with satisfaction 5 times. On the other hand, the code of support, which is a tangible reward, is associated with the code of career, which is used 12 times, emphasizing the extrinsic aspect of the motivator. As a result of the research, at the opposite end, when the variable that evaluators would emphasize if there were no motivators was examined, the only direct relationship of this variable was found to be alienation from work and task.

	commitment?	brainstorm 7	support 7	feedback 7	career 7	participation 7	satisfaction 7	motivation 7	alienation 7
commitment 1	5	0	0	1	0	2	5	3	0
brainstorm 7	0	6	- 1	0	0	3	0	1	0
support 7	0	0	11	0	4	1	1	3	. 0
feedback (	1	0	0	12	0	1	2	0	0
career 1	0	0	4	0	12	- 0	0	4	0
participation	2	3	1	1	0	15	8	7	. 0
satisfaction 1	5	0	1	2	0	8	16	10	0
motivation 7	3	1	3	0	4	1	10	21	1
alienation 7	0	0	- 0	0	0		0	1	- 10

Figure 2. Code Relationship Scanner

Another finding conveyed through the NVivo program is the word cloud analysis. Accordingly, the size, thickness, and color tones of the words in Figure 3 mean that they are used more frequently by the interviewed managers. In this context, the fact that the most frequently used concept with the concept of performance evaluation, which is the main subject of the study, is "motivation", as well as the frequency of use of concepts such as managers, sharing, goals and impacts, supports the fact that the interviewed group sees the meaning of performance evaluation for them as employees as a holistic inclusiveness for business goals.



Figure 3. Word Cloud

Another finding conveyed through the NVivo program is the single case model. The working principle of this model is designed to bring each participant together for each code. According to the model presented in Figure 4, the 10 managers who participated in the research answered the question of what kind of density would emerge as a case analysis if there were only one person. This spider web-like structure, which is presented in the figure below, represents the frequency of use of the arrows co-

ming out of the codes towards the codes in terms of number, and the intensity of the relationship of the interviewed focus group with the relevant code. At this point, it is seen that the codes with the most frequent arrow structure provide the model. The similarity and intensity of the sources of the motivation and satisfaction codes confirm the suitability of the scanner to a single case model, and the case relationship of the participation and feedback codes supports the model between motivation and satisfaction.

Every data set in this model is analyzed within a single structure. In contrast to frequency analysis based on codes, it compiles all participants into a single structure. A consistent coding association is revealed by the model after evaluating the response texts that were acquired from a single source. The weighted shared perspective of the group was revealed when all codes assigned during coding were assessed as though they were taken from a single text (Cevher, 2024).

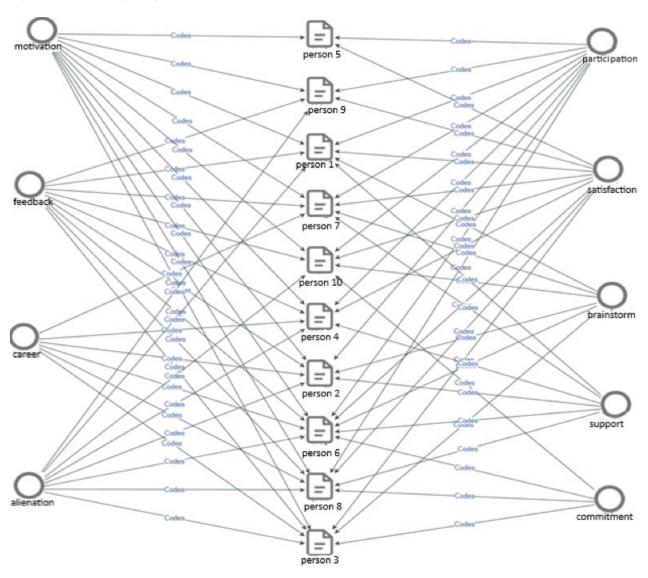


Figure 4. Single Case Model

#### **Discussion**

According to Tudor (2021), performance appraisal can increase employee motivation through the feedback process, provide an estimate of working conditions, and improve employee productivity by encouraging strengths and changing weaknesses. In addition, performance appraisal serves as an important transmission in the relationship between motivation and satisfaction. However, many organizations view performance appraisal as weak in meaning and inferior in importance (Homauni et al., 2018). However, as a critical function, performance appraisal has a wide range of effects from employee motivation to job satisfaction. Proper and fair management of these processes can increase employee loyalty to the organization and overall job satisfaction. Therefore, it is of great importance for organizations to design and implement performance systems meticulously. Homauni et al. (2018) reported that when managers are not involved in the performance appraisal process, feedback is excluded from the process, thus emphasizing the need for more involvement (Homauni et al., 2018). Indeed, Bloch et al. (2021) state that employee participation in performance appraisal processes strengthens employees' commitment to the organization and increases their job satisfaction (Bloch et al., 2021). Participation also allows employees to express themselves more and receive feedback that can contribute to their development. Idowu (2017) found that employees who provided information about performance appraisal targets were not well explained the process or even given feedback on performance, and attributed this to an inappropriate organizational climate or the questionable nature of the relationship between employees and managers. The study further emphasized the shortcomings of managers in designing performance appraisal indicators and pointed out that there is a capacity and competence problem for the role of managers in conducting appraisals. According to the study conducted by Longenecker (2017), the theme of how problems arise in employees who are away from the impact of performance appraisal was emphasized and it was pointed out that no matter how much organizational justice works, it cannot be checked whether the targeted results are achieved and as a result, even if an employee performs well, he/she cannot maintain or improve his/her performance because there is no feedback on this issue. At this point, it has been revealed that such negative experiences may cause employees to feel alienated from the organization, and unfair or inadequate feedback processes may make employees feel worthless, which may result in job dissatisfaction (Pechmann & Haase, 2021). On the other hand, a fair and transparent performance appraisal system increases employee loyalty and job satisfaction and reduces turnover (Franco-Santos et al., 2020). The most important premise here is feedback. Feed-

back, which is an important component of performance appraisal, helps employees understand their strengths and development areas. Effective feedback provides the necessary support for employees to improve themselves. When employees receive constructive criticism during the feedback process, it helps them improve their job performance (Dobija et al., 2019). Career planning sessions during performance appraisals, especially at the feedback point, allow employees to identify their long-term goals and take the necessary steps to achieve these goals. This process makes employees feel valuable and increases job satisfaction (Sheikh et al., 2022). Considering the results of the studies in the literature, the functionality of the performance appraisal process with the participation of employees affects many organizational outcomes such as increased or decreased motivation, commitment to the organization, job satisfaction, alienation level, feedback level, and effective communication. When evaluated from this point of view, the results of the research are consistent with the literature. The part where the research differs from other studies is that in many studies on performance appraisal, attention has been drawn to the problems and the hidden causes underlying these problems and the outcomes have been identified. At this point, literature focused on detection has been encountered. However, in this study, unlike other studies, suggestions for achieving a successful outcome in performance appraisal and impact roles are presented step by step.

## **Conclusion and Suggestion**

Human resources management can fully fulfill its mission with the harmonious functioning of many functions. The good functioning of the performance evaluation system within these functions can make the human resources department stand out as a business function. The harmony optimization and settings of this department, which has many sub-functions, become effective thanks to the feedback of the performance evaluation system. At this point, the realization of efficiency is only possible by responding quickly to the feedback. In this respect, the performance evaluation system is expected to be contemporary, accepted by employees, and supportive of productivity and motivation. The latent information revealed by the employees in this study is in line with the literature and is in harmony with many models proposed in this field.

The results of the research offer recommendations to both academic studies and the real sector at certain points. These recommendations are also within the scope of the results of the study. The research aimed to qualitatively reveal how the performance evaluation system is perceived by the employees. Accordingly, to achieve the desired motivation as a result of targeting, the fact that employees are in

a socially oriented communication network such as working environment, colleagueship, and subordinate-superior relations contributes to their satisfaction. However, when we look at the sub-variables that support satisfaction, more individual values come to the fore. At the beginning of these values, it is necessary to develop norms within the organization by asking employees to participate in the process, and asking them for their opinions about their work, if negativity occurs, it is necessary to develop norms within the organization by saying that "those who experience the solution of the problem best" can support the solution of the problem. At this point, participation is not only to participate in the process but also to take part in brainstorming practices while making new plans and taking action in the process. Of course, another variable that supports participation is feedback. All these variables invest in intrinsic motivation by making the employee feel valuable. Another result in the study is related to extrinsic motivation. At this point, employees who are supported especially in terms of economic conditions have more desire for career development and tend to invest in themselves. This means an intellectual capital contribution to the organization. Activating the variables underlying satisfaction also supports organizational commitment. This contribution is provided by the result of "alienation" obtained from the reverse question content. The practical model role of the study; supporting satisfaction for motivation, and preparing an environment suitable for participation for the construction of this satisfaction, as a result, it supports commitment at one end and shifts towards alienation at the other end.

#### References

Alumni Taskın, S. (2015). Value Based Performance Evaluation System: A Case Study From Brac Bank Limited. Clear International Journal of Research in Commerce & Management, 6(10).

Baker, W., & Dutton, J. E. (2007). Enabling positive social capital in organizations. Exploring Positive Relationships at Work: Building a theoretical and research foundation. Center for Positive Organizational Scholarship, 325345.

Bettenhausen, K. L., & Fedor, D. B. (1997). Peer and upward evaluations: A comparison of their benefits and problems. Group & Organization Management, 22(2), 236-263.

Bloch, C., Degn, L., Nygaard, S., & Haase, S. (2021). Does quality work work? A systematic review of academic literature on quality initiatives in higher education. Assessment & Evaluation in Higher Education, 46(5), 701-718. Burke, W. W. (2017). Organization change: Theory and practice. Sage publications.

Camilleri, M. A. (2021). The employees' state of mind during CO-VID-19: A self-determination theory perspective. Sustainability, 13(7), 3634.

Cevher, M. F. (2024). Tüketicilerin Online Alışveriş Platformlarından Satın Alma Niyetlerine Yönelik Nitel Bir Araştırma. Fiscaoeconomia, 8(2), 666-694.

Clifford, J. P. (1999). The collective wisdom of the workforce: Conversations with employees regarding performance evaluation. Public Personnel Management, 28(1), 119-155.

Coutts, L. M., & Schneider, F. W. (2004). Police officer performance evaluation systems: How good are they?. Policing: An Internatio-

nal Journal of Police Strategies & Management, 27(1), 67-81.

Cuccurullo, C., Aria, M., & Sarto, F. (2016). Foundations and trends in performance management. A twenty-five years bibliometric analysis in business and public administration domains. Scientometrics, 108, 595-611.

Dobbins, G. H., Cardy, R. L., & Platz-Vieno, S. J. (1990). A contingency approach to evaluation satisfaction: An initial investigation of the joint effects of organizational variables and evaluation characteristics. Journal of Management, 16(3), 619-632.

Dobija, D., Górska, A. M., Grossi, G., & Strzelczyk, W. (2019). Rational and symbolic uses of performance measurement: Experiences from Polish universities. Accounting, Auditing & Accountability Journal, 32(3), 750-781.

Dutton, J. E., & Ragins, B. R. (Eds.). (2017). Exploring positive relationships at work: Building a theoretical and research foundation. Psychology Press.

Elsbach, K. D., Barr, P. S., & Hargadon, A. B. (2005). Identifying situated cognition in organizations. Organization Science, 16(4), 422-433.

Evans, J. S. B. (2008). Dual-processing accounts of reasoning, judgment, and social cognition. Annu. Rev. Psychol., 59, 255-278.

Findley, H. M., Giles, W. F., & Mossholder, K. W. (2000). Performance evaluation process and system facets: Relationships with contextual performance. Journal of applied psychology, 85(4), 634.

Fiske, S. T., & Taylor, S. E. (1991). Social cognition. Mcgraw-Hill Book Company.

Fried, Y., Levi, A. S., Ben®David, H. A., & Tiegs, R. B. (1999). Inflation of subordinates' performance ratings: Main and interactive effects of rater negative affectivity, documentation of work behavior, and evaluation visibility. Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior, 20(4), 431-444.

Franco®Santos, M., Kennerley, M., Micheli, P., Martinez, V., Mason, S., Marr, B., ... & Neely, A. (2007). Towards a definition of a business performance measurement system. International journal of operations & production management, 27(8), 784-801.

Garengo, P., Sardi, A., & Nudurupati, S. S. (2021). Human resource management (HRM) in the performance measurement and management (PMM) domain: a bibliometric review. International Journal of Productivity and Performance Management, 71(7), 3056-3077

Holt, D. T., Armenakis, A. A., Feild, H. S., & Harris, S. G. (2007). Readiness for organizational change: The systematic development of a scale. The Journal of applied behavioral science, 43(2), 232-255

Homauni, A., Mosadeghrad, A. M., & Jaafaripooyan, E. (2021). The effectiveness of employee performance evaluation system in health sector: Evidence from Iranian organizations. Asia Pacific Journal of Health Management, 16(4), 36-44.

Idowu, A. (2017). Effectiveness of performance evaluation system and its effect on employee motivation. Nile Journal of Business and Economics, 3(5), 15-39.

Karaxha, H. A. (2019). Methods of performance assessment of managers in Kosovo businesses. Acta Universitatis Danubius. Œconomica, 15(4), 149-164.

Laabs, J. (1998). Show them where you're headed. Workforce, 77(11), 45-48.

Levinson, D. (1987). Making employee performance evaluations work for you. Nonprofit World, 5(5), 28-30.

Mani, B. G. (2002). Performance evaluation systems, productivity, and motivation: A case study. Public Personnel Management, 31(2), 141-159.

Miles, M. B., & Huberman, A. M. (2015). Nitel veri analizi (SA Altun ve A. Ersoy, Ed. ve Çev.). Ankara: Pegem Akademi Yayıncılık.

Masood, T., Malik, A., & Durrani, S. M. E. K. (2023). On Employee Engagement and Organizational Reforms Perception amongst Workforce of Inland Revenue Services (IRS) of Pakistan. Journal of Development and Social Sciences, 4(2), 233-245.

## Qualitative Roles of Performance Appraisal Function in Human Resources Management from Employee Focus

Parsa, M., Shahandeh, A., Kamali, A., Naji, B., & Sami, M. (2013). Offering Two New Methods for Employees' Performance Evaluation (Case Study: Iran Aircraft Manufacturing Company). International Journal of Industrial Engineering, 24(3), 377-393.

Senatra, P. T. (1980). Role conflict, role ambiguity, and organizational climate in a public accounting firm. Accounting Review, 594-603.

Sheikh, A. Z., Chandler, J., Hussain, B., & Timmons, S. (2022). Performance measurement and management in the British higher education sector. Quality & Quantity, 56(6), 4809-4824.

Stewart, G. L., & Brown, K. G. (2019). Human resource management. John Wiley & Sons.

Strauss, A., & Corbin, J. (1990). Basics of qualitative research. Sage publications.

Pechmann, P., & Haase, S. (2022). How policy makers employ the term quality in higher education policymaking. Scandinavian Journal of Educational Research, 66(2), 355-366. https://doi.org/10.1080/00313831.2020.1869081

Tudor, A. D., & Petre, A. G. (2021). The Performance Evaluation System and the Impact on Employee Motivation: Do Performance Appraisal Rewards Play a Role in Motivating and Engaging Employees?. Revista de Management Comparat International, 22(5), 721-728.

Verasai, A. (2021). Cost of Employee Turnover vs Retention Proposition. The HR Digest. https://www.thehrdigest.com/cost-of-employee-turnover-vs-retentionproposition/

Verbos, A. K., Miller, J. S., & Goswami, A. (2014). Employee social cognition and performance evaluation process reactions. Personnel Review.

Weiss, H. M., & Cropanzano, R. (1996). Affective events theory. Research in organizational behavior, 18(1), 1-74.

Zahra, S. A., Sapienza, H. J., & Davidsson, P. (2006). Entrepreneurship and dynamic capabilities: A review, model and research agenda. Journal of Management studies, 43(4), 917-955.

#### Research Article

ROMAYA - Researches on Multidisiplinary Approaches 2024, 4(2): 107-125

ISSN:2791-9099

## Analyzing Of Articles On Blue Economy Studies In Tourism 🚳

Turizmde Mavi Ekonomi Çalışmaları Üzerine Makalelerin Analizi

Emine Yılmaz / Res. Asst. Dr.

Muğla Sıtkı Koçman University, Faculty of Tourism emineyola@mu.edu.tr

Nur Çelik İlal / Assoc. Prof. Dr. (D)

Muğla Sıtkı Koçman University, Faculty of Tourism nurcelik@mu.edu.tr

#### Abstract

The concept of a blue economy, as an approach closely related to tourism, has been studied very limitedly in the field of tourism despite its importance and existential mission. The existing literature has been discussed mainly conceptually. No study has been found that reveals the details of the studies directly related to the blue economy and tourism and evaluates these studies in general. In this context, this study aims to present a bibliometric overview of the studies on the concept of blue economy in tourism in the Web of Science database. In the study, 74 articles on blue economy in tourism published in the Web of Science (WOS) database between 2015 and 2024 constituted the research sample. As a result of the bibliometric analysis of relevant articles, it was determined that studies on the blue economy experienced a slight growth trend followed by a decline. Studies from the United Kingdom, Spain, and the USA were among the most prominent. The most frequently used research method was qualitative research, especially document analysis. Although this study is limited to the WOS database, it is obvious that the visibility and citationability of these studies could be much higher. Despite the critical role of coastal and marine tourism in global maritime trade, it has been noted that blue economy and tourism-oriented studies have not received the recognition they deserve. This is particularly remarkable considering that three-quarters of the Earth's surface is covered by water and the increasing importance of coastal and marine tourism.

**Keywords:** Blue Economy, Blue Growth, Sustainable Development, Tourism, Vosviewer, Web Of Scien-

JEL Codes: A12,F01,L83

Özet

Turizmle yakından ilişkili olan bir yaklaşım olarak mavi ekonomi kavramı, önemine ve varoluş misyonuna rağmen, turizm alanında oldukça sınırlı çalışılan bir konudur ve varolan literatür daha çok kavramsal düzeyde ele alınmıştır. Doğrudan mavi ekonomi ve turizm ile ilişkili yapılan çalışmaların detayını ortaya koyan ve bu çalışmaları genel olarak değerlendiren bir çalışmaya rastlanmamıştır. Bu bağlamda bu çalışmanın amacı, Web of Science veri tabanında bulunan mavi ekonomi kavramını turizmde ele alan çalışmaların bibliyometrik bir genel bakışını sunmaktadır. Çalışmada, Web of Science (WOS) veritabanında 2015 ile 2024 yılları arasında yayınlanmış mavi ekonomi üzerine turizmde yapılan 74 makale araştırma örneklemini oluşturmuştur. İlgili makalelerin bibliyometrik analizi sonucunda, mavi ekonomi üzerine yapılan çalışmaların hafif bir büyüme trendi yaşadığı, ardından bir düşüşe geçtiği belirlenmiştir. Birleşik Krallık, İspanya ve ABD kaynaklı çalışmalar en öne çıkanlar arasında yer almıştır. En sık kullanılan araştırma yöntemi nitel araştırma, özellikle doküman analizi olmuştur. Bu çalışma Web of Science (WOS) veritabanı ile sınırlı olsa da bu çalışmaların görünürlüğü ve atıf alabilirliğinin çok daha yüksek olabileceği aşikardır. Kıyı ve deniz turizminin küresel deniz ticaretindeki önemli rolüne rağmen, mavi ekonomi ve turizm odaklı çalışmaların hak ettiği tanınırlığı alamadığı kaydedilmiştir. Bu durum, Dünya yüzeyinin dörtte üçünün suyla kaplı olduğu ve kıyı ve deniz turizminin artan önemi göz önünde bulundurulduğunda özellikle dikkat çekicidir.

**Anahtar Kelimeler:** Mavi Ekonomi, Mavi Büyüme, Sürdürülebilir Kalkınma, Turizm, Vosviewer, Web Of Science.

JEL Kodları: A12,F01,L83

#### Introduction

Türkiye, The concept of the Blue Economy, which focuses on the use and protection of marine resources and supports sustainable development, has emerged as a paradigm in recent years, particularly in the maritime sector (Çalım, 2023). The concept of the Blue Economy was first included in the book "The Blue Economy: 10 Years, 100 Innovations, 100 Million Jobs" published by Gunter Pauli in 2010 and later used at the United Nations Conference on Sustainable Development in Rio de Janeiro in June 2012. Since then it has been actively used (Suluk, 2022). The blue economy, directly related to sustainable development goals, is also closely related to many sectors. Sectors such as fishing, tourism, and maritime transportation are especially closely associated with the blue economy (Yılmaz, 2020).

Sectors such as fisheries, coastal tourism, ports, renewable energy (wind, tides, waves, etc.), and marine logistics are considered part of the blue economy. Sustainable practices in these sectors contribute to economic development (Guerreiro, 2021). The blue economy aims to manage water resources efficiently to preserve them as valuable natural resources for current and future generations (OECD, 2016). According to the EU Blue Economy Report (2023), blue economy sectors created nearly 3,5 million jobs and contributed EUR 129.1 billion in gross value added (GVA) in 2020. (contributing 1.1% to the EU-27 economy), a 30%-decrease from €185.4 billion (1.5% of the EU-27 economy) in 2019. Employment decreased 26% from 4.50 million in 2019 to 3.34 million in 2020 (1.8% in terms of contribution to the EU27 economy). Coastal tourism is among the most impacted. Because Coastal tourism is at the forefront of BE's economic sectors (Kabil et al., 2021)

The concept of the blue economy is an important issue that should be addressed from the perspective of the tourism sector, taking into account the factors that constitute the supply sources of tourism. It has begun to find a place in studies over the last 10 years (see also: Birchenough, 2023; Garza-Gil, Varela-Lafuente & Perez-Perez, 2021; Henderson, 2019; Karani & Failler, 2020; Rogerson & Rogerson, 2019; Vázquez, García & Valenciano, 2021; Vrontisi et al., 2022). Although it is closely related to the tourism sector, the number of studies related to tourism has remained limited (see also: Cummings & Greenberg, 2022; Hall, 2021; Karani et al., 2020; Phelan, Ruhanen & Mair, 2020). Studies related to tourism are most often associated with coastal tourism (Karani et al., 2020; Tegal & Gurning, 2018;). However, the issue is closely related to the tourism sector. Fishing, for example, is one of the most important recreational activities for the tourism industry (Hall, 2021). Recreational fishing includes both ocean and coastal activities and inland fishing on lakes and rivers, which can be extremely important for tourism (Hall & Härkönen, 2006).

As a matter of fact, the blue economy, which concerns many tourism-related issues from coastal tourism to yacht tourism and fishing activities, is an issue that needs to be addressed in terms of creating income sources in tourism, sustainability of the tourism market and protecting the seas and biodiversity in the future. In this context, this study deals with the tourism sector, which is a part of the blue economy. Considering the economic added value and employment opportunities created by the blue economy, it is essential to determine new strategies on the subject. In this context, the study aims to determine the current state of the literature on the blue economy and tourism, thus creating a guide for future studies. Although there has been a similar study in which coastal tourism and the blue economy were discussed together before (Kabil et al., 2021), it is thought to be important and contribute to the literature in that there is no study in which the concepts of blue economy and tourism are discussed together, which deals with the subject from a broader perspective. Depending on the purpose of the study, the blue economy phenomenon in tourism was analyzed by bibliometric analysis. This study aims to reveal the current status of studies on blue economy and tourism, identify gaps in the literature, and offer suggestions for future studies. Therefore, this study will be useful in providing information for those working in this field as a starting point and contributing to the literature.

#### **Conceptual Framework**

The concept of a blue economy, which emerged to protect oceans, seas, and water resources, includes all kinds of economic activities carried out in waters, covering sectors such as fishing, tourism, or maritime transportation (Bax et al., 2022). Studies in the literature on blue growth, blue development, and blue economy are mainly discussed together with issues related to climate change, marine ecosystems, and sustainable use of marine resources. (Armstrong et al., 2019; Graziano et al., 2022). In their study, Armstrong et al. (2019) determine the effects of human activities and climate change on deep-sea ecosystems and define the risk levels of these effects on ecosystem services. To this end, it contributes to promoting the sustainable use of deep-sea resources within the framework of blue growth and marine space planning (MSP). In his study, Hassanali (2022) aimed to examine the legal and political documents and organizational regulations that direct the development and implementation of regional ocean management and blue economy policies within CARI-COM (Caribbean Community).

According to the study, CARICOM needs to be more sensitive, holistic, and cross-sectional while making policies about ocean management and the blue economy. Existing literature studies focus on the definition of the blue economy and its definitions rela-

ted to maritime, oceans, and coasts. Studies on its relationship with tourism have mainly been evaluated on the coasts. Kamil et al. (2022), blue economy, and coastal tourism were discussed together, and bibliometric analysis and a quantitative meta-analysis were chosen as a literature review method to determine the research topics and publication patterns of studies in this field. As a result of the research, the number of publications in the blue economy scientific sector has increased significantly.

In contrast, despite the critical role of the coastal tourism sector in the blue economy, there are relatively few studies on coastal tourism in the blue economy literature. In the study conducted by Tegar and Gurning (2018), the effects of sea and coastal tourism and whether it is compatible with other human activities are discussed within the scope of the blue economy. The study reveals that the concepts of blue economy and ecotourism can reduce the environmental impacts of marine and coastal tourism and, at the same time, promote economic growth. Picken (2023) reveals that the concept of blue economy should be considered within the framework of the blue economy of marine tourism, coastal tourism, and freshwater tourism activities. In his study, he argues that tourism academics can contribute to developing the blue economy concept and ensure that tourism-related activities are handled more effectively in planning and policy development processes.

## Methodology

The bibliometric method is a technique that is becoming widespread in the field of tourism and examines various features of printed publications through numerical analysis. This method provides important clues about the scientific communication process of the relevant field (Temizkan et al., 2015: 394). Thanks to bibliometric analysis, it becomes possible to classify these studies according to the direction in which the studies in the field of tourism are progressing, the topics discussed and their perspectives. These analyzes can provide researchers with predictions for future studies on how studies in the field of tourism can be improved (Oruç & Türkay, 2017). As men-

tioned in the previous parts of the study, the blue economy and tourism are inseparable fields. Despite this, it does not receive the value it deserves in the literature. To present this view concretely, this study was prepared with the bibliometric analysis method. In this context, this study aims to examine the articles published in journals scanned in the Web of Science database, specifically on the concepts of "blue economy" and "tourism", and make some findings and suggestions. In line with the purpose of the study, a screening was carried out on the following research:

- In which years and how often were the studies carried out?
- What is the distribution of the journals in which the studies are published?
- What is the author-country distribution of the studies?
- What are the main research methods used in the studies?
- What are the main keywords used in the studies?
- What is the distribution of citations to studies?

In this context, a literature review was conducted on the Web of Science database between 15.06.2024 and 15.07.2024. Before starting the research, some filters were used throughout the system. First of all, only articles were included in the research. In addition, due to the language barrier and accessibility concerns, open access and English language options were preferred. In line with the purpose of the research, the keywords "blue economy" and "tourism" were used in quotations to initiate the search process. After searching with the keywords "blue economy" and "tourism," the total of 148 studies that emerged was reduced to 74 articles due to our limitations, and the analysis process was conducted on these 74 articles. While presenting the analysis results, the clustering and visualization feature of the VOSviewer program was utilized.

### **Findings**

The information resulting from the literature review is presented in tabulated form in Table 1 below.

Table 1. The results of the literature review

Re	eference	Year	Title	Journal	Country	Keywords	Method	Cita- tion Num- ber
	nto, Cruz Combe	2015	Cooperation and the emergence of maritime clusters in the Atlantic: Analysis and implications of innovation and human capital for blue growth	Marine Policy	Portugal, Spain, Ireland and Scotland	Absorptive capacity, Innovation, Human capital, LOGIT, Maritime cluster, Proximity, Social capital	Quantitati- ve / surveys	48

Bond	2019	Blue Economy threats, contradictions and resis- tances seen from South Africa	Journal of Political Eco- logy	South Africa	Blue Economy, capitalist crisis, Oceans Phakisa, resistance, South Africa	Conceptua- lized	27
Rogerson & Roger- son	2019	Emergent planning for South Africa's blue economy: Evidence from coastal and marine tourism	Urbanı Izziv-Urban Challenge	South Africa	blue economy, special planning, Operation Pha- kisa, coastal and marine tourism, South Africa	Qualitative / document analysis	14
van den Burg et al.	2019	Assessment of the geographical potential for co-use of marine space, based on operational boundaries for Blue Growth sectors	Marine Policy	European Atlantic, Baltic/ North Sea, Mediterra- nean/Black Sea and the Carib- bean/ Gulf of Mexico	Aquaculture, Blue Growth, Blue Economy, Marine spatial planning, Marine gover- nance	Qualitative / Marine Spatial Planning	41
Armstrong et al.	2019	Expert Assessment of Risks Posed by Climate Change and Anthro- pogenic Activities to Ecosystem Services in the Deep North Atlantic	Frontiers in Marine Science	North Atlantic Ocean	ecosystem services, climate change, anthropogenic impacts, risk, deep sea, North Atlantic Ocean, blue growth	Quantitati- ve / surveys	16
Henderson	2019	Oceans without History? Marine Cultural Herita- ge and the Sustainable Development Agenda	Sustainability	Global	Marine Cultural Heritage; mariti- me archaeology; sustainable deve- lopment; SDG 14; resilience; Blue Economy; Ocean Science	Conceptua- lized	29
McKinley et al.	2019	Charting the course for a blue economy in Peru: a research agenda	Environment, Development and Sustaina- bility	Peru	Blue growth, Blue economy, Marine, Society, Sustaina- bility	Conceptua- lized	33
Gustav- sson & Morrissey	2019	A typology of different perspectives on the spa- tial economic impacts of marine spatial planning	Journal Of Environmen- tal Policy & Planning	United Kingdom	Marine spatial planning; Q met- hodology; Blue Economy; spatial economic impa- cts; typology	Quantita- tive	9
Said & MacMillan	2020	'Re-grabbing' mari- ne resources: a blue degrowth agenda for the resurgence of small-sca- le fisheries in Malta	Sustainability Science	Malta	Neoliberalism, Tuna, Conser- vation policies, Sustainable development goals, Commu- nity economies, Redistribution	Qualitative / Q-method	25

Hoerterer et al.	2020	Stakeholder Perspectives on Opportunities and Challenges in Achieving Sustainable Growth of the Blue Economy in a Changing Climate	Frontiers In Marine Science	Germany	Adaptation, fisheries, tou- rism, North Sea, aquaculture, blue growth, seafood	Qualitative / interview	14
Rasowo et al.	2020	Harnessing Kenya's Blue Economy: prospects and challenges	Journal Of The Indian Ocean Re- gion	Kenya	Blue Economy, sustainable deve- lopment, gover- nance, COVID-19	Qualitative / content analysis	6
Karani & Failler	2020	Comparative coastal and marine tourism, climate change, and the blue economy in African Lar- ge Marine Ecosystems	Environmen- tal Develop- ment	Africa	Blue economy, Coastal and marine tourism, Climate resilien- ce, Environment, Blue carbon & ecosystem servi- ces, Infrastructu- re, Development, Large marine ecosystems (LMEs), Africa	Conceptua- lized	36
Roos, Kubina & Farafonova	2021	Opportunities For Sustainable Economic Development of The Coastal Territories of The Baltic Sea Region in The Context of Digital Transformation	Baltic Region	Russian Federation (St. Pe- tersburg, Leningrad, Kalining- rad) and 21 EU terri- tories	Baltic Sea Regi- on, sustainable development, blue economy, digitalisation	Conceptua- lized	3
Garza-Gil, Varela-La- fuente & Perez-Pe- rez	2021	The Blue Economy in the European Union: Valuati- on of Spanish Small-Sca- le Fishers' Perceptions on Environmental and Socioeconomic Effects	Panoecono- micus	European Union	Perceptions and attitudes, environmental-economic synergies, blue economy, small-scale fishing, coastal management	Quantitati- ve / survey	3
Lazarus & Ziros	2021	Yachts and marinas as hotspots of coastal risk	Anthropoce- ne Coasts	Mediterra- nean	Yachts, marinas, coastal risk, safe-develop- ment paradox, Mediterranean, insurance	Conceptua- lized	8
Martínez- Vázquez, García & Valenciano	2021a	Analysis and Trends of Global Research on Nautical, Maritime and Marine Tourism	Journal Of Marine Science and Engineering	Global	bibliometric indicators, marine tourism, maritime tourism, nautical tourism, web of science, Scopus	Qualitative/ bibliometric analysis	29

		Coastal landscapes,			Coastal landsca-		
Huang & Mabon	2021	sustainable consumption and peripheral commu- nities: Evaluating the Mi- ramar Resort controversy in Shanyuan Bay, Taiwan	Marine Policy	Taiwan	pes, Qualitative research, Sustai- nable consump- tion, Sustainable tourism, Taiwan	Qualitative / interview	3
Luhtala et al.	2021	Business sector involve- ment in maritime spatial planning - Experiences from the Baltic Sea region	Marine Policy	Baltic Sea (Europe- an Union countries apart from Russia)	Marine spatial planning, Sta- keholder involve- ment, Planning process, Business representatives, Baltic Sea	Qualitative / interview	6
Kabil et al.	2021	Blue Economy and Co- astal Tourism: A Comp- rehensive Visualization Bibliometric Analysis	Sustainability	Global	blue economy (BE); coastal tourism; biblio- metric analysis; R language; CiteS- pace; VOSviewer; visualization	Qualitative/ bibliometric analysis	34
Ve- ga-Muñoz et al.	2021	Port Governance and Cruise Tourism	Sustainability	Global	blue economy, seaport, cruise terminal, sta- keholder, tourism, cooperation, competition, cruise ship	Qualitative/ Systematic Reviews and Me- ta-Analyses	1
Mach & Ponting	2021	Establishing a pre-CO- VID-19 baseline for surf tourism: Trip expenditure and attitudes, behaviors and willingness to pay for sustainability	Annals of Tourism Research Empirical Insights	Global	Surf tourism, Sustainability, Blue economy, Tourist preferences, Willingness to pay, COVID-19	Quantitati- ve / survey	19
Minelli et al.	2021	The ADRIREEF data- base: a comprehensive collection of natural/ artificial reefs and wrecks in the Adriatic Sea	Earth System Science Data	Adriatic Region	Dive Tourism, Co- ral-Reefs, Marine	Quantitati- ve / survey	3
Martínez- Vázquez, García & Valenciano	2021b	Challenges of the Blue Economy: evidence and research trends	Environmen- tal Sciences Europe	Global	Blue Economy, Blue growth, Ocean economy, Maritime eco- nomy, Marine economy, Biblio- metric analysis	Qualitative/ bibliometric analysis	37
Praptiwi et al.	2021	Tourism-Based Alternative Livelihoods for Small Island Communities Transitioning towards a Blue Economy	Sustainability	Indonesia	Sustainable live- lihoods, eco-tou- rism; alternative livelihoods; conservation development; marine planning; blue economy	Qualitati- ve/ focus group, interview, secondary data	18

Schutter et al.	2021a	The blue economy as a boundary object for hegemony across scales	Marine Policy	Seychelles	Blue growth, Ocean economy, Ocean governan- ce, Sustainable development, Small Island de- veloping states	Mixed-met- hod	26
Schutter et al.	2021b	Disentangling ecosystem services preferences and values	World Deve- lopment	Seychelles	Fisheries, Tou- rism, Mana- gement, Deci- sion-making, Trade-offs, Ma- rine, Coral reef, Conservation	Mixed-met- hod	4
Hall	2021	Tourism and fishing	Scandinavian Journal of Hospitality and Tourism	Global	Blue Economy; Blue Growth; ma- rine ecosystem services; marine tourism; Sustai- nable Develop- ment Goals	Conceptua- lized	10
Agius & Briguglio	2021	Mitigating seasonality patterns in an archipela- go: the role of ecotou- rism	Maritime Studies	Italy	Seasonality, Eco- tourism, Archi- pelago, Central Mediterranean, Blue economy, Aegadian Islands	Qualitative / interview	8
Fassben- der et al.	2021	Reef benthos of Seychel- les - A field guide	Biodiversity Data Journal	Seychelles	coral reefs, mesophotic coral ecosystems, benthos, morp- hotype, Seychel- les, Indian Ocean	Qualitative/ Field Trip	4
Bacciu et al.	2021	Investigating the Clima- te-Related Risk of Forest Fires for Mediterranean Islands' Blue Economy	Sustainability	Mediterra- nean	Mediterranean islands; forest fires; fire weather; impact chains; blue economy; EUROCORDEX; future climate projections; H2020 SOCLIM- PACT	Mixed-met- hod	10
Guerreiro	2021	The Blue Growth Chal- lenge to Maritime Go- vernance	Frontiers In Marine Science	European Union and Atlantic countries	blue growth, maritime gover- nance, ocean economy, marine policy, maritime spatial planning	Qualitative/ document analysis	6
Hietala et al.	2021	Data integration and participatory process in developing integrated coastal zone management (ICZM) in the northern Baltic Sea	Journal Of Coastal Con- servation	Estonia and Finland	Coastal plan- ning · Land-sea interaction · MSP · Public participa- tion	Qualitative/ document analysis	7

Ve- ga-Muñoz, Sala- zar-Sepúl- veda & Contre- ras-Barraza	2021	Identifying the Blue Eco- nomy Global Epistemic Community	Water	Global	environmental; coastal; Blue Economy; politi- cs; aquaculture; energy	Qualitative/ bibliometric analysis	5
Song & Fabinyi	2022	China's 21st century maritime silk road: Chal- lenges and opportunities to coastal livelihoods in ASEAN countries	Marine Policy	China	China, ASEAN, 21st Century ma- ritime silk road, Chinese maritime investment, Co- astal livelihoods	Qualitative/ document analysis	18
Leuci et al.	2022	Trends in sandy beach variability EThekwini Mu- nicipality, South Africa	Journal Of Sea Research	South Africa	coastal erosion, shoreline migra- tion, coastal ma- nagement, sandy shoreline, sandy beach, river im- poundment	Quanti- tative/ morpho- logical data analysis	1
Gazal, Andrew & Burns	2022	Economic Contributions of Visitor Spending in Ocean Recreation in the Florida Keys National Marine Sanctuary	Water	United States	economic cont- ribution analysis; input-output modelling; ma- rine sanctuaries; visitor spending	Quantitati- ve/ survey	4
Niner et al.	2022	Issues of context, capacity and scale: Essential conditions and missing links for a sustainable blue economy	Environmen- tal Science & Policy	Global	sustainable development goals, blue economy, marine governance, marine natural capital, ocean economy, benefit sharing	Qualitative/ systematic literature review	13
Vrontisi et al.	2022	Macroeconomic impacts of climate change on the Blue Economy sectors of southern European islands	Climatic Change	Mediterra- nean and Atlantic	climate change, climate costs, economic impa- cts, CGE, blue economy, islands	Quantita- tive	11
Sakellaria- dou et al.	2022	Seabed mining and blue growth: exploring the potential of marine mineral deposits as a sustainable source of rare earth elements (Ma- REEs) (IUPAC Technical Report)	Pure And Applied Che- mistry	Asia-Pa- cific and mid-Atlan- tic	Deep-sea ecosystems; environmental impacts; ferromanganese crusts; IUPAC chemistry and the environment division; polymetallic nodules; polymetallic sulfides; rare earth elements; seabed mining	Qualitative/ document analysis	13

Ruban & Yashalova	2022	Corporate Pro-Environ- mental Behavior on the Seas: Eco-Ethical Presc- riptions of the Largest Cruise Companies	Journal Of Marine Science and Engineering	Global	cruise lines; eco-ethics; mari- ne policy; respon- sibility; thematic categorization	Qualitative/ document analysis	3
Komninos, Kosto- puolos & Garofalakis	2022	Automatic generation of sailing holiday itineraries using vessel density data and semantic technologies	Information Technology & Tourism	Greece	Maritime trip planning, Vessel routing, Route planning, Itine- rary, Recommen- dation, Genetic algorithms, Semantic spatial modeling	Qualitative/ document analysis	0
Graziano et al.	2022	The many sizes and characters of the Blue Economy	Ecological Economics	Scotland and Michi- gan	Blue Economy, Regional analysis, Employment, Wages	Qualitative/ document analysis	8
Tanaka et al.	2022	Spatial distribution maps of real-time ocean observation platforms and sensors in Japanese waters	Marine Policy	Japan	Ocean observa- tory, Maritime do- main awareness, capacity building, blue economy	Qualitative/ case study, observation	1
Hassanali	2022	Examining Institutional Arrangements toward Coordinated Regional Ocean Governance and Blue Economy Policy Development in the Caribbean Community (CARICOM)	Coastal Ma- nagement	Caribbean	blue growth; Caribbean Com- munity; regional integration; regional ocean governance; sus- tainable ocean-e- conomy	Qualitative/ document analysis	2
Martínez- Vázquez, Valenciano & García	2022	Impact Analysis of Mari- nas on Nautical Tourism in Andalusia	Journal Of Marine Science and Engineering	Spain	blue economy; local develop- ment; nautical sector; tourism	Qualitative / interview	3
Glass et al.	2022	Evaluating the Feasibility of Sustainable Seafood Labelling Programmes in Small Island Developing States: A Pilot Study of Artisanal Fisheries in Seychelles	Frontiers In Marine Science	Seychelles	market-based instruments, eco-label, emerging economy, marine fisheries, blue economy, small island developing states (SIDS), Indian Ocean, Africa	Qualitative / interview	2

Kabil et al.	2022	Tourism centres efficiency as spatial unites for applying blue economy approach: A case study of the Southern Red Sea	Plos One	Egypt	Data Envelop- ment Analysis, Industry	Quantita- tive/ Data Enve- lopment Analysis (DEA) and Free Dispo-	6
		region, Egypt				sal Hull (FDH)	
Pita et al.	2022	Economic contribution and social welfare of recreational charter boat fisheries in the northe- ast Atlantic: The cases of Galicia (Spain) and Madeira archipelago (Portugal)	Frontiers In Marine Science	Portugal	travel cost method, mari- ne recreational fisheries, econo- mic contribution, big game fishing, blue economy	Mixed met- hod	3
Pournara & Sakellaria- dou	2022	Development of a Protocol for a Sustainable Blue Economy in the Coastal Zone: Case Study and Preliminary Results in a Coastal Industrial Area in the Eastern Mediterranean	Sustainability	Greece	sustainable blue economy; in- tegrated coastal zone manage- ment; shipyard; industry; tourism	Qualitative/ case study	5
Liang et al.	2022	Bibliometrics and visualization analysis of research in the field of sustainable development of the blue economy (2006-2021)	Frontiers In Marine Science	Global	blue economy, sustainable deve- lopment, biblio- metrics, CiteSpa- ce, VOSviewer, research trends	Qualitative/ bibliometric analysis	5
Salga- do-Gómez et al.	2022	Perceptions Environmen- tal and Health Impacts of Cruise Activity in the Roatan Ports	Water	Honduras	blue economy; tourism; cruiser; stakeholders	Qualitative / interview	0
Santos, Castanho & Meyer	2022	Is Investment Contribu- ting to Competitiveness in Nautical Tourism in the Atlantic Area?	Water	Ireland, Portugal, Spain, United Kingdom, France	Atlantic Area; blue economy; competitiveness; corporate perfor- mance; invest- ment; nautical tourism	Qualitative/ document analysis	4
Booth, Mourato & Mil- ner-Gul- land	2022	Investigating acceptance of marine tourism levies, to cover the opportunity costs of conservation for coastal communities	Ecological Economics	Indonesia	Contingent valuation, payments for ecosystem services, willingness to pay, Indonesia, sharks, elasmobranchs, endangered species, conservation finance, blue economy, sustainable development	Mixed met- hod	4

Troian et al.	2023	International Marine Tourism: Trends and Prospects for Sustainab- le Development	Pomorst- vo-Scientific Journal of Maritime Research	Global	International marine tourism, Sustainable deve- lopment, Tourism prospects, Sus- tainable tourism, Bibliographic review	Qualitative/ bibliog- raphic and content analysis	2
Martínez- Vázquez et al.	2023	Impact of blue economy sectors using causality, correlation and panel data models	Frontiers In Marine Science	European Union	blue economy fa- ctors, correlation, causality, panel data model, sus- tainability	Quantita- tive	2
Pranita et al.	2023	Blockchain Technology to Enhance Integrated Blue Economy: A Case Study in Strengthening Sustainable Tourism on Smart Islands	Sustainability	Indonesia	smart destinati- on; blockchain technology; blue economy; digital literacy; sustai- nable tourism	Mixed met- hod	9
Spalding et al.	2023	Nature dependent tou- rism-combining big data and local knowledge	Journal Of Environmen- tal Manage- ment	Dominica, Grenada, Saint Kitts and Nevis, Saint Lucia, and Saint Vincent and the Grenadines	Blue economy, User-generated content, Ecosys- tem services, Eastern Caribbe- an, Nature de- pendent tourism, Wildlife tourism	Quantita- tive	2
Mejjad et al.	2023	Marine plastic pollution in Morocco: state of the knowledge on origin, occurrence, fate, and management	Environmen- tal Science and Pollution Research	Morocco	Plastic waste, Marine pollution, Waste manage- ment, Circular economy, Mo- rocco	Qualitative/ document analysis	5
Rogerson & Roger- son	2023	Historical geographies of coastal tourism: Mossel Bay, South Africa c.1850- 1988	Bulletin Of Geograph- y-Socio-Eco- nomic Series	South Africa	blue economy, coastal tourism, historical geog- raphy, Mossel Bay, South Africa	Qualitative/ document analysis	1
Van Putten et al.	2023	History matters: societal acceptance of deep-sea mining and incipient conflicts in Papua New Guinea	Maritime Studies	Papua New Guinea	Deep sea, Mi- ning, Papua New Guinea, Social licence, Marine conflict	Qualitative/ document analysis	2
Manero & Mach	2023	Valuing surfing ecosys- tems: an environmental economics and natural resources management perspective	Tourism Ge- ographies	Global	surfing econo- mics; ecosystem services; blue economy; ocean values; surfing re- sources; non-mar- ket valuation; surf tourism	Conceptua- lized	1

		1	r		1		
Birchenou- gh	2023	Knowledge-based science in support of the blue growth ambition for small island developing states	Ices Journal of Marine Science	Global	climate change, data, finance, fisheries, habitat mapping, SIDS, technology.	Conceptua- lized	0
Pagano et al.	2023	Multicriteria GIS-based analysis for the evaluation of the vulnerability of the marine environment in the Gulf of Trieste (north-eastern Adriatic Sea) for sustainable blue economy and maritime spatial planning	People and Nature	ltaly	Adriatic Sea, Gulf of Trieste, multicriteria Geographic Information System-based analysis, protected areas, vulnerability of the marine environment, vulnerability of the sea bed	Qualitative/ document analysis	2
Jattak et al.	2023	Advancing the initiatives of sustainable coastal and marine areas development in Pakistan through marine spatial planning	Science Progress	Pakistan	Pakistan marine spatial planning, ecosystem health, blue economy development, social inclusion, PESTLE analysis	Qualitative/ document analysis	1
Makarova et al.	2023	The Construction of Se- aports in the Arctic: Pros- pects and Environmental Consequences	Journal of Marine Science and Engineering	Russia	"Blue economy"; seaports; Northern Sea Route (NSR); environmental safety; anthropogenic factor; anthropogenic pollution; ontological engineering; risk management system	Qualitative/ document analysis	2
Fernán- dez-Palaci- os et al.	2023	Status and perspectives of blue economy sectors across the Macaronesian archipelagos	Journal Of Coastal Con- servation	Portugal, Spain	Maritime Sectors and Activities, Trends, Blue Growth, Maritime Spatial Planning, Ecosystem Ap- proach, Azores, Madeira, Canary Islands	Qualitative/ document analysis	1
Kyriazi et al.	2023	Conceptualising Marine Biodiversity Mainstrea- ming as an Enabler of Regional Sustainable Blue Growth: The Case of the European Atlantic Area	Sustainability	European Union	sustainable blue growth; blue economy sectors; marine biodi- versity mainst- reaming; blue economy sectors; natural capital va- luation; sea basin; European Atlantic	Qualitative/ document analysis	0

Ferretti et al.	2023	Restorative practices, marine ecotourism, and restoration economies: revitalizing the environ- mental agenda?	Ecology and Society	Global	citizen science; dive tourism; marine ecological restoration; resto- rative economies; restorative ma- rine ecotourism; socialecological systems	Conceptua- lized	0
Fidai et al.	2024	Innovative spectral characterisation of beached pelagic sargassum towards remote estimation of biochemical and phenotypic properties	Science Of the Total En- vironment	Barbados and Ghana	Macroalgae, Remote sensing, Marine ecosys- tems, Coastal management, Sargassum	Quantitati- ve/ survey	1
Tsai et al.	2024	Urban Governance, Eco- nomic Transformation, and Land Use: A Case Study on the Jimei Pe- ninsula, Xiamen, China, 1936-2023	Water	China	heterogeneous; embedded- ness; moments; commodity; consumption landscape	Qualitative / interview	0
de Carval- ho-Souza et al.	2024	How to deal with invasive species that have high economic value?	Biological Conservation	Spain	Non-indigenous species, New resource exploi- tation, Integrated participatory strategy, Citizen science, Blue economy	Qualitative/ case study	0
de la Vara et al.	2024	Climate change impacts on the tourism sector of the Spanish Medi- terranean coast: Medi- um-term projections for a climate services tool	Climate Ser- vices	Spain	Climate change, Climate model- ling, Future proje- ctions, Coastal tourism, Climate adaptation, Spa- nish Mediterrane- an coast, Climate service tool	Qualitative/ climate modelling	0
Kim, Scott & Swartz	2024	Local perspectives on marine ecotourism de- velopment in a water-in- secure island region: the case of Bocas del Toro, Panama	Frontiers In Marine Science	Panama	marine eco- tourism, water security, blue economy, island systems, Bocas del Toro, susta- inable develop- ment	Qualitative/ interview, obser- vation, document analysis	0
Luoma et al.	2024	Sustainability as a shared objective? Stakeholders' interpretations on the sustainable development of marinas in the Gulf of Finland	Ocean & Coastal Ma- nagement	Finland	Leisure boating, Coastal tourism, Influence diag- rams, Baltic Sea, Blue economy	Qualitative/ interview	0"

## Emine Yılmaz / Nur Çelik İlal

In Table 1 above, the following information related to the reviewed articles is summarized: year, author, journal name, country of origin of the article, keywords, method used, and the number of citations. The reason for this is to understand aspects such as the level of interest in the topic, who has shown interest and when, and how the subject has been addressed.

the studies were published between 2015 and 2024, with only a single study on the topic conducted in 2015. The interest in the subject peaked in 2021 and 2022, but subsequently, there has been a declining trend

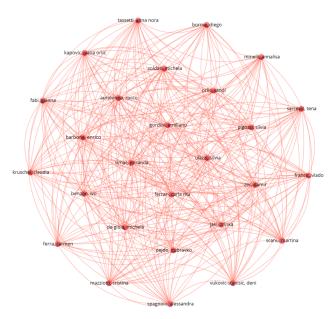


Figure 1. The VOSviewer scheme for the authors of the publications

When looking at authors conducting studies focused on the blue economy and tourism, it is observed that at least three authors predominantly prepare the studies. As shown in Figure 1 above, according to the visual created by the VOSviewer program, there is no specific clustering among the authors working on these topics. On the other hand, in individual searches, the most frequently encountered authors are Martínez-Vázquez, García, and Valenciano. The comment that can be made regarding this is that there are no researchers producing works frequently enough to be considered authorities on tourism and blue economy topics.

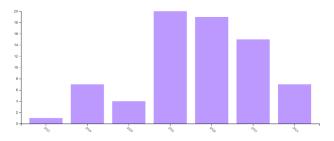


Figure 2. Yearly publication numbers Source: Web of Science (2024)

When examining the studies on a yearly basis, the distribution of the studies' publication years is shown in Figure 2 above. In this context, it is observed that



Figure 3. The journals where articles were published

Another aspect examined was the journals in which these studies were published. In this context, the main journals where the publications, detailed in Table 1 above, are clustered by VOSviewer are shown in Figure 3. It is observed that most studies related to the topic have been published in the journals Marine Policy, Frontiers in Marine Science and Sustainability.

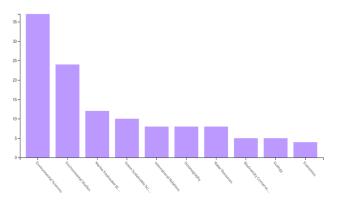


Figure 4. Research areas of the publications

According to Figure 4 above, the research areas of the publications are seen. More than 82 % of the articles are based on environmental sciences and studies (Web of Science, 2024). Interestingly, the economic-focused articles only account for 5% of the discussion on the blue economy. Therefore, it can be said that studies on the blue economy and tourism appear to focus more on environmental aspects than on economic ones.

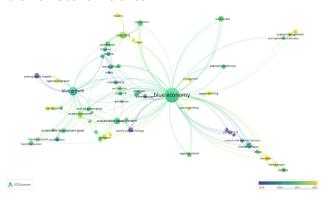


Figure 5. The keywords of the articles with a scheme of VOSviewer

On the other hand, even though the articles' research areas are mainly environmental, the most frequently used keywords are blue economy, blue growth, tourism, sustainable development, ocean economy, and sustainable development goals according to the scheme of VOSviewer in Figure 5.



Figure 6. Countries of the articles scheme of VOSviewer

Data on the countries where the studies were conducted have been examined and illustrated in Figure 6 above. It is known that all the countries where the studies were conducted have coastlines along seas or oceans and derive economic income from marine environments. However, in terms of clustering, most studies have been conducted in England, Spain, and the USA, with these three countries accounting for more than half of the studies conducted.

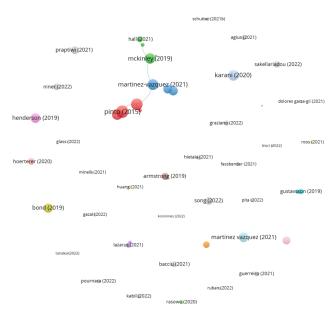


Figure 7. The most cited articles scheme of VOSviewer

In Figure 7 above, the citations made to published works are shown clustered by author. More detailed numbers are also provided in Table 1 above. According to these data, 10 of the listed works have not yet received any citations. Among the works that have received the most citations are those by Pinto et al., van den Burg et al., and Martinez-Vazquez et al. Overall, the topic has a relatively low citation rate. Finally, the methods used in the studies were examined. In this regard, 46 of the studies were conducted using qualitative research methods and document analysis. Additionally, 12 studies were prepared using quantitative methods, primarily through survey techniques. Ten studies were entirely concep-

tual, and six employed a mixed-methods approach. This indicates that the topic has predominantly been studied using qualitative methods, relying on relevant documents and literature.

#### **Conclusion**

The concept of a blue economy has recently become one of the prominent topics as it is closely related to the tourism sector (Kabil et al., 2021). This study aims to contribute to the relevant literature by examining the research on blue economy and tourism within the framework of the determined criteria (year of the study, distribution of the journals in which it was published, author-country distribution, basic research methods, keywords used, and citation).

The results of this research provide important findings in terms of revealing the place of the blue economy concept in tourism and the diversity of studies conducted in this field. 74 articles published in the Web of Science database between 2015 and 2024 were examined and analyzed. In this context, the most striking finding about the study is that despite the importance of coastal and marine tourism in general maritime trade and international tourism mobility, it deserves a different and better position. Blue economy studies in tourism, which have only a 10-year writing history, have already entered a downward trend. Unlike what Martinez-Vazquez et al. (2021b) found in their research, now it is a certain finding that blue economy studies related to tourism are visibly decreasing. However, the issue is also critical in terms of sustainable tourism. Although blue economy scientific production has increased significantly over the years (Kabil et al., 2021), the subject of blue economy and tourism has received relatively less attention in the literature despite the critical role of coastal tourism in the blue economy. The findings reflect changes in research priorities and emerging themes within the academic community, underlining the dynamic nature of academic interest in the blue economy in tourism.

According to the results, England, Spain, and the USA are among the countries that stand out in studies on blue economy and tourism. These countries are considered leaders in this field of research, having produced literature addressing various aspects of the blue economy. Kabil et al. (2021) state that when scientific production related to the blue economy is examined, China, England, Kenya, and the USA emerge as the most productive countries. This shows that research efforts are spread across different continents, underscoring global interest in the blue economy. These findings show that although the blue economy is a globally valid concept, the academic focus on this topic varies across regions.

Many of these studies use qualitative research methods, especially document analysis. This methodo-

logical approach has facilitated an in-depth investigation of the dimensions of the blue economy. In particular, the article titled "Collaboration and the Emergence of Maritime Clusters in the Atlantic: Analysis and Implications of Innovation and Human Capital for Blue Growth" garnered the most citations. This study highlights the critical role of maritime clusters in the Atlantic region, examining their contribution to innovation and human capital development and emphasizing the importance of blue growth. Document analysis is essential because it provides a basis for new studies by reviewing the existing literature and previous research (Yıldırım & Şimşek, 2016). On the other hand, the lack of current publications and information may not reflect the current situation. In this respect, quantitative methods can also be used to obtain more generalizable data. Various methodological approaches and geographical representations in the literature enrich our understanding of the multifaceted nature of the blue economy and its implications for sustainable development in the tourism sector.

According to the results of keyword analysis, the terms after "blue economy," "blue growth," and "tourism", "sustainable development, ocean economy, and sustainable development goals" are the most frequent keywords in the literature. This reveals that the blue economy is an important concept in terms of economic development but also in terms of sustainability and environmental protection. The study by Hassanali (2022) also emphasizes the importance of the blue economy in sustainable development, especially in marine areas. The frequent occurrence of these terms in the literature emphasizes the subject's importance and currentness. The fact that the keywords blue economy, blue growth, and tourism come together emphasizes that the issue should be evaluated in terms of its sustainable, economic, and social dimensions. As an essential component of the blue economy, tourism can stimulate economic growth in marine and coastal regions. Tourism, especially based on marine ecosystems, can contribute to local economies. However, the adverse environmental effects of tourism also need to be considered. When discussing coastal tourism, if the blue economy and blue growth issues are discussed together and strategies are developed for this, it will positively affect the sector in practice.

However, the visibility and citation rates of studies focusing on the blue economy and tourism are not as high as they could be. This implies that the number of publications and citations is relatively low compared to the significance of the topic. Just by looking at the number of citations, one can once again witness how low the number of publications on the subject is. Not working on the subject may indicate two issues: first, everyone already knows the subject well and does not need to study. Secondly, the importance of the subject has not been adequ-

ately understood, and the subject has not become a focal point to be studied; in other words, there has not been enough curiosity for research. However, as stated in the conceptual framework, the blue economy is a multidimensional field that concerns the whole world and deserves to be given more importance. Thus, increasing awareness and scholarly engagement with this subject could enhance its academic prominence and highlight its importance in promoting sustainable practices within maritime sectors. This underscores the need for more focused research and greater dissemination of findings to elevate the blue economy's profile within the academic community.

These results reveal that blue economy studies need the attention they deserve, considering that two-thirds of the earth's surface is covered with water and the increasing importance of coastal and marine tourism in the global economy. It is emphasized that future research should examine the different dimensions of the blue economy in more depth and better understand this field's economic, environmental, and social aspects. In this context, promoting sustainable practices and raising awareness about the blue economy should be an essential agenda item both in the academic world and among policymakers. It should not be forgotten that the blue economy is of critical importance in terms of economic development, sustainability, and environmental protection. Therefore, researchers and policymakers must adopt versatile and innovative approaches to unlock the full potential of the blue economy. This situation also shows that the number and citation rates of studies on the blue economy and tourism should be increased. More coverage in academic literature and increased awareness of this issue will contribute to a better understanding of the importance of the blue economy in global maritime trade. This could offer new opportunities for both researchers and policymakers and further strengthen the blue economy's contribution to sustainable development.

#### References

Agius, K. & Briguglio, M. (2021). Mitigating seasonality patterns in an archipelago: the role of ecotourism. Maritime Studies (2021)20, 409–421. https://doi.org/10.1007/s40152-021-00238-x.

Armstrong, C. W., Vondolia, G. K., Foley, N. S., Henry, L.-A., Needham, K., & Ressurreição, A. (2019). Expert assessment of risks posed by climate change and anthropogenic activities to ecosystem services in the deep North Atlantic. Frontiers in Marine Science, 6(158), 1-11. https://doi.org/10.3389/fmars.2019.00158.

Bacciu, V., Hatzaki, M., Karali, A., Cauchy, A., Giannakopoulos, C., Spano, D., & Briche, E. (2021). Investigating the climate-related risk of forest fires for Mediterranean islands' blue economy. Sustainability, 13(18), 10004. https://doi.org/10.3390/su131810004.

Bax, N., Novaglio, C., Maxwell, K. H., Meyers, K., McCann, J., Jennings, S., Frusher, S., Fulton, E. A., Nursey-Bray, M., & Fischer, M. (2022). Ocean Resource Use: Building the Coastal Blue Economy. Reviews in Fish Biology and Fisheries, 32(1), 189-207.

### Analyzing Of Articles On Blue Economy Studies In Tourism

Birchenough, S. N. R. (2023). Knowledge-based science in support of the blue growth ambition for small island developing states. ICES Journal of Marine Science, 80(8), 2166–2170. https://doi.org/10.1093/icesjms/fsad142.

Bond, P. (2019). Blue Economy threats, contradictions and resistances seen from South Africa. Journal of Political Ecology, 26(1), 341–362. https://doi.org/10.2458/v26i1.23504.

Booth, H., Mourato, S., & Milner-Gulland, E. J. (2022). Investigating acceptance of marine tourism levies, to cover the opportunity costs of conservation for coastal communities. Ecological Economics, 201, 107578. https://doi.org/10.1016/j.ecolecon.2022.107578.

Cummings, G., & Greenberg, Z. (2022). Sustainable Tourism in the Context of the Blue Economy. In Life Below Water (pp. 1004-1017). Cham: Springer International Publishing.

Çalım, A. (2023). Mavi Ekonomi ve Mavi Büyüme: Su – Toplum İlişkisi ve Deniz Kaynaklarında Sürdürülebilir Kalkınmadan Yararlanma. Deniz Siyaseti ve Stratejileri Yüksek Lisans Bölümü.

de Carvalho-Souza, G. F., Kourantidou, M., Laiz, I., Nuñez, M. A., & González-Ortega, E. (2024). How to deal with invasive species that have high economic value?. Biological Conservation 292(2024), 110548. https://doi.org/10.1016/j.biocon.2024.110548.

de la Vara, A., Cabos, W., Gutiérrez, C., Olcina, J., Matamoros, A., Pastor, F., Khodayar, S., & Ferrando, M. (2024). Climate change impacts on the tourism sector of the Spanish Mediterranean coast: Medium-term projections for a climate services tool. Climate Services, 34, 100466. https://doi.org/10.1016/j.cliser.2024.100466.

European Commission (2023). Annual Economic Report on the EU Blue Economy. Belgium: European Commission.

Fassbender, N., Stefanoudis, P. V., Filander, Z. N., Gendron, G., Mah, C. L., Mattio, L., Mortimer, J. A., Moura, C. J., Samaai, T., Samimi-Namin, K., Wagner, D., Walton, R., & Woodall, L. C. (2021). Reef benthos of Seychelles - A field guide. Biodiversity Data Journal, 9, e65970. https://doi.org/10.3897/BDJ.9.e65970.

Fernández-Palacios, Y., Kaushik, S., Abramic, A., Cordero-Penín, V., García-Mendoza, A., Bilbao-Sieyro, A., Pérez-González, Y., Sepúlveda, P., Lopes, I., Andrade, C., Nogueira, N., Carreira, G. P., Magalhães, M., & Haroun, R. (2023). Status and perspectives of blue economy sectors across the Macaronesian archipelagos. Journal of Coastal Conservation, 27(5), Article 39. https://doi.org/10.1007/s11852-023-00961-z.

Ferretti, E., Thrush, S. F., Lewis, N. I., & Hillman, J. R. (2023). Restorative practices, marine ecotourism, and restoration economies: revitalizing the environmental agenda? Ecology and Society, 28(4), 23. https://doi.org/10.5751/ES-14628-280423.

Garza-Gil, M. D., Varela-Lafuente, M. M., & Pérez-Pérez, M. I. (2021). The blue economy in the European Union: Valuation of Spanish small-scale fishers' perceptions on environmental and socioeconomic effects. Panoeconomicus, 68(4), 461-481. https://doi.org/10.2298/PAN180425013G.

Gazal, K., Andrew, R., & Burns, R. (2022). Economic contributions of visitor spending in ocean recreation in the Florida Keys National Marine Sanctuary. Water, 14(2), 198. https://doi.org/10.3390/w14020198.

Glass, J. R., Belle, K., Berke, G., Bodin, N., Burt, A. J., Duncan, M. I., Morgan, S. K., Pillay, P., & Talma, S. (2022). Evaluating the feasibility of sustainable seafood labelling programmes in small island developing states: A pilot study of artisanal fisheries in Seychelles. Frontiers in Marine Science, 9, 931407. https://doi.org/10.3389/fmars.2022.931407.

Graziano, M., Alexander, K. A., McGrane, S. J., Allan, G. J., & Lema, E. (2022). The Many Sizes and Characters of the Blue Economy. Ecological Economics, 196, 107419.

Guerreiro, J. (2021). The blue growth challenge to maritime governance. Frontiers in Marine Science, 8, 681546. https://doi.org/10.3389/fmars.2021.681546.

Gustavsson, M., & Morrissey, K. (2019). A typology of different perspectives on the spatial economic impacts of marine spatial planning. Journal of Environmental Policy & Planning, 21(6), 841-

853. https://doi.org/10.1080/1523908X.2019.1680274.

Hall, C. M. (2021). Tourism and fishing. Scandinavian Journal of Hospitality and Tourism, 21(4), 361-373. https://doi.org/10.1080/15022250.2021.1955739.

Hassanali, K. (2022). Examining institutional arrangements toward coordinated regional ocean governance and blue economy policy development in the Caribbean Community (CARICOM). Coastal Management, 50(5), 385-407. https://doi.org/10.1080/08920753.2022.2082835.

Henderson, J. (2019). Oceans without history? Marine cultural heritage and the sustainable development agenda. Sustainability, 11(18), 5080. https://doi.org/10.3390/su11185080.

Hietala, R., Ijäs, A., Pikner, T., Kull, A., Printsmann, A., Kuusik, M., Fagerholm, N., Vihervaara, P., Nordström, P., & Kostamo, K. (2021). Data integration and participatory process in developing integrated coastal zone management (ICZM) in the northern Baltic Sea. Journal of Coastal Conservation, 25(5), Article 47. https://doi.org/10.1007/s11852-021-00833-4.

Hoerterer, C., Schupp, M. F., Benkens, A., Nickiewicz, D., Krause, G., & Buck, B. H. (2020). Stakeholder perspectives on opportunities and challenges in achieving sustainable growth of the blue economy in a changing climate. Frontiers in Marine Science, 6, 795. https://doi.org/10.3389/fmars.2019.00795.

Huang, Y.-C., & Mabon, L. (2021). Coastal landscapes, sustainable consumption and peripheral communities: Evaluating the Miramar Resort controversy in Shanyuan Bay, Taiwan. Marine Policy, 123, 104283. https://doi.org/10.1016/j.marpol.2020.104283.

Jattak, Z. U., Wu, W., Gao, J., Zhang, K., Murtaza, S. H., Jan, M., & Ahmed, A. (2023). Advancing the initiatives of sustainable coastal and marine areas development in Pakistan through marine spatial planning. Progress in Science-Policy Integration for Marine Ecological Management and Governance – Ecology & Environmental Sciences, 106(4). https://doi.org/10.1177/00368504231218601.

Kabil, M., Priatmoko, S., Magda, R., & Dávid, L. D. (2021). Blue economy and coastal tourism: A comprehensive visualization bibliometric analysis. Sustainability, 13(7), 3650.

Kabil, M., AbdAlmoity, E. A., Csobán, K., & Dávid, L. D. (2022). Tourism centres efficiency as spatial units for applying blue economy approach: A case study of the Southern Red Sea region, Egypt. PLoS ONE, 17(7), e0268047. https://doi.org/10.1371/journal.pone.0268047.

Karani, P., & Failler, P. (2020). Comparative coastal and marine tourism, climate change, and the blue economy in African large marine ecosystems. Environment, Development and Sustainability, 36, 100572. https://doi.org/10.1016/j.envdev.2020.100572.

Kim, A., Scott, C. P., & Swartz, W. (2024). Local perspectives on marine ecotourism development in a water-insecure island region: The case of Bocas del Toro, Panama. Frontiers in Marine Science, 11, 1377053. https://doi.org/10.3389/fmars.2024.1377053.

Komninos, A., Kostopoulos, C., & Garofalakis, J. (2022). Automatic generation of sailing holiday itineraries using vessel density data and semantic technologies. Information Technology & Tourism, 24(2), 265-298. https://doi.org/10.1007/s40558-022-00224-x.

Kyriazi, Z., de Almeida, L. R., Marhadour, A., Kelly, C., Flannery, W., Murillas-Maza, A., Kalaydjian, R., Farrell, D., Carr, L. M., Norton, D., & et al. (2023). Conceptualising marine biodiversity mainstreaming as an enabler of regional sustainable blue growth: The case of the European Atlantic area. Sustainability, 15(24), 16762. https://doi.org/10.3390/su152416762.

Lazarus, E. D., & Ziros, L. A. (2021). Yachts and marinas as hotspots of coastal risk. Anthropocene Coasts, 4(1), 61-76. https://doi.org/10.1139/anc-2020-0012.

Leuci, R., Wiles, E., Thackeray, Z., & Vella, G. (2021). Trends in sandy beach variability, EThekwini Municipality, South Africa. Journal of Sea Research, 179(2022), 101831. https://doi.org/10.1016/j.seares.2021.102149.

Liang, J., Yin, Z., Yang, J., Li, Y., Xu, M., Li, J., Yang, M., & Niu, L. (2022). Bibliometrics and visualization analysis of research in the field of sustainable development of the blue economy

## Emine Yılmaz / Nur Çelik İlal

(2006–2021). Frontiers in Marine Science, 9, 936612. https://doi.org/10.3389/fmars.2022.936612.

Luhtala, H., Erkkilä-Välimäki, A., Eliasen, S. Q., & Tolvanen, H. (2021). Business sector involvement in maritime spatial planning – Experiences from the Baltic Sea region. Marine Policy, 123, 104301. https://doi.org/10.1016/j.marpol.2020.104301.

Luoma, E., Parviainen, T., Haapasaari, P., & Lehikoinen, A. (2024). Sustainability as a shared objective? Stakeholders' interpretations on the sustainable development of marinas in the Gulf of Finland. Ocean & Coastal Management, 254, 107197. https://doi.org/10.1016/j.ocecoaman.2024.107197.

Mach, L., & Ponting, J. (2021). Establishing a pre-COVID-19 baseline for surf tourism: Trip expenditure and attitudes, behaviors and willingness to pay for sustainability. Annals of Tourism Research Empirical Insights, 2(2021), 100011. https://doi.org/10.1016/j.annale.2021.100011.

Makarova, I., Buyvol, P., Mukhametdinov, E., & Boyko, A. (2023). The construction of seaports in the Arctic: Prospects and environmental consequences. Journal of Marine Science and Engineering, 11(10), 1902. https://doi.org/10.3390/jmse11101902.

Manero, A., & Mach, L. (2023). Valuing surfing ecosystems: An environmental economics and natural resources management perspective. Tourism Geographies, 25(6), 1602-1629. https://doi.org/10.1080/14616688.2023.2261909.

Martínez-Vázquez, R. M., de Pablo Valenciano, J., & Milán-García, J. (2022). Impact analysis of marinas on nautical tourism in Andalusia. Journal of Marine Science and Engineering, 10(6), 780. https://doi.org/10.3390/jmse10060780.

Martínez Vázquez, R. M., Milán García, J., & De Pablo Valenciano, J. (2021a). Analysis and trends of global research on nautical, maritime and marine tourism. Journal of Marine Science and Engineering, 9(1), 93. https://doi.org/10.3390/jmse9010093.

Martínez-Vázquez, R. M., Milán-García, J., & De Pablo Valenciano, J. (2021b). Challenges of the Blue Economy: Evidence and research trends. Environmental Sciences Europe, 33, 51. https://doi.org/10.1186/s12302-021-00502-1.

Martínez-Vázquez, R. M., Milán-García, J., Pires Manso, J. R., & De Pablo Valenciano, J. (2023). Impact of blue economy sectors using causality, correlation and panel data models. Frontiers in Marine Science, 10, 1034054. https://doi.org/10.3389/fmars.2023.1034054.

McKinley, E., Aller-Rojas, O., Hattam, C., Germond-Duret, C., Vicuña San Martín, I., Hopkins, C. R., Aponte, H., & Potts, T. (2019). Charting the course for a blue economy in Peru: A research agenda. Environment, Development and Sustainability, 21(5), 2253-2275. https://doi.org/10.1007/s10668-018-0133-z.

Mejjad, N., Laissaoui, A., Fekri, A., & El Hammoumi, O. (2023). Marine plastic pollution in Morocco: State of the knowledge on origin, occurrence, fate, and management. Environmental Science and Pollution Research, 30(49), 107371-107389. https://doi.org/10.1007/s11356-023-26973-8.

Minelli, A., Ferrà, C., Spagnolo, A., Scanu, M., Tassetti, A. N., Ferrari, C. R., Mazziotti, C., Pigozzi, S., Jakl, Z., Šarčević, T., Šimac, M., Kruschel, C., Pejdo, D., Barbone, E., De Gioia, M., Borme, D., Gordini, E., Auriemma, R., Benzon, I., Vuković-Stanišić, D., Orlić, S., Frančić, V., Zec, D., Orlić Kapović, I., Soldati, M., Ulazzi, S., & Fabi, G. (2021). The ADRIREEF database: A comprehensive collection of natural/artificial reefs and wrecks in the Adriatic Sea. Earth System Science Data, 13(5), 1905-1923. https://doi.org/10.5194/essd-13-1905-2021.

Niner, H. J., Barut, N. C., Baum, T., Diz, D., Laínez del Pozo, D., Laing, S., Lancaster, A. M. S. N., McQuaid, K. A., Mendo, T., Morgera, E., Maharaj, P. N., Okafor-Yarwood, I., Ortega-Cisneros, K., Warikandwa, T. V., & Rees, S. (2022). Issues of context, capacity and scale: Essential conditions and missing links for a sustainable blue economy. Environmental Science and Policy, 130, 25-35. https://doi.org/10.1016/j.envsci.2022.01.001.

OECD (Ed.) (2016). The Ocean Economy in 2030. France: OECD Publishing.

Oruç, M. & Türkay, O. (2017). Turizmi Konu Alan Lisansüstü Çalış-

maların Bibliyometrik Analizi, Uluslararası Batı Asya Turizm Araştırmaları Kongresi, 252-258.

Pagano, M., Fernetti, M., Busetti, M., Ghribi, M., & Camerlenghi, A. (2023). Multicriteria GIS-based analysis for the evaluation of the vulnerability of the marine environment in the Gulf of Trieste (north-eastern Adriatic Sea) for sustainable blue economy and maritime spatial planning. People and Nature, 5(6), 2006-2025. https://doi.org/10.1002/pan3.10537.

Phelan, A., Ruhanen, L., & Mair, J. (2020). Ecosystem services approach for community-based ecotourism: towards an equitable and sustainable blue economy. Journal of Sustainable Tourism, 28(10) 1-21. https://doi.org/10.1080/09669582.2020.1747475.

Picken, F. (2023). Tourism and the blue economy. Tourism Geographies, 1-9. https://doi.org/10.1080/14616688.2023.2291821.

Pinto, H., Cruz, A. R., & Combe, C. (2015). Cooperation and the emergence of maritime clusters in the Atlantic: Analysis and implications of innovation and human capital for blue growth. Marine Policy, 57, 167-177. https://doi.org/10.1016/j.marpol.2015.03.029.

Pita, P., Ainsworth, G. B., Antelo, M., Gouveia, L., Martínez-Escauriaza, R., Tubío, A., & Villasante, S. (2022). Economic contribution and social welfare of recreational charter boat fisheries in the northeast Atlantic: The cases of Galicia (Spain) and Madeira archipelago (Portugal). Frontiers in Marine Science, 9, 939533. https://doi.org/10.3389/fmars.2022.939533.

Pournara, A., & Sakellariadou, F. (2022). Development of a protocol for a sustainable blue economy in the coastal zone: Case study and preliminary results in a coastal industrial area in the eastern Mediterranean. Sustainability, 14(16), 10323. https://doi.org/10.3390/su141610323.

Pranita, D., Sarjana, S., Musthofa, B. M., Kusumastuti, H., & Rasul, M. S. (2023). Blockchain technology to enhance integrated blue economy: A case study in strengthening sustainable tourism on smart islands. Sustainability, 15(6), 5342. https://doi.org/10.3390/su15065342.

Praptiwi, R. A., Maharja, C., Fortnam, M., Chaigneau, T., Evans, L., Garniati, L., & Sugardjito, J. (2021). Tourism-based alternative livelihoods for small island communities transitioning towards a blue economy. Sustainability, 13(12), 6655. https://doi.org/10.3390/su13126655.

Rasowo, J. O., Orina, P., Nyonje, B., Awuor, S., & Olendi, R. (2020). Harnessing Kenya's blue economy: Prospects and challenges. Journal of the Indian Ocean Region. https://doi.org/10.1080/19480881.2020.1825199.

Rogerson, J. M., & Rogerson, C. M. (2023). Historical geographies of coastal tourism: Mossel Bay, South Africa c.1850-1988. Bulletin of Geography. Socio-economic Series, 61(61), 7-17. http://doi.org/10.12775/bgss-2023-0022.

Rogerson, C. M., & Rogerson, J. M. (2019). Emergent planning for South Africa's blue economy: Evidence from coastal and marine tourism. Urbani Izziv, 30(supplement), 24-36. https://doi.org/10.5379/urbani-izziv-en-2019-30-supplement-002.

Roos, G., Kubina, N. Ye., & Farafonova, Yu. Yu. (2021). Opportunities for sustainable economic development of the coastal territories of the Baltic Sea Region in the context of digital transformation. Baltic Region, 13(2), 7-26. https://doi.org/10.5922/2079-8555-2021-2-1.

Ruban, D. A., & Yashalova, N. N. (2022). Corporate pro-environmental behavior on the seas: Eco-ethical prescriptions of the largest cruise companies. Journal of Marine Science and Engineering, 10(3), 380. https://doi.org/10.3390/jmse10030380.

Said, A., & MacMillan, D. (2020). 'Re-grabbing' marine resources: A blue degrowth agenda for the resurgence of small-scale fisheries in Malta. Sustainability Science, 15(1), 91-102. https://doi.org/10.1007/s11625-019-00769-7.

Sakellariadou, F., Gonzalez, F. J., Hein, J. R., Rincón-Tomás, B., Arvanitidis, N., & Kuhn, T. (2022). Seabed mining and blue growth: Exploring the potential of marine mineral deposits as a sustainable source of rare earth elements (MaREEs) (IUPAC Technical Report). Pure and Applied Chemistry, 94(3), 329-351. https://doi.org/10.1515/pac-2021-0325.

#### Analyzing Of Articles On Blue Economy Studies In Tourism

Salgado-Gómez, C., Vega-Muñoz, A., Salazar-Sepúlveda, G., Contreras-Barraza, N., & Araya-Silva, L. (2022). Perceptions of environmental and health impacts of cruise activity in the Roatan ports. Water, 14(19), 3134. https://doi.org/10.3390/w14193134.

Santos, E., Castanho, R. A., & Meyer, D. (2022). Is investment contributing to competitiveness in nautical tourism in the Atlantic area? Water, 14(19), 2964. https://doi.org/10.3390/w14192964.

Schutter, M. S., Hicks, C. C., Phelps, J., & Belmont, C. (2021). Disentangling ecosystem services preferences and values. World Development, 146, 105621. https://doi.org/10.1016/j.world-dev.2021.105621

Schutter, M. S., Hicks, C. C., Phelps, J., & Waterton, C. (2021). The blue economy as a boundary object for hegemony across scales. Marine Policy, 132, 104673. https://doi.org/10.1016/j.marpol.2021.104673.

Song, A. Y., & Fabinyi, M. (2022). China's 21st century maritime silk road: Challenges and opportunities to coastal livelihoods in ASEAN countries. Marine Policy, 136, 104923. https://doi.org/10.1016/j.marpol.2021.104923.

Spalding, M. D., Longley-Wood, K., McNulty, V. P., Constantine, S., Acosta-Morel, M., Anthony, V., Cole, A. D., Hall, G., Nickel, B. A., Schill, S. R., Schuhmann, P. W., & Tanner, D. (2023). Nature dependent tourism – Combining big data and local knowledge. Journal of Environmental Management, 337, 117696. https://doi.org/10.1016/j.jenvman.2023.117696.

Suluk, S. (2022). Ekonominin Renkleri: Sürdürülebilir Mavi Ekonomi Bağlamında Türkiye'nin Değerlendirilmesi. Dumlupınar Üniversitesi Sosyal Bilimler Dergisi, 132-150.

Tanaka, K., Zhu, M., Miyaji, K., Kurokawa, T., & Akamatsu, T. (2022). Spatial distribution maps of real-time ocean observation platforms and sensors in Japanese waters. Marine Policy, 141, 105102. https://doi.org/10.1016/j.marpol.2022.105102.

Tegar, D., & Gurning, R. O. S. (2018). Development of marine and coastal tourism based on blue economy. International Journal of Marine Engineering Innovation and Research, 2(2).

Temizkan, S. P., Çiçek, D. & Özdemir, C. (2015). Bibliometric Profile of Articles Published on Health Tourism, International Human Science, 12(2), 394-415.

Troian, M., Prokopenko, O., Järvis, M., Saichuk, V., Komarnitskyi, I., & Glybovets, V. (2023). International Marine Tourism: Trends and Prospects for Sustainable Development. Pomorstvo, Scientific Journal of Maritime Research, 37(1), 23-31. https://doi.org/10.31217/p.37.1.3.

Tsai, S.-C., Zhang, X.-F., Lee, S.-H., & Wang, H. (2024). Urban governance, economic transformation, and land use: A case study on the Jimei Peninsula, Xiamen, China, 1936–2023. Water, 16(6), 913. https://doi.org/10.3390/w16060913.

Van den Burg, S. W. K., Aguilar-Manjarrez, J., Jenness, J., & Torrie, M. (2019). Assessment of the geographical potential for co-use of marine space, based on operational boundaries for Blue Growth sectors. Marine Policy, 100, 43-57. https://doi.org/10.1016/j.marpol.2018.10.050.

van Putten, E. I., Aswani, S., Boonstra, W. J., De la Cruz-Modino, R., Das, J., Glaser, M., Heck, N., Narayan, S., Paytan, A., Selim, S., & Vave, R. (2023). History matters: Societal acceptance of deep-sea mining and incipient conflicts in Papua New Guinea. Maritime Studies, 22(3), 32. https://doi.org/10.1007/s40152-023-00318-0.

Vega-Muñoz, A., Salazar-Sepúlveda, G., Contreras-Barraza, N., & Araya-Silva, L. (2021). Port governance and cruise tourism. Sustainability, 13(9), 4877. https://doi.org/10.3390/su13094877.

Vega-Muñoz, A., Salazar-Sepúlveda, G., & Contreras-Barraza, N. (2021). Identifying the blue economy global epistemic community. Water, 13(22), 3234. https://doi.org/10.3390/w13223234.

Vrontisi, Z., Charalampidis, I., Lehr, U., Meyer, M., Paroussos, L., Lutz, C., Lam-González, Y. E., Arabadzhyan, A., González, M. M., & León, C. J. (2022). Macroeconomic impacts of climate change on the Blue Economy sectors of southern European islands. Climatic Change, 170(3-4), 32. https://doi.org/10.1007/s10584-022-

03353-4

Web of Science (2024). Analyze Results. https://www.webofscience.com/wos/woscc/analyze-results/24c20847-f476-4fc6-b8bd-114 05bc18226-f7897319 (Retrieved on 04.08.2024).

Yılmaz, Ö. T. (2020). Analysis of Fisheries Support Estimate for Sustainable Blue Economy. Yuzuncu Yil University Journal of Agricultural Science, 30, 772-780.

Yıldırım, A. & Şimşek, H. (2016). Sosyal Bilimlerde Nitel Araştırma Yöntemleri. Ankara: Şeçkin.

## Research Article

ROMAYA - Researches on Multidisiplinary Approaches 2024, 4(2): 126-142

ISSN:2791-9099

# The Effect Of Social Media On The Travel Decision-Making Process For Glamping Businesses<sup>1</sup>

Glamping İşletmelerine Yönelik Seyahat Kararı Verme Sürecinde Sosyal Medyanın Etkisi

#### İrem Ünal 🕩

Anadolu University, Graduate Schools and Institutes, Department of Tourism Management iremm.unal9@gmail.com

Duygu Yetgin Akgün / Assoc. Prof. Dr. Dr. Anadolu University, Faculty of Tourism dyetgin@anadolu.edu.tr

#### **Abstract**

Glamping is a tourist product developed for those who want to have a camping holiday in nature with a few of the comforts and luxuries of home. This study aims to determine the effect of social media on the travel decision-making process for glamping businesses. In this context, semi-structured interviews were conducted with volunteer individuals who have stayed at glamping establishments at least once through social media. In the analysis of the data, a qualitative data analysis program was used to perform a content analysis. As a result of the analyses, three themes were obtained; Pre-Trip, During-Trip, and Post-Trip. Pre-Trip, it was determined that individuals mostly examined the visuals related to the physical structure of glamping rooms on social media and comments regarding hygiene and the interests of the employees. All participants in the study stated that they used Instagram the most to find out information about the glamping business they wanted to visit. During-Trip, it was concluded that there was no difference between the service received by the individuals and the actual service. Post-Trip, it was determined that individuals shared their experiences on their social media accounts and these posts were mostly related to the architectural structure of their rooms. Participants stated that they would like to go back to glamping businesses as soon as possible Post-trip and recommend them to other individuals to influence them to go. As a result of the research, it was determined that individuals benefitted from social media at every stage of their trips.

**Keywords:** Travel Decision-Making Process, Glamping Businesses, Social Media.

JEL Codes: Z33

### Özet

Glamping, doğanın içerisinde konfor ve lüksten ödün vermeden tatil yapmak isteyenlere yönelik geliştirilen turistik üründür. Bu çalışmanın amacı glamping işletmelerine yönelik seyahat kararı verme sürecinde sosyal medyanın etkisini tespit etmektir. Bu kapsamda sosyal medya aracılığıyla glamping işletmelerinde en az bir kez konaklayan gönüllü bireyler ile yarı yapılandırılmış görüşmeler gerçekleştirilmiştir. Verilerin analizinde bir nitel veri analiz programında içerik analizi yapılmıştır. Yapılan analizler sonucunda, Seyahat Öncesi, Seyahat Sırası ve Seyahat Sonrası olmak üzere üç tema elde edilmiştir. Seyahat öncesinde bireylerin, sosyal medyada glamping odalarının fiziksel yapısı ile ilgili görseller ile hijyen ve çalışanların ilgisi ile ilgili yorumlara daha çok incelediği tespit edilmiştir. Araştırmaya katılan tüm katılımcılar, ziyaret etmek istedikleri glamping işletmesi hakkında bilgi edinmek için en çok Instagram'ı kullandıklarını belirtmişlerdir. Seyahat sırasında bireylerin aldıkları hizmet ile gerçekleşen hizmet arasında bir farklılık olmadığı sonucuna varılmıştır. Seyahat sonrasında ise bireylerin yaşadıkları deneyimleri sosyal medya hesaplarında paylaşım yaptıkları ve bu paylaşımların çoğunlukla odanın mimari yapısı ile ilgili olduğu belirlenmiştir. Katılımcılar gezi sonrasında glamping işletmelerine en kısa zamanda tekrar gitmek ve diğer bireylere de tavsiye ederek gitmeleri konusunda etkilemek istediklerini belirtmişlerdir. Araştırmanın sonucunda bireylerin seyahatlerinin her aşamasında

<sup>&</sup>lt;sup>1</sup> "The Determining Role of Social Media on Glamping Facility Preferences Of Individuals" is derived from his master's thesis.

sosyal medyadan yararlandıkları tespit edilmiştir.

**Anahtar Sözcükler:** Seyahat Kararı Verme Süreci, Glamping İşletmeleri, Sosyal Medya

JEL Kodları: Z33

#### Introduction

Countries can benefit from the potential effects of tourism by diversifying tourism. Today, tourists have turned towards different expectations instead of mass tourism and this has led to alternative tourism (Çelik et al., 2020). The demands and needs of tourists have changed over time and therefore, products and services have been differentiated. In this context, businesses have introduced products and services suitable for the expectations and wishes of tourists (Albayrak, 2013). Recently, tourists prefer to get away from crowds, prefer natural areas and outdoor recreation (Craig, 2020) and tend towards glamping. Glamping is an alternative holiday concept for individuals who find it troublesome to go camping, as it does not contain the laborious work and experiences of normal camps (Hrgović et al., 2018). In addition, glamping, which is preferred for relaxing and spending time with animals, is a tourist product that is realised in nature without sacrificing luxury and comfort (Brochado & Pereira, 2017).

Sustainable tourism practices have gained importance in recent years for the continuity of the tourism industry (Düz, 2022; Sevinç & Duran, 2018). Among the criteria that show that an enterprise attaches importance to sustainability are supporting it with technological applications, involving stakeholder groups and local people, and the use of local resources (Kavak & Emir, 2022). Glamping businesses are environmentally friendly businesses that are conscious of sustainability as well as luxury and comfort. The concept of glamping and sustainability includes several features: the eco-friendly design and maintenance of the facility; sustainable management; specially grown hormone-free products; the use of compost toilets; the transformation of waste; the use of renewable energy; accessibility; the use of regional products and services; and the cooperation of local people (Walter & Comino, 2014; Korkmaz, 2019; Schneegans, 2022). The services provided by these businesses and the activities they offer are in line with an understanding of sustainability. In addition, tourists staying at glamping businesses are intertwined with local people compared to other operating accommodation businesses. This situation increases the welfare of the local people, as well as the development of the infrastructure of the region and the opening of new businesses. Therefore, glamping businesses provide social and economic development by ensuring their sustainability (Demir & Demircioğlu, 2023).

Nowadays, one of the ways to reach a glamping business is through social media interaction. Travelers

can also instantly share their experiences on social media Pre-Trip, During-Trip, and Post-Trip (Munar & Jacobsen, 2014). Individuals conduct various searches to gain prior information with regard to the accommodation establishments they will visit (Filieri & McLeay, 2013). Actively used information technologies allow the obtaining of information regarding the business, looking at alternatives and learning about the experiences of other users. In recent years, social media has been effective in shaping consumers' destination perceptions and trip decisions (Di Pietro et al., 2012; Kasapoğlu et al., 2023). The decision-making process is no longer specific to the pre-travel phase, but it is known that consumers make dynamic decisions with the help of social media platforms (Varkaris & Neuhofer, 2017).

On the other hand, institutions and organisations can direct users with the pictures, videos and content they share on social media (Oyman, 2016) and create positive perceptions regarding products and services, meet needs and increase brand awareness (Mason et al., 2021). In this respect, posts containing tourist experiences on social media platforms trigger the user to have positive information about products and services or to show purchasing behaviour (Eryılmaz & Şengül, 2016; Lund et al., 2018). The idea of how effective social media channels are in tourists' preference for glamping businesses is the starting point of this study. Travelers share both positive and negative information on social media, but it is important to note that a company's timely and helpful response to a negative post can mitigate its negative impacts and increase the trust of potential customers in the location (Schmallegger & Carson, 2008). Businesses that realize the advantages of social media channels increase brand awareness and direct consumers to purchase using social media effectively (Mason et al., 2021). In light of this situation, This study aims to determine the effect of social media on the travel decision-making process for glamping establishments.

Due to the intangible nature of the tourism sector, where competition is constantly increasing day by day, tourists engage in intensive information-seeking activities in order not to be mistaken in their travels, to be sure of the perceived service and to make more rational decisions. This information-seeking, together with different information-seeking strategies, reduces risks by responding to perceived uncertainty. Glamping, a popular and new tourism trend of recent times, is a type of holiday that combines being in touch with nature with luxury and comfort. Since luxury tents, nature views and unusual decorations offer visually striking content, guests tend to share these moments on their social media accounts. Tourists, who avoid taking risks during their holidays, actively use social media at every stage of their glamping experience, both to obtain reliable information and to seek social approval and validation by sharing their experiences. When the

studies on glamping were examined, it was determined that there are studies on similar and different aspects of glamping regulations enacted in Turkiye and Greece (Ceylan et al., 2023), sustainable food understanding in glamping businesses (Güvenol & Kömürcü Sarıbaş, 2022), glamping tourism after the COVID-19 pandemic (Craig & Karabas, 2021; Cebeci, 2021; Düzgün, 2021), expectations and satisfaction with glamping (Yetgin Akgün & Ünal, 2021), and the glamping experience (Brochado & Brochado, 2019). When the literature was examined, no study was found that investigated the effect of social media on tourists' preference for glamping businesses. In this context, this study is important in terms of its scientific contribution to the literature and the related sector. This study aims to fill the gap in the existing literature. It is expected that this research will lead to further research on glamping. It is recommended that entrepreneurs should understand the behavior of tourists on social media to make important strategic decisions when creating social media marketing strategies.

# The Conceptual Framework Conceptual and Theoretical Background

The speed of change in the world order leads to innovation in the information sector as in every field. Information technologies, which are constantly developing due to their structure, have brought many changes in the way both social life and business life handle things (Bulunmaz, 2011). Although many new concepts have entered our lives with these changes, the most talked about in recent years is social media. As the usage areas of social media continue to change and expand, the definition of social media is also changing (Zeng & Gerritsen, 2014).

#### Social Media Platforms

Social media is a group of internet-based applications based on Web 2.0, where users can easily create a profile and post, and this post allows the exchange of information between other users (Boyd & Elison, 2007; Kaplan & Haenlein, 2010). Social media are dynamic, integrated, egalitarian and interactive organisms that are not under the control of any organisation (Peters et al., 2013). Social media, one of the most preferred online environments, has been incorporated into the social and economic order around the world (Zeng & Gerritsen, 2014). Rich content prepared by businesses influences existing and potential customers. Thanks to this effect, individuals will form positive attitudes toward a business in the future (Hanna et al., 2011). It plays a major role in the future of a company by increasing the reputation and sales of the company (Kietzmann et al., 2011). So that the number of active social media users is 4.7 billion, which is 59.4 percent of the world population

(Kavak & Emir, 2023).

With developing technology, new social media platforms are coming onto the market and the features and forms of existing social media platforms are changing. While a number of social media platforms have photo or video-sharing features (Boyd & Ellison, 2007), others include both photo and video-sharing. Although the characteristics of social media platforms are sometimes similar to each other, each platform has a style specific to the language and culture of its user base. In this respect, social media platforms vary in function and scope.

YouTube, a video-sharing website, was created in 2004; Twitter, a simplified microblog, was created in 2006; WhatsApp, a messaging and search application developed for smartphones, was created in 2009; Instagram, a photo-sharing network, was created in 2010; Tinder, a dating application, was created in 2012; and Tiktok, a music and video content, was created in 2016.

## The Importance of Social Media for Tourism Businesses

The tourism world has turned towards digital transformation in the face of technological developments. It has started to use tools such as personalized experience, data-driven approach, multi-channel customer experience, and social media platforms in its operations (Yüksek & Kalyoncu, 2020). As in every industry, social media, which is used as a fast and low-cost way of reaching a target audience, is widely used in the tourism industry. Social media enables businesses to develop sales channels, increase brand and image awareness, carry out advertising and promotional activities, and strengthen customer relations (Çiftçi, 2016; İmre, 2020). Posts on social media platforms that include tourist experiences trigger the user to have information regarding products and services or to show purchasing behaviour (Eryılmaz & Şengül, 2016). The success of social media posts in global interaction and their reach to many segments affect individuals' destination choices (Sevinç, 2021). Through social media platforms, users take purchasing action if the comments they read about the tourism business they want to get information about are positive (Lund et al., 2018). Verma et al. (2012) found that travelers exhibit a decreased propensity to reserve hotel accommodations in the presence of unfavorable reviews, whereas Almana and Mirza (2013) illustrated the significance of highly rated reviews in shaping purchasing decisions. In this context, social media is a tool that tourism businesses should include in their marketing strategies (Coelho et al., 2016). Tourism operators should be able to use social media before a trip (to inspire, inform, interact), during the trip (to provide convenience in the destination) and after the holiday (to remember, share and interact) (Popesku, 2014). In addition to their significant role in people's daily lives and social contexts, social media have become an indispensable aspect of tourism. At these crucial stages of information-seeking and decision-making, social media is reshaping how consumers seek, discover, read, trust, and share information (Varkaris & Neuhofer, 2017).

## The Glamping Concept

The consumption frenzy experienced in recent years has led the tourism sector to new searches in every sector. In addition, trends following individuals' desire to have a different holiday experience (Yetgin Akgün & Ünal, 2021), wanting a socially distanced holiday (Düzgün, 2021), and wanting to escape the crowd (Craig, 2020) have revealed glamping, the touristic product type that has gained momentum in recent times. glamping is defined as 'accommodation that is more comfortable and expensive than that usually used for camping' (Brooker & Joppe, 2013). Glamping, which is more modern than normal camping, offers an 'open-air hotel' experience where

Glamping, which is more modern than normal camping, offers an 'open-air hotel' experience where people can engage in activities by combining camping and luxury in nature within the scope of environmental respect and sustainability without the need to take the items that may be needed in camping, such as sleeping bags, tents and food (Birdir et al., 2015; Brochado & Pereira, 2017; Taino, 2018). Glamping aims to provide guests with high levels of comfort (Olcay & Turhan, 2017).

Glamping is a tourist product that combines luxury and nature, comfort and respect for the environment in outdoor tourism. The professional, hotel-managed businesses of this type of tourism are called glamping businesses. Glamping businesses have started to operate more and more around the world (Eremić, 2020). According to the report published by Grand View Research on the glamping market, it is estimated that the size of the global glamping market was 2.68 billion dollars in 2021, and will reach 7.11 billion dollars from 2022 to 2031. Despite this, glamping has not yet reached the desired level in Turkiye (Ergüven et al., 2015; Göktaş et al., 2017).

## **Features of Glamping**

Glamping, which combines nature, comfort and many different accommodation styles under one concept in the context of experiencing new things and adding extra value, especially as the starting point of special interest tourism types, has spread to a wide geography that will fulfil the expectations of many segments (Kaya & Ergüven, 2022). Glamping businesses allow you to be in nature, away from the hustle and bustle of life, with its sea, landscape and forest. Businesses that provide glamping services have different features compared to camps that require effort, such as setting up tents, cooking, collecting wood and lighting fires (Yetgin Akgün & Ünal,

2021). According to Sakacova (2013), the characteristics of glamping tourism consist of quality service, respect for the environment, nature, and luxury.

Nature, one of the features of glamping, promises to provide an unforgettable experience by integrating with natural areas that have not been explored before (Petruša & Vlahov, 2019). When it comes to the concept of glamping and sustainability, it includes the eco-friendly design and maintenance of the facility, hormone-free products, the use of compost toilets, the use of renewable energy, the separation of garbage for recycling, and the cooperation of local people (Korkmaz, 2019; Schneegans, 2022). The concept of luxury in glamping businesses includes accommodations that will attract consumers by combining comfortable places with extraordinary natural environments and providing a customized service specific to the tourist (Filipe et al., 2018). In addition, it includes high-quality services such as spa, massage, cleaning and laundry services, and transfers (Sakacova, 2013). Glamping has no distinctive features compared to camping and is only focused on luxury and comfort.

The Luxury Tent Facilities Qualifications Regulation of the Ministry of Culture and Tourism entered into force after being published in the Official Gazette dated 23 September, 2022. According to this regulation, glamping businesses will be sustainable and environmentally friendly accommodation units that prioritize luxury and comfort from the establishment stage, taking into account energy efficiency and safety measures. In this context, investing in glamping businesses in Turkiye, with a market size that is expected to increase gradually, will be beneficial for both entrepreneurs and the tourism sector.

Although the regulation is only for luxury tents, glamping architecture is more inclusive than that. Tourists are offered glamping architecture in different styles. These architectural structures consist of vernacular structures (caves and igloos), domes and bubbles, tents (bell tents, safari tents, luxury tents, red tents, and yurts), tree houses and cabins (wooden huts, a-frame cabins, eco-capsules, high cabins, huts, and tree houses) and originally designed structures (gypsy caravans, caravans, floating houses, hobbit houses, barns, wagon houses, castles, towers, and boats) (Korkmaz, 2019; Önem, 2019; Kılınç, 2021).

## **Glamping Tourist 'Glamper'**

Tourists who prefer glamping establishments are called 'glampers'. 'Glampers', in other words glamping tourists, prefer to escape their daily lives, to stay alone, to relax, to be in a peaceful and calmenvironment, and to be intertwined with animals (Petruša & Vlahov, 2019; Yetgin Akgün & Ünal, 2021). Glamping tourists are young and high-income individuals with a high level of education (Milohnić et al., 2017), who adopt a healthy lifestyle (Ergüven et al.,

2015), like to explore new places, and want to be close to nature (Sommer, 2020). While these individuals want to receive high quality luxury services, they do not want to carry their belongings for accommodation (Ergüven et al., 2015). They are also individuals who wish to experience adventurous activities while wanting to experience extraordinary accommodation (Sommer, 2020). These activities can be diversified as fishing, canoeing, hiking, bird watching, yoghurt, stargazing, wine tasting, ATV tours, horse riding, paragliding, climbing, meditation, ceramic painting, water sports, massage, mountain climbing, and mountain biking (Yıldırım & Erkılıç, 2019). The activities offered by glamping businesses can vary depending on the geography, country, and culture where the business is located.

## Methodology

## **Research Design**

A qualitative research method was preferred to examine in depth the opinions of people staying in glamping businesses through social media. Qualitative research is a form of approach that examines every subject that falls within the scope of social and cultural phenomena and individuals' experiences and thoughts (Toker, 2019). The common point of qualitative research is that it focuses on understanding and meaning-making (Merriam, 2009). A phenomenological design was preferred in this study. Phenomenology aims to create in-depth meaning with regard to lived experiences, in other words, to determine the essence of common experiences (Patton, 2018). Before starting this study, approval with protocol No. 232126 was obtained from the Anadolu University Social and Human Sciences Scientific Research and Publication Ethics Committee.

## **Participants**

In the research, the criterion sampling technique was first used to determine the participants of the interviews. With this technique, which is preferred because it allows the researcher to select suitable individuals according to predetermined criteria (Merriam, 2009) to obtain the information he/she wants to obtain, individuals who have stayed at glamping establishments at least once through social media were included in the participant group. After reaching the first five participants, the snowball sampling technique was applied to select new participants (Patton, 2018). In this way, the participants were asked who else could be interviewed and information about the new participants was tried to be obtained. According to Creswell (2013), snowball sampling focuses on people and critical situations where rich data can be obtained and the universe can be reached by following these people and critical situations. A total of 25 participants were interviewed until data saturation and depth were reached, and then the data collection process was terminated (Patton, 2018).

In this study, semi-structured interviews were conducted with volunteer individuals who stayed at glamping businesses at least once through social media. The semi-structured interview technique was preferred in order to carry out the interviews with a certain degree of consistency and to address all aspects of the research topic. In order to conduct the semi-structured interviews, the seven-stage procedure suggested by Kvale (2007) was applied. These seven stages consisted of thematization, design, conducting the interview, transcription, analysis, verification, and reporting.

## Data Collection Tool and Process - Interview Process

In order to determine the participants to be interviewed, the volunteers were asked, 'The name of the glamping business they have stayed in before' and 'Whether they used social media platforms when choosing this business'. After determining the participants to be interviewed according to these criteria, each of them was first contacted by phone, face-to-face or e-mail using their contact information. Before these interviews, the participants were informed about glamping and social media. A signed voluntary participation form was delivered to the researcher face-to-face or by way of e-mail before the interview.

The face-to-face and online (Zoom Platform) interviews were conducted with a total of twenty-five Turkish people between 20 April and 25 May 2022. The interviews varied between seventeen minutes and twenty-five minutes on average. The face-to-face interviews were audio recorded and the online interviews were video recorded with the permission of the participants. According to Maxwell (2018), interview recordings should be listened to and notes should be taken before transcription. In this study, the interview recordings were listened to, notes were taken and transcriptions were carried out separately. The individuals participating in the research were listed as P1, P2, P3... and the participants were given codes between P1 and P25.

## Validity and Reliability of the Study

The unique structure of qualitative research has led to the emergence of new concepts instead of validity and reliability. The most frequently used of these are the principles under the roof of Lincoln and Guba's (1985) concept of trustworthiness. These principles remain persistent in the literature. In qualitative research, Creswell (2013) recommends applying at least two or more of these principles in order to test the

accuracy of the data. The researcher visited a few of the glamping businesses and spent time getting to know the application area personally. The data obtained from the research were analyzed by two researchers who are experts in their fields and a consensus was reached. For the draft interview questions, expert opinion was obtained from two academicians, one of whom had previously conducted studies on glamping and the other who was an expert in qualitative research methods. The interviews with volunteer participants were recorded with a voice recorder and all the details were discussed beforehand. These interviews were fully transcribed. In this study, the researcher conducted content analysis in a qualitative data analysis programme and determined codes and themes with this program in order to shorten the data analysis process and to facilitate the control of the data (Miles & Huberman, 2019). In this way, the credibility of the criterion was ensured. In the presentation of the research findings, direct quotations including the views of the participants were included and reminder notes were kept in the diary during the interviews, thereby ensuring the criterion of transferability. The researcher was involved in the data collection phase and took notes. At the same time, all the authors were involved at all stages of the data collection and the data analysis process, and supervision was carried out. Therefore, consistency was ensured. For the confirmability criterion, the data were read separately and coded by different coders without being influenced by their beliefs and prejudices. As a result, the researcher reduced the risk of bias.

#### **Data Analysis**

The content analysis method was used to analyze the research data. The most important feature of content analysis is that it is a technique based on numerical data that can summarize and compare

Table 1. Demographic characteristics of the participants

the content of communication through the objective and systematic application of classification rules (Kassarjian, 1977). The researcher created transcripts after the data collection process was completed. The transcribed interview texts were carefully read more than once by the researcher. In the analysis process, the researcher started with inductive analysis but continued with deductive analysis when it was decided that Dwityas and Briandana's (2017) 'Social Media in the Travel Decision-Making Process Model' was suitable for the research. With this model, the themes of the research emerged. After the readings, a code scheme was drawn by the researcher and coding was conducted. Categories were formed by combining the codes that were similar to each other and the themes were formed by combining categories. The data obtained in the study were examined by two researchers who are experts in their fields and a consensus was reached. Since the participants' statements contained more than one code, the frequency of the codes was higher than the number of interviews. In the thematic analysis, there are three themes, ten categories and three hundred and eighty-eight codes.

## **Findings**

## **Participant Profiles**

The data obtained from the interviews with the participants were analyzed by the content analysis method. The findings regarding the demographic characteristics of the participants are presented in Table 1. The interviews were conducted with a total of twenty-five people; sixteen women and nine men. It was determined that the ages of the participants ranged between twenty-two and forty-two years. The most common educational status was undergraduate, graduate and high school graduation, respectively. It was determined that the participants went on vacation at twice and at most ten times a year.

Partici- pant	Age	Gender	Profession	Educational Status	The avera- ge number of trips per year
P1	33	Male	Insurer	Postgraduate	8
P2	27	Male	Social media expert	Postgraduate	2
P3	36	Male	Academician	Postgraduate	4
P4	34	Female	Journalist	Undergraduate	10
P5	29	Male	Academician	Postgraduate	1
P6	25	Female	Insurer	Undergraduate	3
P7	25	Female	Insurer	Undergraduate	2
P8	26	Male	Taxi driver	High School	2
P9	42	Male	Tourism	High School	2

The Effect Of Social Media On The Travel Decision-Making Process For Glamping Businesses

P10	31	Female	Dietitian	Undergraduate	2
P11	24	Male	Accountant	Undergraduate	6
P12	22	Male	Photographer	High School	5
P13	35	Female	Cabin crew	Undergraduate	6
P14	28	Female	Teacher	Undergraduate	1
P15	38	Female	Teacher	Undergraduate	1
P16	32	Female	Tour Guide	Undergraduate	2
P17	39	Female	Engineer	Postgraduate	2
P18	40	Female	Tourism	Undergraduate	3
P19	27	Female	Social media expert	Undergraduate	2
P20	29	Female	Security guard	High School	2
P21	42	Female	Academician	Postgraduate	3
P18	42	Female	Tourism	Undergraduate	3
P19	27	Female	Social media expert	Undergraduate	2
P20	29	Female	Security guard	High School	2
P21	42	Female	Academician	Postgraduate	3
P22	33	Female	Academician	Postgraduate	10
P23	31	Male	Entrepreneur	Undergraduate	10
P24	27	Female	Teacher	Undergraduate	3
P25	31	Female	Social media expert	Undergraduate	4
P25	31	Female	Social media expert	Undergraduate	4
		•			

The distribution of the participants according to occupational groups is as follows; academician, tourism, insurance, social media specialist, teacher, entrepreneur, engineer, security guard, photographer, dietician, accountant, taxi driver, cabin officer and journalist. It was determined that the average daily time spent by the participants on social media was five and a half hours. The social media tools that the participants used the most were Instagram, Twit-

ter, YouTube, Facebook, LinkedIn and Tiktok. In this study, Dwityas and Briandana's (2017) 'Social Media in the Travel Decision-Making Process Model' was used to determine the themes of the research. Three themes, namely 'Pre-Trip, During Trip and Post Trip', and ten categories related to these themes, as well as the codes that make up the categories, are given in Table 2.

Table 2. The themes, categories and codes of the study

Themes	Categories	Codes	Number of frequencies
	Awareness of The Concept of Glamping Being In	Nature	12
		Luxury camping	11
PRE-TRIP		Comfortable environment	11
		Peaceful environment	8
		Interacting with animals	5

		Employee interest	12
		Hygiene	12
	Comments Conside-	Hotel and room architecture	9
	red on Social Media	Customer satisfaction	8
		Location	6
		Quality of food	6
		Physical structure of the rooms	20
	Visuals Considered On Social Media	The hotel's proximity to the sea	10
		Luxury furniture	9
		View	7
PRE-TRIP	Glamping Reasons For Preferring	To spend time in nature	11
		Being influenced by content on social media	10
		Socially distanced vacation	9
	1 or releasing	Getting away from the crowds of the city	8
		Price and performance ratio	5
		İnstagram	25
		Trip Advisor	10
	Social Media Platfor- ms Researched On	Google comment	7
	mis Researched On	Facebook	2
		Booking	2
	Service Promised on Social Media	Meeting Expectations	19
		Misleading visuals	5
		Poor quality service delivery	4
		Disrespect for nature	2
DURING-TRIP		Peaceful and calm	14
	Transfer Of Experien- ce Feeling	The feeling of being free	5
		Being with animals	2
	Ce r eemig	Clean and comfortable environment	2
		Campfire	2
	Emotions Experienced After Vacation	Satisfaction	12
		Willingness to go again	9
		Influencing others to leave	6
		Recommend to people	5
POST-TRIP	Post vacation expe-	Sharing	19
	rience	Non-sharing	5
	The Subject Of Sha- red Images	Architectural structure of the room	15
		View	11
		Animals	11
		Total Frequencies	383

According to Table 2, the themes of the study are listed as Pre-Trip (235), Post-Trip (93) and During-Trip (55) according to the number of frequencies. There are five categories under the Pre-Trip theme, two categories under the During-Trip theme and three categories under the Post-Trip theme.

## Findings Related to the 'Pre-Trip' Theme

At the Pre-Trip stage, tourists plan the process before traveling. This stage consists of realizing the need for a vacation, searching for information, and reviewing accommodation options. Tourists can learn from the experiences of other tourists through various social media platforms (Dwityas & Briandana, 2017). Tourists share their experiences regarding the tourist products and services they benefit from on social media platforms, allowing others to have an opinion and influencing their purchasing behavior (Eryılmaz & Şengül, 2016).

In the pre-trip theme, to make the process understandable, the participants were asked questions regarding (1) the information they obtained about glamping businesses; (2) the reasons for preferring glamping businesses; (3) the social media tools they used to prefer these businesses; and (4) the social media images and comments that influenced their decision-making.

The category of 'comments considered on social media' indicates what information the participants want to learn. In this category, one of the most important factors affecting tourists' decisions was identified as 'Hygiene'. Regarding the hygiene code, P21 stated that he had paid attention to the comments about the cleanliness of the rooms and the general environment saying, "I wanted to learn whether the rooms and the general environment were safe and hygienic. Visitor comments affected me a lot." Another code that was paid attention to in the comments was 'Interest of the employees'. In this regard, P6 said, "The comments I pay the most attention to are the service and interest of the employees. I wondered what their attitude towards our slightest request was. The comments about peaceful and smiling employees also influenced my choice." Other interesting codes under this category are hotel and room architecture, customer satisfaction, location and food quality. Sample statements related to these codes are given below:

"Since the quality and taste of the food is as important to me as the architecture of the rooms of the glamping establishment where I will stay, I looked at the social media comments." (P25)

"I especially read the comments about the location of the establishment." (P14)

The category of 'awareness of the concept of glamping' is intended to measure the level of knowledge of the participants with regard to the concept of glamping. In this category, the fact that glamping businesses offered accommodation in nature was frequently included in the statements related to the code 'being in nature'. P4 reveals her awareness saying, "When I think of glamping businesses, I think of luxury tents where I can stay in nature." Another code obtained was 'luxury camping'. P2 expressed this awareness saying, "I only knew that glamping is a more luxurious version of camping and that it is intertwined with nature." In addition to these codes, codes such as 'comfortable environment', 'peaceful environment', and 'intertwined with animals' also stand out. Sample expressions related to these codes are as follows:

"While staying in nature, it saves the trouble of carrying equipment and we can easily meet our basic needs." (P5)

"It is impossible not to have a peaceful environment because it allows accommodation in nature." (P16)

"I know that there is a comfortable accommodation style with animals in a modern luxury campground." (P23)

The category of 'attention-grabbing visuals on social media' aims to determine which types of visuals attracted the attention of the participants. Participant comments differ from each other. In the images that the participants examined with regard to the glamping establishments where they would stay, various accommodation types such as glass lanterns, wooden houses and bungalows were evaluated under the code 'physical structure of the rooms'. Regarding this code, P9 emphasized that the architectural photographs of the room were decisive in choosing the establishment saying, "I was curious about the architecture of the room where I would stay. I was more impressed by the fact that the room was shaped like a transparent geodesic dome tent in the photographs." Other visuals regarding the establishment were evaluated under the codes of the hotel's proximity to the sea, luxury furniture and view. Sample expressions related to these codes are given below:

"One of the points I paid attention to in the photograph was whether the hotel was close to the sea due to its location." (P5)

"I was impressed by the white fan-shaped dome tents and the hammock in front of the room with a fireplace, stove and bathtub." (P18)

"Since I am a nature lover, the view was very important. I had looked at the view of the hotel on social media before I went." (P23)

The category of social media platforms researched is related to the channels through which information concerning the business is gathered. It is noteworthy that all the participants used Instagram to search for information. The prominent codes of this category are Instagram (25), TripAdvisor (10), Google Reviews

(7), Booking (2) and Facebook (2). Sample expressions for these codes are as follows:

"First, I got information from Instagram by looking at location information, people who went, what kind of environment it was and general comments." (P2)

"Before entering every business, I examine both the photos and comments on TripAdvisor. I try to look at the best reviews and the worst reviews." (P20)

"After searching the words Izmir Glamping on Google, I looked at the reviews of the businesses that came up." (P24)

"I did a general research about the hotel thanks to Booking." (P9)

"Apart from Instagram, I followed them on Facebook. I found new glamping businesses through social media and I will go to them this year." (P4)

The reasons for the preference category indicates the reasons for which the participants prefer the glamping establishment they want to go to. In this category, the participants' desire to be in nature and to be intertwined with nature was evaluated under the code 'spending time in nature'. P12 stated the reason for choosing a glamping business saying, "I preferred it because it is completely intertwined with nature." Another code is 'being influenced by the content on social media'. P1 supports this by saying, "I am influenced by the remarkable advertisements, photos, and videos about the glamping business."

Other codes obtained are; having a socially distanced vacation, getting away from the crowds of the city, and the price and performance ratio. Sample expressions for these codes are given below:

"There is a site called Small Hotel on the social media. I found the glamping business from that site." (P21)

"In my research, I paid attention to the fact that the bungalows were comfortable and the bungalows were far from each other, and that is why I chose the establishment I went to." (P20)

"The main reason for choosing this type of business was that I wanted to get away from everything." (P15)

"The price was attractive compared to the service and it was a different concept." (P16)

## Findings Related to the 'During Trip' Theme

The during-trip stage is defined as the experience of the tourist. This stage includes experiences such as accommodation, transportation, food, beverages, products and services such as cultural centers, entertainment centers, and cultural activities during the holiday (Dwityas & Briandana, 2017). Under the theme of the during-trip, the categories of the service promised before the stay in the glamping business and the transfer of the experience were obtained.

The service promised on the social media category aims to measure the consistency between the service received and the service realized. The prominent code in this category was 'meeting expectations'. Regarding this code, the majority of the participants stated that there was no difference between the service they received from glamping businesses and the actual service. P16's statement, "There was no difference, it was exactly as we expected" supports this. In the statements evaluated under the code 'misleading visuals', it was determined that the glamping business looked different from the photos and videos on social media. P5 expressed this situation as, "The glamping establishment I went to looked much better on social media." The fact that the establishment was not clean, there was no contact person when problems arose, and the poor quality of the services provided in the establishment were evaluated under the code 'poor quality service provision'. Another code is 'Disrespect for nature'. Sample expressions related to these codes are given below:

"They are far from the service understanding I expected. The services were quite simple and of poor quality." (P17)

"I saw a group throwing cigarette butts on the ground at the hotel. They have no respect for nature." (P3)

The category of transfer of the lived experience is aimed at determining the experience of the participants during their stay in the glamping business. Under this category, the ability of tourists to rest during the holiday and the quiet and calm nature of the establishment were frequently included in the statements related to the code 'Feeling peaceful and calm'. P10 supported this code with the statements, "It was nice to be close to the sea, to sleep with the sound of waves and to wake up with the sound of waves, it was very peaceful." Another code is the 'feeling of being free.". P14 described this as, "I felt free to do anything." Other experiences were evaluated under the codes 'being with animals', 'clean and comfortable environment' and 'campfire'. Sample expressions related to these codes are as follows:

"One of the most enjoyable experiences I had was gathering around the campfire. It is a very friendly environment." (P13)

"It was an incredible feeling to spend time with the animals during my vacation, it was blissful, they were so well taken care of here and so used to people that they never ran away. They added color to my holiday experience." (P12)

"After the pandemic, I started to pay more attention to hygiene conditions. During my stay at the hotel, from the food to the general environment, everything was clean and comfortable." (P24)

## Findings Related to the 'Post-Trip' Theme

The post-trip stage is the stage where touristic activities are completed. This stage includes tourists sharing their videos and photos about their experiences on social media platforms after their trips and their level of satisfaction with their trips (Dwityas & Briandana, 2017; Cheng et al., 2022).

The category of the subject of the shared images refers to the content of the images shared by the participants on their social media accounts after their trips. In this category, the code 'The architectural structure of the room' stood out. P8 mentioned the interestingly designed rooms of the glamping establishment saying, "I shared the transparent geodesic dome tent design of the room I stayed in on my social media." Other codes are 'Animals' and 'Landscape' photos. Sample expressions related to these codes are given below:

"I shared the cute little squirrel, the mascot of the glamping business, who did not leave my side during my vacation." (P6)

"I added unique nature views to my social media." (P1)

The category of emotions experienced after the vacation is related to measuring the satisfaction of the participants regarding the business and whether they intend to purchase the business again. The most repeated code in this category was 'satisfaction'. P17 expressed her satisfaction saying, "Staying at this glamping establishment was generally satisfying." P1's statement, "I am trying to arrange both the work environment and the friend environment so that I can go again" is an example of the code 'desire to go again'. Other important codes are 'influencing others to go' and 'recommending to people'. Sample statements related to these codes are given below:

"My circle of friends were influenced by me and went to the hotel where I stayed." (P13)

"It is an environment where they can experience luxury and camp life together. Therefore, I can recommend it to them." (P5)

The post-vacation experience-sharing category focuses on whether the participants shared their experiences in the glamping business. It was observed that the majority of the participants in the study shared their experiences on social media. In the statements related to the 'not sharing' code, the participants stated that they generally did not share on social media.

#### **Discussion**

The research findings would offer an overview of how glamping tourism consumers perceive, utilize, and process user-generated content on social media throughout the travel planning process. The participants in the study stated that the definition they know most about the concept of glamping is luxury camping operating in nature. The recent popularity of the concept of glamping is because it operates in nature and has a luxurious and comfortable environment. The other definitions of glamping are comfortable environment, peaceful environment and intertwined with animals. In a study conducted by Güvenol & Kömürcü Sarıbaş (2022), tourists associated the concept of glamping with the words comfort, located in nature, accessible to basic needs, luxury, different from traditional camping, and calm, respectively. It is partially similar to this study. According to the Digital 2022 Global Outlook Report, the daily time spent on social media in Turkiye is two hours and fifty-nine minutes. The most used social media platforms in Turkiye are Instagram, Facebook and Twitter, respectively. In this study, it was determined that the average time spent by the participants on social media was between one and ten hours and the most used social media platforms were Instagram, Twitter, YouTube, Facebook, Linkedln and Tiktok. Dogra & Karri (2020) found that tourists mostly use social media platforms of Tripadvisor and Facebook to get information regarding India.

It was concluded that the most effective reason for tourists to prefer glamping is that the businesses operate in nature. Filipe et al., (2018) found that the most important reason for choosing glamping was direct contact with nature. It was concluded that other important reasons for choosing glamping are related to social media content, wanting to have a socially distanced vacation, wanting to get away from the crowds of the city, and the price and performance ratio. This result is similar to other studies in the literature (Olcay & Turhan, 2017; Brochado & Pereira, 2017; Göktaş et al., 2017; Liberato et al., 2020; Craig & Karabaş, 2021; Düzgün, 2021; Meriç et al., 2021; Karadeniz & Özkan, 2022; Lu et al., 2022).

The participants in the study stated that they paid attention to the comments on social media while planning the glamping business they wanted to stay in at the pre-trip phase. The participants stated that they attached more importance to comments regarding hygiene and employee interest. According to Ulrich et al. (1991), the reason why the interest of the employees is taken into consideration so much is because the service provider has a big role in the tourist's experience. In a study by Gerenaz & Yetgin (2021), it was found that there were many detailed user comments concerning the cleanliness of the hotel. Other noteworthy comments included hotel and room architecture, customer satisfaction, location and food quality. In a study by Yetgin Akgün & Ünal (2021), it was determined that tourists have expectations regarding glamping accommodation architecture, friendly and caring employees, the beauty of nature and the scenery, and the taste of the food. This is similar to this study.

Bizirgianni & Dionysopoulou (2013) concluded that young tourists are influenced by photos and videos shared for informational purposes on social media while making their trip decisions. It was determined that the visuals that the tourists in the study paid attention to on social media consisted of the physical structure of the rooms, the hotel's proximity to the sea, luxury furniture and the view, respectively. Giglio et al. (2020), in their study on luxury hotels, show similarities with the result that the visuals that tourists pay attention to most is the physical structure of the room. The participants stated that the difference between the service they received and the actual service was related to misleading visuals, poor quality service, and disrespect towards nature. This is similar to the study of Aşıroğlu & Çuhadar (2021). During their trips, the participants expressed their experiences as feeling peaceful and calm, feeling free, spending time with animals, being in a clean and comfortable environment, and chatting around the fire. A study by Yetgin Akgün & Ünal (2021) is similar to the sub-codes in the lived experience and luxury furniture categories.

Individuals share their experiences their post-trips on social media and therefore affect the opinions of their surroundings regarding traveling to a great extent (Aşıroğlu & Çuhadar, 2021). As a result, tourists can also lead to the emergence of a new travel trend by communicating their trips to large masses through social media (Doğan et al., 2018). In this study, the participants stated that they shared their posttrip experiences on social media. Likewise, Lu et al (2021) found that almost all of the people they interviewed within the scope of their study were willing to share photos of their glamping holidays on social media platforms. Another result of the research is that the images shared concerning glamping establishments are related to the architectural structure of the room, landscape and animals.

It was determined that the participants had high satisfaction levels with glamping establishments posttrip. It can be seen that this overlaps with similar research results in the literature (Aymankuy et al., 2012; Olcay & Turhan, 2017; Yetgin Akgün & Ünal, 2021). The other emotions experienced by the participants after their holidays are listed as the desire to go again, being effective for someone else to go and recommending it to people. The result of the guests' desire to go again is similar to the result of Brochado & Pereira's (2017) study on glamping experiences.

#### **Conclusion**

The idea of revealing the effect/determinant of social media on the travel decision-making process for glamping businesses constituted the starting point of this study. Businesses that realise the advantages of social media channels increase brand awareness and direct consumers to purchase using social

media effectively. Marketing strategies in tourism should be flexible to adapt to ever-changing market conditions and customer expectations. Tourism marketing strategies such as innovative approaches, target audience analysis, digital marketing, providing personalized services, organizing events promoting local culture and effective use of technology are important in gaining competitive advantage. The combination of these strategies offers an effective way to both retain existing customers and reach new tourists.

In this qualitative research, semi-structured interviews were conducted with Turkish volunteer individuals who had stayed at glamping businesses at least once through social media. The data obtained at the end of the interviews were content analysed by a qualitative data analysis programme. In this study, Dwityas and Briandana's (2017) 'Social Media in the Travel Decision-Making Process' was used to determine the themes of the research. The themes identified are; (1) Pre-Trip, (2) During-Trip, and (3) Post-Trip. (refer to Fig. 1)

Pre-trip is an important theme in terms of the subject of this research. Individuals conduct research through various websites and online platforms to learn information about a product or service they want to buy (Cheung & Lee, 2012). All the participants in the study indicated that they used Instagram the most to find information regarding the glamping business they wanted to visit. Instagram, Tripadvisor, Google Reviews, Booking, and Facebook were ranked accordingly.

As much as the comments are written about a product or service before purchasing it, attention can also be paid to the images shared regarding that product or service. The participants emphasized that they paid particular attention to the physical structure of the glamping rooms. Luxury furniture in the room, the distance of the rooms to the sea, and the view were among the other interesting visuals. Individuals who want to engage in tourism activities act according to the information and thoughts they have acquired while choosing the hotel where they will stay (Cheung & Lee, 2012).

One of the most important results of this study is that the participants have detailed information about glamping. Participants defined glamping as businesses operating in nature, offering a more luxurious, comfortable, and peaceful environment than normal camps and allowing them to spend time with animals. The participants in this study stated that they prefer glamping establishments to spend time in nature. Other reasons for the preference of glamping businesses are the posts of individuals and businesses on social media platforms, the desire to go on a socially distanced holiday, to get away from the city, and the attractive amount paid according to the service received. In this context, glamping entrep-

reneurs need to analyze the target audience well. It should not be ignored that those who prefer this type of accommodation prefer to have a conscious holiday in nature. In the study of Filipe et al (2018), the motivation source of glampers is direct contact

with nature. Another source of motivation are the fact that the establishment is generally in a special and unique location.

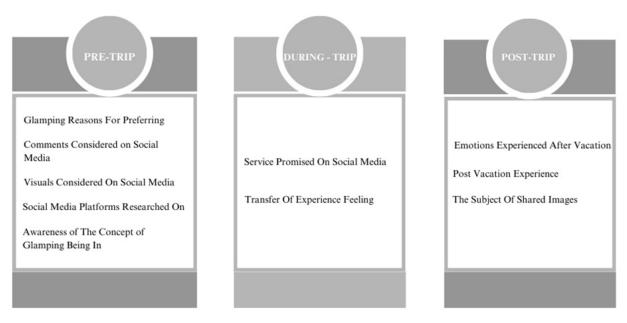


Figure 1. The effect of social media on the travel decision-making process for glamping businesses.

# **Theoretical Implications**

One of the most important results of this study is that tourists are influenced by social media when deciding to travel in a glamping business. Similarly, studies conducted in Turkiye, have determined that social media is effective on tourists' travel decisions and that tourists use social media platforms to obtain information about tourism destinations and tourism facilities (Doğaner & Armağan, 2018; Doğan et al. 2018; Güzel & Öztürk, 2018; Demiral & Gelibolu, 2019; Ünal & İpar, 2021). Xiang & Gretzel (2010) with American tourists, Bizirgianni & Dionysopoulou (2013) with Greek young tourists Li & Wu (2015) with Chinese tourists; Tao & Feng (2016) with British tourists, Bagain & Othman, (2018) with Malaysian tourists; Dogra & Karri (2020) with Indian tourists concluded that social media affects the decision-making process in tourism. It can be said that in this case, different cultures but the same results are observed.

According to Çiftçi (2016), social media also offers businesses, institutions, organizations, and other sectors the opportunity and convenience of promotion, sales, and marketing with a small budget. Thus, great opportunities are offered in terms of branding, image, and income. Innovation in tourism marketing through social media relies on new communication methods and technologies to achieve effective market positioning, enhance precision, and keep up with trends in the industry (Zheng, 2023).

Under the theme of the during trip, the service pro-

mised on social media and the transfer of the lived experience is included. When the data analyzed within the research scope were examined, most participants stated that the service they received from the glamping business coincided with the service they formed in their minds through social media. This is a remarkable result of the research. Although most participants stated that the service they received met their expectations, some disagreed. Misleading visuals, low service quality, and the fact that both the operators and the individuals staying in the accommodation do not p The experiences they had during their stay in the glamping business are unique for each individual. The participants stated that they were able to rest in peace and feel calm because the glamping establishments were quiet and calm. Other experiences the participants had during the trip were feeling free, spending time with animals, being in a hygienic, comfortable environment, and chatting around the fire.

Under the post-trip theme, whether the experience is shared or not, the subject of the shared images and the emotions experienced after the holiday are included. Individuals engaged in tourism activities use social media to share their post-holiday experiences (Erol & Hassan, 2014, p. 805). The participants in this study stated that they shared their post-holiday experiences on their social media accounts. These images shared by the participants are related to the architectural structure of the room. This is due to the luxurious and unique interior design of

glamping establishments. Other shared images are listed as the view of the hotel and the animals they spent time with during the holiday period. It was determined that the participants in the research were satisfied with the glamping business they stayed in. Other emotions experienced after the holiday are listed as wanting to go back as soon as possible, being effective for others to go and recommending it to people. Tourism fairs are important events that bring together alternative tourism stakeholders with both the sector and the buyer, just like every branch of tourism. Businesses that want to be recognized in the sector and the target audience take a step towards branding by taking part in such events.

# **Practical Implications**

The findings and discussions of this study are useful to industry practitioners and academic researchers interested in using social media. Individuals get information through various sites and online platforms before deciding about their holidays. According to Leung et all (2013) given the important role of social media in both travelers' decision-making and tourism operations and management, a wealth of research on the application of social media in tourism and hospitality has been cataloged in peer-reviewed has been cataloged in journals. As a result of this research, it was determined that people benefit from social media sites in obtaining information concerning the glamping business. By giving importance to social media marketing, businesses can both increase their sales revenue and save on marketing expenditures. Positive feedback and shares on social media encourage other potential customers to prefer the business. For this reason, glamping businesses should actively use their social media accounts, share regular and attractive content, and respond to customer comments quickly and effectively. It would be beneficial to create locations that encourage tourists to capture and disseminate images that showcase the appealing and aesthetically pleasing aspects of glamping businesses in harmony with nature. These locations should be photographed using natural light and high-resolution professional images and videos should be shared. The analytical tools provided by social media platforms enable the observation of content that receives greater interaction, the demographic characteristics of followers, and the hours of greatest activity. This data facilitates the formulation of a strategic plan. Additionally, advertisements can be targeted to specific groups, such as those who appreciate nature, camping, or luxury holidays, to reach potential customers.

With marketing strategies such as campaigns and discounts, businesses can increase brand awareness and reach a wider customer base. Glamping businesses can increase the number of followers by running a competition on social media and offering

a free stay to the follower who shares the best glamping photo. Offering special discounts or promotional codes only to social media followers can encourage them to book.

Events and competitions to be organized by glamping businesses on social media can also increase the interaction of users and strengthen their loyalty. Although it was determined that users mostly benefit from Instagram as a result of this study, it can be recommended to focus on different social media platforms suitable for marketing strategies. Glamping businesses can be recommended to work with professional social media experts to build a social identity suitable for their target audience. Since tourists are influenced by the posts regarding glamping architecture they see on social media, operators can focus on such visuals. It should emphasize what is unique about the glamping business.

Glamping businesses are businesses that should respect nature due to their structure (Yetgin Akgün & Ünal, 2021). To reach an environmentally conscious tourist, it is recommended that both individuals and businesses share posts that emphasize eco-friendly travel and low-carbon footprint holidays, indicating that they are sensitive to nature. One of the results of this study is that the images shared on social media can be misleading. Glamping businesses should reduce individuals' possible feelings of insecurity by preferring realistic images in their posts. Providing quick and courteous answers to questions from potential guests creates trust and increases the likelihood that customers will choose your business.

Social media posts and the comments of existing tourists who share their experiences significantly affect potential tourists' identification of alternatives and making purchasing decisions (Dwityas & Briandana, 2017). In particular, comments on social media platforms such as Instagram and TripAdvisor can help glamping businesses identify the deficiencies and aspects that need improvement in the fastest way possible. In this respect, glamping businesses should pay attention to the comments made about them on their social media accounts and interact with existing and potential tourists by responding to these comments quickly.

Glamping accommodations offer luxurious nature experiences, aesthetically appealing environments, and unique activities, creating an atmosphere that is very suitable for sharing on social media (Sun & Huang, 2022). Guests tend to share these moments on their social media accounts as luxury tents, nature views, and unusual decorations offer visually striking content. In addition, activities and adventurous experiences in nature make users want to immortalize their holiday memories and share them with others. Activities such as campfires and nature walks also increase the digital visibility of glamping by providing attractive content for social media. As a result,

those staying in glamping businesses can use social media more interactively and visually orientated compared to traditional hotel types. This is associated with their tendency to both emphasize their personal experiences and to foreground values such as environmental awareness and sustainable tourism.

#### Limitations and future research

This study, which aims to determine the effect of social media in the travel decision-making process for glamping establishments, contributes to the literature. One of the limitations of the research is that interviews were conducted with individuals staying in glamping businesses through social media. In this context, the same study could be repeated by interviewing glamping operators in future studies. This future study could provide important insights for glamping professionals and entrepreneurs who want to understand the latest developments in the sector and the most effective strategies. Researchers can focus on this research topic in the future. Interviews can be conducted with tourists who have been informed about glamping businesses through the travel agency and have decided to stay there. It would help to understand the full landscape of travel decision-making if the study were extended to include non-social media users.

Another limitation of this study is that the data were collected in a short period of approximately two months. It may be recommended to conduct longterm studies in the future to observe the changes in the impact of social media on the travel decision-making process towards glamping businesses over time. Thus, deeper information about trends and changes in consumer behavior can be obtained. Another limitation of this study is that all volunteers participating were Turkish. Another suggestion is that the impact of social media on the travel decision-making process for glamping can be investigated in individuals from different cultures. Different results can be obtained by providing a broader perspective with comparative studies to be conducted in the future by considering cultural differences. Thus, a contribution can be made to the existing literature. A qualitative research method was used in this study. To provide a more comprehensive analysis of the effects of social media on travel decisions, the use of mixed-method approaches combining qualitative and quantitative data may be recommended for future research.

#### References

Albayrak, A. (2013). Alternarif Turizm Ankara: Detay Yayıncılık Almana, A.M. & Mirza, A. (2013), The impact of electronic word of mouth on consumers' purchasing decisions, International Journal of Computer Applications, 82 (9), 23-31.

Aşıroğlu, B. & Çuhadar, M. (2021). Üniversite öğrencilerinin destinasyon imajı algısı üzerinde sosyal medyanın etkisi: Lavanta tu-

rizmi örneği. Journal of Turkish Tourism Research, 5 (2), 925-945. https://doi.org/10.26677/TR1010.2021.746

Aymankuy, Y., Akgül, V. & Akgül, C. C. (2012). Termal konaklama işletmelerinde müşteri memnuniyetine etki eden unsurlar: Gönen kaplıcaları örneği. Balikesir Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 15 (28), 223-240.

Baqain, A., & Othman, R. (2018). The influence of social media on travel decision-making: Evidence from Malaysian tourists. International Journal of Tourism Research, 20(2), 187-195. https://doi.org/10.1002/jtr.2193

Birdir, K., Unur, K. & Dalgıç A. (2015). Türkiye ve dünya'da kamping ve yeni bir turistik ürün olarak 'Glamping'. 1. Eurisia International Tourism Congress: Current Issues, Trends and Indicators (EITOC-2015), 28-30 Mayıs 2015, Konya, 2, 168-177

Bizirgianni, I. & P. Dionysopoulou. (2013). The influence of tourist trends of youth tourism through social media (SM) & information and communication technologies (ICTs). Procedia Social and Behavioral Sciences, 73, 652 - 660. https://doi.org/10.1016/j.sbspro.2013.02.102

Boyd, D. M. & Ellison, N. B. (2007). Social network sites: Definition, history, and scholarship. Journal of Computer Mediated Communication, 13 (1),210-230. https://doi.org/10.1111/j.1083-6101.2007.00393.x

Brochado, A. & Brochado, F. (2019). What makes a glamping experience great. Journal of Hospitality and Tourism Technology, 10 (1), 15-27. https://doi.org/10.1108/JHTT-06-2017-0039

Brochado, A. & Pereira, C. (2017). Comfortable experiences in nature accommodation: Perceived service quality in Glamping. Journal of Outdoor Recreation and Tourism, 17, 77-83. https://doi.org/10.1016/j.jort.2017.01.005

Brooker, E. & Joppe, M. (2014). A critical review of camping research and direction for future studies. Journal of Vacation Marketing, 3, 1-6. https://doi.org/10.1177/1356766714532464

Bulunmaz, B. (2011). Otomotiv sektöründe sosyal medya kullanımı ve Fiat örneği. Global Media Journal Turkish Edition, 2 (3), 19-50.

Cebeci, H. (2021). Covid-19 salgını sonrası turizm algısının "Glamping Turizmi" üzerine etkisi üzerine bir araştırma: Giresun örneği. Yayınlanmamış Yüksek Lisans Tezi. Giresun: Giresun Üniversitesi, Sosyal Bilimler Enstitüsü.

Ceylan, Y., Serçek, G. Ö., & Ceylan, E. (2023). Yunanistan ve Türki-ye'de glamping işletmeleri ile ilgili yasal düzenlemelerin karşılaştırılması. Euroasia Journal Of Social Sciences & Humanities, 10(34), 11-23. https://doi.org/10.5281/zenodo.10029906

Cheng, W., Tian, R., & Chiu, D. K. W. (2023). Travel vlogs influencing tourist decisions: information preferences and gender differences. Aslib Journal of Information Management. Advance online publication. https://doi.org/10.1108/AJIM-05-2022-0261.

Cheung, C. M.K. & Lee, M. K. O. (2012). What drives consumers to spread electronic word of mouth in online consumer-opinion platforms. Decision Support Systems, 53(1), 218-225. https://doi.org/10.1016/j.dss.2012.01.015

Coelho, R. L. F., Oliveira, D. S. & Almeida, M. I. S. (2016). Does social media matter for post typology? Impact of post content on Facebook and Instagram metrics. Online Information Review, 40 (4), 458-471. https://doi.org/10.1108/OIR-06-2015-0176

Craig, C.A. (2020). Camping, glamping, and coronavirus in the United States. Annals of Tourism Research, 89, 103071. https://doi.org/10.1016/j.annals.2020.103071

Craig, C.A. & Karabas, İ. (2021). Glamping after the coronavirus pandemic. Tourism and Hospitality Research, 21(2), 251–256. https://doi.org/10.1177/1467358421993864

Creswell, J. W. (2013). Nitel Araştırma Yöntemleri Beş Yaklaşıma Göre Nitel Araştırma ve Araştırma Deseni. (Çev: S.B. Demir ve M. Bütün). Ankara: Siyasal Kitabevi.

Çelik, M. K., Kurtaran, A. & Mutlu, F. (2020). Alternatif Turizm Ve Ekonomik Etkileri. Ankara: Gazi Kitapevi.

Çiftçi, H. (2016). Turistik destinasyon ürünlerinin popülerleşmesinde sosyal medyanın rolü. Akademik Sosyal Araştırmalar Dergisi,

# İrem Ünal / Duygu Yetgin Akgün

33, 544-551. https://doi.org/10.16992/ASOS.6540

Demir, Ş. Ş., & Demircioğlu, A. (2023). Sürdürülebilir kırsal kalkınmada glamping işletmelerinin rolü: Fethiye örneği. Safran Kültür ve Turizm Araştırmaları Dergisi, 6(1), 106-120.

Demiral, A. B., & Gelibolu, L. (2019). Turistik destinasyon olarak Kars'ın tercih edilmesinde sosyal medya paylaşımlarının motivatör etkisi: Doğu Ekspresi örneği. International Social Sciences Studies Journal, 5(49), 6174-6187.

Di Pietro, L., Di Virgilio, F., & Pantano, E. (2012). Social network for the choice of tourist destination: attitude and behavioural intention. Journal of Hospitality and Tourism Technology, 3(1), 60–76. https://doi.org/10.1108/17579881211206543.

Dogra, J. & Karri, V. R. S. (2020). Trustworthiness of inbound tourists on social media platforms towards destination choice. Turizam, 24 (3), 101-112. https://doi.org/10.5937/turizam24-24952

Doğan, M., Pekiner, A. B. & Karaca, E. (2018). Sosyal medyanın turizm ve turist tercihlerine etkisi: kars-doğu ekspresi örneği. Seyahat ve Otel İşletmeciliği Dergisi, 15 (3), 669-683. https://doi.org/10.24010/soid.443504

Doğaner, M. C., & Armağan, E. (2018). Seyahat bloglarının destinasyon seçimine etkisi. Pamukkale Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 30, 223-237.

Düz, B. (2022). Destinasyonlarda Turist Rehberliği Hizmeti, (Editör) Emir, O. Destinasyon Geliştirme ve Örnek Uygulamalar, 231-243, Ankara: Detay Yayıncılık

Düzgün, E. (2021). Pandemi sonrası yeni turist tercihi: Glamping turizmi. ODÜ Sosyal Bilimler Araştırmaları Dergisi, 11 (1), 145-158. https://doi.org/10.48146/odusobiad.870381

Dwityas, N.A. & Briandana, R. (2017). Social media in travel decision making process. International. Journal of Humanities and Social Science, 7(7), 193-201.

Eremić, G. (2021). New trends in camping tourism–glamping and family campsites. Geoadria, 26 (1), 59-82. https://doi.org/10.15291/geoadria.3095

Ergüven, M. H., Yılmaz, A. & Kutlu, D. (2015). Turistik ürün çeşitlendirme bağlamında hibrit turizm: glamping örneği. The Journal of Academic Social Science Studies, 41, 255- 265.

Erol, G. & Hassan, A. (2014). Gençlerin Sosyal Medya Kullanımı ve Sosyal Medya Kullanımının Tatil Tercihlerine Etkisi, Uluslararası Sosyal Araştırmalar Dergisi, 7 (3), 804-812.

Eryılmaz, B. & Şengül, S. (2016). Sosyal medyada paylaşıları yöresel yemek fotoğraflarının turistlerin seyahat tercihleri üzerindeki etkisi. Uluslararası Türk Dünyası Turizm Araştırmaları Dergisi, 1 (1), 32-42

Filieri, R. & McLeay, F. (2014). E-WOM and accommodation: An analysis of the factors that influence travelers' adoption of information from online reviews. Journal Of Travel Research, 53(1), 44-57. https://doi.org/10.1177/0047287513481274

Filipe, S., Santos, C.A. & Barbosa, B. (2018). Tourists' motivations and obstacles for choosing glamping: An exploratory study. CBU International Conference Proceedings, 6, 113–119. https://doi.org/10.12955/cbup.v6.1142

Gerenaz, H., & Yetgin, D. (2021). Spa otel işletmelerinin çevrimiçi müşteri değerlendirmeleri: tripadvisor örneği. İşletme Araştırmaları Dergisi, 13(3), 2800-2818. https://doi.org/10.20491/isarder.2021.1291

Giglio, S., Pantano, E., Bilotta, E. & Melewar, T.C. (2020). Branding luxury hotels: Evidence from the analysis of consumers' "big" visual data on TripAdvisor. Journal of Business Research, 119, 495-501. https://doi.org/10.1016/j.jbusres.2019.10.053

Göktaş, L. S., Çetin, G. & Kızılırmak, İ. (2017). Özel ilgi turizmi olarak glamping turizminin mevcut durumu: Bir örnek olay analizi araştırması, 4. Disiplinlerarası Turizm Araştırmaları Kongresi, Kuşadası, Aydın, 107-120.

Güvenol, B. & Kömürcü Sarıbaş, S. (2022). Konaklama sektöründe sürdürülebilirlik: glamping işletmeleri örneği. Journal of Tourism and Gastronomy Studies, 10 (3), 2369-2393. https://doi.org/10.21325/jotags.2022.1096

Güzel, B., & Öztürk, S. (2018). Social media as a tool for destination marketing: Evidence from Turkey. Tourism Review, 73(3), 382-394. https://doi.org/10.1108/TR-07-2017-0136

Hanna, R., Rohm, A. & Crittenden, V. L. (2011). We're all connected: The power of the social media ecosystem. Business Horizons, 54 (3), 265-273. https://doi.org/10.1016/j.bushor.2011.01.007

Hrgović, A-M.V., Cvelić-Bonifačić, J. & Licul, I. (2018). Glamping-new outdoor accommodation. Ekonomska Misaoi Praksa, 2, 621-639. doi: https://hrcak.srce.hr/213326.

İmre, N. (2020). Turizm sektöründe sosyal medya kullanımı üzerine bir değerlendirme. Türk Turizm Araştırmaları Dergisi, 4 (2), 1655-1670

Kaplan, A. M. & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of social media. Business Horizons, 53(1), 59-68. https://doi.org/10.1016/j.bushor.2009.09.003

Karadeniz, Y. & Özkan, Ç. (2022). Covid-19 salgınının kuzey ege bölgesi'ndeki turizm İşletmeleri Üzerine Etkilerini Belirlemeye Yönelik Bir Araştırma. Nevşehir Hacı Bektaş Veli Üniversitesi SBE Dergisi, 12 (3), 1803-1814. https://doi.org/10.30783/nevsosbilen.1065344

Kasapoğlu, C., Aksoy, R., & Başkol, M. (2023). Assessing destination brand associations on Twitter: The case of Istanbul. Advances in Hospitality and Tourism Research (AHTR). 11 (4) 443-475 https://doi: 10.30519/ahtr.1116172. https://doi.org/10.30519/ahtr.1116172

Kassarjian, H. (1977). Content analysis in consumer research. Journal of Consumer Research, 4 (1), 8-18. https://doi.org/10.1086/208674

Kavak, M. & Emir, O. (2022). Destinasyonlarda rota oluşturma. (Editör). Emir, O. Destinasyon geliştirme ve örnek uygulamalar. Ankara: Detay Yayıncılık.

Kavak, M. & Emir, O. (2023). Turist rehberliği alanındaki ön lisans, lisans ve lisansüstü programların müfredatının teknoloji ve dijitalleşme açısından incelenmesi. Journal of Tourism and Gastronomy Studies, 11 (4), 3055-3076. https://doi.org/10.21325/jotags.2023.1331

Kaya, A. & Ergüven, E. (2022). Glamping, iklim terapisi, orman banyosu, termal terapi ve wellness temelinde Sakarı'nın destinas-yonlaşması. Journal of Gastronomy, Hospitality and Travel, 5(4), 1435-1448. https://doi.org/10.33083/joghat.2022.211

Kılınç, A. İ. (2021). Konaklama model önerisi olarak : "Ad Hoc". Yayınlanmamış Doktora Tezi, İstanbul: Mimar Sinan Güzel Sanatlar Üniversitesi

Kietzmann, J. H., Hermkens, K., McCarthy, I. P. & Silvestre, B. S. (2011). Social media? Get serious! Understanding the functional building blocks of social media. Business Horizons, 54 (3), 241-251. https://doi.org/10.1016/j.bushor.2011.01.005

Korkmaz, E. (2019). Ekoturizm alanındaki gelişmelerden glamping'in uygulanabilirliği: Datça yöresinde bir araştırma. Yayınlanmamış Yüksek Lisans Tezi. İzmir: Dokuz Eylül Üniversitesi, Sosyal Bilimler Enstitüsü.

Kvale, S. (2007). Doing Interviews. London: Sage Publications.

Leung, D., Law, R., Van Hoof, H., & Buhalis, D. (2013). Social media in tourism and hospitality: A literature review. Journal Of Travel & Tourism Marketing, 30(1-2), 3-22. https://doi.org/10.1080/105484 08.2013.750919.

Li, H., & Wu, J. (2015). The impact of social media on travel decisions: A study of Chinese tourists. Tourism Management, 47, 50-60. https://doi.org/10.1016/j.tourman.2014.10.012

Liberato, P., Coelho, J. & Liberato, D. (2020). Price versus service assessment in glamping. (Editörler), V. Katsoni & T. Spyraidis, In Cultural and Tourism Innovation in the Digital Era (s.629-638). Switzerland: Springer Proceedings in Business & Economics.

Lincoln, Y. S. & Guba, E. G. (1985). Naturalistic inquiry. Newbury Park, CA: Sage Publications.

Lu, C. Y., Suhartanto, D. & Chen, B. T. (2022). Exploration of new outdoor leisure activities (glamping) during the post-pandemic era. Tourism Recreation Research, 1-9. https://doi.org/10.1080/0

# The Effect Of Social Media On The Travel Decision-Making Process For Glamping Businesses

2508281.2022.2111628

Lund, N. F., Cohen, S. A. & Scarles, C. (2018). The power of social media storytelling in destination branding. Journal of Destination Marketing & Management, 8, 271-280. https://doi.org/10.1016/j.jdmm.2017.05.003

Mason, A. N., Narcum, J. & Mason, K. (2021). Social media marketing gains importance after Covid-19. Cogent Business & Management, 8 (1), 1870797. https://doi.org/10.1080/23311975.202 0.1870797

Maxwell, J. A. (2018). Nitel Araştırma Tasarımı Etkileşimli Bir Yaklaşım (Trans: M. Çevikbaş). Ankara: Nobel Akademik Yayıncılık

Meriç, S., Subaşı, A & Şahin, S.(2021). Van gölü havzasının glamping turizmi potansiyeli. Van Yüzüncü Yıl Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 53, 401-418.

Merriam, S. B. (2009). Qualitative research: A guide to design and implementation. John Wiley & Sons.

Miles, M. B. & Huberman, A. M. (2019). Nitel Veri Analizi (Çev: S. Akbaba- Altun ve A. Ersoy). Ankara: Pegem Akademi

Milohnić, I., Cvelić Bonifačić, J. & Licul, I. (2019). Transformation of camping into glamping–trends and perspectives. Tourism in South East Europe, 5, 457-473. https://doi.org/10.20867/to-see.05.30

Munar, A.M. & Jocobsen, J.K.S. (2014). Motivations for sharing tourism experiences through social media. Tourism Management, 43, 46–54. https://doi.org/10.1016/j.tourman.2014.01.012

Olcay, A. ve Turhan, U. (2017). Türkiye'de glamping hizmeti veren işletmelerin sahip ve yöneticilerinin "yeni turizm trendi glamping" ile ilgili görüşleri (Muğla ve Antalya örneği. Gaziantep University Journal of Social Sciences, 16 (4), 980-996. https://doi.org/10.21547/jss.314773

Oyman, N. (2016). Sosyal medya dindarlığı. Kahramanmaraş Sütçü İmam Üniversitesi İlahiyat Fakültesi Dergisi, 28, 125-167.

Önem, B. (2019). Glamping işletmecilerinin özgeci davranışları ve psikolojik iyi oluş düzeylerinin belirlenmesine yönelik bir araştırma. Yayınlanmamış Yüksek Lisans Tezi. Eskişehir: Anadolu Üniversitesi, Sosyal Bilimler Enstitüsü.

Patton, M. Q. (2018). Nitel araştırma ve değerlendirme yöntemleri. (Trans: M. Bütün & S.B. Demir). Ankara: Pegem Akademi

Peters, K., Chen, Y., Kaplan, A. M., Ognibeni, B., Pauwels, K. (2013). Social media metrics—A framework and guidelines for managing social media. Journal of Interactive Marketing, 27 (4), 281-298. https://doi.org/10.1016/j.intmar.2013.09.007

Petruša, I. & Vlahov, A. (2019). The role of glamping in development of camping tourism offer–possibilities and future prospects in The Republic Of Croatia. Proceedings of FEB Zagreb 10th International Odyssey Conference on Economics and Business, 12-15 Haziran, Opatija, Croatia, s. 834-844.

Popesku, J. (2014). Social media as a tool of destination marketing organisations, Sinteza 2014-Impact of the Internet on Business Activities in Serbia and Worldwide, 715-721. https://doi.org/10.15308/SInteZa-2014-715-721

Sakacova, K. L. (2013). Glamping- Nature served on silver platter. Unpublished Master Thesis. Denmark: Aalborg University.

Sevinç, F. & Duran, E. (2018). Sürdürülebilir deniz turizmi ve tüketim paradoksu: Tüketirken tükenmek, Tüketici ve Tüketim Araştırmaları Dergisi, 10(2), 173-196.

Sevinc, F. (2021). Sosyal medya kullanıcılarının deneyim turizmi serüveni. Uluslararası Türk Dünyası Turizm Araştırmaları Dergisi, 6(1), 1-16.

Schmallegger, D. & Carson, D. (2008). Blogs in tourism: Changing approaches to information exchange. Journal of Vacation Marketing, 14(2), 99–110. https://doi.org/10.1177/1356766707087519

Schneegans, M. (2022). Where nature meets luxury – A quantitative study of motives for glamping: A case study of German tourists. Unpublished Master's Thesis. Finland: Lapland University.

Sommer, K. (2020). Holidays at home - Camping and glamping as a part of domestic tourism: An overview and analysis of camping (and in particular luxury camping) as an alternative form of do-

mestic tourism in the time of the coronavirus, IUBH Internationale Hochschule, Bad Honnef Tourismus & Hospitality, 6, 3-20.

Sun, T., & Huang, T. (2022). Research of Glamping Tourism Based on the Aesthetics of Atmosphere. Sustainability. https://doi.org/10.3390/su15010581.

Taino, V. (2018). Ecolodges and Glamping. Youcanprint.

Tao, W., & Feng, Y. (2016). Social media's influence on tourists' decision-making process: A study in the United Kingdom. Journal of Destination Marketing & Management, 5(1), 12-21. https://doi.org/10.1016/j.jdmm.2015.11.004

Toker, A. (2019). Tarihsel süreçte didim'de yaşanan göçlerin yarattığı değişimin turizm ekseninde incelenmesi. Yayınlanmamış Doktora Tezi. Eskişehir: Anadolu Üniversitesi

Ulrich, R. S., Simons, R. F., Losito, B. D., Fiorito, E., Miles, M. A. & Zelson, M. (1991). Stress recovery during exposure to natural and urban environments. Journal of Environmental Psychology, 11 (3), 201-230. https://doi.org/10.1016/S0272-4944(05)80184-7.

Ünal, A. & İpar, M. S. (2021). Turistlerin destinasyon tercihlerinde sosyal medyanın etkisinin belirlenmesine yönelik bir araştırma: Sakin şehir destinasyonu Vize Örneği, International Journal of Eurasia Social Sciences (IJOESS), 12(45), 510-527.

Varkaris, E., & Neuhofer, B. (2017). The influence of social media on the consumers' hotel decision journey. Journal of Hospitality and Tourism Technology, 8(1), 101-118. http://dx.doi.org/10.1108/JHTT-09-2016-0058?

Verma, R., Stock, D. & McCarthy, L. (2012), Customer preferences for online, social media, and mobile innovations in the hospitality industry, Cornell Hospitality Quarterly, 53 (3),183-186.

Xiang, Z., & Gretzel, U. (2010). Role of social media in the travel decision-making process. Journal of Travel Research, 49(1), 80-90. https://doi.org/10.1177/0047287509352780

Walter, M., & Comino, S. (2014). Glamping: camping, luxus, nachhaltigkeit-marktnische mit wachstumspotential. Berlin: ITB Berlin Convention. Obtido de: http://www. itbberlin. de/Besucher/Events/ KongressReferenten/Eventdetail. jsp.

Yetgin Akgün, D. & Ünal, İ. (2021). Glamping işletmelerine ilişkin Tripadvisor'daki çevrim içi yorumların içerik analizi ile değerlendirilmesi. Journal of Gastronomy, Hospitality and Travel, 4 (2), 199-214. https://doi.org/10.33083/joghat.2021.68

Yıldırım, G. & Erkılıç, E. (2019). An overview of glamping tourism within the context of the Middle East tourism: The case of Turkey. Journal of Recreation and Tourism Research, 6 (4), 475-489. https://doi.org/10.31771/jrtr.2019.48

Yüksek, G. ve Kalyoncu, M. (2020). Turist Deneyimi. (Editör), Karagöz, D. Turist Davranışı. (s. 140-166). Eskişehir: Anadolu Üniversitesi Açıköğretim Fakültesi Yayınları.

Zeng, B. & Gerritsen, R. (2014). What do we know about social media in tourism? A review. Tourism Management Perspectives, 10, 27-36. https://doi.org/10.1016/j.tmp.2014.01.001

Zheng, L. (2023). Innovation in tourism marketing based on social media. Tourism Management and Technology Economy. 6(6), 11-17. https://doi.org/10.23977/tmte.2023.060602.

# Research Article

ROMAYA - Researches on Multidisiplinary Approaches 2024, 4(2): 143-152

ISSN:2791-9099

# The Effect of Green Kitchen Practices on Restaurant Choice Intentions<sup>1</sup>

Yeşil Mutfak Uygulamalarının Restoran Seçim Niyetine Etkisi 🐠



Burhan Sevim / Assoc. Prof. Dr.

Kastamonu University, Faculty of Tourism bsevim@kastamonu.edu.tr

Serkan Çalışkan / Asst. Prof. Dr. 🕞

Kastamonu University, Faculty of Tourism serkancaliskan@kastamonu.edu.tr

Filiz Okur / Graduate Student (D)

Kastamonu University, Institute of Social Sciences filizokur@kastamonu.edu.tr

#### **Abstract**

This study focuses on consumers' attitudes and behavioral intentions when choosing environmentally friendly restaurants with green kitchen practices (GKP). This is an under-researched area despite the growing green movement. This framework aims to obtain information about consumers' attitudes and understand whether attitudes, subjective norms, and perceived behavioral control impact individuals' intention to choose a restaurant. In this context, the studies in the literature were investigated, and a research model was proposed. Face-to-face and online survey methods were applied to measure the perceptions of the variables in the research model. The research sample consists of 428 participants residing in Istanbul, Izmir and Bursa, where GKP are intense. The data obtained from the research were analyzed using structural equation modeling. As a result of the analysis, the model proposed in the study was accepted, and the proposed hypotheses were supported. As a result of the research, in line with the Theory of Planned Behaviour (TPB), it was found that attitude towards behavior (ATB), subjective norm (SN), and perceived behavioral control (PBC) have statistically significant and positive effects on restaurant choice intention. In line with this result, the outputs reached will contribute to academia and the sector.

Keywords: Green Restaurant, Green Kitchen Practices, Sustainability, Green Awareness, Theory of Planned Behaviour.

**JEL Codes:** L83,Q01,Q56,D12

# Özet

Bu çalışma, çevre dostu restoranları seçerken tüketicilerin tutumları ve davranışsal niyetlerine odaklanmaktadır. Yeşil mutfak uygulamaları olan restoranlar konusundaki bu yaklaşım, büyüyen yeşil hareketine rağmen az araştırılmış bir alandır. Bu çalışma, tüketicilerin tutumları hakkında bilgi edinmeyi ve tutumların, öznel normların ve algılanan davranışsal kontrolün bireylerin restoran seçme niyeti üzerindeki etkilerini anlamayı amaçlamaktadır. Bu bağlamda, literatürdeki çalışmalar incelenmiş ve bir araştırma modeli önerilmiştir. Araştırma modelindeki değişkenlerin algılarını ölçmek için yüz yüze ve çevrimiçi anket yöntemleri uygulanmıştır. Araştırmanın örneklemi, yeşil mutfak uygulamalarının yoğun olduğu İstanbul, İzmir ve Bursa'da ikamet eden 428 katılımcıdan oluşmaktadır. Araştırmadan elde edilen veriler, yapısal eşitlik modellemesi kullanılarak analiz edilmiştir. Analiz sonucunda çalışmada önerilen model kabul edilmiş ve önerilen hipotezler desteklenmiştir. Araştırma sonucunda, Planlanmış Davranış Teorisi doğrultusunda, davranışa yönelik tutum, öznel norm ve algılanan davranışsal kontrolün, restoran seçme niyeti üzerinde istatistiksel olarak anlamlı ve olumlu etkilerinin olduğu bulunmuştur. Bu sonuç doğrultusunda, elde edilen bulgular akademiye ve sektöre katkı sağlayacaktır.

Anahtar Kelimeler: Yeşil Restoran, Yeşil Mutfak Uygulamaları, Sürdürülebilirlik, Yeşil Farkındalık, Planlanmış Davranış Teorisi.

JEL Kodları: L83,Q01,Q56,D12

<sup>&</sup>lt;sup>1</sup> The ethics committee permission required to get the data in this study was obtained with the decision of Kastamonu University Social and Human Sciences Scientific Research and Publication Ethics Board dated 07.02.2024 and numbered 2/20.

#### Introduction

With the environmental problems emerging with industrialization, many businesses must develop practices to minimize environmental damage and adopt strategic methods. Sustainable development tools and the concept of sustainability, set by the United Nations in 2016 to protect the world and ensure everyone lives in prosperity, are frequently discussed. With the concept of sustainability, environmental awareness is gaining importance at the social level. Individuals in society support this awareness by using environmentally friendly products. Businesses that operate in the field of food and beverage and have recently attracted the attention of conscious consumers are characterized as green restaurants (Yong, Chua, Fakfare, & Han, 2024). Restaurants with GKP use local and organic products and pioneer practices such as energy and water efficiency, waste management and environmentally friendly packaging. In this context, green restaurants in the literature mean 'minimizing the environmental damage of food service businesses' (Ki@raz, 2023).

In the literature, many studies have emphasized how important sustainability is in restaurant preferences with the increasing sensitivity of consumers to the environment (Apak & Gürbüz, 2022). As an indicator of sustainability in food and beverage establishments, the effect of green kitchen practices on individuals' restaurant preference intention is increasing (Eren, Uslu, & Aydın, 2023). Doszhanov and Ahmad (2015) found that environmentally conscious or green practices increasingly influence consumer behavior. They pay attention to this when choosing the restaurants where they want to eat. Aishwarya, Divya, Abinaya, and Rajakrishan (2023) reported in their research that consumers are willing and aware of GKP and that consumers who go green are thus considering sustainable development. The concept of "sustainable development" was defined for the first time in the Brundtland Report prepared by the World Commission on Environment and Development in 1987 as "development that meets the needs of today while taking into account the needs of future generations" (Tomislav, 2018).

Although some studies have addressed consumers' sensitivity to green kitchen practices, there needs to be a more in-depth analysis of whether GKP affects attitudes, subjective norms, and PBC on restaurant preference intention. There is limited research on whether individuals' adequate knowledge and awareness levels, especially about Green kitchen practices, impact their preference intentions. While some studies have reported that individuals are willing to pay more to buy green, studies on economic sustainability are limited. Some studies focus on short-term intentions and behaviors of individuals regarding environmentally friendly restaurant preferences. This field does not examine the effects of

long-term preference intentions on sustainability.

It is thought that the empirical application of the study will contribute to raising awareness about the impact of businesses' green kitchen practices on consumers' behavioral intentions. In addition, the findings and suggestions to be presented will be able to guide researchers, managers and policy makers working on the subject. The purpose of this study is to reveal consumers' intention to choose restaurants with GKP and consumers' intention to choose green restaurants within the scope of the Ajzen model, the TPB. For this purpose, the quantitative research method was utilized. As a result of the research, it is understood that consumer intention to prefer restaurants with environmentally friendly green practices is positive.

# **Conceptual Framework**

#### **Green Restaurant and Practices**

Climate change is considered a global problem, a multidimensional crisis that causes environmental, economic, and social effects. In order to reduce these effects, countries are trying to take new measures with a new agreement after the Kyoto Protocol. In combating climate change, the Paris Agreement has established a framework to determine implementation procedures regarding national contributions, mitigation, adaptation, loss/damage, financing, technology development and transfer, capacity building, transparency, and situation assessment (mfa. gov.tr). While many sectors are taking precautions against carbon emissions, the food and beverage sector must also take its share of responsibility for environmental destruction. One of the areas where measures need to be taken within the industry is food waste. Ncube et al. (2021) found that food and beverage activities are one of the areas where waste generation problems are most common.

On average, 10 million people die of hunger in the world every year, while 1.3 billion tons of food goes to waste. Considering that 1.5 tons of bread goes to waste every day in Turkey, it becomes clearer how serious the waste is (tarimtv.gov.tr). Not only domestic consumers are responsible for this waste, but also the food and beverage sector. Therefore, to reduce the amount of waste in the food and beverage sector, transform waste, ensure energy efficiency and provide a conscious consumption approach, Turkey and Boğaziçi University - World Wildlife Fund (WWF) initiated the "Green Generation Restaurant Movement" (Akay, 2022). Many practices of restaurants, from waste management to energy use, from sustainable furniture to building materials, from water use to organic food use, are included in this movement. Davies and Konisky (2000) argue that the environmental impact of the food and beverage service industry takes three different forms. These are;

- Direct Impacts (solid waste consumption, gas absorption, energy consumption, food safety, refrigerants, water emissions)
- Upper Environmental Impacts (pesticides, air pollution)
- Sub-Environmental Impacts (use of bags, use of disposable plates)

From this point of view, green restaurants are food and beverage businesses that serve with environmentally friendly practices and have a structure focused on sustainability principles (Kurnaz & Özdoğan, 2018). These restaurants must be ecologically sensitive regarding using local and organic products, energy efficiency, recycling, and waste reduction. They should also strive to reduce their carbon footprint, conserve natural resources, and save water. While countries in different parts of the world have successful examples of green kitchen practices, various researchers have examined these businesses.

Dutta, Umashankar, Choi, and Parsa (2008), in their study on consumers' orientation towards restaurants with green practices in India and the United States, investigated the attitudes and behavioral intentions of individuals and concluded that environmentally friendly individuals prefer restaurants with green practices, while health-conscious individuals in the USA prefer restaurants with organic, local and healthy food and beverages and green practices. In another study conducted in the USA, it was reported that health issues are among the problems that health-conscious customers consider when choosing a green restaurant (Dewald, Bruin, & Jang, 2013).

Schubert, Kandampully, Solnet and Kralj (2010) investigated the attitudes of consumers towards restaurants with GKP in the USA and reported that customers who care about green prefer restaurants with environmentally friendly and green practices, even if the cost of eating and drinking is high. Dewald et al. (2013) investigated the attitudes of US consumers towards green restaurants. They found that 70% of the participants were willing to pay more for green foods accepted as environmentally friendly products. Sarmiento and El Hanandeh (2018) conducted a study in Australia to determine consumers' perceptions of environmentally sustainable restaurants. They found that customers prefer green restaurants and are willing to pay a high cost to receive green services.

Aishwarya et al. (2023) stated that factors such as climate change, waste management problems, water scarcity, decrease in biodiversity and stress, along with the increase in carbon in the atmosphere that emerged after the 2000s, gradually affect our lives, analyzed the attitudes of consumers towards the adoption of GKP in their study and found that consumers who are aware of climate changes tend towards Green Kitchen Practices.

Oğuz and Sever (2023) investigated customers' en-

vironmental attitudes, behaviors, and sensitivities with high ecological awareness of their intention to choose a green kitchen. They concluded that they positively affect consumers' preference for green businesses.

These studies highlight several essential findings on consumers' attitudes, behaviour, satisfaction, loyalty and willingness to pay. Research in the literature reveals how much consumers value environmentally friendly restaurant practices. In this context, studies show that individuals are more likely to prefer businesses that prioritize green initiatives and use environmentally safe products. Furthermore, research shows that green practices can positively influence customer reviews and loyalty.

In their study, Eren et al. (2023) tested the hypotheses they formed by proposing a model regarding customers' intention to revisit green image and service quality. As a result of the research, they reported that the service quality perceived by customers can significantly influence the perceived green image of a restaurant by its customers. In this study, it is foreseen that more research is needed using the determinants of intentions in the TPB developed by Ajzen (1991), namely attitude towards behavior (ATP), SN and perceived behavioral control, to determine and understand the effect of GKP on restaurant choice intention, which has recently become an increasingly important research topic.

#### Theory of Planned Behavior (TPB)

Consumer decision-making processes have been the subject of many studies. The theory of planned behavior is an alternative approach to understanding the consumer decision-making process. PDT was developed by Ajzen (1991) to predict and explain consumer behavior. This theory examines not only the will control of individuals but also the will control outside of them while explaining their behavior. Personal intention provides the most obvious prediction of the behavior to be performed (Ajzen, 1991).

ATB is the individual's experiences due to the actions they have performed. In other words, it is the positive or negative evaluation of behavior (Ajzen, 1991). Many studies have reported that individuals' attitudes and behaviors towards businesses with environmentally friendly practices are positive (Dutta et al., 2008; Eren et al., 2023; Schubert et al., 2010; Han & Kim, 2010). Some studies have reported that consumers are ready to pay high costs for green services (Dewald et al., 2013; Sarmiento & El Hanandeh, 2018). In this context, the intention to choose a restaurant with GKP will be higher if the individual has a positive attitude towards environmentally friendly businesses. Therefore, the following hypothesis was developed to determine the attitude of environmentally friendly individuals to support or not support GKP when choosing a restaurant.

**H1:** Individuals' attitudes towards GKP positively affect restaurant choice intention.

The SN refers to the social compulsion for an individual to act. In other words, it relates to the expectation or subjective probability that the individual or group (family, spouse, friend, colleague, doctor, or manager) that the individual refers to will approve or disapprove of the behavior. Many studies argue that perceived social influence can replace the SN in the context of pressures from society rather than from valued individuals (Bissonnette & Contento, 2001). A study conducted in Taiwan reported that social influence did not have a positive effect on behavioral intention (BI) (Chou, Chen, & Wang, 2012). On the contrary, Han and Kim (2010), as a result of their research on the formation of customers' intention to revisit a hotel with green practices, revealed that SN has an effect. In other words, it is associated with social pressure for the individual to revisit the hotel. Therefore, the following hypothesis was developed to determine whether social pressure exists to realize the intention to support green kitchen practices.

**H2:** Individuals' subjective norms about supporting green cuisine practices positively affect restaurant choice intention.

PBC is a vital part of the TPB. PBC is assumed to moderate the effect of attitude and SN on intention, while actual behavioral control is considered to moderate the impact of intention on action (Ajzen, 2020). To the extent that individuals have control over the performance of the behavior, they are expected to be able to act in line with their intentions. When there is insufficient information about actual behavioral control, PBC can help predict behavior in the belief that it accurately reflects actual control. Some research has shown that the adoption of green practices in restaurants can have a positive impact on customer evaluation and loyalty. For example, in a study conducted in Taiwan that combines the TPB with the theory of innovation adoption, attitude and PBC were found to positively affect the adoption of green practices (Chou et al., 2012). On the contrary, Kargiglioğlu (2020) reported that PBC has no effect on destination and revisit intention as a result of the research on the destination and revisit intention for street flavors in the context of the TPB. Therefore, the following hypothesis was developed to understand the perception of how much control they have in supporting green kitchen practices.

**H3:** Individuals' PBC to support green cuisine practices affects restaurant choice intention.

#### 3. Method

The study evaluated the effectiveness of attitude towards behaviour (ATB), Subjective Norm (SN) and Perceived Behavioral Control (PBC) on individuals' intention to choose a restaurant with Green Kitchen Practices. In this context, the model of the study is shown in Figure 1.

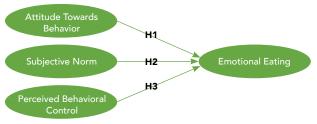


Figure 1. Study model

A questionnaire was prepared for the study, and the data were obtained online via Google Forms. The ethics committee permission required to get the data in this study was obtained with the decision of Kastamonu University Social and Human Sciences Scientific Research and Publication Ethics Board dated 07.02.2024 and numbered 2/20. The study population consisted of individuals living in Istanbul, İzmir and Bursa. These three provinces are three of the four provinces with the highest population density in Türkiye. In addition, Istanbul is the province that hosts the most tourists in Türkiye. In addition, studies on green restaurants are concentrated in Istanbul (Keşkekçi & Gençer, 2023; Yazıcıoğlu & Aydın, 2018; Kurnaz & Özdoğan, 2018). These three provinces, which are geographically close to each other, constitute 40.5% of Türkiye's gross national product (tuik.gov.tr). In the study, convenience sampling, one of the non-probability-based sampling methods, was preferred. Convenience sampling is based on the principle that everyone who voluntarily responds to the questionnaire is included in the sample (Ural & Kılıç, 2005). In this context, the questionnaire prepared through Google Forms was applied to 428 volunteer participants.

The questions in the questionnaire were prepared in consultation with academicians who are food and beverage management experts. The scale used in the questionnaire is the Planned Behaviour Theory scale used in Kargiglioğlu's (2019) doctoral dissertation titled "The Effect of Street Flavours on Destination Choice and Revisit Intention in the Context of Planned Behaviour Theory: The Case of Istanbul Province", the TPB scale used in his doctoral thesis was applied to the study. The scale comprises four sub-dimensions: ATB, SN, PBC and BI.

The first part of the questionnaire consists of 17 statements and the second part consists of 6 statements, totalling 23. Participants evaluated the statements in the questionnaire form, including ATB, SN, PBC and BI, using a 5-point Likert scale. The second part of the questionnaire includes demographic questions regarding the participants' characteristics.

The data obtained were uploaded to an Excel spreadsheet via Google Forms and then coded and trans-

#### The Effect of Green Kitchen Practices on Restaurant Choice Intentions

ferred to the IBM SPSS Statistics 23 application. First, reliability analysis and results of the questions in the scale used in the research were obtained. Cronbach's Alpha coefficients of ATB, SN, PBC and BI were calculated separately. Accordingly, ATB 0.970, SN 0.939, BI 0.968, and PBC 0.877 were obtained. Since Cronbach's Alpha coefficients were more significant than 0.8, it was concluded that the data test was highly reliable (Nunnaly, 1978; Anderson & Gerbing, 1988; Hair, Black, Babin, Anderson & Tatham, 1998).

To evaluate the suitability of the data collected within the scope of the research for factor analysis, KMO and Barlett Sphericity Test were applied. Since the KMO value is above 0.60 (0.957), the data set is suitable for factor analysis (Table 1).

Table 1. KMO and Bartlett's Test Results

Kaiser-Meg Sampling	10536.629	
Bartlett's	Approx. Chi-Square	10536.629
Test of Spheri-	Df	136
city	Sig.	.000

To determine the validity and reliability of the scale used in the research. The factor loadings and the explained variance of the statements on the scale are shown in Table 2, and it is determined that the scale is reliable and valid.

Table 2. Factor Loadings and Explain the Variance of the items in the scale

ATB	Dining in restaurants with green kitchen practices is extraordinary.	.795		
АТВ	Dining in restaurants with green culinary practices is spectacular.	.736		
АТВ	It is fun to eat restaurants with green kitchen practices.	.634	Variance Explained 34.751	
АТВ	It makes sense to eat in restaurants with green kitchen practices.	.813	Reliability: .970	
ATB	Dining in restaurants with green culinary practices is relaxing.	.801		
АТВ	Eating in restaurants with green kitchen practices is essential.	.836		
ATB	It is helpful to eat in restaurants with green kitchen practices.	.867		
ATB	It is good to eat in restaurants with green culinary practices.	.847		
SN	Through its messaging, the media encourages me to eat in restaurants with green culinary practices.	.703	V · E I · I	
SN	Most of the people who are dear to me expect me to eat in environmentally friendly restaurants		Variance Explained 31.521	
SN	Most people dear to me think I should prefer environmentally friendly restaurants.	.858	Reliability: .939	
SN	Most of the people who are dear to me prefer environmentally sustainable restaurants.	.851		
ВІ	I intend to prefer environmentally friendly restaurants for dining soon.	.645	Variance Explained 14.592	
ВІ	I plan to go to environmentally friendly restaurants to eat.	.666	-	
ВІ	prefer environmentally friendly restaurants, and I plan to make it happen.  Reliability: .96		Reliability: .968	
РВС	If I want to choose environmentally friendly restaurants to eat in, nothing can stop me.	.675	Variance Explained 7.153	
РВС	It is entirely up to me to choose environmentally sustainable restaurants.	.783	Reliability: .970	

ATB: Attitude Towards Behaviour SN: Subjective Norm PBC: Perceived Behavioural Control BI: Behavioural Intention

# **Findings**

The demographic characteristics of the participants are presented in Table 3.

Table 3. Demographic Findings

		N	Current %	Cumu- lative %			N	Current %	Cumula- tive %
Ē	Woman	258	60.3	60.3		Public Emplo- yee	162	37.9	37.9
Gender	Man	170	39.7	100		Private Sector Employee	140	13.8	51.6
	Total	428	100		Ę.	Tradesmen	5	1.2	52.8
Ø	Married	196	45.8	45.8	Profession	Retired	3	7	53.5
M.Sta	Single	232	54.2	100	rof	Housewife	40	9.3	62.9
	Total	428	100		_	Student	59	32.7	95.6
	18-25	173	40.4	40.4	<u>-</u>	Unemployed	9	2.1	97.7
	26-33	63	14.7	55.1		Other	10	2.3	100
ø	34-41	92	21.5	76.6		Total	428	100	
Age	42-49	65	15.2	91.8		Low Income	82	19.2	19.2
	50 and +	35	8.2	100	<u>-</u>	Lower Middle Income	95	22.2	41.4
	Total	428	100		Level	Middle Income	209	48.8	90.2
Œ	Primary edu- cation	21	4.9	4.9	Income	Middle Upper Income	38	8.9	99.1
cen	High School	122	28.5	33.4	=	High Income	4	0.9	100
School(Most recent)	Associate Degree	59	13.8	47.2		Total	428	100	
<u>≥</u>	License	172	40.2	87.4					
Scho	Postgradu- ate	54	12.6	100					
	Total	428	100						

The total number of participants in the survey was 428, and 428 of the individuals who participated in the survey answered the questions. 60.3% of the participants were women and 39.7% were men.

Table 4. Pearson Correlation Analysis

		Attitude Towards Behaviour	Subjective Norm	Perceived Behaviou- ral Control	Behaviou- ral Inten- tion
Attitude Towards Behaviour	Pearson Correlation	1	.737**	.785**	.823**
	Sig. (2-tailed)		.000	.000	.000
	N	428	428	428	428

	Pearson Correlation	.737**	1	.703**	.859**
Subjective Norm	Sig. (2-tailed)	.000		.000	.000
	N	428	428	428	428
Perceived Behaviou- ral Control	Pearson Correlation	.785**	.703**	1	.835**
	Sig. (2-tailed)	.000	.000		.000
	N	428	428	428	428
	Pearson Correlation	.823**	.859**	.835**	1
Behavioural Intention	Sig. (2-tailed)	.000	.000	.000	
		428	428	428	428

<sup>\*\*</sup> Correlation is significant at the 0.01 level (2-tailed).

When The Pearson Correlation analysis is examined, it is seen that there are statistically significant and positive correlations between ATB, SN, PBC and BI, which are the sub-dimensions of the TPB. Hence;

- 1. There is a significant and positive relationship between ATB and SN (r=0.737; p<0.01)
- 2. There is a significant and positive relationship between ATB and PBC (r=0.785; p<0.01)
- 3. ATB and BI have a significant and positive relationship (r = 0.823; p < 0.01).
- 4. SN and PBC have a significant positive relationship (r = 0.703; p<0.01).

- 5. SN and BI have a significant positive relationship (r = 0.859; p<0.01).
- 6. PBC and BI have a significant positive relationship (r = 0.835; p < 0.01).

# **Testing Hypotheses**

To investigate the effect of the sub-dimensions in the TPB scale on each other, linear regression analysis was conducted. Linear regression is an approach to modeling the relationship between the dependent variable (BI) and the independent variable or variables (Kılıç, 2013).

Table 5. H1: Individuals' attitudes towards GKP positively affect restaurant choice intention.

Model		ndardised fficients	Standardized Coefficients	t	Sig.
	В	Std. Error	Beta		
(Constant)	.533	.109		4.879	.000
Attitude Towards Behavior	.864	.029	.823	29.870	.000

a. Dependent Variable: Behavioral Intention

As seen in Table 5, ATB has a significant and positive effect on consumer restaurant choice intention ( $\beta$ =0.823; t=29.870 p<0.05). H1 is accepted.

Table 6. H2: Individuals' subjective norms about supporting green cuisine practices positively affect restaurant choice intention

	Model		ndardised fficients	Standardized Coefficients	t	Sig.
		В	Std. Error	Beta		
1	(Constant)	.733	.089		8.219	.000
	Subjective Norm	.868	.025	.859	34.604	.000

a. Dependent Variable: Behavioural Intention

As seen in Table 6, subjective norms significantly and positively affect consumer restaurant choice intention ( $\beta$ =0.859; t=34.604 p<0.05). H2 is accepted.

Table 7. H3: Individuals' PBC over supporting green cuisine practices affects restaurant choice intention

	Model	Unstandardised Coefficients		Standardized Coefficients	t	Sig.
		В	Std. Error	Beta		
1	(Constant)	.586	.103		5.700	.000
	Perceived Behavioral Control	.857	.027	.835	31.301	.000

a. Dependent Variable: Behavioral Intention

As seen in Table 7, PBC significantly and positively affects consumer restaurant choice intention ( $\beta$ =0.835; t=31.301 p<0.05). H3 is accepted.

# Discussion, Conclusion and Recommendations

This study examines whether the variables in the sub-dimensions of the TPB affect restaurant choice intention. In order to understand the significance level of the effects of the independent variables (attitude towards behavior, subjective norm, perceived behavioral control) in the theory of planned behavior scale on the dependent variable, the consumer's restaurant choice intention, three hypotheses were made. These hypotheses were tested with the data collected through the questionnaire.

#### Theoretical implications

As a result of the statistical analysis, it was concluded that ATB, SN, and PBC are significant and positive in explaining consumers' intentions to choose a restaurant

When the literature is examined, Dutta et al. (2008) investigated individuals' attitudes and behavioral intentions in their study on consumers' orientation towards restaurants with green practices. The result that environmentally friendly individuals prefer restaurants with green practices supports the hypothesis that the attitude towards behavior obtained in the current study positively affects the restaurant choice intention. The effect of consumers' ATB on behavioral intention Dewald et al. (2014), in their study in the USA, revealed that health-conscious consumers prefer restaurants with green practices where organic, local, and healthy beverages are served. In the literature, studies on the effects of ATB on behavioral intention have emphasized significant findings on consumer attitude, behavior, satisfaction, and willingness to pay and concluded that consumers have positive effects on their preference for restaurants with environmentally friendly practices

(Dutta et al., 2008; Eren et al., 2023; Schubert et al., 2010; Han & Kim, 2010). These findings support the present study.

When the results of the analysis related to SN are analyzed, it is found that the effect of SN on restaurant choice intention is upbeat. This shows that participants are influenced by the individual or group they refer to (family, spouse, friend, colleague, doctor or manager). In the literature, Han and Kim (2010) concurred with the findings of the study with the result that SN affects customers' intention to revisit a hotel with green practices, while Chou et al., 2012, in their research in Taiwan, reported that there was no social pressure, which does not support the current study.

When the analysis results related to PBC are examined, it is found that the effect of PBC on restaurant choice intention is optimistic. Perceived behavioural control, a vital part of the TPB, shows that the extent to which respondents perceive that they are in control when choosing a restaurant impacts their intention to choose restaurants with environmentally friendly green practices. Looking at the literature, Chou et al. (2012), in a study combining the TPB and the theory of innovation adoption, found that the positive effects of PBC on the adoption of green practices support the current research. Kargiglioğlu's (2020) study on destination and revisit intention for street flavors in the context of the TPB shows that PBC does not affect destination and revisit intention, which does not overlap with the findings of this study. When the current research results are considered, it is seen that ATB, SN, and PBC have positive effects on behavioral intention.

### **Managerial implications**

Considering the findings of this study, it is clear that consumer intention to prefer restaurants with environmentally friendly green practices is positive. Restaurant owners need to communicate with their customers about GKP and make them more aware that they are buying a green restaurant. This is be-

cause many customers need more knowledge about the benefits of green kitchen practices, especially on environmental issues.

Within the scope of developing projects for the benefit of society, which is one of the essential duties of academicians, the process of green restaurants, from procurement to production and serving customers, can be designed as educational projects. However, researchers can develop a theory of preference for green restaurants.

While sustainable development continues to maintain its importance as an essential concept for the whole world, GKP can be considered a critical application on the road to the success that public authorities aim to achieve by 2030. In this regard, the relevant public administrations can be encouraged with a study similar to the Green Star for hotels regarding certification. Although this issue is being addressed as a civil society movement through associations, its realization under the coordination of the relevant ministries will contribute to environmental awareness in society.

# **Limitations and Future Research**

As with every research study, this study also has limitations. The study was conducted with participants living in Istanbul, Izmir and Bursa. In addition, the convenience sampling method was used in sample selection. At the same time, this study is based on the TPB to explain green restaurant choice intention. Future studies can be conducted using different theories and differentiating the sampling method. Studies have focused on independent restaurants rather than hotels with green kitchen applications. Studies that reveal the consumer's choice among different concepts within the hotel can be considered within the scope of expectation theory. This situation can help reveal consumers' decision-making processes for choosing green restaurants. Future research can develop the working model presented in this study with different variables.

The ethics committee permission required to get the data in this study was obtained with the decision of Kastamonu University Social and Human Sciences Scientific Research and Publication Ethics Board dated 07.02.2024 and numbered 2/20.

#### References

Aishwarya, P., Divya, M., Abinaya, K., & Rajakrishnan, M. (2023). Consumer Awareness and Willingness towards Green Kitchen Practices Way through Sustainability. Res Militaris Social Science Journal, 13(3), 315-327.

Ajzen, I. (1991). The theory of planned behavior. Organizational Behavior and Human Decision Processes, 50(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

Ajzen, I. (2020). The theory of planned behavior: Frequently asked questions. Human Behavior and Emerging Technologies, 2(4), 314–324. https://doi.org/10.1002/hbe2.195

Akay, F. (2022). Yeşil Nesil Restoran Hareketi Başladı. Retreived 10 October, 2024, from https://www.ekoiq.com/yesil-nesil-restoran-hareketi-basladi/

Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. Psychological bulletin, 103(3), 411.

Apak, Ö. C., & Gürbüz, A. (2022). A Content Analysis on Sustainable Restaurant Management Practices. Güncel Turizm Araştırmaları Dergisi, 6(1),194-209.

Bissonnette, M. M., & Contento, I. R. (2001). Adolescents' Perspectives and Food Choice Behaviors in Terms of the Environmental Impacts of Food Production Practices: Application of a Psychosocial Model. Journal of Nutrition Education, 33(2), 72-82. https://doi.org/10.1016/S1499-4046(06)60170-X

Chou, C.-J., Chen, K.-S., & Wang, Y.-Y. (2012). From an innovation adoption perspective, green practices in the restaurant industry: Evidence from Taiwan. International Journal of Hospitality Management, 31(3), 703-711.

Davies, T., ve Konisky, D. M. (2000). Environmental Implications of the Foodservice and Food Retail Industries. Washington DC.: Resourses For the Future.

Dewald, B., Bruin, B. J., & Jang, Y. J. (2013). US consumer attitudes towards "green" restaurants. Anatolia, 25(2), 171-180. https://doi.org/10.1080/13032917.2013.839457

Doszhanov, A., & Ahmad, Z. A. (2015). Customers' Intention to Use Green Products: The Impact of Green Brand Dimensions and Green Perceived Value. SHS Web of Conferences, 18, 01008. https://doi.org/10.1051/shsconf/20151801008

Dutta, K., Umashankar, V., Choi, G., & Parsa, H. G. (2008). A Comparative Study of Consumers' Green Practice Orientation in India and the United States: A Study from the Restaurant Industry. Journal of Foodservice Business Research, 11(3), 269-285. https://doi.org/10.1080/15378020802316570

Eren, R., Uslu, A., & Aydın, A. (2023). The Effect of Service Quality of Green Restaurants on Green Restaurant Image and Revisit Intention: The Case of Istanbul. Sustainability, 15(7), Article 7. https://doi.org/10.3390/su15075798

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (1998). Multivariate data analysis. New Jersey, 5(3), 207-219.

Han, H., & Kim, Y. (2010). Investigating green hotel customers' decision formation: Developing an extended model of the theory of planned behavior. International Journal of Hospitality Management, 29(4), 659-668. https://doi.org/10.1016/j.ijhm.2010.01.001

Kargiglioğlu, Ş. (2019). The Effect of Street Foods on Destination Selection and Revisiting Intention in the Context of Planned Behavior Theory: The Case of İstanbul Province [Yayımlanmamış Doktora Tezi, Gazi Üniversitesi]

Kargiglioğlu, Ş., & Aksoy, M. (2020). The Effect of Street Foods on Destination Selection in the Context of Planned Behavior Theory the Case of Istanbul Province. Journal of Hospitality and Tourism Issues, 2(2), 122-142.

Keşkekci, D., & Gençer, K. (2023). Green Restaurant Applications Within the Scope of Sustainability. Journal of Silk Road Tourism Research, 3(1), 17-25.

Kılıç, S. (2013). Linear regression analysis. Journal of Mood Disorders, 3(2), 90. https://doi.org/10.5455/jmood.20130624120840

Ki@raz, T. (2023). Dünyadan Yeşil ve Sürdürülebilir Restoranlar. retrieved 15 May, 2024 from https://www.plumemag.com/dunya-dan-yesil-ve-surdurulebilir-restoranlar/

Kurnaz, A., & Özdoğan, O. N. (2018). The Evoluation of Green Practices of Restaurants in İstanbul. Journal of Management and Economics Research, 16(1), 240-257.

Ministry of Foreign Affairs:https://www.mfa.gov.tr/paris-anlasma-si.tr.mfa [retreived 10 October, 2024].

Ncube, L. K., Ude, A. U., Ogunmuyiwa, E. N., Zulkifli, R., & Beas, I. N. (2021). An Overview of Plastic Waste Generation and Management in Food Packaging Industries. Recycling, 6(1), Article 1. https://doi.org/10.3390/recycling6010012

# Burhan Sevim / Serkan Çalışkan / Filiz Okur

Nunnally, J. C. (1978). An overview of psychological measurement. Clinical diagnosis of mental disorders: A handbook, 97-146.

Oğuz, Y. E., & Sever, Y. (2023). The Effect of Environmental Consciousness on The Intent to Green Cuisine. Gastroia: Journal of Gastronomy And Travel Research, 7(2), 263-280. https://doi.org/10.32958/gastoria.1235722

Sarmiento, C. V., & El Hanandeh, A. (2018). Customers' perceptions and expectations of environmentally sustainable restaurant and the development of green index: The case of the Gold Coast, Australia. Sustainable Production and Consumption, 15, 16-24. https://doi.org/10.1016/j.spc.2018.04.001

Schubert, F., Kandampully, J., Solnet, D., & Kralj, A. (2010). Exploring Consumer Perceptions of Green Restaurants in the US. Tourism and Hospitality Research, 10(4), 286-300. https://doi.org/10.1057/thr.2010.17

Tarım TV:https://www.tarimtv.gov.tr/tr/video-detay/her-gn-bin-500-ton-ekmek-3398 retrieved [10 October, 2024].

Tomislav, K. (2018). The concept of sustainable development: From its beginning to the contemporary issues. Zagreb International Review of Economics & Business, 21(1), 67-94.

TUIK:https://data.tuik.gov.tr/Bulten/Index?p=II-Bazinda-Gayrisa-fi-Yurt-Ici-Hasila-2022-45867 retreived: 10 October, 2024

Ural, A. ve Kılıç, İ. (2006). Bilimsel Araştırma Süreci ve SPSS ile Veri Analizi SPSS 12.0 for Windows. Ankara: Detay Yayıncılık.

Yazıcıoğlu, İ., & Aydın, A. (2018). A Qualitative Study on Green Restaurant Practises: The Case of İstanbul. Gazi Üniversitesi Turizm Fakültesi Dergisi, (1), 55-79.

Yong, R. Y. M., Chua, B. L., Fakfare, P., & Han, H. (2024). Sustainability à la carte: A systematic review of green restaurant research (2010-2023). Journal of Travel & Tourism Marketing, 41(4), 508-537.

# Research Article

ROMAYA - Researches on Multidisiplinary Approaches 2024, 4(2): 153-167

ISSN:2791-9099

# Istanbul In Russian Hojdenies Within The Scope Of Religious Tourism<sup>1</sup> do

İnanç Turizmi Kapsamında Rusça Hacnamelerde İstanbul

Semra Aycı / M.Sc. D

Anadolu University, Tour Guiding smrugz@gmail.com

Aysel Kaya / Assoc. Prof. Dr.

Anadolu University, Faculty Of Tourism aysely@anadolu.edu.tr

# **Abstract**

Istanbul was an important stop for Russian pilgrims from the eleventh century to the fourteenth century. In this study, the aim is to contribute to the enrichment of the narratives of tour guides serving for faith tourism by investigating certain elements such as holy places, holy relics, the architectural features of holy places and legends written about them, and the social, cultural and political structures of the period in the pilgrimages (hojdenie) written by Russian Orthodox pilgrims visiting Istanbul. For this purpose, four pilgrimages written in Russian between 1200-1389 were selected as the main data source. In this qualitative study, inductive thematic analysis was applied to the data and nine main categories were identified under three themes: 'religious elements'. 'historical elements' and 'artistic elements'. As a result of the research, it was understood that Russians had adopted Istanbul as one of the most important pilgrimage centres after Jerusalem since the tenth century, when they accepted Christianity as the official religion, and made pilgrimages to Istanbul for many centuries. It is thought that the information obtained from the hojdenies will add diversity and richness to the narratives of tour guides in tours for tourists visiting Istanbul for religious tourism.

**Keywords:** Russian Pilgrimage, Travelogue, Pilgrimage, Tour Guide, Istanbul.

mage, rour dalae, istan

**JEL Codes:** L83

Özet

İstanbul, XI. yüzyıldan XIV. yüzyıla kadar Rus hacılar için önemli bir durak olmuştur. Bu çalışmada, İstanbul'a gelen Rus Ortodoks hacılar tarafından yazılan hacnamelerde yer alan kutsal mekânlar, kutsal emanetler, kutsal mekânların mimari özellikleri ve haklarında yazılan efsaneler, dönemin sosyal, kültürel ve siyasi yapısı gibi unsurlar araştırılarak inanç turizmine hizmet eden turist rehberlerinin anlatılarının zenginleştirilmesine katkı sağlanması amaçlanmıştır. Bu amaçla 1200-1389 yılları arasında Rusça yazılmış dört hacname, temel veri kaynağı olarak seçilmiştir. Nitel yöntemin benimsendiği bu çalışmada verilere tümevarımsal tematik analiz uygulanmış, 'Dini unsurlar', 'Tarihi unsurlar' ve 'Sanatsal unsurlar' olmak üzere üç tema altında dokuz ana kategori belirlenmiştir. Araştırma sonucunda Rusların, Hristiyanlığı resmi din olarak kabul ettikleri 10. yüzyıldan itibaren İstanbul'u Kudüs'ten sonra en önemli hac merkezlerinden biri olarak benimsedikleri ve uzun yüzyıllar boyunca İstanbul'a hac ziyaretleri gerçekleştirdikleri anlaşılmıştır. Hacnamelerden elde edilen bilgilerin, inanç turizmi için İstanbul'a gelen turistlere yönelik turlarda turist rehberlerinin anlatımlarına çeşitlilik ve zenginlik katacağı düşünülmektedir.

**Anahtar Kelimeler:** Rusça Hacnameler, Seyahatname, Hac Seyahati, Turist Rehberi, İstanbul.

JEL Kodları: L83

<sup>&</sup>lt;sup>1</sup> This work was conducted as part of a master thesis At Anadolu University, Turkey.

#### Introduction

The history of travelling goes back thousands of years. According to Löschburg (1998), this history extends from the expeditions of nomadic communities of hunters and gatherers to the tourist organizations in Ancient Rome, from pilgrimages and pilgrim caravans in the Middle Ages, to travelling scholastic students, jugglers and craftsmen, to educational trips during the Enlightenment and Renaissance. The history of traveloques, which consist of the notes kept by people who set out on these journeys with different motives, is also quite old. According to Blanton (1997), Herodotus, Strabo and Pausanias gave the first examples of these traveloques. These travel notes recorded by travellers have undergone changes over time, both in terms of their quality and the purposes for which they were written. Despite these changes, the impact of the narratives on readers has not diminished. From Marco Polo to Bruce Chatwin, stories written by travellers regarding distant places and exotic cultures are still popular among readers. This is undoubtedly due to the curiosity of human beings, although there are other factors as well (Blanton, 1997).

In travelogues, the traveller tries to explain the differences that attract his own attention and that he hopes will attract the attention of the reader while discussing the life, customs and traditions of the society in the place he visited from different aspects (Yılmaz, 2013; Kaya, 2021). Travelogues are also described as the transmitters of scientific and cultural developments because they play an important role as a means of communication since there were not yet such communication opportunities in the past (Maden, 2008). Yirmisekiz Çelebi Mehmet Efendi's 'Expedition to France' introduced the progress of the West in science and technology to the Ottoman society, while Marco Polo's travelogue describing the Far East encouraged Westerners to organise crusades and geographical discoveries.

From the earliest examples to the present day, many travelogues have been written in Western and Eastern civilisations. When these works are analysed, it can be seen that the purpose of travellers' journeys differ. As a result of this situation, the travel notes kept by the authors also have different qualities. In general, it can be seen that travelling for diplomatic missions, pilgrimages, missionary activities, commercial trips, military expeditions and scientific reasons are effective in the writing of travelogues (Yılmaz, 2013).

The first examples of the tradition of writing travelogues in the West are associated with pilgrimage travelogues written during the pilgrimage as part of the Christian faith (Yıldız, 2023). When the historical process of Russian travelogues within the scope of the subject of this study is examined, it can be seen

that the works of the hojdenies genre, which describe the pilgrimage journeys of Russian pilgrims, are the first examples of travelogues in Russian literature

Russians' interest in Istanbul and its holy places dates back to the times before they accepted Christianity. Commercial relations with Byzantium constitute the source of this interest. However, this interest was reinforced when the Russians officially accepted Christianity in the tenth century. In other words, the Russians became attached to Constantinople with a spiritual bond. From this date onwards, the first pilgrimages called 'hojdenie' began. In this context, Istanbul, one of the most important centres of the Orthodox faith, has become the most important travel route for Russians together with Jerusalem and the Middle East, which are accepted as the first holy places of Christianity (Yıldız, 2023).

Tour guides, one of the key actors of the tourism sector, contribute to a change in the opinions that tourists already had about the destination in question by providing them with information about the place in the destinations they visit, while increasing the quality of tourists' tour experiences with their narratives (Yetgin, 2017). Tour guides assume many roles during a tour. When the tour guide conveys elements such as the history, culture, economy, social structure, and geographical features of the place travelled to based on the first source, it enriches his/ her narrative. In this context, travelogues add diversity and richness to the narratives, thereby increasing the satisfaction levels of tourists. In this respect, travelogues should be examined more closely as auxiliary sources.

Turkey was the most popular destination for Russian tourists in 2023 (The Republic of Türkiye Directorate of Communications, 2024). The number of Russian tourists visiting Turkey for tourism purposes tends to increase continuously, except for periods of global crisis and crises between the two countries. As can be seen in Table 1, there has been an increase in the number of Russian tourists visiting Turkey in the last three-years period since 2022. (Table 1). In the first five months of 2024, the Russian Federation ranked second after Germany in the ranking of foreign visitors to Turkey with 1,817,311 people (www.tursab. org). However, this tourism mobility from Russia to Turkey remains within the 'sea-sand-sun' triangle within the scope of classical tourism understanding. Russian tourists come to Turkey with motivations such as the presence of 'sea-sand-sun', affordable tour package prices and the quality of the service received in return for these prices, transportation facilities, ease of obtaining visas, facilities that appeal to families with children, the command of the Russian language by tourism personnel, cuisine, and cultural and historical values (Yaşar & Yaşar, 2017).

Table 1. Number of Tourist Arrivals to Turkey by Year

Years	Number of Russian Tourists Arriving in Turkey	Total Number of Foreign Tourists Arriving in Turkey
2022	5,232,611	44,564,395
2023	6,313,675	49,209,180
2024 (6 Months)	2,688,924	21,644,659

Source. Association of Turkish Travel Agencies (www.tursab.org)

Apart from the sustainability debates regarding mass tourism, diversification of tourism activities in Turkey is of great importance for the Russian market. In this context, cultural tourism emerges as an alternative to the 'sea, sand and sun' trio. Looking at the number of foreign tourists visiting Istanbul, which is an important destination in terms of cultural tourism, it can be seen that Russian tourists have the highest rate (10.48%) with 171,633 people according to the latest data (June 2024) (www.tursab.org). In line with these data, it can be seen that Russian tourists visiting Turkey in general and Istanbul in particular have an important potential to participate in religious tourism as an alternative to the 'sea-sand-sun' trio. This is because Istanbul is the belief centre where Russians accepted Orthodox Christianity in the tenth century. Hojdenies, in which pilgrimage journeys are described in detail in the period until the conquest of Istanbul, have been handled by disciplines such as history, literature, art history and architecture, but have not been evaluated in the field of tourism. This research is one of the pioneering studies evaluating the depiction of Istanbul in the pilgrimages written by the first Orthodox Russians in the field of tourism. From this point of view, the aim of the research is to analyse the elements such as holy places, holy relics, architectural features of holy places and legends written about them, the social, cultural and political structure of the period in the pilgrimages written by Russian Orthodox pilgrims coming to Istanbul, and to enrich the narrative of tour guides serving for religious tourism.

#### **Literature Review**

# **Faith Tourism**

Throughout human existence, belief and related practices have continued uninterrupted since prehistoric times. Among these practices, visits to places and to places considered sacred by different religions and belief systems have an important place. Therefore, faith and/or religion has been one of the main motivations for travelling since the beginning of human existence. These faith-motivated visits,

which found their basis in the pilgrimage phenomenon of early periods, have led to one of the oldest types of travel, religious tourism. In general, religious tourism is within the scope of tourist activities to the centres where religions are born and the events mentioned in the holy books of those religions had taken place. In this context, according to Güzel (2012), faith tourism is the evaluation of the travels and stays they make in order to fulfil their religious duties and relax spiritually by going to the attraction centres of the religions they have been involved in since early times within the concept of tourism. Usta (2005), in his master's degree study on faith tourism, defined faith tourism as the following:

"The whole of economic and social events and relations arising from temporary travelling outside the permanent living areas of people, which is not based on the purpose of commercial gain, and whose starting point consists of staying at least one night in sacred places that they consider religiously important in order to fulfil or visit religious obligations in accordance with their beliefs."

As mentioned above, the starting point of religious tourism is the visits of people to fulfil a religious duty, such as a pilgrimage for spiritual purposes. However, faith tourism has become an alternative phenomenon with new forms and understandings over time (Tarcan & Atılgan, 1999). In fact, religious structures, rituals, festivals and ceremonial events are important tourist attraction elements that attract a religious believer as well as an ordinary enthusiast to travel (Henderson, 2003). Throughout history, an important cultural heritage has been created by the members of any faith by building temples, shrines, mausoleums and statues. These structures are still used for religious purposes and are also extremely interesting due to their historical, architectural and artistic values. In this respect, tourists' interest in these structures and their visits to them are important connection points between tourism and faith (Okuyucu & Somuncu, 2013). From this point of view, the reasons that lead people to faith tourism are grouped under two main headings; travelling with the desire to fulfil religious duties, and cultural trips made as a result of curiosity and interest in religious or sacred places (Yılmaz, Erdinç & Küçükali, 2013).

Regardless of the motivation, according to the World Tourism Organisation (UNTWO, 2016), faith tourism, which has a significant potential that increases every year, has the capacity to develop tolerance and understanding between different beliefs and cultures as well as the economic welfare and added value it provides to countries. According to the World Tourism Organisation, it is estimated that between 300 to 330 million people travel annually in the world within the scope of religious tourism, which has become a constantly growing and developing market, and that it causes an economic impact of

approximately eighteen million dollars (WTO 2014 as cited in Güzel, Köksal, & Şahin, 2019).

Making tourism sustainable with tourist product diversification is of great importance today (Yüksek, Dinçer, & Dinçer, 2019). In this context, faith tourism, which is among the alternative tourism types that have developed as an alternative to mass tourism, has increased the interest in faith tourism for countries, especially for reasons such as its spread ability throughout the year and the fact that tourists participating in faith tourism are not limited in their expenditure (Usta, 2005).

The fact that the geography in which Turkey is located has hosted important civilisations and their religions, starting from prehistoric times, places it in a special position in this market. In Anatolia in particular, many holy places, pilgrimage centres, objects related to prophets or saints and the structures in which they are located are important attraction factors in the context of faith tourism. Turkey has the potential to gain more of a share from the religious tourism market by utilising this existing potential effectively.

# **Travelogues and Hojdenies**

Travelogues are books in which a traveller brings together his notes, travel memories and impressions written during his travels. The word 'travelogue' is a combination of the Arabic word seyâhat meaning 'travelling or trip' and the Persian word nâme meaning 'treatise or letter'. Therefore, seyâhat-nâme means 'travel letter, travel work' (Yazıcı, 2009). According to the TLA, travelogues are defined as 'a work in which an author describes the information and impressions gained from the places he has travelled to and seen' (Turkish Language Association-TLA, 2024). Travelogues are texts in which a traveller or observer conveys his impressions of a certain geographical area and a certain historical period (Kaya, 2021). Texts with literary and historical features that meet the need of people to see and get to know new places since the early ages are called travelogues (Maden, 2008).

When the thesis studies on travelogues are examined in the literature, it can be seen that most of the research is conducted in the fields of history, literature, art history, sociology and linguistics. However, in recent years, travelogues have started to be used as a source in the field of tourism. When tourism studies are examined as scientific articles, travelogues mostly deal with a geographical region/city through a traveller and/or a travelogue or within a certain historical period (Kutluk & Avcıkurt, 2014; Yılmaz & Yetgin, 2018).

Erbay Aslıtürk and Dikyar (2014) propose a sightseeing route by making use of the travel notes of travellers such as Ibni Batuta, Tavernier, Evliya Çelebi, Joseph de Tournefort, Charles Texier, and Charles Fellows covering the Izmir and Aydın provinces. In a similar study, Erbay Aslıtürk and Gökçe (2014) present an alternative route for cultural tourism tourists by developing a special interest tour proposal that can be applied on the European side of the city as a result of their analysis of various travelogues written about Istanbul. In addition, Çalık, Çiftçi, and Yetgin (2020) researched on the Ottoman cultural heritage through the eyes of women travellers; Yılmaz, Yetgin, and Kozak (2018) researched on the history of hotel management in the light of travelogues, intangible cultural heritage research (Kaya, 2023) and tourist guidance (Yılmaz, 2018; Kaya & Yetgin, 2021). There are few postgraduate theses in which travelogues are used as the main data source in the field of tourism. The first of these is Kaya's (2020) doctoral thesis entitled, 'A Cultural Route Proposal for Turkey Based on German Travelogues (1850-1912)'. In his thesis, Kaya created a cultural route based on the writings of seven German-speaking travellers. Although there are few postgraduate thesis studies based on Russian travelogues, they are concentrated in the fields of history and linguistics. Bars (2019), in his master's thesis in the field of history entitled 'Religious Places in Medieval Istanbul According to the Works of Russian Pilgrim Candidates', created a list of religious places recorded by Russian pilgrim travellers in their hojdenies and made a comparison between different travellers. Yıldız (2023) with 'Russian Orientalism: Turkey and Turks in Russian Travelogues of the Second Half of the 19th Century', examined Russian travelogues regarding Turkey in the context of orientalism. In the literature review, no postgraduate thesis on Russian travelogues in the field of tourism was found. Therefore, it is thought

The first travelogues written in Russian appear in the form of pilgrimages (putşeştviya palomnikov). Hajnames are travel notes kept by Russian pilgrims on their way to Jerusalem by way of Istanbul. In Russian literature, these notes were first named as pilgrimage (Hojdenie or Hojenie) and in later periods as travelogue (Puteşestvie). Hajnames are writings with religious content that provide information regarding the holy places visited until the seventeenth and eighteenth centuries. At the same time, it is a guide for those who will make a pilgrimage (Ünal, 2015).

that this study will fill the gap in this field.

Hajnames are recognised as the only examples of this genre in Russia from the eleventh to the fourteenth centuries and were a common literary genre in medieval Russia. The earliest surviving example of Russian pilgrimages is the Pilgrimage of Priest Daniil (Hojdenie igumena Daniila), which dates back to the twelfth century. During his pilgrimage to the Holy Land, Abbot Daniil attached special importance to Jerusalem and described the holy places there in detail. During his journey to and from Jerusalem,

there were many places from Anatolia on his route (http://lib.pushkinskijdom.ru, 2023). For example, he included Ephesus and the historical monuments there in his travelogue. However, although it is mentioned, there is no information regarding Istanbul in Daniil's travelogue. For this reason, this work is excluded from the scope of this study.

The literature review of medieval travelogues regarding Istanbul shows that Hagia Sophia is predominantly described for understandable reasons, but Russian pilgrimages, which are predominantly religious in content, offer a rich content on other holy places, relics and saints other than Hagia Sophia. In this context, the fact that the research area covers almost all the holy places of Istanbul of the period constitutes the unique value of this study. The research is important in terms of enriching the narrative of tour guides as primary sources of four Russian pilgrimages translated from Russian into Turkish by the author and contributing to the tourism literature. In this study, four travelogues written about Istanbul in the thirteenth to the fourteenth centuries are analysed. Russian travelogues, which appeared as a major literary genre as early as the twelfth century, opened the doors of unknown worlds to the people. Inevitably, these travelogues basically reflect the medieval point of view, the moral values, political and artistic thinking of the period. Of course, over time, the content and quality of Russian travellers, and therefore of travelogues, changed. In the period of the Kievan Knezate and the Mongol-Tatar Invasion (the eleventh to the fifteenth centuries), travellers were pilgrims on their way to visit the holy lands in the Middle East and Asia Minor. After the beginning of Byzantine-Russian relations, Constantinople became one of the most popular pilgrimage destinations. As a result of these visits, the Russians acquired extremely important information regarding the country they had visited. Thanks to the pilgrimages to Constantinople, or Tsargrad as the medieval Russian writers called it, the medieval Russians reflected what they saw and experienced, and the impressions and thoughts they gained from all this in travelogues, which have an important place in ancient Russian literature as a genre. According to Prokofyev (1984), the anthology of Russian literature of the eleventh to the seventeenth century contains more than seventy examples of various travelogues. About fifty of these are of historically original origin, and more than twenty are translations and legendary-apocryphal genres. It is not possible to cover all these travelogues in this study. Moreover, except for the travelogues regarding Istanbul, they are not within the scope of this study. In the selected travelogues, religious elements are predominant and they show integrity in terms of content and quality. This situation was effective in making this selection.

# Methodology

In this study, in which the qualitative method was adopted, an answer was sought to the question of how Russian pilgrims described Istanbul between 1200-1393.

# **Population and Sample**

In this study, in which the qualitative research method was adopted, four pilgrimages (thirteenth and fourteenth centuries) related to the medieval world were used as the main data source. Information regarding Istanbul of the period was sought in these travelogues. The selection of the travelogues was influenced by the periodic distinctions made by Russian researchers in the genre of travel notes. Accordingly, the earliest examples of Russian travelogues from the eleventh to the fourteenth centuries, consisting of notes kept during pilgrimages to the Holy Land, were selected. During this period, Constantinople (Istanbul), the capital of the Byzantine Empire, was one of the most popular pilgrimage destinations for Russian people. Moreover, this time period dates back to the period before Istanbul was taken by the Turks. After this date, visits decreased, although they did not stop (Kandemir, 2008). While making the selection, initially travelogues containing important information with regard to Istanbul were identified. The study was limited to four of the identified travelogues. This limitation is due to the time and volume constraints of the study as well as the difficulty in translating these works. These works, which were originally manuscripts, were later published in printed form. In addition, the fact that the researcher is proficient in the Russian language and that the Russian pilgrimages contain a wealth of information on medieval Istanbul are important factors in the choice of these pilgrimages.

#### **Data Collection**

The main data of this research are pilgrimages written in Russian. During the Middle Ages, pilgrimages to cities such as Jerusalem and Istanbul, which were considered sacred for Christians, played a leading role in the emergence of the travel genre in Russian literature. The first examples of pilgrimages were encountered in the twelfth century (Maleto, 2005), and original sources of pilgrimages written in Russian have been found. Since the period before the conquest of Mehmed the Conqueror in 1453 is analyzed, present-day Istanbul is referred to as Constantinople both in the travelogues and in this study. The authors of the travelogues are also referred to as travelers. In these types of travelogue, called Hojdenie (хождение), Russian pilgrims include detailed descriptions of many religious shrines, especially Hagia Sophia, and the objects and relics inside these buildings, which are considered sacred by Orthodox Christian Russians. Although religious elements are dominant, these works also provide information in regard to the history, settlement, architecture and art history of Istanbul (Kandemir, 2008).

The pilgrimages subject to this research are as follows: The Pilgrim Book of Anton of Novgorod ('Книга Паломник' Антония Новгородца); Anonymous Tsargrad Travelogue (Анонимное хожение в Царград); Wanderer of Stephen of Novgorod (от странника Стефанова Новгородца); Tsargrad Travelogue of Ignatius of Smolensk (Хожения Игнатия Смольнянина в Царград).

The travelogues analysed in this study include travels between 1200 and 1393. The authors of the works are clergymen and merchants. The content of each work consists of pilgrimages to lands considered holy. For a better understanding of the study, information concerning the four travelogues used as data sources is given below.

# The Pilgrim Book of Antoniy of Novgorod ('Книга Паломник' Антония Новгородца)

Born as Dobrinya Yadreykovich (Andreykovich), the traveler took the pseudonym Antoniy when he retired to a monastery (İnanır, 2013, p.27). In this study, the traveler will be referred to as Antoniy. Antoniy visited Constantinople between 1200-1204. Although there is insufficient biographical information in regard to the pilgrim, who was the Archbishop of Novgorod and the author of the hojdenie, the name and church activities of the pilgrim, who was among the first to visit the Holy Land, are found in the Novgorod annals as well as in the Moscow annals (Matsuki, 1988). There are nine copies of the work (Belobrova, 1974), dating from the late period (sixteenth to seventeenth centuries), of which no original copy exists. The translation and analysis of the Hajname is based on P. Savvaitov's compilation of 1872 (Savvaitov, 1872).

# Anonymous Tsargrad Travelogue (Анонимное хожение в Царград)

It is not known for certain who the author of the travelogue (also known as the hojdenie of the late thirteenth and early sixteenth centuries) was, but Russian researchers believe that it was written by the Novgorod bishop Vasiliy Kaleka (Prokofyev, 1984). The author did not explicitly state the purpose of the trip, but basically it was a pilgrimage to visit churches and shrines, which are considered sacred in Christianity. In his pilgrimage, he describes the layout of the city, its main churches and the artifacts left after the sack of Constantinople by the Crusaders. He mentions that many of the remaining artifacts were damaged. He also mentions the ancient statues in detail and tells the stories of these statues. It is understo-

od from his narrative that he is interested in artistic work, such as carving on stone as well as sculptures. The translation of the Hajjnam is based on the compilation of N.I. Prokofyev (Prokofyev, 1984).

# Wanderer of Stephen of Novgorod (OT

странника Стефанова Новгородца)

We learn the name of the author of the travelogue from the title of the work. Nothing is known about the status of the traveler from Novgorod who, like the other travelers, was an Orthodox Christian. Although the exact date of the journey is unknown, it is understood from the narrative that he made this visit in 1348 or 1349. As in the previous writings, the narrative is centered on the numerous shrines, mausoleums, and relics in the Byzantine Empire, which was considered the center of Orthodox Christianity in the Middle Ages. The travelogue contains detailed information about Hagia Sophia, especially about its interior architecture and ornamentation. It also touches upon Russian-Byzantine relations. While Dobrinya Yadreykovic (Antoniy), who visited Tsargrad in the early years of the thirteenth century (before 1204), was more interested in painting and the author of the Anonymous Tsargrad Pilgrimage was more interested in sculpture, Stephen focused more on architecture and mosaics. The translation of the work is based on the compilation of N. I. Prokofyev (Prokofyev, 1984).

# Tsargrad Travelogue of Ignatius of Smolensk (Хожение Игнатия Смольнянина в Царград)

During Metropolitan Pimen's third trip to Tsargrad in 1389, his delegation included Archimandrite Sergiy of the Moscow Spas Monastery, Bishop Mikhail of Smolensk, and the scribe Ignatius of Smolensk, the author of the pilgrimage. Ignatius wrote detailed notes on this trip on the instructions of Metropolitan Pimen. For this reason, the work is referred to as both the 'Travelogue of Ignatius of Smolensk' and the 'Travelogue of Pimen' in reference to Metropolitan Pimen's name.

The travelogue first describes the journey from Moscow to Tsargrad. During the journey, when he was near Tsargrad, he learned that Sultan Murad I had been stabbed to death in the Battle of Kosovo. He also gives information about the Black Sea coast and the cities they passed through on their way to Istanbul. After arriving in Tsargrad, the work describes the main shrines and mausoleums of Tsargrad, especially the Hagia Sophia, as well as relics. There is also a great deal of political, social and historical information about Byzantium of the period. The translation of the work is based on the compilation of N. I. Prokofyev (Prokofyev, 1984).

# **Data Analysis**

In order to obtain the data, the four pilgrimages mentioned above were translated into Turkish by the researcher. In addition, the pilgrimage written by Antoniy Novgorodskiy, which was written in old Russian and whose contemporary Russian was not accessible, was translated first into contemporary Russian and then into Turkish with the help of an expert in old Russian studies. The translated texts were uploaded to MAXQDA, a qualitative data analysis program. Inductive thematic analysis was applied to the data. Inductive thematic analysis is an analysis technique that enables the researcher to see and make sense of meanings and experiences in a data set (Braun & Clarke, 2006). In this context, codes were extracted from the texts transferred to the MAXQDA Program, and the codes were grouped under categories and themes. Experts in the field were consulted for the accuracy of the themes and categories obtained.

# **Validity-Reliability**

Lincoln and Guba (1985) mention the concepts of credibility, reliability, consistency, transferability, confirmability, and objectivity to ensure validity in the qualitative research. In this study, the Russian language originals of the pilgrimages analyzed in this study were accessed. They were then translated into Turkish by the researcher himself, and two experts assisted in checking the translations. For certain incomprehensible concepts and events, sources written in the fields of the history of religions, the history of art, as well as various studies examining Constantinople of the period, which constitutes the focus of the study, were consulted. The data in the reference sources were compared with the translations. In this context, the reliability and consistency of the translated data were ensured. In addition to these, direct quotations from the pilgrimages were made and references were cited. Therefore, the transferability of the study was ensured. In order to reduce bias, in addition to the researcher, the consultant and two experts were consulted in the coding process, thereby fulfilling the criterion of confirmability.

# **Findings**

In this study, the findings obtained from the pilgrimages written in Russian were categorized and grouped under three themes. These are; (1) religious elements, (2) historical elements and (3) artistic elements. The findings are presented by quoting the most striking sample statements for each category, and the quoted pilgrimages are coded as H1, H2, H3 and H4:

H1: The Pilgrim Book of Antoniy of Novgorod

H2: Anonymous Tsargrad Travelogue

H3: Wanderer of Stephen of Novgorod

H4: Travelogue of Ignatius of Smolensk

# **Religious Elements**

The codes and subcategories obtained for the religious elements in the pilgrimages analyzed were grouped under the categories of 'entrance to the city', 'religious rituals', 'religious buildings' and 'sacred relics'.

# **Entrance to the city**

The 'Hagia Sophia' and 'Greeting' subcategories stood out in the category of entering the city. Sample expressions related to these are given below.

### Hagia Sophia

According to the information from the pilgrimages, the first stop of the travelers when they arrived in Tsargrad was Hagia Sophia. Travelers who arrived in the city first visited this holy shrine of Christianity. It is possible to see the reverence for Hagia Sophia and the sanctity attributed to it in the following sample statements:

"Whoever goes to Constantinople, which is called Tsargrad, to worship the sufferings of Christ and Hagia Sophia, should go to the Holy Sofia upon his arrival in the city. When he approaches Hagia Sophia, he should enter the narthex through the south door." (H2)

"I, Stephen the sinner from Veliky (Great) Novgorod, together with eight companions, came to Tsargrad to worship in holy places and lay hands on holy relics. And God had mercy on us through the intercession of holy Sofia. In Holy Week (the Week of Suffering) we came to the city and went to Hagia Sophia." (H3)

#### **Salutation**

Russian travelers entering the city stated that when they arrived at their first stop, Hagia Sophia, they greeted it with reverence and bowed before it. This can be seen in the following examples.

"When this unworthy, sinful servant, Archbishop Antony of Novgorod, by the grace of God, came to Tsargrad, he first bowed before the Hagia Sophia, called the Holy Wisdom, and kissed the seals of the holy tomb of the Lord (Jesus) and the icon of the Theotokos holding Christ." (H1)

"We went to Hagia Sophia. And when we reached the great doors, we greeted the miraculous icon of Mary, Mother of God, from which came the voice that forbade Mary of Egypt to enter the holy church in Jerusalem. We also greeted there, inside the holy church, the icons of Jesus and the honored Saints." (H4)

# **Religious Rituals**

In the category of religious rituals, the subcategories of 'Rituals', 'Holy Days' and 'Reverence for Sacred Relics' came to the fore. Sample statements related to these are given below.

#### **Rituals**

It is understood that during their visits to Hagia Sophia and other sites, Russian travelers observed the religious rituals performed there with great attention and admiration. Detailed descriptions of the rituals can be seen in the following statements.

"The scribes were holding the tablets of Moses while the hymn was being sung in Ambon. The scribes sang first, the monks stood behind them, and then the gifts of the Lord were presented by the popes and deacons. [...] In Hagia Sophia, there are no bells, but they hold a small bell in their hands and strike it, calling people to the morning service, but not to the noon and evening services. In other churches, they strike the bell at both noon and evening prayers, the bell is held according to the Angelic Doctrine and Latin bells are rung." (H1)

It is understood that people were also in search of healing during religious rites. In the following excerpt from the traveller Stephen, it is explained that there is a church in the name of St. Virgin Theodosia, who was martyred during the iconoclasm period and there are narratives about her healing, and that the sick seek healing and are healed by touching the relics of the Saint.

"We went to St. Virgin Theodosia, and this women's monastery, founded in her name, is located by the sea. And every Wednesday and Friday, just like on holidays, many men and women bring candles, oil and alms. There are many people here suffering from various diseases. Those who lie in beds are healed, those who are sick are taken into the church and placed before St. Theodosia. She invisibly touches people's sore spots and heals them." (H3)

#### **Holy Days**

Holy Friday, Holy Thursday and Holy Week are mentioned in the pilgrimages, as in the following examples

"In the Shrine of the holy Resurrection of the Lord lies St. Auxentius the Monk, who lived on a hill with St. Stephen the Nazarene. This church was built before Hagia Sophia. There is a nail from the Passion of the Lord and the blood of the Lord, which they commemorate on Good Friday/Great Friday." (H1)

"Near here is a plank of Noah's ark. On Holy Thursday they place on it the instruments with which Jesus was tortured; a sponge, a cane and a spear. On that day, many Christians from all over the world gather to worship the Lord's Passion. From them the

sick are healed, and believers are forgiven for their sins and relieved of their troubles." (H2)

#### **Reverence for Sacred Relics**

Visiting holy relics is an extremely important part of the pilgrimage of Orthodox Christian pilgrims. In fact, many places are visited by pilgrims because of the relics they contain. In the pilgrimages analyzed in this study, there is a wide range of expressions related to these visits. A few of these expressions are given below.

"Inside the church lies St. Theophanida, who holds the key to Hagia Sophia. People kiss this key with respect." (H1)

"From there we went to the Monastery of the Virgin Mary called Pereç, where there is the head of St. John Chrysostomos, which we venerated and touched with respect." (H3)

"On the third day we went to the patriarch St. Antony and received a blessing from him. On the fourth day we venerated the icon of the great archangel who appeared to the young man guarding the tools of the builders of the church. On the sixth day we went to the holy Mother of God Hodegetria, worshipped and anointed ourselves with myrrh. We went to the monastery of Pantokrator, where we reverently kissed the sacred wood on which the body of Jesus Christ was placed after it was taken down from the cross." (H4)

# **Religious structures**

In the category of religious buildings, 'Churches' and 'Monasteries' stand out. In addition to the detailed descriptions of Hagia Sophia, the hojdenies analyzed also include accounts of many churches and monasteries in the city. Since the terms 'church' and 'monastery' are used intertwined in these accounts, the following examples are not titled separately.

#### Churches and Monasteries

There are about one hundred churches and monasteries mentioned in the pilgrimages. The following are a few of the most prominent ones: Digitria (Hodegetria) Monastery; Pantokrator Monastery; Peribleptos Monastery; Church of the Virgin Mary; Church of the Apostles (Havriyyun Church); Church of St. Nicholas; and the Church of St. John the Baptist.

"If you go east from Hagia Sophia towards the sea valley, there is a monastery called Digitria (Hodegetria) on the right." (H2)

"We went to the great monastery of the Savior, also known as Pantokrator. If you enter through the first gate, you will see that above the gate the Savior is depicted in a mosaic of very large size and height." (H3) "On the eighth day we went to the Monastery of Peribleptos, kissed the hand of the Forerunner (John the Baptist), the head of Gregory the Theologian, the forehead of Stephen the Younger and the icon of Christ addressed to Tsar Mavricius (Mauricius)." (H4)

"Emperor Constantine lies in a single tomb with his mother in the Church of the Holy Apostles." (H1)

#### Sacred relics

The category of holy relics is one of the most dominant codes in pilgrimages. The main motivation of pilgrims during these visits is to see and venerate relics. The most important objects attributed sacredness are the 'Passion of Christ' and the 'Relics of Saints', which symbolize the sufferings of Jesus Christ. Examples of the expressions describing these relics are given below as separate subcategories.

#### The Passion of Christ

"In the Emperor's golden hall there are fragments of the true cross, a crown, a sponge, nails and other blood; a purple robe, a spear, a walking stick, a povoi (headdress) of the Blessed Mary, a sash, the Lord's shirt, a scarf, a towel and the Lord's sandals... The altar is in the center of the church, in front of the altar there is a marble slab on which Christ was bound, this is the slab on which the Lord was laid after He was taken down from the cross. Then the holy Mother of God, touching the body of her Son and the body of God, wept and her tears flowed over the slab. And that slab is kept in the Monastery of Pentocrator." (H1)

"We kissed the table where Christ's sufferings were gathered together and where Christ's apostles, transformed into the Trinity, sat down to eat, then we reverently kissed the saintly patriarch Arsenius, the table of Abraham and the iron bed where Christ was tortured." (H4)

#### **Relics of the Saints**

"At the back of the hill is the church of the holy martyrs Sergius and Bacchus, and their heads are there, and the hand and blood of Sergius and the blood of holy Epimachus are in a box. Next to the Apostolic Church is the Church of All Saints there is the head of the saintly Apostle Flipus and the relics of other saints." (H1)

"To the south of Hagia Sophia, in the direction of Constantine's palace, on the left is the Church of St. Euphemia. Here lies the head of St. Euphemia framed in gold. The relics of St. Michael are also here. Christians believe in these relics and receive healing from them." (H2)

#### **Historical Elements**

Pilgrimages are texts that are dominated by religious elements in terms of their content. This is related to the main motivation of the people who perform the pilgrimage. They perform pilgrimage in accordance with their own beliefs by visiting the lands that are considered sacred and seeing and touching the holy relics found there. Nevertheless, historical elements specific to the period were inevitably included by the authors in these pilgrimages. In the pilgrimages analyzed in this study, the categories of 'Historical Events' and 'Historical and Religious Characters' were found under the theme of Historical Elements.

#### **Historical Events**

The codes obtained in the category of historical events and found remarkable were 'Byzantine-Russian Relations', 'Byzantine-Turkish Relations', '1204 Latin Invasion', and 'Coronation Ceremony'. Statements related to these codes are given below.

#### **Byzantine-Russian Relations**

"And then the holy patriarch of Tsargrad saw us, his name was Isidor, and we kissed his hand, because he loved Russia very much... When Olga the Russian went to Tsargrad she had a big golden tray from which she received tribute. There is a small town on the Ispigan side of Tsargrad, the land of the Jews. On this tray of Olga's was a precious stone on which Jesus was depicted, and from Jesus goodness and light radiates to all people." (H1)

#### **Byzantine-Turkish relations**

"In the summer of 6898 (1390) Kalujan, the son of Emperor Andronikos, with the help of the Turks, began to obtain a tsarate in Tsargrad... At midnight on Wednesday, the second week after Easter, loyal men opened the gates of the city to Kaluyan Andronikovich and let him in together with the Greeks, but the Turks were absent and did no harm. Manuel fled on ships to the island of Limnos... Manuel took Chargrad and crushed many of Andronikos' followers near Chargrad. Manuel went to the Turkish sultan with a bow, the Turks detained him, they sent word to Manuel's father saying, 'Manuel will not escape from my hands until you destroy your palaces.' And the old emperor reluctantly ordered the palaces to be demolished, and he himself went into the old palace and was overwhelmed with grief. The Turks released Manuel and he is still ruling." (H4)

#### 1204 Latin invasion (The Fourth Crusade)

"The Crusaders smashed it when they captured

Tsargrad. And they destroyed many other decorations. Tsar Constantine had a bathhouse, very high, close to the wall; Tsar Leo used to direct the water there, the water went up to the marble bathtubs, and the gutters were made of marble... On the left there is a big marble stone pillar, resting on four pillars made of copper. And these pillars are like big temples joined together. They were built by King Leo the Wise. On this pillar there are sixteen men, eight of copper and eight of stone, and in each hand there is a broom made of an unknown wood, as if filled with wax... But now, as I said before, all this has been destroyed." (H2)

#### Coronation

"In the summer of 1392, on February 11, during the week of the Prodigal Son, Manuel was married to the Tsarina by Patriarch Antony. The wedding was a spectacular spectacle. There was an all-night vigil in Hagia Sophia. It was very crowded with the men inside the church and the women in the upper gallery. The hymn singers were dressed in magnificent costumes; their dresses wide and long, all belted, the sleeves of their dresses wide and long, the others silk, and the shoulder pads gold and lace. There were Franks from Galata and Tsargrad, Genoese and Venetians... The Emperor entered the holy church through the great front doors. On either side of the Emperor were twelve armored men in iron armor from head to toe. In front of the Emperor marched two bannermen with black hair and red shafts, robes and hats. In front of these two bannermen were the deputy bannermen with staffs of silver." (H4)

# Historical and religious characters

The most frequently repeated codes under the category of historical and religious characters were 'Emperors', 'Prophets', 'Saints and Saints'.

#### **Emperors**

Russians refer to the Byzantine emperors as tsars, which is the Russian way of addressing emperors. For this reason, the quotations are faithful to this name.

"And towards the gates stands a great icon, depicting Tsar Corleus (Emperor Leo VI), his face made of precious stones, illuminating the Holy Sofia at night... On the holy great altar, above the catapetasma, hangs the crown of Constantine, a cross and a golden dove under the cross, and the crowns of other tsars." (H1)

"In the summer of 6898 (1390) Kaluyan, son of the emperor Andronikos, with the help of the Turks, began to establish a tsarate in Tsargrad... On Great Thursday, Manuel (Manuel Paleologos II), son of the former tsar Kaluyan (Ioannis Paleologos V), arrived from Limnos with ships to help Tsargrad..." (H4)

#### **Prophets**

The Prophet Jesus is naturally at the center of the pilgrimages. The Prophet Jesus is also referred to as 'Lord', 'Messiah' and 'Savior' in the pilgrimages. Apart from the Prophet Jesus, another prophet whose name is repeated most frequently is the Prophet Danyal. Excerpts from the pilgrimages regarding the Prophet Danyal are given below.

"At the Roman gate lies the holy great Prophet Danyal and the holy Roman saints and Nikita." (H1)

"We went to St. Prophet Danyal; when you come to the church, you have to walk with a candle and go twenty-five steps down from the ground. There on the right side is the tomb of Prophet Danyal's grave." (H3)

"On the seventeenth day of December we saw the tomb of the great Prophet Danyal and touched it reverently. Here is the Church of the Holy Mother of God (Mary). Inside there is an icon of the Mother of God painted by Luke the Evangelist." (H4)

#### Saints

Saints was the most frequently repeated code among the findings. It is not possible to include all of them under this heading, but the most striking examples are given below.

"And on the holy altar in St. Sofia, the blood and milk of St. Panteleimon remain unmixed. There is also his skull, the skull of the Apostle Kondratos and other relics... Far away from here, near the sea, the virgin St. Anna lies bent double, as if in a living body." (H1) "On these mattresses St. Georgios and St. Nikita were tortured... Here is the tomb of St. Ioannis Chrysostomos (John of Goldenmouth), covered with a slab and covered with gold and precious stones." (H2)

"St. Theodosia pushed the ladder and brought the pagan to the brink of death. That's when they stabbed the saint with a goat horn... There is a monastery of the Virgin Mary called Iterapiotica where the relics of St. Evdokia are found..." (H3)

There are also the heads of Saints Sergius, Bacchus and James of Persia... On the twenty-second day we reverently kissed the relics of St. Anastasia and Ignatius of Antioch." (H4)

#### **Artistic Elements**

In this study, the theme of 'Artistic Elements' emerges as one of the three main themes. Artistic elements such as icons and mosaics that pilgrims saw during their visits to the holy places in the city, as well as various public buildings and sculptures they encountered on the streets, did not escape the attention of the pilgrim writers. In addition, religious narratives, which have an important place in pilgrimage narratives, are another code found under this

theme. In the analysis conducted in this direction, codes entitled Religious Rumors, Visual Arts and Architecture were found under the theme of Artistic Elements.

# **Religious myths**

In the category of religious myths, 'The Founding of Hagia Sophia', 'The Unbroken Candle', 'Icons that Create Miracles', and 'The Stabbed Icon' were identified as the most recurring subcategories. Sample statements related to these categories are given below.

#### The Hagia Sophia foundation myth

"St. Michael said to the young man: 'Where are the masters of this church, and what is the name of the church?' The young man said: 'The masters have gone to the tsar's palace and the church has no name.' St Michael said to the young man: 'Michael, go to the Tsar and tell him to order the craftsmen to build this church in the name of Hagia Sophia, and I will be the guardian of Hagia Sophia and the work of your hands in your place. The power of Christ my God has commanded me to do this and I will not leave this place until you come'." (H2)

#### The myth of the unbroken candle

"... And if you go to the left from the great altar in the direction of the sun, there is a large glass lamp filled with oil; once it fell from above and did not break, nor did the fire in it go out. If it had been of iron, even then it would have broken, but some invisible power had placed it on the stone unharmed." (H3)

# Icons that work miracles

"... I have seen the icon of the Virgin Mary work extraordinary miracles and heal the sick." (H2)

"We went to the portable icon of the Virgin Mary, painted by the evangelist Luke looking at her while she was still alive. This icon is unveiled every Tuesday. The icon is very large and skillfully carved. The chanters walking in front of the icon sing beautiful hymns and all the people cry out tearfully: 'Lord, have mercy!' The icon is placed on the shoulders of a man, who stretches out his arms as if he were crucified and passes out, so that it is horrible to look at him and he is tossed back and forth across the square." (H3)

#### The myth of the stabbed icon

"In the Church of St Nicholas on the right side is an icon of the holy miracle-working Saviour. This icon was pierced above the left eyebrow by a Jew. When the Jew pierced the icon, blood and water flowed

from the wound. When the Jew saw this terrible miracle, he was horrified, took the icon, threw it into the well and hurried home... The Tsar, the patriarch and many people went to the well. When they arrived, they took the icon of the holy Saviour out of the well and saw that the image was stained with blood. The blood of the holy image was sealed with the blood of Christ and the icon was placed in the church of St. Nicholas. This icon heals many sick people." (H2)

#### Visual arts

In the visual arts category, the subcategories 'Icons', 'Mosaics' and 'Sculptures' stood out. Sample expressions related to these are given below.

#### **Icons**

"Lazarus, the icon painter; first in Tsargrad, in Hagia Sophia, he painted the holy Virgin and two angels holding Christ on the altar." (H1)

"If you go to the right side of the altar, there is an icon of the Holy Trinity, in front of the icon is the tray of Abraham, on which Abraham puts bread before the Trinity and eats with the Trinity." (H2)

"When we reached the great doors, we venerated the miraculous icon of St. Mary, from which a voice came to Mary of Egypt forbidding her to enter the holy church in Jerusalem. There we also venerated the icon of Jesus and other icons of saints inside the holy church." (H4)

#### **Mosaics**

"And there is a mosaic image of the great Savior, in which a finger of his right hand is missing. The painter looked at him and said, 'Lord, how beautifully I have painted him, as if he were alive!' And a voice from the image said, 'When did you see me?' Then the scribe became dumb and died. And that finger was not drawn but framed with silver and gilded." (H1)

"And on the same side of the wall was a mosaic figure of the Saviour, and holy water was flowing from the wounds of the nails in his feet, and we touched him, anointed him with oil, and gave him to drink of the holy water." (H3)

#### **Statues**

#### Statue of Justinian

"On the right side of the exit from the south gate of the Hagia Sophia church, there is a high stone column, and on the column stands Tsar Justinian on horseback. The copper Tsar holds a golden apple with a cross on it in his left hand, and his right hand is raised to the south. In front of him are three stone columns, and on the columns are three pagan tsars. All of them are made of copper, standing as if they were alive, and kneeling before Tsar Justinian, surrendering their city to him." (H2)

#### Other statues

"A copper column is erected here, three columns intertwined. The columns are separated from each other at the top, each has a snake head at the end, stones and pearls come out of their mouths; again, snake venom is hidden in this column." (H4)

"On the tomb of the prophet Daniel, there are two statues of angels made of stone, one at the head and the other at the feet, as if they were two living boys. These statues were made by Tsar Leo the Wise. Christians worship the prophet Daniel here." (H2)

#### **Architecture**

In the architecture category, the of subcategories 'Palaces', 'Hippodrome', and 'Ayasofya Architecture'stood out. Examples of these statements are given below.

#### **Palaces**

"Tsar Constantine's palace is located right above the Great Sea; there are decorations in the Tsar's palace. There is a high column of an obelisk above the sea and four stone capitals on that column, and on those capitals there is a stone of blue marble and winged dogs, eagles and rams are carved on this stone. The horns of the rams were broken and the columns were shattered. The Crusaders broke these when they captured Tsargrad." (H2)

"There is also a palace here called the 'palace of the Orthodox King Constantine'." (H3)

#### **Hippodrome**

"To the west of the Tsar's palace, close to it, is the Hippodrome. This Hippodrome is decorated with many wonderful things and many more things from the old days are preserved here. There are thirty columns towards the Great Sea and each column has rings of iron, and there are passages paved with stone railings from one end to the other on the columns." (H2)

"After listening to the holy mass, we went to the Palace of Constantine and saw a building belonging to the Tsars there; this place called the Hippodrome is a playground." (H4)

#### The Architecture of Hagia Sophia

"In front of the western door of the great entrance of Hagia Sophia, there is a baptismal font made of aspit stone, and the crosses are immersed in this font. There is a lintel of lead over the basin, and here the kings are baptized." (H2)

"There are three hundred and sixty-five doors in Hagia Sophia, and the doors are very carefully glazed. Some of them are bricked up for lack of funds. The human mind cannot tell and list everything about the holy Sophia of God, but we have written down what we have seen." (H3)

"On the thirty-first day, we went up to the dome of the Hagia Sophia Church and saw the forty windows there; we measured them with a column, and they were two spans short of two fathoms high." (H4)

### The Wells in Hagia Sophia

"There are many wells in the holy Hagia Sophia." (H1)

"In Hagia Sophia, except for the ones in the church walls and galleries, there are many wells with very tasty water, and it is impossible to see them because they are at the bottom level, that is, on the floor of the church... If you go from there to the altar of the church, there are very beautiful columns standing as if they were made of jade. There is a well in the great altar; it is filled with water from the holy river Jordan (the Jordan)." (H3)

# **Discussion, Conclusion and Suggestions**

The main data sources of this research are hojdenies. The results of the research are given under three themes.

# **Religious elements**

The most recurrent sub-codes in 'religious buildings' under the theme of 'religious elements' are 'churches' and 'monasteries'. After the Russians adopted Christianity as the official religion in the tenth century, Istanbul, the capital of the Byzantine Empire (Constantinople, which was the originator of the Orthodox faith) became one of the most important pilgrimage centres after Jerusalem. During these pilgrimages, Russian pilgrims visited dozens of sanctuaries and places in the Holy Land and in Istanbul, which are considered sacred by the Orthodox faith.

Among these temples, Hagia Sophia has a special importance. In addition to being a patriarchal and imperial cathedral, Hagia Sophia has a historical and spiritual significance for Russians. After Valdimir, the great Kievan knight, converted to Christianity in 988AD, pilgrimage gained great importance in line with the Christianisation policy. Accordingly, with a spiritual motivation, many pilgrims travelled to Constantinople to see the holy places. Although this route was quite far and difficult, it was popular among Russian pilgrims. In the analysed pilgrimages, Hagia Sophia is seen as a must-visit shrine for every Russian pilgrim.

Hagia Sophia, which is obviously the most central

and most important religious structure of the city, is also a centre of attraction due to the holy relics it contains. In this study, the code 'holy relics' under the theme of religious elements was the most recurrent code after 'religious buildings'. The 'Passion of Jesus', which represents the prophet Jesus and his sufferings in the process leading to the cross, and the relics and body parts (relics) of people who are considered saints in the Orthodox faith have an important place in pilgrimages as holy relics.

Apart from Hagia Sophia, another church visited by all travellers is the Church of the Holy Apostles (Havariyyun). Dedicated to the Twelve Apostles, the church was built by Constantine the Great as a funerary church. Many emperors were buried in the church, which became an important place of pilgrimage for Byzantine emperors from Constantine until the eleventh century. According to the accounts of travellers, there are many relics in the church.

A number of the many religious buildings mentioned in the pilgrimages are as follows: the Church of Saints Sergius and Bakhus; the Blakherna Church of Our Lady of Blakherna; the Prodromos Church of St John the Baptist; the Hodegetria Church of Our Lady of Hodegetria; the Monastery of Saints Kozma and Damian; the Pantokrator Monastery; the Studios Monastery; the Peribleptos Monastery; the Philanthropos Church of Christ the Saviour; the St Theodosia Church; and the St Georgios/Mangana Monastery. It can be seen that a number of churches are known by more than one name. This is evident from the fact that pilgrims have mentioned the same relics in these buildings. During their visits to these sacred buildings, it was observed that the believers were in a state of awe and approached these holy relics with reverence. Another dimension of this respect is related to forgiveness and healing through the relics attributed to holiness. It has been observed that the authors of the Hajjname describe in detail the various rituals performed on daily or holy days that they witnessed in Hagia Sophia and other temples. The way these rituals were performed, the objects used during the ritual, the icons or the clothes of the clergy are included in these descriptions.

#### **Historical Elements**

We see the information given by the travellers mostly about worldly life under this theme. These include important political and historical events such as Byzantine-Turkish relations, Byzantine-Russian relations, the Latin Invasion of 1204 and the coronation of Emperor Manuel II Paleologos. Among the four pilgrimages analysed, Ignatius of Smolensk's pilgrimage contains the most information in this sense. He mentions the Battle of Kosovo and the death of Murad I, the feud between Ioannes IV and Manuel II and the enthronement ceremony, as well as the earthquake in 1390. In the Anonymous Chargrad Pilgri-

mage, the damage caused to the city by the Latin invasion is frequently mentioned.

The most frequently recurring sub-code under the code 'historical and religious characters' is 'saints and saints'. These people, who were mostly tortured and killed by the Romans in the period before Christianity was accepted as an official religion, are regarded as religious martyrs

by the believers and are highly loved and respected by Orthodox Christians. In addition, through these saints, believers expect mercy and forgiveness from God. Another important point is that people expect healing by touching the icons or relics of saints and saints. Within the 'Prophets' code, the Prophet Jesus, who is central to the Christian faith and who is referred to with titles such as 'Lord', 'Messiah', 'Saviour', and 'Son of God', and related quotations from the Old and New Testaments, legendary stories and relics representing his ordeals are at the centre of the narratives.

#### Artistic elements

The codes reached under this theme, which cover a wide area, were 'religious myths', 'visual arts' and 'architecture'. In terms of frequency, the most recurrent code is 'religious myths'. Among these myths are those related to the foundation of Hagia Sophia, miracle-performing icons and legends on different subjects. In the case of Hagia Sophia in particular, there are still many legends told by tour guides even today. The blending of human imagination and religious and historical facts with fantastic elements over time has led to the formation of these legends. Since pilgrimages are written as a result of the travels of people who grew up listening to these legends for years, they are an integral part of these texts. In fact, the same myths are told over and over again in each hojdenie.

Under the theme of artistic elements, 'icons' was the most recurrent sub-code. Icons and their worship have become a manifestation of piety in Christian Orthodoxy. Therefore, pious pilgrimage writers frequently mentioned this subject. In particular, in all the texts analysed, the icon of Mary Hodegetria, which means 'guide', is frequently mentioned. In the Hodegetria composition, which is one of the most widely copied icons in Byzantium, Mary is standing or sitting, holding the Child Jesus with one hand and showing him with the other. It is believed that the first image of Hodegetria was painted by the Evangelist Luke, one of the writers of the Canonical Gospel, by looking at Mary (Işık Şen, 2017). All the authors mentioned this icon, apart from Stephen Novgorodets, in his hojdenie, described a religious ritual accompanied by this icon in great detail.

Mosaics and 'sculptures' are other sub-codes under the theme of artistic elements. Among the mosai-

cs, the mosaic of Christ the Saviour in particular is frequently depicted. Among the sculptures, the expressions depicting the equestrian statue of Emperor Justinian come to the fore. This monument, which preserved its place in front of Hagia Sophia for more than a thousand years, seems to have fascinated Russian travellers with the height and beauty of the column carrying the statue (Oktan and Derviş, 2015). The most repeated subcode under the theme of 'artistic elements' is 'the architecture of Hagia Sophia'. Hagia Sophia, which is the Imperial Cathedral and symbolizes the power of Orthodoxy, has a magnificent architecture. Russian travelers provide detailed descriptions of the interior and exterior architecture of this structure in their notes. In particular, since the date Antoniy Novgorodskiy visited Istanbul coincides with the time before the city was looted by the Crusaders, his description of the old state of Hagia Sophia places it in a special place. This is because many pieces that cannot be seen in Hagia Sophia today were stolen and taken to various places in Europe at that time.

It was understood that Russians adopted Istanbul as one of the most important pilgrimage centres after Jerusalem since the tenth century, when they accepted Christianity as the official religion. As a result, they made pilgrimages to Istanbul for many centuries. In this study, the travel notes kept by travellers/ pilgrims during the journeys between the eleventh and fourteenth centuries are analysed. The evaluation of the Russian pilgrimages written in this period in the field of tourism constitutes the original value of this study. These travel notes, which give detailed information about Istanbul, provide valuable information to be told to foreign and domestic tourists, especially Orthodox Christians who come to the city as faith tourists. In this direction, it is thought that the research findings could be a source for enriching the narratives of tour guides working in Istanbul.

# **Suggestions for Future Studies**

Research could be made on the pilgrimages written in the period between 988AD, when Russian Orthodox converted to Christianity, and 1453, the conquest of Istanbul, which were left out of the scope of this research, bringing them into the literature; researching the examples of pilgrimages in different languages and evaluating them in the context of tourism; conducting research in different fields such as architecture, art history, history of religions on the Istanbul of the period in the pilgrimages; researching the first example of a pilgrimage, the XII. century 'The Life and Journey of Abbot Daniil from the Russian Country' (Jitie i hojenie igumena Daniila iz Russkoy zemli), in the context of religious tourism; accessing pilgrimage writings written for different religions and beliefs; and conducting interdisciplinary comparative studies.

# **Suggestions for the Sector**

It is suggested that the findings and results of this research should be shared with the Istanbul Chamber of Guides and transferred to tour guides with a niche tour programme being developed within the scope of faith tourism. These results, which will shed light on the history of Orthodox Christianity, should be shared with Russian travel agencies and Russian tourists should be informed about these tours through cooperation. The protection of the architectural structures, in the findings, which can still be seen today, and the revitalisation of religious rituals can contribute to the protection of cultural heritage. In addition, other stakeholders in the tourism sector can utilise these narratives by integrating them into modern tourism.

#### References

Bars, N. (2019). Rus Hacı Adaylarının Eserlerine Göre Ortaçağ İstanbulundaki Dini Mekânlar, Yayımlanmamış Yüksek Lisans Tezi, İstanbul: Mimar Sinan Güzel Sanatlar Üniversitesi, Sosyal Bilimler Enstitüsü.

Belobrova, O.A. (1974). "Kniga Palomnik Antoniya Novgorodsko-go (K izucheniyu teksta)" TODRL, s.178-185. Leningrad.

Blanton, C. (1997). Travel Writing: The Self and the World. New York: Routledge

Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology. Qualitative research in psychology, 3(2), 77-101.

Çalık, A. Ö., Çiftçi, G., & Yetgin, D. (2020). Cultural Heritage of Ottoman Anatolia Through the Eyes of Female Travelers. In Heritage Tourism Beyond Borders and Civilizations: Proceedings of the Tourism Outlook Conference 2018 (pp. 71-83). Springer Singapore.

Erbay Aslıtürk, G. ve Dikyar, C. (2014). 1200-1900 Yılları Seyyahlarının Anlatımıyla İzmir ve Aydın İlleri İçin Gezi Önerisi. III. Disiplinlerarası Turizm Araştırmaları Kongresi Bildiri Kitabı içinde (s. 476-487). Ankara: Detay Yayıncılık.

Erbay Aslıtürk, G. ve Gökçe, S. (2014). 17.-19. Yüzyıl Seyyahlarının Kaleminden İstanbul: Avrupa Yakası Gezi Önerisi. III. Disiplinlerarası Turizm Araştırmaları Kongresi Bildiri Kitabı içinde (s. 488-501). Ankara: Detay Yayıncılık.

Güzel, Ö. (2012). Türkiye'deki Hristiyan Pazarı Değerlerinin Analizi ve İnanç Tabanlı Pazarlama Kapsamında Bu Değerlerin İlgili Pazarlara İletilmesi. Akdeniz İnsani Bilimler Dergisi, 2(2), 133-141.

Güzel, Ö., Köksal, G., Şahin İ. (2019). İnanç turu rehberliği alanında uzmanlaşma. Ö. Güzel ve Ö. Köroğlu (Editörler), Turist rehberliğinde uzmanlaşma özel ilgi turlarından özel konulara içinde (s.101-148). Ankara: Nobel Yayınevi.

Henderson, J. C. (2003). Managing tourism and Islam in peninsular Malaysia. Tourism management, 24(4), 447-456.

lşık Şen, V. (2017). Bizans İkonalarından Günümüze Sanatta Meryem ve Çocuk Motifi. İdil Sanat ve Dil Dergisi, 6 (32), s.1359-1383.

İnanır, E. (2013). Rusların gözüyle İstanbul. İstanbul: Kitabevi

Kandemir, H. (2008). Rus Edebiyatında İstanbul. Selçuk Üniversitesi Edebiyat Fakültesi Dergisi, (19), 153-163.

Kaya, A. (2020). Almanca Seyahatnameler (1850-1912) Temelinde Türkiye'ye Dair Bir Kültür Rotası Önerisi. Yayımlanmamış Doktora Tezi. Eskişehir: Anadolu Üniversitesi Sosyal Bilimler Enstitüsü.

Kaya, A. (2021). Almanca Seyahatnamelerde Osmanlı Şehirleri 1850-1912. İstanbul: İletişim Yayınları.

Kaya A. ve Yetgin, D. (2021). Seyahatnamelerde Turist Rehberleri. Turizm Akademik Dergisi. 8(2). 37-55.

Kaya, A. (2023). Somut Olmayan Kültürel Miras Olarak Lületaşının Seyahatnamelerdeki Yeri. Anatolia: Turizm Araştırmaları Dergisi,

# Istanbul In Russian Hojdenies Within The Scope Of Religious Tourism

34(2), 44-56.

Kutluk, A. ve Avcıkurt, C. (2014). Seyyahların Notlarında İlk Görüş: İstanbul Tasvirleri. III. Disiplinlerarası Turizm Araştırmaları Kongresi Bildiri Kitabı içinde (s. 138-150). Ankara: Detay Yayıncılık.

Lincoln, Y.S. & Guba, E.G. (1985). Naturalistic Inquiry. Newbury Park, CA: Sage Publications.

Löschburg, W. (1998). Seyahatin Kültür Tarihi, (Çev. J. Traub.). Ankara: Dost Kitabevi.

Maden, S. (2008). Türk Edebiyatında Seyahatnameler ve Gezi Yazıları. Atatürk Üniversitesi Türkiyat Araştırmaları Enstitüsü Dergisi, 15(37). 147-158.

Maleto, E. İ (2000). Pervye Palomniki hristianskoy rusi. E. V. Belyakova, O. Y. Vasilyeva, Y. N. Şçapov (Editörler), Tserkov v istorii rossii sbornik 4 içinde (s.55-66). Moskova: İnstitut rossiyskoy istorii RAN

Maleto, E. İ. (2005). Antologiya hojeniy russkih puteşestvennikov XII – XV. Veka. Moskova: İzdatelstvo Nauka.

Matsuki, E. (1988). Novgorodian Travelers to the Mediterranean World in the Middle Ages. Mediterranean Studies Research Gruoup at Hitotsubashi University.

Oktan, T. ve Derviş, L. (2015). Ortaçağ Rus Seyahatnameleri ve Hikâyeleri Işığında Ayasofya. Cedrus, 3, 311-328.

Okuyucu, A. ve Somuncu, M. (2013, May). Türkiye'de İnanç Turizmi: Bugünkü Durum, sorunlar ve Gelecek. In International Conference on Religious Tourism and Tolerance (Vol. 9, No. 12, pp. 627-643).

Prokofyev, N. İ. (1984). Zapiski Russkih puteşeştvennikov XI-XV. ve-kov. Moskova: İzdatelstvo Sovetskya Rossiya.

Savvaitov, P. (1872). Puteshestvie Novgorodskogo arkhiepiskopa Antoniya v Tsargrad v kontse 12-ogo stoletiya. S pred. İ primech. P. Savvaitova, Sankt- Peterburg.

Tarcan E. ve Atılgan E. (1999), 2000 Yılına Doğru Türkiye'nin İnanç Turizmi Açısından Önemi ve Antalya'da Faaliyet Gösteren Seyahat Acentaları Üzerine Bir Araştırma, İki binli Yıllara Girerken Kapadokya'nın Turizm Değerlerine Bir Bakış, Erciyes Üniversitesi Matbaası, Kayseri.

Usta, K. M. (2005). İnanç turizmi potansiyeli açısından İznik'in değerlendirilmesi (Yüksek Lisans tezi, Balıkesir Üniversitesi Sosyal Bilimler Enstitüsü).

Ünal, F. (2015). Kudüs yolcusu A. Koptev'in İstanbul hatıraları (1887). Tarih Araştırmaları Dergisi, 34(57), 159-198.

Yaşar G. ve Yaşar M. M. (2017). Türkiye–Rusya Uçak Krizi Sonrasında Türkiye Turizmi. VII. Uluslararası Karadeniz Sempozyumu "Türk-Rus İlişkileri", Giresun Üniversitesi, s. 100-106.

Yetgin, D. (2017). Turist Rehberlerinin Mesleki Bağlılık, Tükenmişlik ve Ekonomik Kaygı Düzeyleri Arasındaki İlişkinin Analizi. Yayınlanmamış Doktora Tezi. Eskişehir: Anadolu Üniversitesi, Sosyal Bilimler Enstitüsü.

Yıldız, Y. (2023). Rus Oryantalizmi: 19. Yüzyılın İkinci Yarısındaki Rus Seyahatnamelerinde Türkiye ve Türkler, Yayımlanmamış Doktora Tezi, Eskişehir: Anadolu Üniversitesi, Sosyal Bilimler Enstitüsü.

Yılmaz, A. (2018). Turist Rehberlerinin Anlatımlarının Zenginleştirilmesinde Seyahatnamelerin Kullanılması: Eskişehir Örneği. (Ed. Necdet Hacıoğlu, Cevdet Avcıkurt, Arzu Kılıç, Hasret Ulusoy Yıldırım) Turist Rehberliği Üzerine Güncel Araştırmalar içinde (ss: 233-245) Ankara: Detay Yayıncılık.

Yılmaz, A., Yetgin, D., & Kozak, N. (2018). A hotel in Anatolia in the last period of the Ottoman Empire: Hotel Tadia (1892–1922). Tourism management perspectives, 26, 118-125.

Yılmaz, Ö. (2013). Osmanlı Şehir Tarihleri Açısından Yabancı Seyahatnamelerin Kaynak Değeri. Tarih İncelemeleri Dergisi, 28(2), 587-614

Yılmaz, G., Erdinç, S. B., & Küçükali, S. (2013). İnanç Turizmi Çerçevesinde Antalya Destinasyonunun İncelenmesi: Dinler (Hoşgörü) Bahçesi Örneği. International Conference on Religious Tourism and Tolerance (s. 1041-1055). Konya: International Conference on Religious Tourism and Tolerance.

Yüksek, G., Dinçer, F. İ., & Dinçer, M. Z. (2019). Seyitgazi ilçesi paydaşlarının sürdürülebilir turizm farkındalıkları. Uluslararası Türk Dünyası Turizm Araştırmaları Dergisi, 4(1), 107-121.

Turkish Language Association-TLA, https://sozluk.gov.tr (Erişim tarihi: 10.06.2024)

The Republic of Türkiye Directorate of Communications, https://www.iletisim.gov.tr/turkce (Accessed from: 10.06.2024).

www.tursab.org (Accessed from: 23.07.2024).

https://www.unwto.org/archive/europe/press-release/2016-11-14/religious-tourism-catalyst-cultural-understanding (Accessed from: 01.08.24)

http://lib.pushkinskijdom.ru/Default.aspx?tabid=4934 (Accessed from: 01.08.23)

# Research Article

ROMAYA - Researches on Multidisiplinary Approaches 2024, 4(2): 168-183

ISSN:2791-9099

# The Impact Of Cognitive And Affective Perception Of The Country Image On Consumers' Sense Of Economic Animosity, Product Quality Judgment, And Purchase Intention<sup>1</sup>

Bilişsel ve Duygusal Ülke İmajı Algısının Tüketicilerin Ekonomik Düşmanlık Hissi, Ürün Kalite Yarqısı ve Satın Alma Niyeti Üzerindeki Etkisi

Aysel Erciş / Prof. Dr. 📵

Atatürk University ayselercis@atauni.edu.tr

Kadir Deligöz / Assoc. Prof. Dr. Dr.

Atatürk University, Faculty of Economics and Administrative Sciences kadir.deligoz@atauni.edu.tr

Yıldız Çelebi / Dr. 📵

Ataturk University, Production Management and Marketing yildizcelebi34@gmail.com

#### **Abstract**

In a globalized world, the image of countries has increasingly become an important factor influencing consumers' product preferences. In this context, studies that examine the effects of cognitive and emotional country image perceptions on economic animosity, product quality judgment, and purchase intention have gained prominence in the marketing field. The aim of this study is to investigate the impact of Turkish consumers' cognitive and emotional country image perceptions of U.S.-origin products on their feelings of economic animosity, product quality judgments, and purchase intentions. The research was conducted among consumers aged 18 and above in Istanbul using a convenience sampling method. Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM) were employed, and reliability and validity were assessed through Composite Reliability (CR), Average Variance Extracted (AVE), and Cronbach's alpha. Descriptive statistics and correlation analyses were also performed to explore the relationships between variables, ensuring methodological rigor. The analysis results indicated that emotional country image components (admiration and contempt) had a significant impact on economic animosity, while cognitive components (competence and warmth) did not. Additionally, the perception of competence regarding the people of the country positively influenced beliefs about the products; however, the emotional image did not affect product judgment. In terms of purchase intention, competence from the cognitive image and contempt from the emotional image were influential, and both economic animosity and product judgment were found to impact purchase intention.

**Keywords** Country of Origin Image, Consumer Animosity, Product Quality Judgment, Purchase Intention.

JEL Codes: M30,M31

# Özet

Küreselleşen dünyada, tüketicilerin ürün tercihlerine etki eden unsurlar arasında ülkelerin imajı giderek önem kazanmaktadır. Bu bağlamda, bilişsel ve duygusal ülke imajı algısının ekonomik düşmanlık hissi, ürün kalite yargısı ve satın alma niyeti üzerindeki etkilerini inceleyen araştırmalar pazarlama alanında öne çıkmaktadır. Bu çalışmanın amacı, Türk tüketicilerin ABD menşeli ürünlere yönelik bilişsel ve duygu-

<sup>&</sup>lt;sup>1</sup> The compliance of this study with ethical guidelines was approved by the Ethics Committee of Atatürk University with decision number 231, dated December 10, 2021.

sal ülke imajı algılarının, ekonomik düşmanlık hissi, ürün kalite yargısı ve satın alma niyetleri üzerindeki etkilerini incelemektir. Kolayda örneklem yöntemi ile İstanbul ilinde 18 yaş üstü tüketiciler üzerinde gerçekleştirilen araştırmada, Doğrulayıcı Faktör Analizi (DFA) ve Yapısal Eşitlik Modeli (YEM) kullanılmış, güvenilirlik ve geçerlilik Bileşik Güvenilirlik (CR), Ortalama Varyans Açıklaması (AVE) ve Cronbach alfa ile değerlendirilmiştir. Değişkenler arasındaki ilişkileri keşfetmek için betimleyici istatistikler ve korelasyon analizleri de gerçekleştirilmiş, bu sayede çalışmanın metodolojik titizliği sağlanmıştır. Yapılan analizler sonucunda, duygusal ülke imajı bileşenlerinin (hayranlık ve küçümseme) ekonomik düşmanlık üzerinde anlamlı bir etkisi olduğu, ancak bilişsel bileşenlerin (yeterlilik ve samimiyet) bu his üzerinde etkili olmadığı belirlenmiştir. Ayrıca, ülkenin insanlarına dair yeterlilik algısının ürün inançlarını pozitif etkilediği; fakat duygusal imajın ürün yargısı üzerinde etkisi olmadığı saptanmıştır. Satın alma niyetinde ise bilişsel imajdan yeterlilik ve duygusal imajdan küçümsemenin etkili olduğu, ayrıca ekonomik düşmanlık ve ürün yargısının da niyeti etkilediği görülmüştür.

**Anahtar Kelimeler:** Menşe Ülke imajı, Tüketici Düşmanlığı, Ürün Kalite Yargısı, Satın Alma Niyeti.

JEL Kodları: M30,M31

#### Introduction

Türkiye, The increasing prevalence of globalization and the expansion of free trade have elevated the significance of foreign markets. These developments have spurred the growth of international trade relations, fueling consumer demand for products from diverse countries. Consequently, there is a pressing need to comprehensively analyze the factors that influence consumers' willingness to purchase goods from different nations and to conduct further research in this area (Klein et al., 1998, p. 89; Riefler & Diamantopoulos, 2007, p. 88). Literature overview reveals that previous research on country of origin has established its role as an external prompt influencing consumer choices between identical products from different countries (Bilkey & Nes, 1982, p. 89; Verlegh, 2001, p. 523; Nart, 2008, p. 155; Dmitrovic & Vida, 2010, p. 146). Current research has shifted its emphasis to exploring the factors that influence consumer preferences for products from specific countries. This perspective suggests that a good reputation of a country's products can only be justified when considering the production of particular goods. Roth and Diamantopoulos (2009) introduced the notion of country image (COI), which refers to the perceptions and evaluations held by consumers in one country towards another. COI is a causal factor in a country's affairs and comprises two interconnected components: cognitive and affective (Roth & Diamantopoulos, 2009, pp. 726-728). The intellectual component relates to the expression of beliefs,

while the affective component pertains to consumer actions towards further country. The formation of country image is influenced by various factors, including the dissemination of information through media channels and the significance of family and peer networks in providing insights into foreign countries and cultures (Maher & Carter, 2011, pp. 560).

Although the significance of the concept of country image is well acknowledged, there is no universally agreed-upon definition or measurement approach in academic literature (Roth & Diamantopoulos, 2009, p. 726). However, empirical research suggests that emotional and cognitive factors differentially impact consumer purchasing behavior. Emotional dimensions influence preferences for hedonic goods, while cognitive dimensions drive preferences for functional items (Verlegh, 2001, p. 523; Maher & Carter, 2011, p. 560). Attitudes are shaped by both emotional responses and cognitive evaluations of attributes. These evaluations are often perceived as rational and logical. However, attitudes may vary in their responsiveness to affective and cognitive influences. For instance, household goods, with their instrumental nature, may be evaluated more on utilitarian grounds than emotional ones. Conversely, Lavine et al. (1998) argue that attitudes towards close friends or relatives are primarily driven by emotions rather than beliefs. Prior research (Lavine et al., 1998, p. 402; Maher & Carter, 2011, p. 560) suggests that when affect and cognition are misaligned, the affective dimension tends to exert a stronger influence on behavior. However, when both affect and cognition are congruent, they appear to have comparable impact on attitudes and behaviors. The hypothesis of the superiority of the senses in determining preferences was proposed by Zajonc (1984). Affectional responses can often be chronologically preceded by cognitive reactions in shaping of attitudes (Edwards and Von Hippel, 1995: 998). When we meet a person for the first time, we may have a sudden affection-based reaction before we know anything about his or her personal characteristics. Nevertheless, affectional responses are more subjective than cognitive ones and are directly about the individual. For this reason, when two types of information contradict each other, the affections created by an attitude reveal more real assessments than our cognitive assessments of the attributes of the object (Edwards and von Hippel, 1995, p. 998; Lavine et al., 1998, p. 402).

The perception of perceptual and emotional image of country image can significantly influence consumer behavior, particularly in areas like economic animosity, product quality judgment, and purchase intention. Consumers with a negative affective response towards a country may still recognize the level of its products but are less likely to purchase them due to feelings of animosity. This interplay between emotional responses, cognitive assessments, and buying decisions highlights the complex

relationship between country image and consumer behavior, with economic and emotional factors playing a significant role in guiding purchase intentions. According to the BIAS map, while the cognitive component consists of two dimensions (warmth and competence), while the affective component includes four dimensions: admiration, contempt, envy, and pity (Maher and Carter, 2011, p. 566). In this study, the dimensions of envy and pity were not included due to their weak relationship with behavioral tendencies.

The BIAS map extends the stereotype content model The Stereotype Content Model (SCM) (Cuddy et al. 2007, p. 632; Cuddy et al. 2008, p. 70). SCM suggests that individuals, as members of one group, judge another group based on their perceived warmth and competence. While the warmth dimension shows that other group individuals are positive towards their group intentions, the competence dimension shows another group's ability (Maher and Carter, 2011, p. 565). According to SCM, the origins of perceived frankness and competence lie in social structural variables, namely competition and status. Close people are considered warm. In contrast, those seen as competitors are considered to lack warmth. Also, while people who have been seen as having high status are thought of as competent, people who have been seen as having lower standing are thought of as ineligible (Cuddy et al. 2008, p. 64). Various studies have examined the relationship among the emotional and cognitive angles of a country's image. While some research suggests that cognition precedes emotion (Brijs, et. al, 2011), others argue that emotion can influence cognition (Haubl, 1996; Maher & Carter, 2011). There is ongoing debate about whether affect and cognition are independent systems and whether affect can occur without prior cognitive processing. Zajonc's (1984; 2004) work on the interplay between cognition and affect is relevant here. He argues that there is no inherent connection between the two and that emotions can arise before perceptual and cognitive decoding. Given this perspective, our study has treated cognition and emotion as separate constructs. The following can be used to summarize these contributions:

- Foreign consumers' perceptions of a nation's goods and services are shaped by its image. Customers can learn valuable information from this image about the dependability and quality of products. A thorough examination of the emotional and cognitive aspects of national image will provide a better understanding of how it influences consumer purchase decisions.
- While cognitive components (competence and warmth) include more reasoned and informed evaluations, emotional components (admiration and contempt) reflect the impulsive feelings consumers

feel toward a nation and its products. An examination of the way these two elements interact will yield crucial information about how marketing strategies ought to be developed.

- Customers who harbor economic animosity are those who have unfavorable feelings about the prosperity of other nations. Gaining an understanding of how this emotion influences opinions about products and plans to buy will offer strategic insights that help direct brand positioning in global marketplaces.
- Brands may better meet the wants and expectations of their customers by having a deeper understanding of the psychological and sociocultural elements that affect consumers' decision-making processes. As a result, marketing and communication strategies can be created that are more successful.
- It is crucial for businesses that operate in international marketplaces to comprehend how consumers behave in various cultural contexts. We will be able to create effective plans and gain a deeper understanding of consumer trends in various markets thanks to this research.

This study examines the distinct dimensions of the cognitive and emotive components associated with the image of a country, specifically focusing on warmth, competence, admiration and contempt. Furthermore, this study will provide managers with the opportunity to recognize the significance of emotion and cognition as influential factors in their evaluation of the country's image.

The study looks at how consumers' behavior is influenced by their emotional and cognitive perceptions of their nation. This demonstrates that consumers have emotional as well as knowledgeable opinions about various nations and goods. Additionally, it offers a thorough explanation of how animosity influences customer behavior, including intent to buy and judgments about the quality of products. The study compares Turkish consumers' impressions of the US and Turkey in order to adjust for cultural variations. These distinctions will make it possible for businesses doing business internationally to include cultural considerations when formulating their marketing plans. Additionally, recommendations for marketers' and practitioners' practical application will be derived from the findings.

# **Theoretical Background**

In the increasingly interconnected global marketplace, consumers' purchasing decisions are remarkably shaped by their perceptions of a product's country of origin. Under these circumstances, country image significantly influences consumer behavior. However, existing research lacks comprehensive studies that fully explore the combined effects of cognitive

and emotional country image perceptions on consumers' economic animosity, product quality assessments, and purchase intentions. The goal of this study is to bridge this gap by enhancing the literature on how country image affects consumer behavior.

# **Country of Origin Image**

Generally considered a country of origin concept, the phrase "made in" indicates the place where a product is manufactured (Papadopoulos, 1993, p. 4; Liefeld, 2004, p. 86; Amine, 2008, p. 405). Country of origin image (COI) is defined as "the sum of people's beliefs, ideas, and impressions about a particular country" (Cotîrlea, 2015, p. 166). This image positions countries in consumers' minds much like brands are positioned. However, unlike brand images that are often shaped through targeted marketing efforts, COI is not directly controlled by marketers (Papadopoulos & Heslop, 2002, p. 295). According to Kunczik (1997), COI formation is a complex communication process influenced by various information sources, including marketing communications, personal experiences with foreign cultures, and their subsequent reflections (Cotîrlea, 2015, p. 166).

The scope of a concept delineates what falls within its definition and what lies outside. Examining the descriptive areas in current country of origin image (COI) surveys reveals three distinct focal points: (1) general country image, encompassing the overall perceptions and associations related to a country; (2) product-country image, referring to the image of a specific product category linked to a particular country; and (3) product image within a country, which focuses on the image of an individual product within the context of its country of origin (Roth & Diamantopoulos, 2009, p. 727). COI can significantly influence consumer behavior, as products from countries perceived to have high standards of craftsmanship, technology, or innovation are often viewed more favorably. On the other hand, products from countries with negative associations may face skepticism or avoidance.

Recent research has revealed a hierarchy of effects associated with country of origin (COO), highlighting a correlation between COO effects and a country's degree of economic progress. Consumers in industrialized nations often exhibit a preference for domestically produced goods over foreign ones, while those in developing nations tend to perceive foreign products as more valuable (Nagashima, 1970; Han & Terpstra, 1988, p. 236; Kotler et al., 2005, p. 352). This preference for foreign goods in developing countries may be attributed to perceptions of lower quality associated with domestically produced goods. The hierarchy of effects can vary by country (Han & Terpstra, 1988, p. 236), and attitudes towards COO can shift over time. The enhancement of the quality image of Japanese products exemplifies how

such perceptions can evolve (Kotler et al., 2005, p. 352; Verlegh, 2001, p. 525). Cuervo-Cazurra, A., and Ramamurti, R. (2022), meta-analysis examines the antecedents and outcomes of consumers' perceptions of foreign country images. It investigates how macro-level differences between countries moderate the effects of cognitive and affective dimensions on consumer behavior, particularly focusing on purchase intentions and economic animosity. De Nisco, A., and Oduro, S. (2022) explores the partitioned effects of country-of-origin on consumer behavior. It highlights how cognitive and affective perceptions of a country's image influence perceived quality and purchase intentions differently, offering insights into how companies can leverage these perceptions in marketing strategies. Purwanto, E., and Wibisono, A. (2020) focuses on the impact of country-of-origin image and word-of-mouth on perceived quality and purchase intention, particularly in the context of Japanese digital cameras. Structural Equation Modeling is used to test the hypotheses, revealing significant effects of country image on consumer decisions.

# The Concept of Consumer Animosity

Consumer animosity refers to the lingering resentment arising from past or ongoing military, political, economic, or diplomatic conflicts between nations (Klein et al., 1998, p. 90; Klein, 2002, p. 346). This deep-seated negative sentiment toward a specific country significantly influences consumer behavior in international markets (Klein et al., 1998, p. 90; Ettenson & Klein, 2005, p. 204). Unlike consumer ethnocentrism, which generally reflects a preference for domestic over foreign products, animosity is directed at a particular country and shapes preferences among foreign products (Klein et al., 1998, p. 90; Klein & Ettenson, 1999; Klein, 2002, p. 346). Consumer animosity can stem from war, trade disputes, political disagreements, or human rights violations, and may persist even after the original source of tension has dissipated. As a result, brands from countries facing consumer animosity may struggle to penetrate certain markets, requiring strategic efforts to mitigate these negative associations through localized marketing, brand repositioning, or even corporate social responsibility initiatives.

Various factors can contribute to negative attitudes toward a foreign country and its products (Ang et al., 2004, p. 192), including historical military conflicts, economic or diplomatic disputes, competition, religious, ethnic, or cultural differences, or perceptions that a country is harming one's home nation (Klein et al., 1998, p. 90; Amine, 2008, p. 408; Rose et al., 2009, p. 331; Richardson, 2012, p. 13). While consumers may not always exhibit ethnocentric behavior and may believe products should be judged on quality alone, they can still reject goods from a particular

country due to animosity rooted in historical events, such as wars, or ongoing issues like economic embargoes (Ang et al., 2004, p. 192). This animosity often manifests as a refusal to purchase products from the target country (Nijsen & Douglas, 2004, p. 25; Nakos & Hajidimitrious, 2007, p. 57).

Balabanis and Diamantopoulos (2021) investigate how consumer animosity interacts with country image to influence purchase decisions. Their study examines the effect of economic animosity on consumer behavior and suggests strategies for companies to mitigate negative perceptions. Klein et al. (1998) conducted the first study on consumer animosity, developing a model to explain how such animosity impacts the purchase of foreign products. Their research, which focused on Chinese consumers' attitudes toward Japan and Japanese-made products, demonstrated that animosity toward a foreign country negatively affects the intention to purchase its products, regardless of perceived quality (Klein et al., 1998, pp. 89–91).

Most studies on consumer animosity have examined the attitudes of individuals from one country toward the products of another (Rose et al., 2009, p. 330). For instance, Jewish consumers have historically avoided German-made products, while New Zealanders and Australians have boycotted French goods in response to France's nuclear tests in the South Pacific (Klein et al., 1998, p. 90). Contrary to the current literature on purchasing products of foreign origin, they have designed that country origin will affect the consumer's purchasing decision independently of product judgment (Riefler and Diamantopoulos, 2007, p. 88). Although consumers' perceptions of product quality obtained from the country of origin information are positive, countries with problems associated with economic, political, and even military events may refrain from buying their products (Shin, 2001, p. 2; Richardson, 2012, p. 14).

The concept has been classified in various ways from the past to the present. First, Klein (1998) has classified it in two ways: war and economic animosity. While military situations in history cause war animosity, economic animosity is caused by such things as competition, unfair trade practices, the unreliability of trading partners, economic coercion, or economic attacks by foreign countries (Klein, 1998, p. 91; Nijsen and Douglas, 2004, p. 27; Riefler and Diamantopoulos, 2007, p. 99).

Nakos, G. E., and Hajidimitriou, Y. A. (2007) study the impact of national animosity on consumer purchases, focusing on the moderating role of personal characteristics. It discusses how consumer traits can influence the relationship between animosity and purchasing decisions. Jiménez and San Martín (2021) explore the role of country-of-origin image, ethnocentrism, and animosity in fostering consumer trust. They emphasize the moderating effect of fami-

liarity on these relationships, suggesting that consumer experience with a country can mitigate negative perceptions.

In consumer animosity research, scholars have aimed to understand how animosity influences product judgments and the willingness of consumers in hostile countries to purchase goods from the target nation. Numerous studies have focused on animosity toward a single country (Bahaee and Pisani, 2009; Ettenson and Klein, 2005; Nijssen and Douglas, 2004; Shin, 2001; Witkowski, 2000; Klein and Ettenson, 1999; Klein et al., 1998). Most of this research has examined purchase intentions for foreign products (Nakos and Hajidimitriou, 2007; Edwards et al., 2007; Shoham et al., 2006; Hinck, 2005; Ettenson and Klein, 2005; Klein, 2002; Shin, 2001; Klein et al., 1998), consistently finding that animosity directly and negatively impacts the intention to buy products from the offending country. This hostility often stems from factors such as economic competition, political disputes, or historical conflicts, leading consumers to form negative attitudes toward that nation's products.

In past studies, economic animosity has been given more importance and place than war and political animosity studies (Riefler and Diamantopoulos, 2007, p. 99). Economic affairs are observed more often than war-based ones. For this reason, scientists have directed their studies to the study of the effects of economic events on purchasing behavior (Sutikno and Cheng, 2010: 5). The results of the study conducted on economic animosity have determined that economic animosity is an essential factor affecting the purchasing decisions of the target country's products (Nijssen and Douglas, 2004, p. 27). Therefore, we also take into account the international trade relations of countries with each other, and in our study, we incorporate the concept of economic animosity, one of the types of consumer animosity, into the scope of the research.

# **Product Quality Judgment**

Country image refers to consumers' overall perception of the quality of products produced in a specific country. These perceptions can vary significantly across different countries (Bilkey & Nes, 1982, p. 89; Verlegh, 2001, p. 523). Notably, quality perception is often specific to product categories (Han, 1989), with the influence of country of origin varying based on the type of product. Some countries have built strong reputations in particular product categories due to specialization and expertise (Kotler et al., 2005, p. 352). A positive perception of quality can lead to repeat purchases and word-of-mouth promotion, while poor quality judgments may result in brand avoidance or negative reviews. Additionally, marketing efforts aimed at communicating product quality, through advertising, packaging, and certifications, can shape consumer perceptions and ultimately influence their buying behavior.

Consumers frequently utilize country of origin information, in addition to brand information, as a means to simplify the cognitive process of information processing (Chao and Gupta, 1995, p. 49). Consumers engage in the process of inferring product quality by utilizing a range of information cues or stimuli, which can be categorized as either internal (such as product performance) or external (such as brand name or product origin) indicators of product attributes (Bilkey and Nes, 1982, p. 89; Nart, 2008, p. 155; Dmitrovic and Vida, 2010, p. 150).

The examination of a product's country of origin (COO) can serve as a potential indicator of product quality and influence evaluations of products from that country (Han, 1989, p. 222; Martin & Eroglu, 1993, p. 193). This influence extends to consumer purchasing decisions and their perceived risk and value associated with the product (Roth & Diamantopoulos, 2009, p. 726). The halo effect, where consumers benefit from a country's overall image when evaluating product quality before purchasing, plays a significant role. Consequently, the perception of a nation indirectly impacts consumer attitudes toward a brand through inferential associations. Han (1989, p. 223) suggests that as consumers become more familiar with products from a particular country, the country's image becomes instrumental in shaping their perceptions of those products and, in turn, their attitudes towards the associated brands. This phenomenon can be considered a summary function of the country's image.

Johansson et al. (1985) shows that a country's image influences consumers' assessments of product characteristics but does not affect overall product evaluations. These findings support the 'halo effect' of a country's image in product evaluation (Bilkey, 1993, p. 101). Consistent with the literature on consumer animosity, it has been observed that Chinese consumers are less likely to purchase Japanese products or products made in Japan due to feelings of animosity. However, the research also revealed that animosity is independent of quality judgments; even if consumers harbor resentment, they still perceive Japanese products as high quality. Despite this, those who feel animosity are less likely to buy the products (Ferrín et al., 2015, p. 75; Klein et al., 1998, pp. 89-90).

#### **Purchase Intention**

Understanding how the behavior of individuals is shaped has been a subject of curiosity in many disciplines, such as social psychology and marketing. One of the most critical issues affecting behavior is the attitude of people towards objects. High purchase intention indicates a stronger probability that

the consumer will proceed to make the actual purchase (Fishbein and Ajzen, 1975).

Various consumer behavior models can decipher the relationship between attitude and behavior. The most well-known theory about how attitudes predict behavior is the "Theory of Planned Behavior" (Aronson et al. 2012, p. 395). Ajzen (1991) established a hypothesis rooted in social psychology, positing that behavior is influenced by purpose. As to the aforementioned idea, the primary determinant of individual behavior is the individual's intention to engage in or abstain from the specific action under consideration. Ajzen (2005) posits that intention can be understood as an evaluation of an individual's level of motivation. This denotes the extent to which an individual is inclined to engage in a particular behavior. The buying intention is contingent upon the purchase process. According to Carter (2009, p 5), the purchasing process encompasses four distinct stages, including consumer assessment, attitude formation, purchase intention, and the actual purchase itself. It is one of the primary inputs that marketing managers use to predict future sales and assess how their marketing activities will influence consumer purchasing behavior (Morwitz, 2012, p. 182).

# The Purpose of The Study Importance and Scope

The study aims to examine the impact of the cognitive and affective components of a country's image on consumer animosity, product quality judgments, and purchase intentions. The cognitive component reflects consumers' "beliefs," while the affective component represents their "feelings" about the people and products of a country. Animosity, which has psychological, emotional, and behavioral dimensions, is treated in the literature as a concept with multifaceted effects. Given the intensity of economic relations, the study focuses on analyzing Turkish consumers' cognitive and affective perceptions of the U.S. image, their feelings of animosity, and the influence of these factors on their judgments of product quality and purchase intentions.

There are many studies about the image of the country of origin in the literature. However, the number of studies investigating the effects of the cognitive and emotional dimensions of country image on consumer decisions is very small. This study decodes an interdisciplinary study that draws on social psychology and marketing literature. In contrast to studies that prioritize cognitive and affective components, this is one of the few studies in which the concepts of cognition and affection are considered independently. The findings to be obtained by examining concepts that are important in terms of international marketing activities, such as consumer animosity and country image, will guide practitio-

ners. The study's limitation is that the research scope comprises young people living in Istanbul.

Based on the above conclusions it is possible to classify the purpose and importance of this study as follows:

- 1-) Advance Theoretical Understanding: Advance the theoretical framework of country image research by offering a deeper insight into the interaction between cognitive and affective dimensions and their distinct impacts on consumer behavior.
- 2-) Inform Business Strategies: Offer practical implications for businesses operating in the global marketplace. By understanding how country image perceptions influence consumer attitudes and behaviors, companies can tailor their marketing and branding strategies to mitigate negative perceptions and enhance product appeal.
- 3-) Empower Consumers: Enhance consumer awareness of the influence of country image on their purchasing decisions. By understanding the factors that shape their perceptions and preferences, consumers can make more informed choices and engage in critical consumption practices.

In conclusion, this study holds significant theoretical and practical implications for academics, businesses, policymakers, and consumers alike.

# Methodology

# Model and Hypothesis of the Study

The study model and hypotheses prepared according to the purpose of the research are shown below. The theory of social identity suggests that people tend to distinguish their own groups (e.g., their own countries) positively. A nation's reputation as a dependable and well-respected actor on the international scene can be enhanced by its citizens' high level of competence, which lessens economic animosity (H1). Perception of temperature has a role in fostering confidence in interpersonal relationships. By fostering a sense of familiarity and confidence in contacts with other nations, the perception of a country's people as kind and amiable helps lessen economic animosity (H2). Admiration conveys gratitude and pleasant feelings. By enhancing favorable sentiments toward a nation, admiration for its people can lessen economic animosity (H3). By reducing negative feelings toward a country and the feelings of contempt toward its people, this can also reduce the feelings of economic animosity toward that country (H4). Technological and manufacturing capacities are among the characteristics that are linked to the perception of competence. This impression may support the conclusion that the output is of a high caliber (H5). Warmth is typically linked to closeness and well-meaning intentions. This perspective may give the idea that goods are made with the wants of customers in mind and with a high level of customer satisfaction in mind (H6). A nation's products can gain credibility via admiration for its people, which enhances the perception of product quality (H7). Contempt frequently has a negative impact on one's assessment of the quality of a product, but a more thorough examination of how this perception is processed is necessary to identify a positive influence in this hypothesis (H8). It forecasts how consumers' intentions to purchase goods from a given nation may be influenced by the emotional and cognitive aspects of that nation's image. Customers' inclination to purchase goods from that nation may be boosted by a high sense of competence, a favorable sense of warmth and admiration, and a low sense of contempt (H9-10-11-12). The feeling of economic animosity can result in a negative attitude towards the products of the hostile country and can cause reluctance to purchase the products of that country. In this respect, it negatively affects the purchase intention (H13). It asserts that consumers' perceptions of a product's quality can influence their inclination to purchase it. This is predicated on the notion that companies can boost consumer purchase intentions by highlighting the quality of their products (H14).

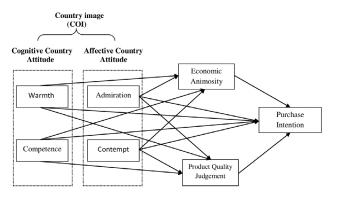


Figure 1. Proposed Research Model

- **H1:** The perceived competence of the citizens of a country has an negatively impact on the feeling of economic animosity towards that country.
- **H2:** The perceived warmth of the citizens of a country negatively affects the feeling of economic animosity towards that country.
- **H3:** Admiration for the citizens of a country negatively affects the feeling of economic animosity towards that country.
- **H4:** The feeling of contempt for the citizens of a country positively affects the feeling of economic animosity towards that country.
- **H5:** The perceived competence of a country's citizens positively affects that country's product quality judgment.

**H6:** The perceived warmth of a country's citizens positively affects that country's product quality judgment

**H7:** Admiration for a country's citizens positively affects that country's product quality judgment.

**H8:** The feeling of contempt towards a country's citizens negatively affects that country's product quality judgment.

**H9:** The perceived competence of the citizens of a country positively affects their purchase intention the products of that country.

**H10:** The perceived warmth of the citizens of a country positively affects their purchase intention the products of that country.

**H11:** Admiration for the citizens of a country positively affects the purchase intention the products of that country.

**H12:** The feeling of contempt towards the citizens of a country negatively affects the purchase intention the products of that country.

**H13:** The feeling of economic animosity negatively affects the purchase intention.

**H14:** Product quality judgment is positively affects the purchase intention.

# The Scale of The Study

To measure the cognitive and affective dimensions of the country image included in the model, Maher and Carter (2011) used various studies (Cuddy et al., 2007) to compile and use 22 expressed scales.

The 5-expression scale developed by Klein (1998) has been used to measure economic animosity. In the measurement of product judgment (6 expressions) and purchase intention (6 expressions), scales compiled from Klein's (1998) (Wood and Darling, 1993; Darling and Wood, 1990; Darling and Arnold, 1988) studies have been used.

# **Sampling Process**

The central mass of the research consists of consumers residing in Istanbul. Istanbul is Turkey's largest city and the most populous region. Therefore, consumers living in Istanbul may represent a large proportion of the general consumer mass in Turkey. The population aged 18 years and over has been considered the sample size. A easy sampling method has been used as a sampling method. A total of 421 questionnaires have been applied, and 376 questionnaires have been evaluated due to the elimination of incomplete and incorrectly completed questionnaires.

# **Data Collection And Methodology Tool**

The research data were collected using a survey method. The questionnaire consists of two parts. In

the first part, 39 statements measure the variables of the research, using a 9-point Likert-type scale to assess the country's image (Cuddy et al., 2007; Maher et al., 2010). To gauge consumers' feelings toward the American people, respondents were asked to rate statements on a scale of 1 to 9. For measuring economic animosity, product quality judgments, and purchase intention, a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree) was used. The second part aims to determine the demographic characteristics of the respondents. It has four questions consisting of gender, age, marital status, and education status.

# Validity And Reliability Analyses

Using the AMOS 20 program, a first-order confirmatory factor analysis was conducted on the general country image scale to test the scale's structural validity. Single-factor verification factor analysis was performed for other scales. Since the compliance values produced by the measurement models created for factor analysis are not within acceptable limits, notifications have been made to the scales based on the modification indices recommended by the AMOS program. The changes made in scale due to the modification are shown in Table 1. Table 2 displays the compliance values that the models produced.

Table 1. Changes to Scale

Scales	Scales Dimensions		Number of Exp- ressions Extracted
	Competence	6	2
Country	Warmth	6	3
Image Scale	Admiration	5	1
	Contempt	5	
Economic Scale	: Animosity	5	
Product Quality Judg- ment Scale		6	1
Purchase Scale	Intention	6	1

As can be seen in Table 1, as a result of the modifications, a total of eight expressions were taken from the scales: two from the competence dimension of the general country image scale, three from the warmth dimension, one from the admiration dimension, one from the product judgment scale, and one from the purchase intention scale. Also, the warmth of the overall country image scale (sizes 1 (sincere) and 2 (trustworthy)), the size of the fascination with

# The Impact Of Cognitive And Affective Perception Of The Country Image On Consumers' Sense Of Economic Animosity, Product Quality Judgment, And Purchase Intention

15 numbered statements (pride) and 16 (admiration) of the statements numbered, the judgment of the product of the scale 5 (reliable) and 6 (good value) of the statements numbered, the animosity, the eco-

nomic scale of 1 (trading) to 5 (unfair trade), 2 (economic power), and 4 (economic influence), and the covariance between the error terms of the correlation of the numbered statements are reviewed.

Table 2. Compliance Values of Scales

	χ2	df	<sup>χ2</sup> /df	GFI	CFI	RMSEA
General Country Image	309,800	96	3,227	0,90	0,95	0,077
Economic Animosity	7,792	3	2,597	0,99	0,99	0,065
Product Quality Judgment	12,173	4	3,043	0,98	0,99	0,074
Purchase Intention	12,259	5	2,452	0,98	0,99	0,062

As seen in Table 2, as a result of the modification, since the compliance values of the measurement models are observed within acceptable limits (Karagöz, 2016), the multifactorial structures of the cognitive and affective dimensions of the country's image and the single-factor structures of the other scales have been confirmed. The reliability of the measurement model was assessed on the basis of consolidated reliability. The CR value of each variable must be greater than 0.7 (Hair vd., 2010, pp. 788). The CR can be explained. All factor loads above 0.70 must have averaged described variance (AVE) values above 0.50 (Fornell and Larcker, 1981). To ensure the validity of the merger, the factor burden was based on the 0.50 threshold value proposed by Hair vd. (2010).

As a result of the analysis;

- All variables demonstrated satisfactory reliability, with CR values exceeding 0.70.
- All constructs exhibited good convergent validity, with AVE values exceeding 0.50.
- The measurement model demonstrated acceptable discriminant validity, with AVE values for each construct exceeding the shared variance with other constructs.
- Overall, the results of the reliability and validity assessment indicate that the measurement model is robust and suitable for further analysis.

Cronbach alpha coefficients for factor loads and reliability of scales are shown in Table 3.

Table 3. Outcomes of the Measurement Model

Factor	Expression	Factor Load	Cronbach Alph
	America is not a reliable trading partner.	0,66	
	America wants to gain economic power over Turkey	0,91	
Economic Animosity	America is taking advantage of Turkey.	0,91	0,88
Aimiosity	America has too much economic influence in Turkey.	0,68	
	America are doing business unfairly with Turkey.	0,74	
	Products made in America are carefully produced and have fine workmanship	0,87	
	Products made in America show a very high degree of technological advancement.	0,79	
Product Judgement	Products made in America usually show a very clever use of color and design.	0,63	0,88
	Products made in America are usually quite reliable and seem to last the desired length of time.	0,79	
	Products made in America are usually a good value for the money.	0,78	

	Resentment	0,82	
	Disgust	0,97	
Contempt	Contempt	0,79	0,93
	Anger	0,93	
	Hate	0,84	
	Admiration	0,65	
A.J.,	Pride	0,64	0.02
Admiration	Respect	0,72	0,83
	Fondness	0,88	
	Well-intention	0,85	
Warmth	Trustworthy	0,89	0,91
	Sincere	0,89	
	Efficient	0,76	
	Capable	0,90	0,90
Competence	Confident	0,82	
	Skillful	0,90	
	I would feel guilty if I bought a American product	0,85	
Purchase Intention	I never buy an American product.	0,77	
	I avoid buying American goods as much as I can.	0,89	0,90
	I prefer to buy American goods when appropriate.	0,72	
	I don't like the idea of owning American goods.	0,85	

# **Findings**

# Demographic characteristics of the participants

52% of the individuals within the scope of the rese-

arch are women, and 48% are men. The median age of respondents between 18 and 33 was 22. 1% are married, and 99% are single. 8% of the respondents have an associate degree, 77% have a bachelor's degree, 10% have a master's degree, and 5% have a doctoral degree.

Descriptive Statistics and Correlation Findings

Table 4. Descriptive Data and Correlation Outcomes

	Mean	Standard Deviation	<b>Economic</b> Animosity	Product Quality Judgment	Warmth	Compe- tence	Admira- tion	Contempt	Purchase Intention
Economic Animosity	3,82	0,96	1						
Product Quality Judgment	3,59	0,89	-,079	1					
Warmth	3,07	1,99	-,456**	,256**	1				
Competence	5,56	2,13	-,079	,497**	,383**	1			

The Impact Of Cognitive And Affective Perception Of The Country Image On Consumers' Sense Of Economic Animosity, Product Quality Judgment, And Purchase Intention

Admiration	3,26	1,77	-,425**	,170**	,689**	,241**	1		
Contempt	5,18	2,66	-,532**	,153**	,526**	,164**	,420**	1	
Purchase Intention	2,58	1,11	,409**	-,363**	-,454**	-,449**	-,377**	-,506**	1

<sup>\*\*</sup>p<0,01

Descriptive statistics and correlation findings of the variables of the study are presented in Table 4.

Table 4 shows the means, standard deviations, and correlations of the variables. It is seen that there are

statistically meaningful relationships between the variables.

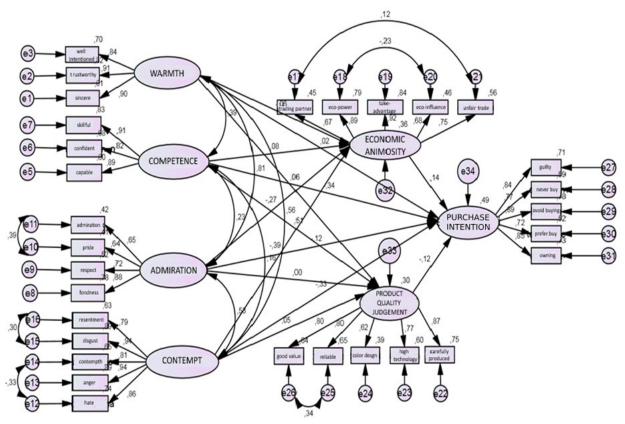


Figure 2. Structural Equation Model

### 3.2.2. Testing the Research Model

The structural equation model created to test the hypotheses of the research is shown in Figure 3.

As shown in Figure 3, the model has congruent values (x²:1121.237; df: 409; x²/df:2.741; GFI: 0.84; CFI: 0.92; TLI: 0.91; IFI: 0.92; RMSEA: 0,06). Since the compliance values are not within acceptable limits based on the modification indices recommended by the AMOS program, The correlation between the expressions numbered 1 (sincere) and 2 (trustworthy) in the warmth dimension of the country image

scale has been removed. A covariance correlation has been made between expressions numbered 12 (hate) and 14 (contempt) under the dimension of contempt and expressions numbered 15 (disgust) and 16 (resentment). The expression 4 (efficient) under the competence dimension of the country image scale has been removed from the structural model. The adjustment result showed that the fit values were within acceptable limits (x²:968,749; df:379; x²/df:2,556; GFI:0.86; CFI:0.93; TLI:0.92; IFI:0.93; RM-SEA:0,06).

### Aysel Erciş / Kadir Deligöz / Yıldız Çelebi

Table 5. Structural Equation Model Coefficients

	Standardize β	Standart Error	Critical Ratio	٥	R <sup>2</sup>	Hypothesis Testing
H1: Competence> Economic Animosity	0,08	0,02	1,597	0,110		Not Supported
H2: Warmth> Economic Animosity	-0,05	0,04	-,530	0,596	0.27	Not Supported
H3: Admiration> Economic Animosity	-0,26	0,04	-2,549	0,011	0,36	Supported
H4: Contempt> Economic Animosity	-0,38	0,02	-6,191	***		Supported
H5: Competence> Product Quality Judgement	0,51	0,02	8,622	***		Supported
H6: Warmth> Product Quality Judgement	0,05	0,05	,495	0,621		Not Supported
H7: Admiration> Product Quality Judgement	0,00	0,05	,041	0,967	0,30	Not Supported
H8: Contempt> Product Quality Judgement	0,04	0,02	,788	0,431		Not Supported
H9: Competence> Purchase Intention	-0,33	0,03	-5,754	***		Supported
H10: Warmth> Purchase Intention	0,01	0,05	,187	0,852		Not Supported
H11: Admiration> Purchase Intention	-0,12	0,05	-1,299	0,194		Not Supported
H12: Contempt> Purchase Intention	-0,33	0,02	-5,700	***	0,49	Supported
H13: Economic Animosity> Purchase Intention	0,14	0,07	2,529	0,011		Supported
H14: Product Judgement> Purchase Intention	-0,11	0,06	-2,186	0,029		Supported

Note: \* Meaningful p<05, \*\* Meaningful p<01, \*\*\*Meaningful p<001

According to the created model, standardized  $\beta$  coefficients between variables, standard error, critical rate, p and R<sup>2</sup> values are shown in Table 5.

Admiration economic animosity from the dimensions of the country's image affects ( $\beta = -0.26; \, p < .05$ ); economic animosity to contempt ( $\beta = -0.38; \, p < .05$ ); competence product judgment ( $\beta = 0.51; \, p < .05$ ); competence purchase intention ( $\beta = -0.33; \, p < .05$ ); contempt includes purchase intention ( $\beta = -0.33; \, p < .05$ ), economic animosity purchase intention ( $\beta = -0.14; \, p < .05$ ), and product quality judgment purchase intention ( $\beta = -0.11; \, p < .05$ ). Thus, hypotheses H3, H4, H5, H9, H12, H13, and H14 of the research have been supported.

When the R2 values of the model are examined, it is seen that 36% of the economic animosity is explained by the affective country image dimensions of the country image, that is, the cognitive country image competence dimension explains admiration and contempt, and 30% of the product quality judgment; 49% of the purchase intention is explained by the cognitive country image competence dimension and the emotional country image contempt dimension, economic animosity and product quality judgment.

# **Result, Suggestions and Discussion**

This study explores the influence of cognitive and affective evaluations of a country and its people on animosity, an inherently emotional concept. By examining the country-of-origin image, the research investigates how a normative concept like consumer animosity affects purchase intentions and how consumers perceive the U.S. from both cognitive and affective perspectives. The study focuses on the interaction between cognitive and affective attitudes and their influence on behavioral intentions.

Animosity is a normative concept; it shows the level at which consumers have social and personal norms about the country of origin, that is, the level of wanting to relate to that country. While buying domestic products is considered appropriate because it supports the domestic economy, consumers can avoid buying products from a country they see as an enemy. Yurcu and Eryiğit (2019) investigated which countries consumers with higher education levels harbor economic animosity towards, and to what extent. They further examined the impact of these hostile feelings on consumers' intentions to purchase products from those countries. The study revealed a negative correlation between consumer animosity and purchase intention, with the strength of this effect varying depending on the intensity of the animosity. Öztürk et al. (2019) investigated the impact of consumer animosity on country image and product evaluation, specifically focusing on the distinction between "easy" and "desirable" goods. Their findings revealed that the human dimension of a country's image influences purchase desire, and that the effects of consumer animosity and country image similarity on product evaluation vary across different product categories. Also, Bayniş and Geçti (2022) explored the influence of consumer ethnocentrism and xenocentrism on consumers' intentions to purchase foreign products. Their research revealed that consumer ethnocentrism, a preference for one's own culture and products, negatively impacts the intention to buy foreign goods. Conversely, consumer xenocentrism, a preference for foreign cultures and products, was found to have a positive effect on the intention to purchase foreign goods.

Although numerous studies have investigated Turkish consumers' feelings of animosity and their impact on purchase intention, no studies reveal the effect of cognitive and affective country image components on animosity feeling, product quality judgment, or purchase intention. Çalık and Gürbüz (2016) examined how the country image between Turkey and Greece affects consumers' intention to purchase products from each other's countries. They concluded that negative emotions such as envy and animosity negatively affect purchase intentions. Özsomer and Altaras (2008) examined Turkish consumers' perceptions of brands from different countries

and how these perceptions affect their purchase intentions. The study shows that consumers' positive or negative perceptions of brand origin can affect their purchase intentions. Dinçer and Dinçer (2014) examined how Turkish consumers' nationalism levels affect their attitudes towards domestic and foreign products and their purchase intentions, and it was observed that consumers with high nationalism levels tended to prefer domestic products. Therefore, research shows that consumers' product reviews are associated with beliefs and feelings towards the countries of origin of the products and the people of those countries.

As a result of the study's analyses, affective country image components (admiration and contempt) affect the feeling of economic animosity. In contrast, the cognitive components (competence and warmth) do not affect the feeling of economic animosity.

It has been found that the perception of competence from cognitive country image components affects product quality judgment; the perceived sense of competence about the people of a country positively affects beliefs about the products of that country. However, the affective country image components do not affect product quality judgment.

Regarding purchase intention, it was found that the competence dimension of the cognitive country image and the affective component of underestimation both play a role. Additionally, economic animosity and product quality judgments (beliefs about the country's products) were shown to influence purchase intention.

This study examines the positive or negative image of the country in their respective international managers, product quality perceptions and to what extent they can influence purchase decisions and can be used to develop effective marketing strategies; it is essential to see how. In this direction, companies should understand the possible adverse reactions of consumers. These negative reactions are sometimes not directly related to the products and services offered by the company but may arise from several socio-psychological reasons, such as country image and animosity. This study finds that the emotional components of country image (admiration and contempt) significantly affect economic animosity. This aligns with prior research by Maher and Carter (2011), which suggested that emotional components might have a stronger impact on consumer attitudes than cognitive components. However, the finding that cognitive components (competence and warmth) do not affect economic animosity contrasts with studies like Cuddy et al. (2007), which typically argue that cognitive components play a significant role in shaping economic attitudes. This discrepancy may be attributed to cultural factors in your sample or differences in methodology.

The impact of animosity affects purchasing beyond

the general beliefs of consumers about imported products purchased. Managers of countries whose military, economic, or political history is disputed must understand how such a macro-level event can affect international marketing activities. This situation will help managers target and select foreign markets. It will allow managers to modify communication and marketing strategies with countries in the regions where there is a feeling of economic animosity, which may exist informally but is a meaningful obstacle to trade (Klein et al. 1998, p. 98).

Managers should understand the importance of the affective and cognitive components of the country's image when deciding on foreign brand strategies to emphasize the country of origin or avoid this emphasis. The research results support past studies, especially the affective dimensions of the country's image, which have been found to play a more dominant role in consumer decisions.

Understanding how another country evaluates a country shows that it has a position in other countries but is also essential in terms of international trade. Companies in countries where warmth and competence are seen as high should emphasize the image of the country of origin because both the affective and cognitive components of the country's image are perceived positively. At the same time, contempt influences consumer decisions in the sense of an unwillingness to buy. On the contrary, companies in countries with low warmth and competence should avoid highlighting the country of origin. Because even though its products are perceived as low quality, negative feelings towards the country also directly affect the purchase intention the products of this country.

As for the countries where animosity is felt, it negatively affects the intention to purchase, regardless of the quality of the products in the relevant country. Countries with high competence but characterized by low warmth and companies facing such conditions should cooperate at the level of governments to improve perceptions of warmth. For example, France has conducted a campaign to convince the French to show a warmer attitude towards tourists (Kotler and Gertner, 2002, p. 48; Maher and Carter, 2011, p. 574).

This study reveals that the cognitive component of country image, particularly competence, positively influences product quality judgment. This is consistent with classic studies by Verlegh (2001) and Bilkey and Nes (1982), which emphasize the importance of cognitive perceptions in product evaluations. However, the lack of a significant effect of emotional components on product quality judgment may diverge from findings in research like Haubl (1996), which suggests that emotional components can influence perceptions of product quality, especially for hedonic products. Also this study indicates that both

competence (cognitive) and contempt (emotional) dimensions affect purchase intention. This supports Ajzen's (1991) Theory of Planned Behavior, which highlights the role of attitudes in shaping intentions. However, the finding that other emotional dimensions (such as admiration) do not significantly influence purchase intention contrasts with studies like Lavine et al. (1998), which suggest that emotions can sometimes have a more substantial impact on behavioral intentions. These differences might be due to the demographic characteristics of your sample or the specific product category examined.

Finally, managers should assess the degree of competence of products about citizens of the leading countries of origin, as this is the most meaningful PCI determinant of product country image. Companies in countries with high warmth but low competence have a negative product country image (PCI) due to their low qualification rating. In this sense, for physical products, the relevant country can carry out various image studies that support the image that it is sufficient and capable. Advertisements emphasizing technological development can support the image that a country is talented (Maher and Carter, 2011).

A limitation of the research is that the sample consists solely of young people. This group was selected because young individuals tend to be more open to foreign products, partly due to their opportunities to travel abroad and interact with other countries. However, future research can analyze the differences by examining different demographic groups (Maher and Carter, 2011). Again, the research results cannot be generalized because a particular group was considered. The study's contributions to numerous fields of international marketing, consumer behavior, and brand management are meaningful both theoretically and practically. The following can be used to summarize these contributions: Foreign consumers' perceptions of a nation's goods and services are shaped by its image. Customers can learn valuable information from this image about the dependability and quality of products. A thorough examination of the emotional and cognitive aspects of national image will provide a better understanding of how it influences consumer purchase decisions. While cognitive components (competence and warmth) include more reasoned and informed evaluations, emotional components (admiration and contempt) reflect the impulsive feelings consumers feel toward a nation and its products. An examination of the way these two elements interact will yield crucial information about how marketing strategies ought to be developed. Customers who harbor economic animosity are those who have unfavorable feelings about the prosperity of other nations. Gaining an understanding of how this emotion influences opinions about products and plans to buy will offer strategic insights that help direct brand positioning in

# The Impact Of Cognitive And Affective Perception Of The Country Image On Consumers' Sense Of Economic Animosity, Product Quality Judgment, And Purchase Intention

global marketplaces. Brands may better meet the wants and expectations of their customers by having a deeper understanding of the psychological and sociocultural elements that affect consumers' decision-making processes. As a result, marketing and communication strategies can be created that are more successful.

It is crucial for businesses that operate in international marketplaces to comprehend how consumers behave in various cultural contexts. We will be able to create effective plans and gain a deeper understanding of consumer trends in various markets thanks to this research.

In addition, brands and different product categories can be added in future studies. Future research may also examine the impact of affective dimensions on different categories of hedonic products. Research results should be evaluated with different studies, and the effects of emotion and cognition should be examined.

#### References

Ajzen, I. (1991). The theory of planned behavior. Organizational Behavior and Human Decision Processes, 50(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-t

Ajzen, I. (2005). "Attitude, Personality and Behaviour". Open University Press, USA.

Amine, L. S. (2008). Country-of-origin, Animosity and consumer response: Marketing implications of anti-Americanism and Francophobia. International Business Review, 17(4), 402–422. https://doi.org/10.1016/j.ibusrev.2008.02.013

Ang, S. H., Jung, K., Kau, A. K., Leong, S. M., Pornpitakpan, C., & Tan, S. J. (2004). Animosity towards economic giants: What the little guys think. Journal of Consumer Marketing, 21(3), 190-207.

Aronson, E., Wilson, T., Akert, R. (2012). "Sosyal Psikoloji", Kaknüs Yayınları, 1. Basım İstanbul.

Bahaee, M., & Pisani, M. J. (2009). Are Iranian consumers poised to "buy American" in a hostile bilateral environment? Business Horizons, 52(3), 223–232. https://doi.org/10.1016/j.bushor.2008.11.004

Balabanis, G., & Diamantopoulos, A. (2021). Interplay of Consumer Animosity and Product Country Image in Consumers' Purchase Decisions. Journal of International Business Studies.

Bayniş, Koçyiğit, İ. & Geçti, F. (2022). 'Yabancı Ürün Satın Alma Niyeti Üzerinde Tüketici Etnosentrizmi Ve Tüketici Zenosentrizminin Etkisinin İncelenmesi' Pazarlama ve Pazarlama Araştırmaları Dergisi, Cilt:15, Sayı: 3, 867-900

Bilkey, W. J. (1993). Foreword, In: Papadopoulos N, Heslop LA, Editors. Product-Country-Images: Impact and Role in International Marketing, NewYork: International Business Press.

Bilkey, W. J., & Nes, E. (1982). Country-of-Origin Effects on Product Evaluations. Journal of International Business Studies, 13(1), 89–100. https://doi.org/10.1057/palgrave.jibs.8490539

Brijs, K., Bloemer, J. and Kasper, H. (2011), "Country-image discourse model: unravelling meaning, structure, and function of country images", Journal of Business Research, Vol. 64 No. 12, pp. 1259-1269.

Carter, L. L. (2009). "Consumer Receptivity of Foreign Products: The Roles of Country-of-Origin Image, Consumer Ethnocentrism and Animosity". Doctor of Philosophy (PhD), Dissertation, , Old Dominion University.

Chao, P., & Gupta, P. B. (1995). Information search and efficiency of consumer choices of new cars: Country-of-Origin Effects. International Marketing Review, 12(6), 47–59. https://doi.

org/10.1108/02651339510102958

Cotîrlea, D. A. (2015). "Country Image vs. Country Brand: Differences and Similarities". Ecoforum Journal, 4(1).

Cuddy, A. J. C., Fiske, S. T., & Glick, P. (2007). The BIAS map: Behaviors from intergroup affect and stereotypes. Journal of Personality and Social Psychology, 92(4), 631–648. https://doi.org/10.1037/0022-3514.92.4.631

Cuddy, A.J., Fiske, S.T. and Glick, P. (2008). "Warmth and competence as universal dimensions of social perception: the stereotypes content model and the BIAS map", in Zanna, M.P. (Ed.), Advances in Experimental Social Psychology, Elsevier, New York, NY. 61-149.

Cuervo-Cazurra, A., & Ramamurti, R. (2022). A Meta-analysis of the Antecedents and Outcomes of Consumer Foreign Country Image Perceptions: The Moderating Role of Macro-level Country Differences. Management International Review.

Çalık, D., & Gürbüz, S. (2016). Ülke İmajının Tüketici Davranışları Üzerindeki Etkisi: Türkiye ve Yunanistan Örneği. Uluslararası İktisadi ve İdari İncelemeler Dergisi, 11(21), 1-18.

Darling, J. R., & Arnold, D. R. (1988). The competitive position abroad of products and marketing practices of leading United States, Japan, and Selected European Countries. Journal of Consumer Marketing, 5(4), 61-68.

Darling, J. R., & Wood, V. R. (1990). A longitudinal study comparing perceptions of U.S. and Japanese consumer products in a third/neutral country: Finland 1975 to 1985. Journal of International Business Studies, 21(3), 427-450.

De Nisco, A., & Oduro, S. (2022). Partitioned Country-of-Origin Effect on Consumer Behavior: A Meta-Analysis. Journal of International Consumer Marketing.

Dinçer, F., & Dinçer, C. (2014). Tüketici Milliyetçiliğinin Boyutları ve Satın Alma Niyeti Arasındaki İlişki: Türkiye Örneği. İşletme Araştırmaları Dergisi, 6(2), 227-256.

Dmitrovic, T., Vida, I. (2010). "Consumer Behaviour Induced by Product Nationality: The Evolution of the Field and its Theoretical Antecedents", Transformations in Business & Economics, Vol. 9, No 1(19), pp.145-165.

Edwards, K., & von Hippel, W. (1995). Hearts and Minds: The Priority of Affective Versus Cognitive Factors in Person Perception. Personality and Social Psychology Bulletin, 21(10), 996–1011. https://doi.org/10.1177/01461672952110001

Edwards, R., Gut, A. M., & Mavondo, F. (2007). Buyer Animosity in business to business markets: Evidence from the French nuclear tests. Industrial Marketing Management, 36(4), 483–492. https://doi.org/10.1016/j.indmarman.2005.12.008

Ettenson, R., & Klein, J. G. (2005). The fallout from French nuclear testing in the South Pacific: A Longitudinal Study of Consumer Boycotts. International Marketing Review, 22(2), 199–224. https://doi.org/10.1108/02651330510593278

Ferrín, P.F.., Bande-Vilela, B., Klein, J.G. and del Río-Araújo, M.L. (2015), "Consumer Ethnocentrism and Consumer Animosity: Antecedents and Consequences", International Journal of Emerging Markets, Vol. 10 No. 1, pp. 73-88

Fishbein, M. and Ajzen, I. (1975). "Belief, Attitude, Intention and Behavior: An Introduction to Theory and Research, Reading", MA: Addison-Wesley.

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. Journal of Marketing Research, 18(1), 39-50.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). Multivariate data analysis (7th ed.). Pearson Prentice Hall.

Han, C. M. (1989). Country Image: Halo or Summary Construct? Journal of Marketing Research, 26(2), 222–229. https://doi.org/10.1177/002224378902600208

Han, C. M., & Terpstra, V. (1988). Country-of-Origin Effects for Uni-National and Bi-National Products. Journal of International Business Studies, 19(2), 235–255. https://doi.org/10.1057/palgrave.jibs.8490379

# Aysel Erciş / Kadir Deligöz / Yıldız Çelebi

Haubl, G. (1996). A cross-national investigation of the effects of country of origin and brand name on the evaluation of a new car. International Marketing Review, 13(5), 76-97.

Hinck, W. (2005). The Role of Domestic Animosity in Consumer Choice: Empirical Evidence from Germany. Journal of Euromarketing, 14(1–2), 87–104. https://doi.org/10.1300/j037v14n01\_05

Jiménez, N. H., & San Martín, S. (2021). The Role of Country-of-Origin, Ethnocentrism, and Animosity in Promoting Consumer Trust: The Moderating Role of Familiarity. International Business Review, 19, 34-45.

Johansson, J. K., Douglas, S. P., & Nonaka, I. (1985). Assessing the impact of country of origin on product evaluations: A new methodological perspective. Journal of Marketing Research, 22(4), 388-396.

Karagöz, Y. (2016). "Spss 23 ve Amos 23 Uygulamalı İstatistiksel Analizler", 1. Basım, Nobel Yayın

Klein, J. G. (2002). Us Versus Them, or Us Versus Everyone? Delineating Consumer Aversion to Foreign Goods. Journal of International Business Studies, 33(2), 345–363. https://doi.org/10.1057/palgrave.jibs.8491020

Klein, J. G., & Ettenson, R. (1999). Consumer Animosity and Consumer Ethnocentrism: An Analysis of Unique Antecedents. Journal of International Consumer Marketing, 11(4), 5–24. https://doi.org/10.1300/j046v11n04\_02

Klein, J. G., Ettenson, R., & Morris, M. D. (1998). The Animosity Model of Foreign Product Purchase: An Empirical Test in the People's Republic of China. Journal of Marketing, 62(1), 89–100. https://doi.org/10.1177/002224299806200108

Kotler, P., & Gertner, D. (2002). Country as brand, product, and beyond: A place marketing and brand management perspective. Journal of Brand Management, 9(4), 249–261. https://doi.org/10.1057/palgrave.bm.2540076

Kotler, P., Jatusripitak, S., Maesincee, S. (2005). "Ulusal Refah Oluşturmada Stratejik Bir Yaklaşım Ulusların Pazarlanması", Çev. Ahmet Buğdaycı.

Kunczik, M. (1997). Images of nations and international public relations. Lawrence Erlbaum Associates.

Lavine, H., Thomsen, C. J., Zanna, M. P., & Borgida, E. (1998). On the Primacy of Affect in the Determination of Attitudes and Behavior: The Moderating Role of Affective-Cognitive Ambivalence. Journal of Experimental Social Psychology, 34(4), 398–421. https://doi.org/10.1006/jesp.1998.1357

Liefeld, J. P. (2004). Consumer knowledge and use of country-of-origin information at the point of purchase. Journal of Consumer Behaviour, 4(2), 85–87. https://doi.org/10.1002/cb.161

Maher, A. A., & Carter, L. L. (2011). The affective and cognitive components of country image: Perceptions of American products in Kuwait. International Marketing Review, 28(6), 559–580. https://doi.org/10.1108/02651331111181411

Maher, A. A., Clark, P., & Maher, A. (2010). International consumer admiration and the persistence of animosity. Journal of Consumer Marketing, 27(5), 414–424. https://doi.org/10.1108/07363761011063312

Martin, I. M., & Eroglu, S. (1993). Measuring a multi-dimensional construct: Country image. Journal of Business Research, 28(3), 191–210. https://doi.org/10.1016/0148-2963(93)90047-s

Morwitz, V. (2012). Consumers' Purchase Intentions and their Behavior. Foundations and Trends in Marketing, 7(3), 181–230. https://doi.org/10.1561/1700000036

Nagashima, A. (1970). A Comparison of Japanese and U.S. Attitudes toward Foreign Products. Journal of Marketing, 34(1), 68–74. https://doi.org/10.1177/002224297003400115

Nakos, G. E., & Hajidimitriou, Y. A. (2007). The Impact of National Animosity on Consumer Purchases: The Modifying Factor of Personal Characteristics. Journal of International Consumer Marketing, 19(3), 53–72. https://doi.org/10.1300/j046v19n03\_04

Nart, S. (2008). "Menşe Ülke Etkisinin Tüketici Algılamaları ve Davranışlarına Yansımaları: İngiltere Pazarında Türk ve Alman Markalarının Karşılaştırılması" Süleyman Demirel Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi, 13(3), 153-177.

Nijssen, E. J., & Douglas, S. P. (2004). Examining the animosity model in a country with a high level of foreign trade. International Journal of Research in Marketing, 21(1), 23–38. https://doi.org/10.1016/j.ijresmar.2003.05.001

Özsomer, A., & Altaras, S. (2008). Marka Kökeni Algısı ve Tüketici Davranışları Üzerindeki Etkisi: Türkiye Pazarı Örneği. Pazarlama Dünyası Dergisi, 16(1), 32-44.

Öztürk, A. S. & Özata, F., Z. Erol, E. (2019). "Tüketici Düşmanlığının Ülke İmajı, Ürün Değerlendirme ve Yabancı Ürün Satın Alma İsteğine Etkisi Üzerine Bir Araştırma", İstanbul Gelişim Üniversitesi Sosyal Bilimler Dergisi, 6 (1), 76-101

Papadopoulos, N. (1993). "What product and country images are and are not", in Papadopoulas, N. and Heslop, L.A. (Eds.) Product Country Images, Harworth Press, New York, NY.

Papadopoulos, N., & Heslop, L. (2002). Country equity and country branding: Problems and prospects. Journal of Brand Management, 9(4), 294–314. https://doi.org/10.1057/palgrave.bm.2540079

Purwanto, E., & Wibisono, A. (2020). Pengaruh Country of Origin, Word of Mouth, Kualitas yang Dipersepsikan terhadap Niat Beli: Study pada Kamera Digital Merek Jepang. Jurnal Riset Manajemen dan Bisnis (JRMB) Fakultas Ekonomi UNIAT, 4(3), 365-374.

Richardson, C. W. (2012)." Consumer Demographics as Antecedents in the Animosity Model of Foreign Product Purchase", International Journal of Business and Social Science VOI. 3 No. 4 (Special Issue), 13-21.

Riefler, P., & Diamantopoulos, A. (2007). "Consumer Animosity: A Literature Review and a Reconsideration of its Measurement". International Marketing Review, 24(1), 87-119. https://doi.org/10.1108/02651330710727204

Rose, M., Rose, G. M., & Shoham, A. (2009). The impact of consumer animosity on attitudes towards foreign goods: a study of Jewish and Arab Israelis. Journal of Consumer Marketing, 26(5), 330–339. https://doi.org/10.1108/07363760910976583

Roth, K. P., & Diamantopoulos, A. (2009). Advancing the country image construct. Journal of Business Research, 62(7), 726–740. https://doi.org/10.1016/j.jbusres.2008.05.014

Shin, M. (2001). "The Animosity Model of Foreign Product Purchase Revisited: Does it Work in Korea?". Journal of Imperical Generalisations in Marketing Sciences 6(1), 6-14.

Shoham, A., Davidow, M., Klein, J. G., & Ruvio, A. (2006). Animosity on the Home Front: The Intifada in Israel and Its Impact on Consumer Behavior. Journal of International Marketing, 14(3), 92–114. https://doi.org/10.1509/jimk.14.3.92

Sutikno, B., and Cheng J.M.S. (2010). "Reexamination of Consumer Animosity Construct Toward Multi Opposed Countries" 10th Global Congerence on Business & Economics, Rome, Italy.

Verlegh, P.W.J. (2001). "Country-of-Origin Effects on Consumer Product Evaluations", PhD Dissertation, Wageningen University, Wageningen.

Witkowski, T. (2000). "Effect of Animosity Towards China on Willingness to Buy Chinese Products", in McClean, G., Kaynak, E. and Aliaga, O. (Eds), Managing in a Turbulent International Business Environment, The International Management Development Association, Hummelstown, PA, 407-70.

Wood, V. R., & Darling, J. R. (1993). The Marketing Challenges of the Newly Independent Republics: Product Competitiveness in Global Markets. Journal of International Marketing. 1 (1), 77-102.

Yurcu, M. E. & Eryiğit, C. (2019). Tüketici Düşmanlığının Boyutlarının ve Satın Alma Niyeti Üzerindeki Etkilerinin İncelenmesi: Nitel Bir Araştırma, Ekonomik ve Sosyal Araştırmalar Dergisi, Cilt 15, Yıl 15, Sayı 1.

Zajonc, R. B. (1984). "On the Primacy of Affect. In K. R. Scherer & P. Ekman (Eds). Approaches to Emotion" (259 - 270). Hillsdale, NJ: Erlbaum.

Zajonc, R. B. (2004). "Exposure Effects: An Unmediated Phenomenon. In A. S. R. Manstead, N. Frijda & A. Fischer (Eds.) Feelings and Emotion: The Amsterdam Symposium" (194-203). Cambridge, Cambridge University Press.

### Research Article

ROMAYA - Researches on Multidisiplinary Approaches 2024, 4(2): 184-194

ISSN:2791-9099

# Hybrid Tabu Search Algorithm for Container Loading Problems 🚭



Konteyner Yükleme Problemleri için Hibrit Tabu Arama Algoritması

### Canan Hazal Akarsu / Lect. Dr. (b)

Istanbul University-Cerrahpaşa, Institute of Graduate Studies hazalakarsu@iuc.edu.tr

# Tarık Küçükdeniz / Assoc. Prof. Dr. (D)

Istanbul University-Cerrahpasa, Faculty of Engineering, Department of Industrial Engineering tkdeniz@iuc.edu.tr

### **Abstract**

The increasing impacts of globalization and the COVID-19 pandemic underscore the critical role of the logistics sector in global trade and national economies. Effective container loading plans enhance logistics and shipping efficiency while boosting customer satisfaction. The container loading, a complex combinatorial optimization problem, significantly affects the economy, environment, and safety. In modern logistics, developing solutions that ensure high volume utilization and meet a range of practical constraints is crucial. This paper introduces a hybrid tabu search algorithm that employs an iterative use of tabu search and heuristic methods to solve three-dimensional container loading problems, considering high volume utilization and practical constraints. The approach focuses on two main stages of the problem. In the first stage, the tabu search algorithm determines the loading sequence of box types; in the second stage, the loading heuristic is used for placing boxes into the container based on the established sequence. The developed hybrid tabu search algorithm has been coded and implemented using the Python programming language. The performance of the proposed algorithm has been evaluated using test problems provided by the OR-library. The algorithm aims to maximize volume utilization by minimizing the spaces between boxes during loading and optimizing the arrangement of box stacking. The results demonstrate that the algorithm provides high-quality solutions by achieving high volume utilization in problems with heterogeneous structures. The successful outcomes obtained from test sets characterized by strong heterogeneity and various practical constraints highlight the potential of the hybrid tabu search algorithm to enhance efficiency in logistic processes. This underscores the algorithm's ability to offer valuable practical applications in the logistics sector, particularly in reducing transportation costs and optimizing loading processes.

**Keywords:** Container Loading, Bin Packing, Tabu

Search, Heuristic, Load Stability.

**JEL Codes:** C61,C44,L91

### Özet

Küreselleşmenin artan etkileri ve Koronavirüs salgınının gösterdiği gibi, lojistik sektörü, dünya ticaretinde ve ulusal ekonomilerde hayati bir role sahiptir. Etkin konteyner yükleme planları, lojistik ve nakliye maliyetlerini azaltırken müşteri memnuniyetini artırmaktadır. Konteyner yükleme problemi, ekonomi, çevre ve güvenlik üzerinde önemli etkileri olan karmaşık bir kombinatoryal optimizasyon problemidir. Modern lojistikte, yüksek hacim kullanımı ve çeşitli pratik kısıtları karşılayacak çözümler geliştirmek büyük önem taşımaktadır. Bu çalışmada, üç boyutlu konteyner yükleme problemlerinin çözümü için yüksek hacim kullanımı ve pratik kısıtları dikkate alan, tabu arama ve sezgisel algoritmanın iteratif olarak kullanıldığı bir hibrit tabu arama algoritması geliştirilmiştir. Bu yaklaşım, problemin iki temel aşamasına odaklanır. İlk aşamada, kutu tiplerinin yükleme sırasını belirlemek için tabu arama algoritması; ikinci aşamada ise, belirlenen sıraya göre kutuların konteynere yerleştirilmesi için geliştirilmiş bir yükleme sezgiseli kullanılmıştır. Geliştirilen hibrit tabu arama algoritması, Python programlama dili kullanılarak kodlanmış ve uygulanmıştır. Önerilen algortimanın

performansı, OR-library kütüphanesinden sağlanan test problemleri ile değerlendirilmiştir. Algoritma, yükleme sırasında kutular arasındaki boşlukları minimize ederek ve kutuların istiflenme düzenini optimize ederek, hacim kullanımını maksimize etmeyi amaçlamaktadır. Sonuçlar, algoritmanın heterojen yapıdaki problemlerde yüksek hacim kullanımı sağlayarak kaliteli çözümler sunduğunu göstermektedir. Özellikle güçlü heterojen yapıdaki ve çeşitli pratik kısıtları içeren test setleri üzerinde elde edilen başarılı sonuçlar, hibrit tabu arama algoritmasının lojistik süreçlerdeki verimliliği artırma potansiyelini gözler önüne sermekte ve algoritmanın lojistik sektöründe, özellikle de taşıma maliyetlerini düşürme ve yükleme süreçlerini optimize etme açısından değerli pratik uygulamalar sunabileceğine işaret etmektedir.

**Anahtar Kelimeler:** Konteyner Yükleme, Kutu Paketleme, Tabu Arama, Sezgisel, Yük Stabilitesi.

JEL Kodları: C61,C44,L91

#### Introduction

The logistics sector, influenced by globalization, has begun to play an increasingly active role in international trade and the economies of countries. Especially in recent years, the COVID-19 pandemic has once again highlighted the critical importance of the logistics sector worldwide. It has become evident that production must continue and products must be delivered to our homes for life to be sustainable indoors. In a globalized world, borders have essentially disappeared, and the necessity to transport the cheapest goods at the lowest cost has emerged in global competition. To date, no alternative solution has been found to replace transportation. Therefore, developing fast and effective solutions that can reduce transportation costs will be one of the most important tools to benefit the national economy. For Turkey, which serves as a bridge in logistics, this issue holds even greater strategic importance. Reducing process costs and providing more efficient services to customers have become increasingly important for businesses in the face of growing competition. Logistics is one of the most critical processes in the supply chain for businesses. In the logistics process, companies primarily deal with the container loading problem (CLP). Efficient container loading strategies play a key role in minimizing logistics and transportation costs, while simultaneously enhancing customer satisfaction (Erbayrak et al., 2021). The CLP addressed in this paper is a significant combinatorial optimization (CO) problem with substantial implications for economic efficiency, environmental sustainability, and safety in practical applications (Erbayrak et al., 2021; Ramos et al., 2018). The problem of loading three-dimensional rectangular items into a three-dimensional rectangular container under specified constraints is known as the container loading problem (Zhu et al., 2021) and is typically an NP-hard problem (Scheithauer, 1992). In today's logistics industry, the complexity of constraints, the variety of cargo types, and the volume of orders are expanding rapidly, leading to significant difficulties in designing loading plans (Zhu et al., 2021). Despite advances in computer technologies, no optimal solution has yet been found for this complex and challenging problem encountered in real life.

The key to gaining an edge in global competition is the efficient management of supply chains and successful logistics services. On a global scale, logistics activities have significantly increased in recent years. As reported by Statista (2020), over 100 billion parcels were shipped in 2019, and is predicted to reach 200 billion by 2025. In line with this growing demand, shipping companies are increasingly focusing on optimizing product logistics management. It has been observed that the efficient use of shipping vehicles has a significant impact on reducing logistics costs. Reflecting this reality in the scientific literature, CLPs are extensively studied. These problems cover numerous real-world scenarios and must satisfy practical constraints while also aiming for maximum space utilization. These problems are particularly important for industrial sectors where effective loading of items into airplanes, ships, trailers, or trucks is required (Liu et al., 2011).

Container loading problems are also referred to as 3D bin packing problems or pallet loading problems in the literature. Over the past 10 years, Bortfeldt and Wascher (2013), Zhao et al. (2016), and Ali et al. (2022) have reviewed the three-dimensional container loading literature, presenting and categorizing different problems and methods. As foreseen by Bischoff and Ratcliff (1995), the focus of research in this field is on considering various constraints in real-world scenarios. Zhao et al. (2016) contributed to the classification of algorithmic approaches necessary for solving more complex versions of the problem by focusing on the heterogeneity of boxes and containers. Gimenez-Palacios et al. (2021) examined the problem from a broader perspective by addressing additional constraints encountered in logistics processes, alongside those proposed by Bischoff and Ratcliff (1995). The comprehensive literature review conducted by Ali et al. (2022) provided a thorough evaluation of the existing solution approaches in the field and highlighted potential directions for future studies. Container loading problems fall under the category of NP-hard CO problems (Scheithauer, 1992), and the literature offers numerous approaches for solving them. These methods include exact algorithms, constructive heuristics, metaheuristics, tree search algorithms, hyperheuristics and machine learning (ML) techniques (Ali et al., 2022). Ali et al. (2022) classified CLPs into off-line and on-line problems. Off-line problems are those in which all items to be loaded are ready for loading at time t0, and all information about the items to be loaded, such as width, length, height, weight, etc., is known in advance. In on-line problems, however, the items to be

loaded arrive sequentially for loading, and information about the items, such as width, length, height, weight, etc., is only known when the item arrives for loading. The approaches proposed in the literature for solving off-line problems include exact algorithms, constructive heuristics, metaheuristics, tree search algorithms, hyperheuristics and ML algorithms. For on-line problems, the methods proposed in the literature are primarily constructive heuristics and ML techniques.

In practical scenarios, container loading problems require not only maximizing space utilization by finding the best geometric arrangement of items but also adhering to various real-world constraints. These constraints include factors such as item orientation, load stability, weight restrictions, and the load-bearing capacity of the container. Ensuring the stability of the load is particularly vital, where each box needs sufficient support from beneath to maintain balance during transportation. Addressing both the goal of space optimization and these constraints makes it difficult to rely solely on mathematical models, prompting the use of heuristic methods to find feasible solutions. Given the complexity of real-wor-Id constraints, mathematical approaches have proven insufficient, and heuristic solution methods have been preferred instead. Heuristic methods based on human knowledge, metaheuristic methods using intelligent search strategies such as genetic algorithms and simulated annealing, and hybrid approaches that combine these with other methods like tree search have come to the forefront. Although exact algorithms have also been proposed, their practical use is limited due to computational requirements. Trivella and Pisinger (2016) proposed a MILP model for a 3D packing problem that aims to minimize the sum of deviations from the desired center of gravity and the number of boxes used. Erbayrak et al. (2021) extended the work of Trivella and Pisinger (2016) by introducing new constraints and an objective function, proposing a new mathematical model. The datasets introduced in the study of Trivella and Pisinger (2016) were used to validate the model. Additionally, a real-world case study of a Turkish filter company's CLP was solved using the proposed mathematical model. While the authors noted that the proposed mathematical model produced effective results, they also emphasized that for solving large-scale container loading problems encountered in real life, developing metaheuristic algorithms would be more feasible than a mathematical modeling approach.

Bio-inspired methods, such as metaheuristics, offer an efficient approach for obtaining approximate solutions to container loading problems, while avoiding the complexities involved in sophisticated software implementations. Leon et al. (2019) proposed a tabu search algorithm to solve the CLP. Tijjani and Ozkaya (2014) compared five different reinforcement learning algorithms and two different

rent evolutionary algorithms for solving the CLP. A study that used a deep learning algorithm in a hybrid manner with a heuristic method was conducted by Zhu et al. (2021). Although tree search algorithms have been proven to be a successful paradigm for solving container loading problems, applying them to large-scale problems is very time-consuming. To overcome this challenge, Zhu et al. (2021) integrated a deep learning algorithm into the tree search algorithm. Saikia et al. (2018) proposed an approach using evolutionary strategies and reinforcement learning techniques for the problem of loading containers from the dock to the ship. Ali et al. (2022) point out that most published studies utilizing ML have focused solely on basic geometric constraints, while practical constraints are frequently oversimplified in these approaches.

This paper proposes a hybrid approach combining the tabu search algorithm with heuristic algorithms, aiming to improve both high space utilization and practical constraints such as the full support requirement for each box from below. This paper is organized into five sections. In the introduction section, the impacts of globalization and the COVID-19 pandemic on the logistics sector, along with the importance of the problem, are explained, and studies on container loading problems and solution methods are reviewed. In the second section, the definition of the container loading problem, its constraints, and the objective function are explained. The third section details the proposed hybrid tabu search algorithm developed for CLPs. The fourth section presents the scenarios in which the algorithm was tested and the analysis of the results obtained. In the conclusion, the findings are summarized, and suggestions for future studies are provided.

### **Problem Definition**

Loading three-dimensional rectangular items into three-dimensional rectangular containers and transporting them along the supply chain under specified constraints is known as the container loading problem (Zhu et al., 2021). CLP is a common NP-hard problem (Scheithauer, 1992). Despite advances in computer technologies, no optimal solution has yet been found for this problem at the scale encountered in real life.

Dyckhoff (1990) and Wäscher (2007) typologies are two methods used to classify cutting and packing (C&P) problems. The Dyckhoff typology classifies problems according to size (one, two or three-dimensional), type of assignment (selection of small items or selection of containers), variety of large objects (single, same, different), and variety of small items (few, medium, many). Wäscher (2007) later extended this typology by focussing on the variety of small items and the constancy of the sizes of large items. These classifications are critical for better un-

derstanding the problems and developing appropriate solution methods. In particular, the variety of small items and the fixed size of large items are the main factors in determining packaging strategies. The problem considered in this paper is labeled as Single Large Object Placement Problem (SLOPP) in the typology of Wäscher et al. (2007) and 3/B/O/R in the classification of Dyckhoff (1990).

In the CLP considered in this paper, n different types of rectangular boxes  $(B=\{b_1,b_2,...,b_n\})$  are to be placed in a container of length L, width W and height H. The length, width and height dimensions  $(l_{\nu}w_{\nu}h_{\nu})$ specified for each box type are available and there are a certain number of boxes  $(m,i=\{1,2,...,n\})$  of each type. The process of placing the boxes in the container starts from a virtual starting point inside the container, i.e. the right rear bottom corner. This corner is defined as O(0,0,0) in 3D Cartesian coordinate system and the boxes are aligned along the x (length), y (width) and z (height) axes relative to this starting point. The position of the box  $b_{ii}$  (box j of type  $b_i = \{1,2,...,n\}$  and  $j = \{1,2,...,m_i\}$ ) inside the container is expressed by the coordinates  $(x_{ij},y_{ij},z_{ij})$  of the right rear bottom corner (See Figure 1).

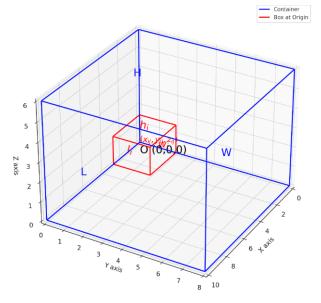


Figure 1. Container and box layout in 3D coordinate system

The proposed model takes into account several key constraints, including:

- Product positioning constraints: Boxes are arranged vertically, ensuring that they do not overlap with one another during loading.
- Weight limit constraints: The cumulative weight of the boxes loaded must remain within the container's maximum weight capacity.
- Grouping constraints: Wherever feasible, similar types of boxes are grouped together to streamline the loading and unloading processes.
- Orientation constraints: Boxes can be rotated into one of six possible orientations for loading. Some boxes have restricted orientation options, while others are allowed to be positioned in any of the six orientations.
- Load stability constraints: Boxes must be fully supported and cannot be suspended in mid-air. The bottom face of each box must rest securely either on the container floor or on other boxes beneath it. Additionally, at least one side of each box should be in contact with the container walls or adjacent boxes.

The objective function of the model is the maximization of volume utilization. Volume utilization (VU) is the ratio of the total volume of loaded boxes to the container volume.

# Hybrid tabu search algorithm

Metaheuristic algorithms can offer high volume efficiency but sometimes fall short in overcoming practical constraints. On the other hand, heuristic methods based on human experience can give superior results compared to metaheuristics, especially in respect to these practical limitations (Liu et al., 2011). In this context, this paper proposes an iterative approach using tabu search and heuristic algorithm to solve CLPs. This approach focuses on two main phases of the problem: Firstly, the problem of optimizing the ordering of the types of boxes to be loaded into the container and secondly, the problem of placing these boxes into the container in the most efficient way. In the first stage, a tabu search algorithm is used to determine the loading order of the box types; in the second stage, a loading heuristic is used to place the boxes in the container. The pseudo-code of the hybrid tabu search algorithm is given in Figure 2.

```
Algorithm: Hybrid Tabu Search
Input: Set of boxes B = \{b1, b2, \ldots, bn\}
Output: Best solution s_best for the container loading problem
Initialize:
   Create s0 as the loading order of box types.
   s_best \leftarrow s0.
   Initialize tabu_list.
while the termination criterion is not met do:
   Generate neighbor solutions s' from s.
   Add the neighbor solutions whose actions are not in the tabu list to the valid neighbors list.
   Perform loading with the loading heuristic for valid neighbor solutions and calculate the value
of f(s').
   Select the solution with the highest f(s') value among the valid neighbors and set s \leftarrow s'.
      if f(s') > f(s_best):
         s_best ← s.
      endif
   Update tabu_list.
endwhile
Result:
   Return s_best.
```

Figure 2. Pseudocode of the hybrid tabu search algorithm

The solution is encoded as the sequence of box types to be loaded. The initial solution is created as an ascending order of box types. For example, in a problem with 5 different box types, the initial solution is [1, 2, 3, 4, 5]. This initial solution represents the order in which the boxes will be placed and serves as the baseline that the algorithm will attempt to improve. This arrangement, assumed to be the best solution, is referred to as s\_best. The algorithm iteratively generates new solutions while maintaining a tabu list to avoid repeating forbidden moves. In each iteration, 10 potential solutions are generated to increase diversity and expand the exploration space. Valid solutions whose actions are not in the tabu list are sent to the loading heuristic. Boxes are placed into the container using the loading heuristic according to the new loading sequence. The objective function value of the solution (s) is calculated using Formula 1. The objective function of the model is to maximize VU, defined as the ratio of the total volume of the loaded boxes to the container's

$$VU(s) = \frac{\sum_{i=1}^{K} l_i \times w_i \times h_i \times k_i}{L \times W \times H}$$
 (1)

In Formula 1,  $l_i$ ,  $w_i$ ,  $h_i$  represent the length, width and height of the type box  $b_i$ ;  $k_i$  is the number of loaded boxes of type  $b_i$  where  $1 \le k_i \le m_i$ ; K is the number of loaded box types where  $1 \le K \le n$ ; L, W, H are the length, width and height of the container.

Among the valid solutions whose actions are not in the tabu list, the best one is accepted as the current solution, and if the current solution is better than the best solution,  $s\_best$  is updated. This process continues until the specified termination condition is met. When the algorithm terminates, the obtained  $s\_best$  is used as a guide for how to load the container most efficiently.

## **Loading Heuristic:**

After determining the loading order of the box types by tabu search, the boxes are placed into the container using the loading heuristic. The pseudo-code for this heuristic is presented in Figure 3. Initially, the empty (loadable) space is considered to be the entire container. The loading heuristic then follows a specific sequence and method to determine the appropriate block:

- 1. Calculating Possible Orientations: The possible\_orientation method calculates the different orientations in which the box can fit into the remaining space  $S_{remaining}$ . For each orientation, it checks whether the box's height (h<sub>i</sub>), width (w<sub>i</sub>) and length (l<sub>i</sub>) dimensions fit within the dimensions of the available space ( $L_{remaining}$ ,  $W_{remaining}$ , Hz) and whether they comply with the box's orientation constraints.
- 2. Block Strategy: Boxes are placed in blocks to achieve high volume utilization. These blocks are formed by combining the same or different box types and are typically rectangular in shape. The majo-

### Canan Hazal Akarsu / Tarık Küçükdeniz

rity of loading approaches used in the literature load boxes into the container one by one. Loading individual boxes frequently creates fragmented and irregular gaps within the container, which in turn reduces overall space efficiency. Additionally, individually loaded boxes generally create a less stable loading arrangement, making the loading and unloading processes more time-consuming and complex. On the other hand, the block strategy combines boxes to form larger and more regular blocks, which maximizes space utilization by reducing unused spaces in the container. Large, regular blocks create a more stable structure within the container, enhancing the stability of the load (Liu et al., 2011). The block strategy also offers time savings in logistics and transportation operations by enabling quick loading and unloading of blocks of the same boxes. Moreover, blocks allow boxes to support each other, reducing the load on individual boxes and increasing their load-bearing capacity. The algorithm generates a series of blocks for each possible orientation and calculates how efficiently each block fits into a specific area of the container using the Evaluation Function f(i).

3. Evaluation Function f(i): During the placement of each box block, the function f(i) is used to calculate the volume of the remaining space. This function evaluates how well the block to be placed fits into the remaining space of the container.

$$f(i) = L_{remaining} \times W_{remaining} \times H_{remaining} - l_i \times w_i \times h_i \times k_i (2)$$

 $L_{\rm remaining'}$   $W_{\rm remaining'}$   $H_{\rm remaining}$  : The length, width and height of the remaining space  $S_{\rm remaining}$ 

 $l_{r}$ ,  $w_{r}$ ,  $h_{i}$ : The length, width, and height of the boxes of type  $b_{i}$ 

 $k_{\it i}$  . The number of boxes of type  $b_{\it i}$  loaded into the remaining space  $S_{\it remaining}$ 

```
Algorithm: Loading Heuristic
Input: Set of boxes B sorted according to the order determined by Tabu search,
Container dimensions (L, W, H)
Output: Loaded container C
Initialize:
  Start with an empty container C of dimensions (L, W, H).
  Initialize the initial empty space list remain_list with ((0, 0, 0, L, W, H)).
  Determine the first loading space S* as (0, 0, 0, L, W, H).
  Sort the boxes in set B according to the Tabu search order and create a Box object for each
box.
Loading Loop:
while (remain_list is not empty and there are unloaded boxes) do
  Select the most suitable empty space as S*.
  for each box type in set B:
      Take the box as current box.
      if (current_box has not been loaded yet and it fits into S*) then
         Determine the most suitable block for current_box and place it into S*.
       After placement, update the remaining empty spaces and add the new spaces to remain_list.
      else
         Move on to the next box type.
      endif
  if (S* can be merged and there is a suitable space in the waste_list) then
      Merge S* with the appropriate waste_list space and obtain a new S*.
   endif
endwhile
Result:
- Return the loaded container C.
```

Figure 3. Pseudocode of the loading heuristic

# Hybrid Tabu Search Algorithm for Container Loading Problems

- 4. Rules: The placement of boxes is subject to certain rules:
- Rule 1: If f(i) is zero, it means that this block completely fills the space and this block is selected.
- Rule 2: If f(i) is not zero, meaning the block does not fill the space completely in 3 dimensions, the block that fully fills the space in two dimensions is selected.
- Rule 3: If a block does not meet the other rules, the block with the smallest f(i) value is selected.
- Rule 4: If multiple blocks have the same f(i) value, the blocks' surface areas are considered, and the block with the largest surface area is selected.
- 5. Managing the Remaining Empty Spaces: When suitable blocks are selected and loaded into the container, non-rectangular empty spaces may occur. To ensure that every remaining empty space retains a rectangular shape and to optimize space usage, the available space is divided into sections. Once a box is placed into a given rectangular area, the remaining space is subdivided into three new rectangular regions: the space to the right, the space above, and the space in front of the loaded box. There are six possible ways to create these three remaining areas, as shown in Figure 4. The partitioning scheme in Figure 4(a), which takes into account the stability and support of the boxes, is used in this paper.

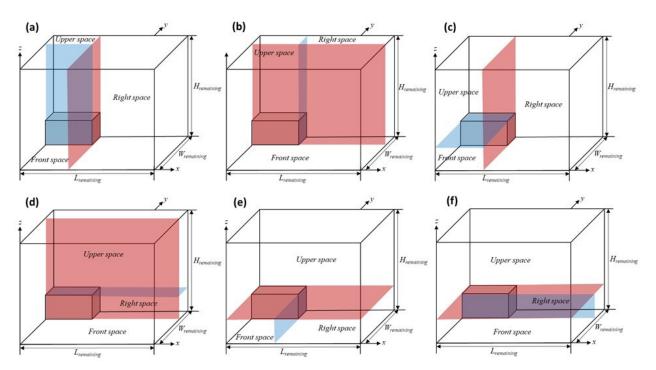


Figure 4. Six possible ways to partition the remaining space

If these empty spaces are directly considered as waste spaces, the loading may result in low volume utilization. To effectively use the empty spaces, they need to be merged according to specific rules:

- Rule 1: If two adjacent spaces share the same height and are aligned along the x or y axis, and have either the same length or width, they should be merged, as shown in Figure 5(a).
- Rule 2: If the lengths and widths of two adjacent

spaces differ, but their heights are the same, and their total length or width equals the length or width of the current space, they should be merged, as illustrated in Figure 5(b), to create a new remaining space.

• Rule 3: If the lengths and widths of three adjacent spaces differ, but their total length and width match the dimensions of the current space, these areas should be merged, as depicted in Figure 5(c).

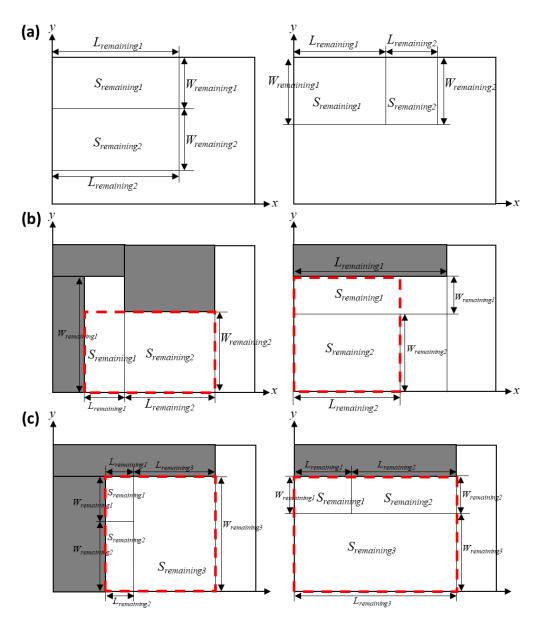


Figure 5. Merging of the remaining spaces

# **Experimental Results**

The aim of this paper is to develop a hybrid tabu search algorithm capable of effectively addressing container loading problems, providing high-quality solutions in a reasonable time, and to test the algorithm's convergence performance using benchmark problems. The developed hybrid tabu search algorithm was coded and implemented using the Python programming language. The performance of the proposed approach was evaluated using a well-known benchmark dataset from the OR-library (http://people.brunel.ac.uk/~mastjjb/jeb/info.html), originally provided by Bischoff and Ratcliff (1995). The dataset includes 7 different test classes (thpack1, thpack2, ..., thpack7) ranging from weakly heterogeneous to strongly heterogeneous, with each test class containing 100 test problems. The test problems involve placing varying numbers of boxes

into a standard ISO container with dimensions of 587×233×220. The objective function is to maximize the volume utilization of a single container. Volume utilization is defined as the ratio of the total volume of the loaded boxes to the container's volume.

The performance of the developed hybrid tabu search algorithm was evaluated on a total of 700 problems across 7 different test classes. For each of the 100 problems within each test class, the algorithm was run for 300 iterations, and the average volume utilization achieved by the algorithm in each test class was analyzed. This comprehensive analysis reveals the algorithm's ability to adapt to different problem structures and its performance across varying degrees of heterogeneity. Examining the averages of the problems in each test class, as shown in Table 1, it is observed that the algorithm is capable of producing consistent and high-quality solutions even in test classes where complexity and diversity

### Hybrid Tabu Search Algorithm for Container Loading Problems

increase. These results demonstrate the algorithm's capacity to provide an end-to-end solution for container loading problems and its adaptability to practical applications.

Table 1. Average Volume Utilization in Test Classes

Test Class	Volume Utilization Rate (%)
1	84,34
2	86,52
3	88,33
4	88,16
5	87,99
6	87,26
7	86,18

To test the convergence performance of the hybrid tabu search algorithm, the first 3 problems of the most strongly heterogeneous test class, thpack7, from the dataset were selected from the 700 problems solved by the algorithm. The graphs showing the convergence performance of the algorithm for these problems are presented in Figures 6-8. These problems were specifically chosen to test the algorithm's ability to handle complexity in problem-solving. Each problem contains 20 different box types with a certain number of boxes for each type. This provides an ideal scenario to evaluate the algorithm's capability to effectively place boxes of varying sizes and quantities.

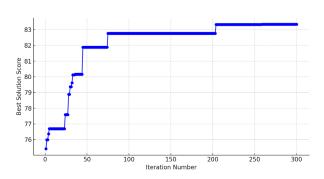


Figure 6. Convergence Performance of the Algorithm for Problem 7-0

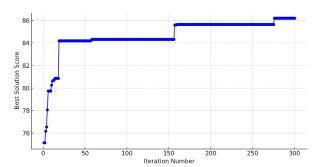


Figure 7. Convergence Performance of the Algorithm for Problem 7-1

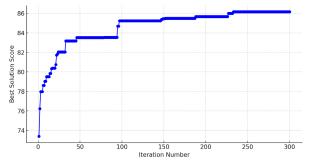


Figure 8. Convergence Performance of the Algorithm for Problem 7-2

As shown in Figures 6-8, the algorithm rapidly converges to high-quality solutions and continues to improve as iterations progress. Detailed analyses of the first 3 problems of the most strongly heterogeneous test class, thpack7, reveal that the algorithm performs highly even in complex scenarios involving 20 different box types with a certain number of boxes for each type. These findings demonstrate the algorithm's adaptability and overall effectiveness across various scenarios of volume utilization and box type diversity.

Table 2. Best Achieved Solution and Loading Order for Three Problems

Test Problem	Volume Utilization Rate (%)	Loading Order of Box Types
7-0	83,34	[14, 16, 0, 15, 11, 4, 17, 2, 6, 5, 9, 18, 7, 12, 1, 8, 10, 13, 19, 3]
7-1	86,20	[7, 16, 5, 2, 3, 13, 18, 1, 10, 14, 19, 17, 4, 12, 15, 9, 6, 8, 0, 11]
7-2	86,17	[16, 11, 8, 12, 17, 15, 0, 10, 1, 6, 18, 7, 2, 9, 19, 14, 3, 4, 13, 5]

The best solution (volume utilization rate) achieved after 300 iterations for the three problems and the optimal loading order of box types are summarized in Table 2. In all three problems, the algorithm achieved high volume utilization rates and effectively placed various box types. The loading arrangements for the container based on the solutions of the three problems are shown in Figures 9-11.

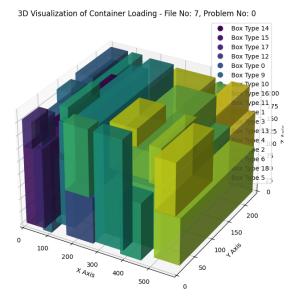


Figure 9. Optimal Loading Arrangement for Problem 7-0

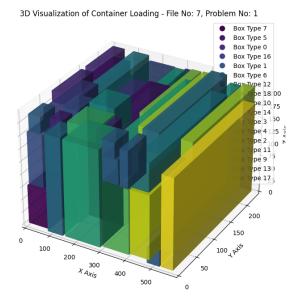


Figure 10. Optimal Loading Arrangement for Problem 7-1

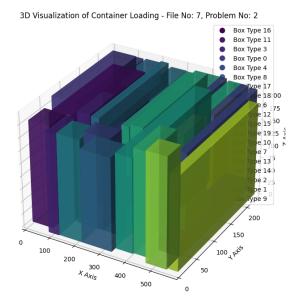


Figure 11. Optimal Loading Arrangement for Problem 7-2

### **Conclusion**

The container loading problem is of great economic and operational significance, especially in the logistics sector, which is a critical component of global trade and supply chain management. Solving this problem can provide a competitive advantage for companies aiming to reduce costs and increase customer satisfaction. The primary objective of this paper is to address the CLP, which is one of the key challenges faced by the logistics industry, and to provide an effective solution. In this paper, a hybrid tabu search algorithm was developed for container loading problems, proposing a hybrid approach that combines the tabu search algorithm with heuristic algorithms to improve high space utilization and address practical constraints, such as the full support requirement for each box from below. The algorithm was implemented using the Python programming language, and the benchmark dataset from the OR-library was used to evaluate the performance of the algorithm. The findings obtained from 300 iterations for each of the 700 problems in seven different test classes showed that the algorithm offers high-quality solutions by achieving high volume utilization rates even in problems with strongly heterogeneous structures. Specifically, performance analyses conducted on the first three problems of the most strongly heterogeneous test class, thpack7, within the benchmark dataset, demonstrated that the proposed algorithm can effectively place boxes of varying sizes and quantities into the container and achieve high volume utilization rates in solving heterogeneous problems.

For future studies, it is recommended to further enhance the hybrid tabu search algorithm and perform an in-depth analysis of its performance by comparing it with other metaheuristic approaches. Additionally, integrating artificial learning techniques can aim to enhance the predictive and adaptive features of the algorithm, allowing it to respond more rapidly and effectively to real-time changes encountered in dynamic logistics environments. In this context, the integration of ML and artificial intelligence technologies with the algorithm will further improve automation and intelligent decision-making processes. Finally, investigating the role of the hybrid tabu search algorithm in developing sustainable logistics solutions will be an important step towards maximizing economic and environmental efficiency.

#### References

Ali, S., Ramos, A. G., Carravilla, M. A., & Oliveira, J. F. (2022). On-line three-dimensional packing problems: a review of off-line and on-line solution approaches. Computers & Industrial Engineering, 108122.

Bischoff, E.E., and Ratcliff, M.S.W. (1995). Issues in the development of approaches to container loading. OMEGA, 23(4), 377-390.

Bortfeldt, A., & Wascher, G. (2013). Constraints in container loa-

# Hybrid Tabu Search Algorithm for Container Loading Problems

ding-a state-of-the-art review. European Journal of Operational Research, 229(1), 1–20.

Dyckhoff H. (1990). A typology of cutting and packing problems. European Journal of Operational Research, 44, 145–159.

Erbayrak, S., Özkır, V., & Yıldırım, U. M. (2021). Multi-objective 3D bin packing problem with load balance and product family concerns. Computers & Industrial Engineering, 159, 107518.

Gimenez-Palacios, I., Alonso, M., Alvarez-Valdes, R., & Parren 🗓o, F. (2020). Logistic constraints in container loading problems: the impact of complete shipment conditions. TOP: An Official Journal of the Spanish Society of Statistics and Operations Research, 29(1), 177-203.

Leon, P., Cueva, R., Tupia, M., & Dias, G. P. (2019). A taboo-search algorithm for 3d- binpacking problem in containers. In World Conference on Information Systems and Technologies (pp. 229–240). Springer.

Liu, J., Yue, Y., Dong, Z., Maple, C., & Keech, M. (2011). A novel hybrid tabu search approach to container loading. Computers & Operations Research, 38(4), 797–807.

Ramos, A. G., Silva, E., & Oliveira, J. F. (2018). A new load balance methodology for container loading problem in road transportation. European Journal of Operational Research, 266(3), 1140–1152.

Saikia, S., Verma, R., Agarwal, P., Shroff, G., Vig, L., & Srinivasan, A. (2018). Evolutionary RL for Container Loading. arXiv preprint arXiv:1805.06664

Scheithauer, G. (1992). Algorithms for the container loading problem. In Operations Research Proceedings 1991 (pp. 445–452). Springer.

Statista (2020). Global parcel shipping volume between 2013 and 2026. URL https://www.statista.com/statistics/1139910/parcel-shipping-volume-worldwide.

Tijjani, S., & Ozkaya, A. (2014). A comparison of reinforcement learning and evolutionary algorithms for container loading problem. In 2nd International Symposium on Engineering, Artificial Intelligence and Applications.

Trivella, A., & Pisinger, D. (2016). The load-balanced multi-dimensional bin-packing problem. Computers & Operations Research, 74, 152-164.

Wäscher, G., Haußner, H., Schumann, H. (2007). An improved typology of cutting and packing problems. European Journal of Operational Research, 183(3), 1109–1130.

Zhao, X., Bennell, J. A., Bektas, T., & Dowsland, K. (2016). A comparative review of 3d container loading algorithms. International Transactions in Operational Research, 23 (1–2), 287–320.

Zhu, Q., Li, X., Zhang, Z., Luo, Z., Tong, X., Yuan, M., & Zeng, J. (2021, October). Learning to Pack: A Data-Driven Tree Search Algorithm for Large-Scale 3D Bin Packing Problem. In Proceedings of the 30th ACM International Conference on Information & Knowledge Management (pp. 4393-4402).

# Research Article

ROMAYA - Researches on Multidisiplinary Approaches 2024, 4(2): 195-211

ISSN:2791-9099

# From Anxiety to Satisfaction: The Influence of Technological Innovation on Shaping Customer Experience and Perceived Value in Leisure Services

Anksiyeteden Memnuniyete: Eğlence Hizmetlerinde Müşteri Deneyimi ve Algılanan Değerin Şekillenmesinde Teknolojik Yeniliklerin Etkisi

# Altuğ Ocak / Asst. Prof. Dr. D

Istanbul Beykent University, Vocational School, Department of Travel-Tourism And Entertainment Services altugocak@beykent.edu.tr

#### **Abstract**

This paper examines the complex relationships among technological innovation, technological anxiety, perceived value and customer experience within the leisure services environment. Its main objectives are to explore the direct impact of technological innovation on customer experience and perceived value, as well as the direct impact of technological anxiety on customer experience and perceived value. Additionally, the study aims to examine the mediating role of perceived value and assess the moderating effects of technological anxiety. Data were gathered from 423 respondents using a survey questionnaire between May and July 2024 and examined using SEM. The main findings show that technological anxiety significantly increases both customer experience and perceived value. Technological anxiety positively influences both customer experience and perceived value, suggesting that overcoming technological challenges can increase customer satisfaction. Perceived value acts as a mediator in the relationships between technological anxiety and customer experience and between technological innovation and customer experience. Furthermore, the interaction between technological anxiety and technological innovation positively influences perceived value. The main findings highlight the need to continuously invest in advanced technologies, effectively manage technological anxiety and emphasize value-added benefits to increase customer satisfaction with entertainment services. These findings provide practical guidance for service providers seeking to leverage technological advances to create exceptional customer experiences.

**Keywords:** Marketing Research, Technological Innovation, Customer Experience, Perceived Value, Technological Anxiety.

**JEL Codes:** M31,O31,O33

### Özet

Bu makale, eğlence hizmetleri sektöründe teknolojik yenilik, teknolojik kaygı, algılanan değer ve müşteri deneyimi arasındaki karmaşık ilişkileri incelemektedir. Temel amaçları, teknolojik yeniliğin müşteri deneyimi ve algılanan değer üzerindeki doğrudan etkisinin yanı sıra teknolojik kaygının müşteri deneyimi ve algılanan değer üzerindeki doğrudan etkisini araştırmaktır. Çalışma ayrıca, algılanan değerin aracılık rolünü incelemeyi ve teknolojik kaygının ılımlı etkilerini değerlendirmeyi amaçlamaktadır. Veriler, Mayıs ve Temmuz 2024 tarihleri arasında 423 katılımcıdan anket yoluyla toplanmış ve Yapısal Eşitlik Modeli kullanılarak incelenmiştir. Ana bulgular, teknolojik kaygının hem müşteri deneyimini hem de algılanan değeri önemli ölçüde yükselttiğini göstermektedir. Teknolojik kaygı, hem müşteri deneyimini hem de algılanan değeri olumlu yönde etkilemekte ve teknolojik zorlukların üstesinden gelmenin müşteri memnuniyetini artırabileceğini düşündürmektedir. Algılanan değer, teknolojik kaygı ile müşteri deneyimi arasındaki ve teknolojik yenilik ile müşteri deneyimi arasındaki ilişkilerde aracı rol oynamaktadır. Ayrıca, teknolojik kaygı ve teknolojik yenilik arasındaki etkileşim algılanan değeri olumlu yönde etkilemektedir. Ana bulgular, eğlence hizmetlerinden müşteri memnuniyetini artırmak için sürekli olarak ileri teknolojilere yatırım yapma, teknolojik kaygıyı etkin bir şekilde yönetme ve katma değerli faydaları vurgulama ihtiyacını vurgulamaktadır. Bu bulgular, üstün müşteri deneyimleri yaratmak için teknolojik ilerlemelerden yararlanmak isteyen hizmet sağlayıcıları için yararlı bir rehber niteliğindedir.

**Anahtar Kelimeler:** Pazarlama Araştırması, Teknolojik Yenilik, Müşteri Deneyimi, Algılanan Değer, Teknolojik Kaygı.

**JEL Kodları:** M31,O31,O33

#### Introduction

The rapid advancements in technological innovations (TIs), particularly in leisure services, have fundamentally reshaped how businesses interact with customers. Despite extensive research on technology adoption in hospitality and service industries (Bilgihan, 2016; Gretzel et al., 2015), there is a gap in understanding the specific impact of technological anxiety (TA) and how perceived value (PV) mediates the relationship between TIs and customer experience (CE). This study was conducted to address this gap by examining how technological advancements like AI, AR and VR affect CEs and PV, while also exploring the counterintuitive effects of TA.

The primary contribution of this study lies in its examination of the mediating role of PV in the relationship between TI, TA and CE. By incorporating TA into the framework, this research provides new insights into how overcoming technological challenges can enhance customer appreciation, aligning with the concept of eustress (Meuter et al., 2003). Unlike previous studies that focused solely on the benefits of TI (Buhalis & Amaranggana, 2015), this research explores both the positive and potentially adverse impacts, offering a more comprehensive view of how advanced technologies influence customer satisfaction (CS) and loyalty.

This study differentiates itself by not only investigating the direct effects of TI on CE but also by highlighting the critical mediating role of PV. Additionally, it introduces the concept of TA as a factor that can positively influence CE under certain conditions, thus contributing a novel perspective to the existing literature on technology adoption in leisure services.

Digitalization has revolutionized various industries, including hospitality and leisure, by enabling companies to meet individual customer preferences through automated systems rather than relying solely on human interaction. These advancements include personalized hotel services, Al-powered virtual assistants and tailored marketing strategies, which collectively enhance both operational efficiency and CS (Dang & Nguyen, 2023). In the hospitality sector, digital technologies such as chatbots and data-driven marketing tools are being leveraged to improve the guest experience and streamline operations, resulting in more personalized and engaging services (Wynn & Lam, 2023). These innovations highlight the

transformative impact of digitalization on customer relationships and operational processes, offering significant value for all stakeholders involved (Ozdemir et al., 2023).

PV is a very important variable in determining CS and loyalty. It reflects a customer's evaluation of the benefits and costs associated with a service and reflects the overall benefit of the service from the customer's perspective (Zeithaml, 1988). TIs may increase PV by providing unique and useful features that are not available in traditional services. For example, personalized recommendations generated by advanced data analytics can increase PV by making services more relevant and attractive to individual customers (Gretzel et al., 2015; Huang & Rust, 2017). However, even with the potential benefits, the relationship between TI and CE is complex. While some customers readily adopt new technologies and appreciate the enhanced value they provide, others may experience TA that negatively impacts their overall experience (Jain, 2020; Jalilvand et al., 2012). Understanding how TA impacts the relationship between TI, PV and CE is critical for service providers seeking to optimize service delivery (Manser Payne et al., 2021; Pantano & Gandini, 2018; Witell et al., 2016).

The main objectives of this study are to examine the effects of technological innovations (TIs) and technological anxiety (TA) on customer experience (CE) and perceived value (PV). Specifically, the research aims to:

- Investigate the direct effects of TI on CE and PV.
- Explore the direct effects of TA on CE and PV.
- Analyze the mediating role of PV in the relationship between TA and CE.
- Evaluate the moderating effects of TA on the relationships between TI, PV and CE.

This study fills a gap in the literature by exploring the complex interactions between TI, TA, PV and CE within the framework of leisure services. Using Structural Equation Modeling (SEM), the research sheds light on how these variables interact and influence one another, offering valuable insights for service providers aiming to improve CS and loyalty.

### **Theoretical Framework**

### **Leisure Services**

Leisure services encompass a wide range of industries, including tourism, hospitality, entertainment and recreational activities, all of which are designed to provide consumers with enjoyable, memorable experiences (Lehto et al., 2024). These industries have been subject to increasing academic interest due to their significant contribution to global eco-

nomies and their focus on enhancing CS and CE. As consumer expectations evolve, leisure services must continuously innovate to remain competitive and relevant.

TI plays a critical role in the evolution of leisure services, helping to meet consumer demands for convenience, personalization and engagement. Technologies such as VR, MA and automated booking systems have been widely adopted across various sectors of leisure services, significantly enhancing CE (Bilgihan, 2016; Buhalis & Amaranggana, 2015; Park et al., 2023). For instance, VR experiences in tourism allow customers to "preview" destinations before booking, increasing their confidence and satisfaction with their travel choices (Guttentag, 2010). Similarly, MA have revolutionized how consumers interact with leisure services, providing real-time updates, easy access to information and personalized recommendations (Buhalis & Law, 2008). Recent studies highlight the accelerating use of smart technologies, such as artificial intelligence (AI) and augmented reality, in leisure services to create even more engaging and tailored experiences for users (Tussyadiah et al., 2020; Kim & Hyun, 2020).

The concept of PV is also pivotal in leisure services. Zeithaml (1988) defines PV as the consumer's evaluation of the overall utility of a service based on perceptions of what is received versus what is given. In the context of leisure services, PV has been shown to significantly influence CE, with high-value perceptions often leading to greater CS and loyalty (Sweeney & Soutar, 2001). Service providers that successfully integrate advanced technologies into their offerings can enhance the PV by providing consumers with unique, convenient and personalized experiences (Gretzel et al., 2015; Huang & Rust, 2017). Despite the benefits of technology, the literature also highlights the challenge of TA in leisure services. TA refers to the apprehension or fear experienced by individuals when using new technologies (Meuter et al., 2003). In leisure services, TA can impact CE, particularly when customers are expected to interact with advanced systems without human assistance, such as self-service kiosks or MA. However, studies suggest that if TA is managed effectively through user-friendly interfaces and comprehensive support, it can be mitigated, allowing customers to fully engage with the technology and enjoy the benefits (Parasuraman & Colby, 2015; Roy et al., 2018).

# **Technological Innovations and Customer Experience**

CE encompasses all aspects of a consumer's engagement with a service provider (Verhoef et al., 2009). TI have become fundamental in revolutionizing service delivery in a variety of sectors, especially in leisure services. The acceptance of advanced technologies

such as VR, MA, self-service kiosks and sophisticated data analytics has significantly enhanced CE by offering greater convenience, personalization and interactivity (Bilgihan, 2016; Buhalis and Amaranggana, 2015). In entertainment services, CE is crucial to create immersive and engaging experiences that exceed customer expectations. Neuhofer, Buhalis and Ladkin (2014) argue technology-enhanced tourism experiences can transform customers' interactions with services and provide unique and memorable experiences that encourage long-term loyalty. For example, MA in the tourism sector enhance customers' overall experience by enabling them to easily access information, book services and participate in interactive activities (Kim & Qu, 2014; Sia et al., 2023).

The integration of TI into leisure services also allows for the collection and analysis of customer data, enabling service providers to offer customized services tailored to individual preferences and needs (Wang & Qualls, 2007, Chuang, 2023). This personalization increases CS by making the service more relevant and engaging. In addition, advanced technologies contribute to positive CE by streamlining operations, reducing wait times and providing real-time solutions to customer inquiries (Gretzel et al., 2015; Grewal et al., 2023). These innovations are consistent with the service-oriented concept (Vargo & Lusch, 2004), which emphasizes the co-creation of value through service interactions. The positive impact of TI on CE is well documented. Research shows that the use of modern technologies in service delivery leads to higher CS and loyalty. For example, Bilgihan (2016) found that millennial (Gen Y) customers, who are particularly tech-savvy, are more loyal to online shopping platforms that provide superior user experiences through TI. Similarly, Buhalis and Amaranggana (2015) showed that smart tourism destinations that use technology to personalize services significantly improve the overall traveler experience. Based on the extensive literature supporting the positive impact of TI on CE, this paper proposes the following hypothesis:

H1: Technological innovations positively influence customer experience in leisure services.

# **Technological Innovations and Perceived Value**

TI is required to increase the PV for services in many industries, including entertainment services. PV is described as a consumer's valuation created by the costs and rewards associated with a service and represents the total value to the customer (Zeithaml, 1988). Higher PV is associated with improved CS, customer loyalty and good word-of-mouth (Sweeney & Soutar, 2001). In leisure services, TI can significantly increase PV by offering unique and useful

features that are not available in traditional services. For example, in tourism, VR allows customers to virtually explore destinations before visiting them, increasing their PV for the service (Guttentag, 2010). In addition, MA increase convenience and satisfaction by providing easy access to information, real-time updates and personalized recommendations, which in turn increases PV (Buhalis & Law, 2008).

TI also facilitates more personalized and interactive experiences that are highly valued by customers. Tailored services such as customized travel itineraries and special offers increase PV by addressing individual preferences and needs (Gretzel et al., 2006). Advanced data analytics and AI provide service providers with deeper insights into customer behavior and preferences, enabling the delivery of more targeted and relevant services (Huang & Rust, 2017). Research has consistently shown that Al positively impacts PV in various service settings. For example, Bilgihan (2016) found that the adoption of advanced technologies in e-shopping platforms leads to a higher PV among millennial customers. Similarly, Buhalis and Amaranggana (2015) showed that smart tourism destinations that leverage technology to personalize services significantly increase tourists' PV. Such evidence underscores the important contribution of TI in generating superior experience for customers. Based on the extensive evidence supporting the positive impact of TI on PV, this paper suggests the below hypothesis:

H2: Technological innovations positively influence perceived value in leisure services.

# **Technological Innovations and Technological Anxiety**

Despite its numerous benefits, TI can also contribute to increased levels of TA among users. TA is characterized by the anxiety or fear that individuals experience when they use or consider using new technologies (Meuter et al., 2003). This anxiety can be caused by a variety of factors, including the complexity of the technology, lack of familiarity, perceived risk of failure and worries regarding safety and security.

The fast pace of technological progress often requires constant adaptation to new tools and systems, which can be overwhelming and create anxiety (Parasuraman & Colby, 2015). For example, the adoption of selffservice applications in retail and hospitality settings has been found to cause anxiety among customers who are not at ease with technology or are afraid of making mistakes in the transaction process (Meuter et al., 2000). Such anxiety can hinder the adoption and effective use of TI and ultimately affect user satisfaction and service outcomes.

TI is particularly relevant in the entertainment services sector where customers frequently interact

with advanced intuitive services such as VR, MA or automated systems without direct human assistance. Research has shown that people with a high TA are lower likely to adopt or use these technologies, leading to decreased engagement and satisfaction (Meuter et al., 2003; Roy et al., 2018). For example, Guttentag (2010) noted that VR can enhance tourism experiences, but it can also cause anxiety among users who are not familiar with the technology. Moreover, the perceived complexity and usability of the technology can also exacerbate TA. If users find the technology difficult to understand or use, their anxiety levels are likely to increase, further discouraging them from interacting with the technology (Venkatesh, 2000).

Service providers should consider the potential for TA when implementing new technologies and ensure that they provide adequate support and user-friendly interfaces to reduce these concerns. Based on the review of literature highlighting the link between TI and TA, this study proposes the following hypothesis:

H3: Technological innovations positively influence technological anxiety.

# **Technological Anxiety and Customer Experience**

TA, which is characterized by anxiety or fear when interacting with new technologies, can have a significant impact on CE. This anxiety often stems from concerns about the complexity of the technology, the potential for error and the perceived difficulty of using technological tools and systems (Meuter et al., 2003). High levels of TA can lead to avoidance behavior, in which customers deliberately avoid new technologies and thus miss out on the potential benefits and conveniences that these technologies offer.

Research has shown that TA negatively affects various aspects of customer behavior and perceptions. Roy et al. (2018) found that customers with high TA showed lower degrees of technology acceptance as well as satisfaction. Likewise, Parasuraman and Colby (2015) found an inverse relationship between TA and technology preparedness, with an impact on the total experience of the service. Fear of technology reduces the value and satisfaction of the service, leading to a negative experience.

Moreover, TA can affect technology usability and usefulness, which are critical drivers of CS and experience (Davis, 1989). Overall service evaluations are likely to be unfavorable when customer anxiety makes the technology difficult to understand and difficult to use. This underscores the importance of addressing TA to enable customers to fully engage with TI and have a positive service experience (Meuter et al., 2003; Venkatesh & Bala, 2008).

Addressing these concerns can lead to increased

From Anxiety to Satisfaction: The Influence of Technological Innovation on Shaping Customer Experience and Perceived Value in Leisure Services

CS and improved service evaluations, as reducing TA allows customers to better appreciate the convenience and efficiency provided by technological advances (Parasuraman & Colby, 2015; Yang & Forney, 2013). On the basis of the literature that highlights the adverse effects of TA on CE, the below hypothesis is proposed in this research:

H4: Technological anxiety has a direct negative impact on customer experience.

# Technological Anxiety and Perceived Value

TA, defined as the anxiety or fear associated with the use of new technologies, can significantly influence how customers perceive the value of services that incorporate these technologies (Meuter et al., 2003). PV is the clients' total valuation of the benefits of a service, resulting from their evaluation of the benefits obtained in relation to the costs incurred (Zeithaml, 1988). When customers experience high levels of TA, their perceived benefits and ease of getting started with the technology may be adversely affected, resulting in lower PV.

With regard to mobile banking, Alalwan, Dwivedi and Williams (2016) found that TA has an adverse effect on PV and thus on the willingness to use mobile banking products. Their findings underscore the importance of addressing TA to increase PV and to help adopt mobile technologies. Research suggests that TA negatively influences various aspects of consumer behavior, including technology's perceived usability and usefulness, which are critical components of PV (Davis, 1989). When customers experience fear in using a technology, their overall assessment of the value of the service decreases. This relationship is particularly evident in self-service technologies, where the absence of human assistance can exacerbate feelings of anxiety and reduce PV (Meuter et al., 2000).

Furthermore, the negative impact of TA on PV can also be understood through the concept of technology readiness, which reflects the tendency of a person to adopt and use new technologies (Parasuraman & Colby, 2015). TA, which arises from users feeling overwhelmed or uncomfortable with new technologies, can lead to reduced PV in several ways. When users experience high levels of anxiety, they are less likely to fully engage with the technology, which diminishes their overall experience. For instance, TA can cause users to feel frustrated or confused, reducing their appreciation of the benefits that digital innovations are supposed to offer. This anxiety often results in avoidance behaviors, where customers may deliberately reduce their use of technology, even when it could improve their service experience (Lee et al., 2020).

Moreover, TA can create a cognitive dissonance

where customers, despite recognizing the utility of the technology, still perceive it as too challenging or stressful to use. This mental strain negatively impacts their overall evaluation of the service, as they might perceive the service as more effortful or complicated than beneficial (Lee et al., 2023). As such, even though the technology offers enhanced personalization or convenience, the user's anxiety prevents them from recognizing or enjoying these benefits (Warshaw & Davis, 1985).

Finally, studies on the interaction of psychological factors with technology adoption show that TA is particularly problematic when users feel that their privacy is at risk or when they are resistant to innovation. These concerns amplify feelings of stress and reduce perceived emotional value, making the overall service experience less enjoyable (Chocarro et al., 2023).

Consumers exhibiting high levels of TA are expected to have lower levels of technology readiness, resulting in lower PV of technology-enabled services. This highlights the importance of addressing TA to ensure that customers can fully appreciate and derive value from TIs in leisure services. This study suggests the below hypothesis from the literature highlighting the negative impact of TA on PV:

H5: Technological anxiety has a direct negative impact on perceived value.

# Perceived Value and Customer Experience

PV is a key concept in understanding consumer behavior and its implications for CE. PV is described in terms of the overall valuation of the benefits of a service on the basis of the customer's evaluation of the benefits obtained and the benefits provided (Zeithaml, 1988). It includes both functional and emotional benefits derived from a service (Zeithaml, 1988). High PV is associated with greater CS, loyalty and effective word-of-mouth, all of which are critical to positive CE (Sweeney & Soutar, 2001; Marcos & Coelho, 2022).

PV is central to the overall design of CE in the context of leisure services. Customers are more likely to have a satisfying and memorable experience when they receive high utility from a service. It is especially critical in the leisure industry, where customers seek not just functional benefits, but also emotional and experiential rewards (Pine & Gilmore, 1998; Carvalho & Alves, 2023). For example, a tourist who perceives high value in a travel package that offers unique experiences, excellent service and value for money is likely to have a more positive overall experience.

PV is a strong indicator of CE, as research has repeatedly shown. Research has indicated that if consumers feel a strong sense of value in a service, they report higher levels of satisfaction and a better ove-

rall experience (Cronin, Brady, & Hult, 2000, Tulcanaza-Prieto et al., 2023). This relationship holds across different service contexts, including hospitality, tourism and retail (Sweeney, Soutar, & Johnson, 1999). For instance, in the service industry, PV substantially influences guest satisfaction and their likelihood to repeat and refer the service to other customers (Oh, 1999; Paulose & Shakeel, 2022).

In addition, PV increases CE by meeting and exceeding customer expectations. When services deliver more value than expected, customers are delighted, resulting in exceptional CE (Parasuraman, Zeithaml, & Berry, 1988). This is particularly relevant in the leisure industry, where the goal is to design memorable and engaging activities that appeal to customers on an experiential level (Holbrook & Hirschman, 1982). Based on the literature supporting the positive influence of PV on CE, the proposed hypothesis is as follows:

H6: Perceived value positively influences customer experience in leisure services.

# **Moderating Role of Technological Anxiety**

TA, which refers to the anxiety or concern that individuals experience when adopting new technologies, can significantly influence how customers perceive and interact with TIs (Meuter et al., 2003; Venkatesh, 2000). In the context of leisure services, TA can affect customers' appreciation of the value of TI as well as their overall experience (Parasuraman & Colby, 2015). For service providers seeking to improve CE through technological advances, it is critical to appreciate the moderating role of TA.

Moderation refers to a factor that has an effect on the strength or toward the orientation of the link between an independent variable and a dependent variable. In this case, TA moderates the link between TI (independent variable) and PV (mediating variable) (Baron & Kenny, 1986; Hayes, 2013). Specifically, high levels of TA may weaken the positive relationship between TI and PV because anxious customers may not fully appreciate or utilize the benefits of new technologies (Meuter et al., 2003; Venkatesh & Bala, 2008). This moderating effect highlights the need to address TA to ensure that customers derive maximum PV from TI (Yang & Forney, 2013; Parasuraman & Colby, 2015).

The moderating role of TA has been examined in several contexts and has been shown to have a significant impact on technology adoption and user experience. Meuter et al. (2003) examined how TA affects individuals' use and satisfaction with selfservice interfaces. Their findings indicated that individuals with high TA are both less frequent users of self-service technologies and less satisfied with their use, highlighting the adverse impact of TA on PV and

user experience. In addition, Venkatesh et al. (2003) integrated TA into the Unified Theory of Acceptance and Use of Technology (UTAUT) and demonstrated that TA negatively affects users' ratings of usability and utility. This relationship suggests high TA may diminish the perceived benefits of TI, leading to lower PV.

Empirical studies provide robust evidence for the moderating role of TA. For example, Roy et al. (2018) investigated factors that are associated with customer acceptance and opposition to smart technologies in the retail sector. Their research found that TA significantly moderates the link from perceived benefits of smart technologies to consumer acceptance, while higher levels of anxiety weaken this relationship. This finding highlights the need to address TA in order to increase PV and customer acceptance. Another study by Sinkovics, Stöttinger, Schlegelmilch and Ramiah (2002) examined the effect of TA on e-commerce shopping behavior. The results indicated that individuals with strong TA are lower online shoppers and perceive less value from e-commerce platforms. This suggests that TA may be a significant barrier to the effective use of TI, thereby reducing PV. Based on the literature, the below hypotheses are suggested:

H7: Technological anxiety moderates the relationship between technological innovations and perceived value, such that the relationship is weaker for individuals with high technological anxiety.

H8: Technological anxiety moderates the relationship between perceived value and customer experience.

# **Mediating Role of Perceived Value**

Mediator is a quantity which explains the relation of an independent quantity to a dependent quantity. Here, PV serves as an intermediary between TI (independent) and CE (dependent). When customers encounter TI, their PV increases due to increased convenience, personalization and overall service quality (Gallarza et al., 2016; Kim et al., 2021). This increased PV subsequently leads to more positive CE (Zeithaml, 1988; Parasuraman et al., 2005; Rahman et. al., 2022).

Several studies have examined PV as a mediator. Wang, Lo and Yang (2004) investigated PV as a mediator between TI and CS. Their results indicated that PV significantly mediates this relationship, highlighting its important role in enhancing CE. In the travel and leisure industry, Chen and Chen (2010) found that PV mediates the relationship between service quality and behavioral intentions. Their study showed better service quality leads to higher PV, resulting in higher CE and loyalty. This suggests that PV represents a key mechanism through which service improvements translate into better customer outcomes.

From Anxiety to Satisfaction: The Influence of Technological Innovation on Shaping Customer Experience and Perceived Value in Leisure Services

Empirical studies further support the mediating role of PV. For example, Ryu, Han and Kim (2008) examined the mediating impact of PV in the link between physical environment quality and customer happiness in the restaurant industry. They found that PV fully mediated this relationship, highlighting its importance in evaluating service. In addition, Oh (1999) examined the mediational role of PV in the link between price fairness and CS in the service industry and found that PV significantly mediated the relationship, suggesting that customers' value perceptions are crucial in determining their total experience satisfaction.

TIs like MA, VR and automated systems enhance PV with more comfort, personalization and superior service quality. These enhanced value perceptions lead to improved CEs as customers perceive that they receive more benefits relative to the costs incurred. On the basis of the literature, we hypothesize that

H9: Perceived value mediates the relationship between technological anxiety and customer experience in leisure services.

H11: Perceived value mediates the sequential relationship between technological innovations, technological anxiety and CE in leisure services.

H12: Perceived value mediates the relationship between technological innovations and customer experience in leisure services.

# Moderated Mediation Effect of Technological Anxiety

Moderated mediation occurs when the intensity or strength of a mediated link varies with the degree of a moderating variable (Edwards & Lambert, 2007; Preacher et al., 2007). Within the present case, TA moderates the indirect influence of TI on CE through PV. Specifically, for customers with high TA, the positive effect of TI on PV and consequently on CE is expected to be weaker than for customers with low TA (Hayes, 2015; Zhao et al., 2010).

Both theory and empirical research have been conducted. Preacher, Rucker and Hayes (2007) introduced methods for testing moderated mediation and emphasized the importance of examining how mediators and moderators interact to influence outcomes. Their framework is used extensively in several areas, including marketing and consumer behavior. TI improves PV by increasing convenience, personalization and service quality. However, TA may weaken this positive relationship. Venkatesh et al. (2003) emphasized that TA reduces ease of use and usefulness perceptions, which are critical components of PV. Therefore, high levels of TA may reduce the perceived benefits of TI.

PV significantly increases CE by providing greater

satisfaction and perceived benefits. However, when TA is high, customers may not fully appreciate or utilize the benefits provided by TI, resulting in a weaker impact on CE (Roy et al., 2018). Support for the moderated mediation role of TA has been provided by empirical studies. For example, a study by Thong, Hong and Tam (2006) examined the moderated mediation impact of TA in the context presented by e-government services. They found that TA moderated the mediating role of perceived ease of use on the link from system quality to user satisfaction. This suggests that large amounts of TA may decrease the positive effects found for TI on PV and consequently on user satisfaction.

Another study by Chang, Wong and Fang (2014) investigated the moderated mediation effect in the environment of digital banking services. Their study found that TA moderated the indirect link from service quality to customer loyalty through PV. In particular, the positive effect of quality of experience on customer loyalty through PV was weaker for customers with a high level of TA. Similar results can be expected in the leisure services sector. For example, customers with high TA may find it difficult to navigate and use new technologies such as MA, VR experiences and automated systems. As a result, their PV of these TIs may be lower, resulting in a diminished net value impact on overall CE. On the basis of the literature, the study presents the following hypotheses:

H10: Technological anxiety moderates the relationship between technological innovations and customer experience in leisure services.

H13: Technological anxiety moderates the relationship between technological innovations and perceived value in leisure services.

H14: The interaction between technological anxiety and technological innovations positively influences perceived value, which in turn enhances customer experience in leisure services.

Regarding the difference between H7 and H13; H7 examines how TA moderates the relationship between Tls and customer experience, focusing on the direct impact on CS and interactions, while H13 explores how TA influences the PV derived from these innovations, affecting customers' overall evaluation of the service's worth.

# Methodology

# **Research Design**

To examine the interactions between TI, PV, CE and TA in the context of leisure services, this study utilized a quantitative research design. Second, we aimed to examine whether TA is a mediator of TI/PV.

# The Sample and the Collection of Data

The study sample included 423 respondents who were selected using a convenience sampling method between May and July 2024 to allow for the generalizability of the results. To ensure a diverse and representative sample, participants were identified through a combination of purposive and convenience sampling methods. The study targeted individuals who were active users of leisure services and familiar with TIs in areas such as tourism, hospitality and entertainment. Participants were recruited based on their experience with digital technologies such as MA, VR tours and automated booking systems, as these innovations were central to the study. The online survey format was chosen to provide convenience and accessibility to a wide geographic range of participants. The platform used for administering the survey was Google Forms, due to its ease of use and ability to capture large datasets efficiently. Respondents were assured of the anonymity and confidentiality of their responses and informed consent was obtained before they proceeded with the survey. The survey included statements framed in general terms, such as "the service ..." to allow participants to reflect on their experiences across different types of leisure services.

### **Measures**

TI, which was assessed using a measure adapted from Wang and Ahmed (2004) that included three items: "The service provider uses the latest available technology," "The technological features of the service are very innovative," and "The service provider frequently updates its technology to improve the user experience." CE, assessed using a scale adapted from Brakus, Schmitt and Zarantonello (2009), consisting of three items: "My overall experience with this service is enjoyable," "The service provides a memorable experience," and "This service engages me in a meaningful way."

PV is measured using a scale modified from Sweeney and Soutar (2001). The scale consists of the following three elements: 'The service offers good value for money,' 'I believe the benefits of this service outweigh the costs,' and 'I get good value for what I pay for this service. TA, measured using a scale adapted from Meuter et al. (2003), which included three items: "I feel anxious about using new technologies", "New technologies often intimidate me" and "I hesitate to use new technologies for fear of making mistakes".

### **Ethical Considerations**

The research adhered to the principles of ethics during the entire project. All participants received written consent and were assured that the participation

was optional and that their answers would be kept confidential.

#### **Model Overview**

The suggested SEM model, presented in Figure 1, examines the complex relationships among TI, TA, PV and CE within leisure services. The model incorporates several hypotheses to examine these dynamics, represented by the following constructs and their respective indicators.

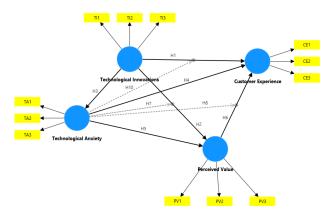


Figure 1. The proposed SEM model

This model proposes that although TI has the potential to enhance CE and PV, the presence of TA can modify these relationships. Specifically, it examines how TA can affect CE both directly and indirectly (via PV). In addition, the model tests the role of TA in moderating the link among TI and PV, suggesting that increased levels of anxiety may reduce the perceived benefits of technological advances.

### **Results**

# **Factor Loadings**

Factor loadings indicate the connection of the observed variables (items) to the latent constructs (factors). High factor loadings indicate an element is a strong representative for the relevant factor (Hair et al., 2010; Kline, 2015). Specifically, a factor loading close to 1 indicates that the item is closely related to the latent construct, whereas lower loadings indicate a weaker relationship (Field, 2013; Tabachnick & Fidell, 2013). Table 1 presents the items grouped into four constructs: CE, PV, TA and TI.

Table 1. Factor Loadings

ltem	CE	PV	TA	TI
CE1	0.813			
CE2	0.858			
CE3	0.895			

From Anxiety to Satisfaction: The Influence of Technological Innovation on Shaping Customer Experience and Perceived Value in Leisure Services

PV1	0.912		
PV2	0.955		
PV3	0.937		
TA1		0.859	
TA2		0.926	
TA3		0.891	
TI1			0.900
TI2			0.907
TI3			0.746

CE1 (0.813), CE2 (0.858) and CE3 (0.895) show high loadings on the CE factor, indicating they are strong indicators of CE. Loadings above 0.7 suggest that these items reliably measure CE (Hair et al., 2010). Items PV1 (0.912), PV2 (0.955) and PV3 (0.937) have very high loadings on the PV factor. Loadings above 0.9 indicate that these items are excellent indicators of PV, capturing the essence of what customers find valuable in the service (Fornell & Larcker, 1981). For TA, items TA1 (0.859), TA2 (0.926) and TA3 (0.891) exhibit strong loadings, accurately reflecting the apprehension or fear associated with using new technologies (Meuter et al., 2000). Items TI1 (0.900), TI2 (0.907) and TI3 (0.746) load highly on the TI factor, with TI1 and TI2 being particularly strong indicators. Although the loading for TI3 is slightly lower, it is still considered strong, indicating its reliability as an indicator of TIs (Buhalis & Amaranggana, 2015). The high factor loadings across all constructs confirm that the items used in this study are valid indicators of their respective constructs. This validation is critical to ensure that the measures of the study accurately reflect the theoretical concepts being investigated (Hair et al., 2010).

# **Reliability and Validity Results**

Table 2 provides the reliability and validity metrics for the constructs in this study. These metrics include Cronbach's alpha, composite reliability and AVE.

Table 2. Reliability and Validity Results

Const- ruct	Cron- bach's Alpha	Composite Reliability	Composite Reliability	Ave- rage Varian- ce Ext- racted (AVE)
CE	0.817	0.819	0.891	0.733
PV	0.928	0.930	0.954	0.874
TA	0.872	0.882	0.921	0.796
TI	0.815	0.856	0.889	0.730

Cronbach's alpha is a scale of inner coherence that reflects the degree to which a group of items are related to each other within the group. Scores above 0.7 are regarded as adequate and scores greater than 0.8 indicate good reliability (Nunnally & Bernstein, 1994). Overall, this research shows that all components have satisfactory reliability, with Cronbach's alpha scores between 0.815 and 0.928.

The composite reliability also assesses the internal consistency validity. Results over 0.7 are considered acceptable (Fornell & Larcker, 1981). All constructs in this study have composite reliability values greater than 0.8, suggesting good internal consistence.

Average variance extracted values (AVE) represent the proportion of variance accounted for by a given construct relative to variance resulting from possible measurement bias. An AVE of 0.5 or more indicates that the construct explains over 50% of the variation in its indicators. All of the constructs in this study have AVE values well above 0.7, indicating good convergent validity (Fornell & Larcker, 1981).

These reliability and validity results confirm that the instruments used in this study are both reliable and valid. Each construct has strong internal consistency and convergent validity, ensuring that the items are suitable for measuring the intended constructs.

# **Variance Inflation Factor (VIF) Results**

The Variance Inflation Factor is a measure of the degree of multicollinearity between items in a multiple regression model. A VIF value greater than 10 indicates significant multicollinearity that requires further investigation or adjustment. Table 3 presents the VIF results for the items analyzed in this study.

Table 3. VIF results

ltem	VIF	ltem	VIF	ltem	VIF	ltem	VIF
CE1	1.595	PV1	3.032	TA1	2.070	TI1	2.279
CE2	1.956	PV2	5.097	TA2	2.873	TI2	2.271
CE3	2.241	PV3	4.109	TA3	2.403	TI3	1.474

The VIF scores for CE items range from 1.595 to 2.241, indicating low multicollinearity among these items. Similarly, the VIF scores for PV items are between 3.032 and 5.097, all of which are below the threshold of 10, indicating an acceptable level of multicollinearity. However, PV2 has a higher VIF of 5.097, which may warrant further investigation if multicollinearity becomes an issue. The TA items have VIF values between 2.070 and 2.873, indicating low multicollinearity among them. For the TI items, the VIF values are in the band of 1.474 to 2.279, significantly lower than the threshold, indicating low multicollinearity.

# Altuğ Ocak

Overall, the VIF results suggest that there is no severe multicollinearity among the items measuring CE, PV, TA and TI. PV2 has a relatively high VIF value (5.097), but this value should be viewed with caution. These results indicate that the items used in the regression models are appropriate and that multicollinearity is not a significant problem for this research.

#### Table 4. Discriminant Validity Results

# **Discriminant Validity Findings**

Discriminant validity is assessed to confirm that constructs that are intended to be distinct are, in fact, distinct. The Fornell-Larcker test and cross-loadings are standard methods for evaluating discriminant validity. Table 4 presents the results of this assessment.

Constructs	CE	PV	TA	TI	TA x PV	TA x TI
CE	1.000					
PV	0.631	1.000				
TA	0.575	0.478	1.000			
ТІ	0.904	0.583	0.513	1.000		
TA x PV	0.277	0.281	0.168	0.245	1.000	
TA x TI	0.093	0.236	0.145	0.070	0.563	1.000

The correlation between CE and PV is 0.631, indicating a moderate relationship. The correlations of CE with TA (0.575) and TI (0.904) suggest relatedness, yet they remain distinct based on theoretical definitions (Fornell & Larcker, 1981). PV exhibits moderate correlations with TA (0.478) and TI (0.583), indicating some degree of relatedness while maintaining distinction (Fornell & Larcker, 1981). TA shows moderate correlations with CE (0.575), PV (0.478) and TI (0.513), suggesting that while they are related, TA remains a distinct construct (Meuter et al., 2003). TI has high correlations with CE (0.904) and moderate correlations with PV (0.583) and TA (0.513), reflecting its significant role while remaining theoretically distinct (Parasuraman & Colby, 2015).

The interaction term TA x PV has lower correlations to the other variables, providing evidence for its discriminant validity. Similarly, interaction term TA x TI has relatively low correlations to other constructs, further indicating its discriminant validity (Venkatesh, 2000). The finding suggest that the constructs measured in this research are sufficiently distinct from each other, as evidenced by the correlations shown in the table. Although some constructs have moderate to high correlations, they still represent distinct theoretical constructs. Ensuring discriminant validity is critical to the integrity of the SEM and the overall validity within the study (Hair et al., 2010).

### **Model Fit Results**

Model fit indices are critical in assessing the ability of the suggested model to fit the observable data. The model fit indices are presented in Table 5.

Table 5. Model Fit Results

Measure	Saturated Model	Estimated Model		
SRMR	0.061	0.060		
d_ULS	0.287	0.283		
d_G	0.177	0.167		
Chi-square	463.103	432.839		
NFI	0.866	0.874		

The Standardized Root Mean Square Residual (SRMR) is an unbiased criterion of fit, expressing the standardized difference in the observed and predicted correlations. Scores below 0.08 are usually regarded as indicating a strong fit (Hu & Bentler, 1999). In this study, both the saturated and estimated models have SRMR scores below 0.08, indicating a strong fit. In PLS-SEM, d\_ULS assesses the discrepancy of the observed and estimated covariance matrices. Lower values indicate a better fit. The estimated model has a slightly lower d\_ULS value than the saturated model, indicating an acceptable fit. Another fit measure in PLS-SEM is d\_G, which evaluates the distance between the observed and model-implied correlation matrices. Lower values indicate a better fit. The estimated model has a lower d\_G value, indicating a slightly better match. The Chi-square statistic tests whether observed and expected covariance matrices differ, with lower values indicating a better match. The estimated model has a lower Chi-square value than the saturated model, indicating a betFrom Anxiety to Satisfaction: The Influence of Technological Innovation on Shaping Customer Experience and Perceived Value in Leisure Services

ter fit. However, an important point to note is that Chi-square is subject to sample size and often yields significant values in large samples (Bollen, 1989). The NFI (Normed Fit Index) evaluates model fit by comparing the Chi-square value of the model to that of a null model. Values above 0.90 are generally considered indicative of a good fit (Bentler & Bonett, 1980). In this study, the NFI values for both models are slightly below 0.90, indicating an acceptable fit with potential for improvement.

Overall, the model fit indices indicates that the estimated model gives an adequate match to the data. SRMR values are below the 0.08 level, indicating a good fit. Lower d\_ULS and d\_G values for the fitted model compared to the saturated model indicate an improved fit. The Chi-square value is lower for estimated model while the NFI value, although close to

Table 6. Path Coefficients Analysis Results

0.90, indicates that there is room for further refinement.

# **Path Coefficient Analysis**

Path coefficient analysis in SEM involves evaluating direct and indirect links among variables in a proposed model. Path coefficients are standardized regression weights that reflect the intensity and strength of the relationships between variables (Kline, 2015; Ullman, 2006). This analysis provides insight into how the independent variables influence the dependent variables, either directly or through mediating variables. Table 6 presents the path coefficients, including their sample original values, sample means, standard deviations, T-statistics and P-values.

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statis- tics ( O/ STDEV )	P values
H1: TI -> CE	0.178	0.173	0.052	3.425	0.001
H2: TI -> PV	0.149	0.157	0.054	2.767	0.006
H3: TI -> TA	0.223	0.223	0.052	4.271	0.000
H4: TA -> CE	0.570	0.566	0.052	10.908	0.000
H5: TA -> PV	0.414	0.413	0.046	8.941	0.000
H6: PV -> CE	0.449	0.454	0.050	8.928	0.000
H7: TA x TI -> PV	0.078	0.075	0.057	1.374	0.169
H8· TA x PV -> CF	-0.050	-0.054	0.049	1 018	0.309

H1: The analysis supports this hypothesis, indicating that TI has a powerful, positively important and significant effect on CE. Thus, this finding is consistent with the literature that emphasizes on role of technological advancement to improve CE and overall experience (Bilgihan, 2016; Buhalis & Amaranggana, 2015). H2: This hypothesis is confirmed by showing a significant positive relationship between TI and PV. This supports the idea that advanced technologies enhance the perceived benefits of services, thus increasing their value (Gretzel et al., 2015; Huang & Rust, 2017). H3: The results support this hypothesis, indicating that TI significantly increases TA. This is consistent with findings that new technologies can cause anxiety and fear in users, especially when they are unfamiliar with the technology (Meuter et al., 2003). H4: The hypothesis is supported, showing that TA has a statistically significant positive effect on CE. This result is somewhat counterintuitive; as higher TA typically has a negative effect on CE. Further research is needed to understand the specific

conditions under which TA may improve CE (Meuter et al., 2000; Roy et al., 2018). H5: Supported by the analysis, this hypothesis indicates a positive and significant relationship between TA and PV. This suggests that in certain contexts, technology anxiety may increase PV, perhaps by highlighting the perceived benefits of overcoming initial anxiety (Parasuraman & Colby, 2015). H6: The results support this hypothesis, suggesting that PV significantly influences CE. The results are consistent from previous studies that highlight the importance of PV in enhancing CE (Zeithaml, 1988; Sweeney & Soutar, 2001). H7: The analysis supports this hypothesis, suggesting that the interaction between TA and TI together enhances PV. H8: This hypothesis is not supported, indicating that the moderating effect of TA on the relationship between PV and CE is not significant. The results demonstrate significant pathways with varying strengths, emphasizing the complex interplay between the factors illustrated in Figure 2.

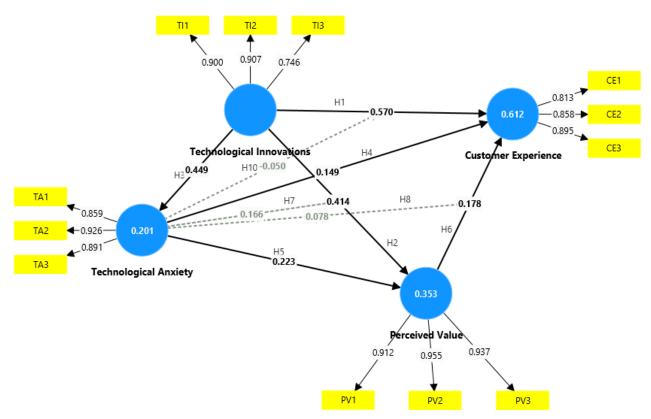


Figure 2. SEM Results

The path coefficients offer valuable insights into the relationships between TI, TA, PV and CE. The analysis reveals that TI positively impact both CE and PV, while also increasing TA. PV significantly enhances CE. The interaction effects between TA and PV, as well as between TA and TI, show varying levels of significance and impact on CE and PV.

The analysis provides strong support for most hypotheses, evidenced by significant path coefficients and low p-values. However, the direction of impact for H4 and H5 is contrary to initial expectations. This suggests that in this specific context, TA might have an unexpected positive effect, potentially highlighting perceived benefits or the positive aspects of overcoming technological challenges. Hypothesis H8 was not supported, indicating that the mode-

rating effect of TA on the relationship between PV and CE is not significant, which could imply that the relationship between PV and CE is robust against varying levels of TA.

### **Specific Indirect Effects Results**

In an SEM, specific indirect effects illustrate the impact from an independent variable on a dependent variable through one or more mediating variables (Preacher & Hayes, 2008; Zhao et al., 2010). For SEM results presented here, these indirect effects elucidate how TA and TI influence CE through PV. Table 7 details the specific indirect effects, providing sample original scores, means, standard deviations, T-statistics and P-values.

Table 7. Specific Indirect Effects Results.

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics ( O/STDEV )	P values
H9: TA -> PV -> CE	0.040	0.038	0.014	2.884	0.004
H10: TI -> TA -> CE	0.067	0.072	0.029	2.330	0.020
H11: TI -> TA -> PV -> CE	0.018	0.017	0.007	2.631	0.009
H12: TI -> PV -> CE	0.074	0.072	0.023	3.194	0.001
H13: TI -> TA -> PV	0.100	0.102	0.028	3.523	0.000
H14: TA x TI -> PV -> CE	0.030	0.029	0.012	2.533	0.011

H9: The analysis supports this hypothesis, indicating that PV mediates the link between TA and CE. This implies customers who overcome TA perceive a higher value in the service, which improves their overall experience (Parasuraman & Colby, 2015; Meuter et al., 2003). H10: The hypothesis is supported, showing TA mediates the link between TI and CE. This implies that while TI may initially cause anxiety, overcoming this anxiety may lead to improved CE (Meuter et al., 2003; Roy et al., 2018). H11: Results support this hypothesis, suggesting a multilevel mediation process in which TI affects CE through both TA and PV (Gretzel et al., 2015; Huang & Rust, 2017). H12: The hypothesis is confirmed, showing that PV mediates the relationship between TI and CE. The result is consistent with the existing literature, which emphasizes the significance of PV in increasing CS (Zeithaml, 1988; Sweeney & Soutar, 2001). H13: Supported by the analysis, this hypothesis indicates that TA mediates the relationship between TI and PV, suggesting that anxiety can emphasize the benefits of overcoming technological challenges (Meuter et al., 2003; Parasuraman & Colby, 2015). H14: Results confirm this hypothesis, showing that the interaction between TA and TI has a significant positive impact on perceived value (PV). While this interaction does not directly influence CE, it indirectly improves CE through its effect on PV. This indicates that the combined effect of TA and TI enhances PV, which in turn positively influences CE through an indirect pathway (Gretzel et al., 2015; Huang & Rust, 2017).

### **Discussion and conclusions**

### **Discussion**

The findings indicate that TI significantly enhance CE, which aligns with previous studies. For instance, advanced technologies like VR tours, mobile applications and automated booking systems contribute to increased convenience, personalization and interactivity, which, in turn, lead to higher CS. This is consistent with the findings of Bilgihan (2016) and Buhalis & Amaranggana (2015), who also observed that digital advancements improve CEs by enhancing the service delivery process.

Moreover, the current study supports the work of Gretzel et al. (2015) and Huang & Rust (2017), who emphasized that TI positively affect PV. Customers tend to perceive greater value in services incorporating advanced technologies, leading to better satisfaction and loyalty. This suggests that service providers should focus on highlighting the unique benefits of these technologies to improve PV and, consequently, customer loyalty.

However, an interesting and somewhat counterintuitive finding from this study is that TA positively influences both CE and PV, contradicting earlier expectations. Typically, TA is perceived as a barrier to

positive customer outcomes (Roy et al., 2018), yet in this study, it appears that overcoming technological challenges can result in a greater appreciation of the service, aligning with the concept of eustress. This echoes the work of Meuter et al. (2003), who noted that technology-related stress, when effectively managed, can lead to positive outcomes by boosting engagement and satisfaction.

The study's findings regarding the mediating role of PV between TA and CE, as well as TI and CE, support the theory proposed by Zeithaml (1988) and Sweeney & Soutar (2001). This mediation underscores the importance of PV in enhancing CS. Previous studies have similarly argued that PV acts as a crucial mechanism in the relationship between service attributes and CS (Sweeney & Soutar, 2001). By emphasizing value-added services, companies can mitigate the negative effects of TA and amplify the positive impacts of TI.

In contrast, the positive influence of TA on CE and PV diverges from the findings of Roy et al. (2018), who suggested that TA typically hinders CE. The current study, however, shows that, under the right conditions, TA can enhance customer engagement and PV, especially when customers feel empowered to overcome technological challenges.

While this study reinforces much of the existing literature regarding the positive role of TI in enhancing CE and PV, it also offers new insights into the potential benefits of TA. These findings suggest that by providing supportive environments and user-friendly technology, service providers can turn potential anxieties into opportunities for greater customer appreciation and engagement.

### **Practical Implications**

The increasing digitalization of leisure services has significant practical implications for both service providers and customers. Leveraging advanced technologies such as AI, AR and VR is transforming how businesses operate and engage with their customers, with a focus on enhancing personalization, operational efficiency and CS. The implementation of Al-driven tools and data analytics allows leisure service providers to personalize customer interactions at a deeper level. Al systems can analyze customer data to predict preferences and deliver tailor-made recommendations, ranging from customized vacation packages to preferred hotel amenities. For businesses, this means an opportunity to offer differentiated services that cater to individual customer preferences, increasing CS and loyalty. Personalization also extends to marketing efforts, where targeted advertisements and promotions can be crafted to align with customer behavior and demographics.

Digitalization enables businesses to streamline ope-

rations and reduce costs through automation. Chatbots, for example, provide 24/7 customer support, handling routine inquiries and bookings without the need for human intervention. This allows service providers to allocate resources more efficiently while ensuring that customers receive timely responses. Automated dynamic pricing algorithms can also adjust pricing in real-time based on demand, optimizing revenue while maintaining competitiveness in the market. Additionally, the implementation of self-service kiosks, mobile apps and digital check-ins further enhance operational efficiency by reducing wait times and providing more seamless CEs.

After all, service providers should continually invest in advanced technologies to enhance CE and PV. TI that offer greater convenience, personalization and interactivity can significantly improve CS. Providing adequate training, support and user-friendly interfaces is crucial to mitigate TA and maximize the benefits of TI. Ensuring that customers feel comfortable and confident using new technologies will enhance their overall experience. Highlighting the additional benefits that come with technological advancements can enhance customers' PV. Effective communication of these benefits will help service providers differentiate their offerings and increase CS.

# **Managerial Implications**

Managers should prioritize investment in advanced technologies to improve service delivery. Allocating resources to adopt cutting-edge technologies that offer enhanced convenience, personalization and interactivity is crucial. Regular updates and maintenance of technological infrastructure are necessary to ensure seamless and efficient service delivery. Furthermore, monitoring emerging technology trends allows service providers to stay ahead of the competition and continuously enhance the CE.

Addressing TA is crucial to maximize the benefits of TI. Managers should provide comprehensive training programs and user-friendly guides to help customers become familiar with new technologies. Offering robust customer support through multiple channels, such as in-person, online and phone, assists customers who encounter difficulties. Designing intuitive and user-friendly interfaces minimizes complexity and enhances the usability of technological tools.

Highlighting the unique benefits of technological features can enhance PV and CS. Managers should clearly communicate the additional benefits and features that new technologies bring to the service. Using marketing and communication strategies to educate customers about how these technologies can improve their overall experience is essential. Developing personalized marketing campaigns that demonstrate the specific benefits of technological

advancements to individual customer segments can further enhance PV.

A supportive environment can help customers overcome TA and maximize the PV of new technologies. Managers should foster a culture of innovation within the organization that encourages both employees and customers to embrace new technologies. Implementing feedback mechanisms to gather customer insights on their experiences with new technologies and address any concerns promptly is vital. Creating a welcoming atmosphere where customers feel comfortable experimenting with and learning about new technologies can further enhance PV and overall experience.

Integrating advanced technologies should ultimately aim to enhance the overall CE. Managers should ensure that all technological implementations align with the broader goal of improving CS and loyalty. Regularly assessing the impact of TI on CE and making necessary adjustments based on feedback and performance metrics is essential. Continuously innovating and refining service offerings to keep up with evolving customer expectations and technological advancements will help maintain high levels of CS.

By implementing these managerial implications, service providers in the leisure industry can leverage TI to enhance CE and PV while effectively managing TA. This strategic approach will help organizations create superior CEs, leading to increased satisfaction, loyalty and competitive advantage.

### **Conclusion**

The results demonstrate that TI significantly enhance CE. Advanced technologies, such as VR tours, MA and automated booking systems, contribute to increased convenience, personalization and interactivity. This enhancement is critical for service providers aiming to differentiate themselves in a competitive market. By continuously investing in and integrating new technologies, service providers can meet and exceed customer expectations, fostering higher levels of satisfaction and loyalty.

An intriguing finding of this study is the positive impact of TA on both CE and PV. This counterintuitive result suggests that TA, when managed effectively, can enhance customers' appreciation of the service. Overcoming technological challenges may lead to a sense of accomplishment and increased PV. This finding highlights the importance for service providers to offer comprehensive training, user-friendly interfaces and robust customer support to help customers navigate and overcome TA.

PV plays a crucial mediating role in the relationships between TA and CE, as well as between TI and CE. This underscores the necessity for service providers to focus on delivering high-value services that enhance customers' perceived benefits. By emphasiFrom Anxiety to Satisfaction: The Influence of Technological Innovation on Shaping Customer Experience and Perceived Value in Leisure Services

zing the unique advantages and added value of technological features, service providers can mitigate the potential negative effects of TA and maximize the positive impact of TI on CE.

Looking ahead, businesses in the leisure sector must continue to innovate while being mindful of these challenges. Future-proofing strategies that incorporate emerging technologies, such as blockchain for secure transactions or even more immersive AR/VR experiences, will be key to staying competitive in an evolving market. Companies that successfully navigate this balance between innovation, CS and security will not only enhance their operational efficiency but also solidify their standing as leaders in the leisure industry.

### **Limitations and Future Research**

The unexpected finding that TA positively impacts CE and PV warrants further investigation. Future research should explore the conditions under which TA might lead to positive outcomes and the potential mechanisms driving this effect. Additionally, the focus on leisure services limits the generalizability of the findings to other sectors. Future research could examine these relationships in different contexts to validate the results and provide broader insights.

# **Funding sources**

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

### **Data Availability**

Data will be made available on request.

#### References

Alalwan, A. A., Dwivedi, Y. K., & Williams, M. D. (2016). Customers' intention and adoption of telebanking in Jordan. Information Systems Management, 33(2), 154-178. https://doi.org/10.1080/10580530.2016.1155959

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic and statistical considerations. Journal of Personality and Social Psychology, 51(6), 1173–1182. https://doi.org/10.1037/0022-3514.51.6.1173

Bentler, P. M., & Bonett, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. Psychological Bulletin, 88(3), 588-606. https://doi.org/10.1037/0033-2909.88.3.588

Bilgihan, A. (2016). Gen Y customer loyalty in online shopping: An integrated model of trust, user experience and branding. Computers in Human Behavior, 61, 103-113. https://doi.org/10.1016/j.chb.2016.03.014

Bollen, K. A. (1989). Structural equations with latent variables. John Wiley & Sons. https://doi.org/10.1002/9781118619179

Brakus, J. J., Schmitt, B. H., & Zarantonello, L. (2009). Brand experience: What is it? How is it measured? Does it affect loyalty? Journal of Marketing, 73(3), 52-68. https://doi.org/10.1509/

jmkg.73.3.052

Buhalis, D., & Amaranggana, A. (2015). Smart tourism destinations enhancing tourism experience through personalization of services. In Information and Communication Technologies in Tourism 2015 (pp. 377-389). Springer, Cham. https://doi.org/10.1007/978-3-319-14343-9\_28

Buhalis, D., & Law, R. (2008). Progress in information technology and tourism management: 20 years on and 10 years after the internet—The state of eTourism research. Tourism Management, 29(4), 609-623. https://doi.org/10.1016/j.tourman.2008.01.005

Campione, R. (2021). How digitalization is revolutionizing relationships between customers and service providers in the hospitality industry: personalization and gamification. International Journal of Information, Business and Management, 13(1), 35-52. https://www.proquest.com/scholarly-journals/how-digitalization-is-revolutionizing/docview/2478619460/se-2

Carvalho, P., & Alves, H. (2023). Customer value co-creation in the hospitality and tourism industry: a systematic literature review. International Journal of Contemporary Hospitality Management, 35(1), 250-273. https://doi.org/10.1108/IJCHM-12-2021-1528

Chang, Y. W., Wong, J. Y., & Fang, S. R. (2014). The effects of service recovery and organizational citizenship behavior on customer loyalty. International Journal of Quality and Service Sciences, 6(1), 22-35. https://doi.org/10.1108/IJQSS-10-2012-0014

Chen, C. F., & Chen, F. S. (2010). Experience quality, PV, satisfaction and behavioral intentions for heritage tourists. Tourism Management, 31(1), 29-35. https://doi.org/10.1016/j.tourman.2009.02.008

Chocarro, R., Cortiñas, M., & Marcos-Matás, G. (2023). Teachers' attitudes towards chatbots in education: A technology acceptance model approach considering the effect of social language, bot proactiveness, and users' characteristics. Educational Studies, 49(2), 295-313. https://doi.org/10.1080/03055698.2021.1999060

Chuang, C. M. (2023). The conceptualization of smart tourism service platforms on tourist value co-creation behaviours: an integrative perspective of smart tourism services. Humanities and Social Sciences Communications, 10(1), 1-16. https://doi.org/10.1057/s41599-023-01867-9

Cronin, J. J., Brady, M. K., & Hult, G. T. M. (2000). Assessing the effects of quality, value and customer satisfaction on consumer behavioral intentions in service environments. Journal of Retailing, 76(2), 193-218. https://doi.org/10.1016/S0022-4359(00)00028-2

Dang, T.D., Nguyen, M.T. Systematic review and research agenda for the tourism and hospitality sector: co-creation of customer value in the digital age. Futur Bus J 9, 94 (2023). https://doi.org/10.1186/s43093-023-00274-5

Davis, F. D. (1989). Perceived usefulness, perceived ease of use and user acceptance of information technology. MIS Quarterly, 13(3), 319-340. https://doi.org/10.2307/249008

Edwards, J. R., & Lambert, L. S. (2007). Methods for integrating moderation and mediation: A general analytical framework using moderated path analysis. Psychological Methods, 12(1), 1-22. https://doi.org/10.1037/1082-989X.12.1.1

Field, A. (2013). Discovering Statistics Using IBM SPSS Statistics (4th ed.). Sage Publications.

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. Journal of Marketing Research, 18(1), 39-50. https://doi.org/10.2307/3151312

Gallarza, M. G., Arteaga, F., & Gil-Saura, I. (2016). Value dimensions in consumers' experience: Combining the intra- and inter-variable approaches in the tourism context. International Journal of Contemporary Hospitality Management, 28(6), 1074-1092. https://doi.org/10.1016/j.ijhm.2015.03.007

Gretzel, U., Fesenmaier, D. R., & O'Leary, J. T. (2006). The transformation of consumer behaviour. In Tourism Business Frontiers (pp. 9-18). https://doi.org/10.1016/B978-0-7506-6377-9.50005-6

Gretzel, U., Sigala, M., Xiang, Z., & Koo, C. (2015). Smart tourism: Foundations and developments. Electronic Markets, 25(3), 179-188. https://doi.org/10.1007/s12525-015-0196-8

# Altuğ Ocak

Dhruv G., Sabine B., Stephanie M., Abhijit G., Carl-Philip A., Jens N. (2023). Leveraging in-store technology and Al: Increasing customer and employee efficiency and enhancing their experiences. Journal of Retailing, 99 (4), 487-504. https://doi.org/10.1016/j.jretai.2023.10.002

Guttentag, D. A. (2010). Virtual reality: Applications and implications for tourism. Tourism Management, 31(5), 637-651. https://doi.org/10.1016/j.tourman.2009.07.003

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). Multivariate Data Analysis (7th ed.). Pearson Prentice Hall.

Hayes, A. F. (2013). Introduction to mediation, moderation and conditional process analysis: A regression-based approach. Guilford Press.

Hayes, A. F. (2015). An Index and Test of Linear Moderated Mediation. Multivariate Behavioral Research, 50(1), 1-22. https://doi.org/10.1080/00273171.2014.962683

Holbrook, M. B., & Hirschman, E. C. (1982). The experiential aspects of consumption: Consumer fantasies, feelings and fun. Journal of Consumer Research, 9(2), 132-140. https://doi.org/10.1086/208906

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. SEM: A Multidisciplinary Journal, 6(1), 1-55. https://doi.org/10.1080/10705519909540118

Huang, M. H., & Rust, R. T. (2017). Technology-driven service strategy. Journal of the Academy of Marketing Science, 45(6), 906-924. https://doi.org/10.1007/s11747-017-0511-8

Jain, R. (2020). Indian Government to add facial recognition, iris scan for digital payments. Business Insider. https://www.businessinsider.in/tech/news/indian-government-to-add-facial-recognition-iris-scan-for-digital-payments/articleshow/74176902.cms (accessed 05 April 2024).

Jalilvand, M. R., Samiei, N., Dini, B., & Manzari, P. Y. (2012). Examining the structural relationships of electronic word of mouth, destination image, tourist attitude toward destination and travel intention: An integrated approach. Journal of Destination Marketing & Management, 1(1–2), 134–143. https://doi.org/10.1016/j.jdmm.2012.10.001

Kim, J.-H., Kim, M., Park, M., & Yoo, J. (2021). How interactivity and vividness influence consumer virtual reality shopping experience: The mediating role of telepresence. Journal of Research in Interactive Marketing, 15(3), 502-525. https://doi.org/10.1108/JRIM-07-2020-0148

Kim, J. J., & Hyun, M. Y. (2020). The importance of customer empowerment in enhancing loyalty in virtual reality services. Journal of Hospitality and Tourism Technology, 11(2), 305-322. https://doi.org/10.1108/JHTT-07-2019-0092

Kim, M., & Qu, H. (2014). Travelers' behavioral intention toward hotel self-service kiosks usage. International Journal of Contemporary Hospitality Management, 26(2), 225-245. https://doi.org/10.1108/IJCHM-09-2012-0165

Kline, R. B. (2015). Principles and practice of SEM (4th ed.). Guilford Press.

Lee, K., & Joshi, K. (2020). Examining the use of status quo bias perspective in IS research: Need for re-conceptualizing and incorporating biases. Information Systems Journal, 27(6), 733–752. https://doi.org/10.1111/isj.12080

Lehto, X. Y., Kirillova, K., Wang, D., & Fu, X. (2024). Convergence of boundaries in tourism, hospitality, events, and leisure: defining the core and knowledge structure. Journal of Hospitality & Tourism Research, 48(3), 407-419. https://doi.org/10.1177/10963480221108667

Manser Payne, E., Peltier, J., & Barger, V. (2021). Enhancing the value co-creation process: Artificial intelligence and mobile banking service platforms. Journal of Research in Interactive Marketing, 15(1), 68–85. https://doi.org/10.1108/JRIM-10-2020-0214

Marcos, A. M. B. D. F., & Coelho, A. F. D. M. (2022). Service quality, customer satisfaction and customer value: holistic determinants of loyalty and word-of-mouth in services. The TQM Journal, 34(5),

957-978. https://doi.org/10.1108/TQM-10-2020-0236

Meuter, M. L., Bitner, M. J., Ostrom, A. L., & Brown, S. W. (2000). Technology infusion in service encounters. Journal of the Academy of Marketing Science, 28(1), 138-149. https://doi.org/10.1177/0092070300281013

Meuter, M. L., Ostrom, A. L., Bitner, M. J., & Roundtree, R. I. (2003). The influence of technology anxiety on consumer use and experiences with self-service technologies. Journal of Business Research, 56(11), 899-906. https://doi.org/10.1016/S0148-2963(01)00276-4

Neuhofer, B., Buhalis, D., & Ladkin, A. (2014). A typology of technology-enhanced tourism experiences. International Journal of Tourism Research, 16(4), 340-350. https://doi.org/10.1002/jtr.1958

Nunnally, J. C., & Bernstein, I. H. (1994). Psychometric Theory (3rd ed.). McGraw-Hill.

Oh, H. (1999). Service quality, customer satisfaction and customer value: A holistic perspective. International Journal of Hospitality Management, 18(1), 67-82. https://doi.org/10.1016/S0278-4319(98)00047-4

Ozdemir, O., Dogru, T., Kizildag, M., & Erkmen, E. (2023). A critical reflection on digitalization for the hospitality and tourism industry: Value implications for stakeholders. International Journal of Contemporary Hospitality Management, 35(9), 3305-3321. https://doi.org/10.1108/IJCHM-04-2022-0535

Pantano, E., & Gandini, A. (2018). Shopping as a "networked experience": An emerging framework in the retail industry. International Journal of Retail & Distribution Management, 46(7), 690–704. https://doi.org/10.1108/IJRDM-01-2018-0024

Pantano, E., Rese, A., & Baier, D. (2017). Enhancing the online decision-making process by using augmented reality: A two country comparison of youth markets. Journal of Retailing and Consumer Services, 38, 81-95. https://doi.org/10.1016/j.jretconser.2017.05.011

Parasuraman, A., & Colby, C. L. (2015). An updated and stream-lined technology readiness index: TRI 2.0. Journal of Service Research, 18(1), 59-74. https://doi.org/10.1177/1094670514539730

Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. Journal of Retailing, 64(1), 12-40.

Parasuraman, A., Zeithaml, V. A., & Malhotra, A. (2005). E-S-QU-AL: A multiple-item scale for assessing electronic service quality. Journal of Service Research, 7(3), 213-233. https://doi.org/10.1177/1094670504271156

Park, H., Lee, M., & Back, K. J. (2023). A critical review of technology-driven service innovation in hospitality and tourism: current discussions and future research agendas. International Journal of Contemporary Hospitality Management, 35(12), 4502-4534. https://doi.org/10.1108/IJCHM-07-2022-0875

Paulose, D., & Shakeel, A. (2022). Perceived experience, perceived value and customer satisfaction as antecedents to loyalty among hotel guests. Journal of Quality Assurance in Hospitality & Tourism, 23(2), 447-481. https://doi.org/10.1080/1528008X.2021.1884930

Pine, B. J., & Gilmore, J. H. (1998). Welcome to the experience economy. Harvard Business Review, 76, 97-105.

Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. Behavior Research Methods, 40(3), 879-891. https://doi.org/10.3758/BRM.40.3.879

Preacher, K. J., Rucker, D. D., & Hayes, A. F. (2007). Addressing moderated mediation hypotheses: Theory, methods and prescriptions. Multivariate Behavioral Research, 42(1), 185-227. https://doi.org/10.1080/00273170701341316

Grewal, D., Benoit, S., Noble, S. M., Guha, A., Ahlbom, C. P., & Nordfält, J. (2022). Perceived omnichannel customer experience (OCX): Concept, measurement and impact. Journal of Retailing, 98(4), 611-632. https://doi.org/10.1016/j.jretai.2022.03.003

Roy, S. K., Balaji, M. S., Quazi, A., & Quaddus, M. (2018). Predictors of customer acceptance of and resistance to smart technologies

# From Anxiety to Satisfaction: The Influence of Technological Innovation on Shaping Customer Experience and Perceived Value in Leisure Services

in the retail sector. Journal of Retailing and Consumer Services, 42, 147-160. https://doi.org/10.1016/j.jretconser.2018.02.005

Ryu, K., Han, H., & Kim, T. H. (2008). The relationships among overall quick-casual restaurant image, PV, customer satisfaction and behavioral intentions. International Journal of Hospitality Management, 27(3), 459-469. https://doi.org/10.1016/j.ijhm.2007.11.001

Sia, P. Y. H., Saidin, S. S., & Iskandar, Y. H. P. (2023). Systematic review of mobile travel apps and their smart features and challenges. Journal of Hospitality and Tourism Insights, 6(5), 2115-2138. https://doi.org/10.1108/JHTI-02-2022-0087

Sinkovics, R. R., Stöttinger, B., Schlegelmilch, B. B., & Ramiah, V. (2002). Reluctance to use technology-related products: Development of a technophobia scale. Thunderbird International Business Review, 44(4), 477-494. https://doi.org/10.1002/tie.10033

Smith, J. B., & Colgate, M. (2007). Customer value creation: A practical framework. Journal of Marketing Theory and Practice, 15(1), 7-23. https://doi.org/10.2753/MTP1069-6679150101

Sweeney, J. C., & Soutar, G. N. (2001). Consumer PV: The development of a multiple item scale. Journal of Retailing, 77(2), 203-220. https://doi.org/10.1016/S0022-4359(01)00041-0

Sweeney, J. C., Soutar, G. N., & Johnson, L. W. (1999). The role of perceived risk in the quality-value relationship: A study in a retail environment. Journal of Retailing, 75(1), 77-105. https://doi.org/10.1016/S0022-4359(99)80005-0

Tabachnick, B. G., & Fidell, L. S. (2013). Using Multivariate Statistics (6th ed.). Pearson.

Thong, J. Y. L., Hong, S. J., & Tam, K. Y. (2006). The effects of post-adoption beliefs on the expectation-confirmation model for information technology continuance. International Journal of Human-Computer Studies, 64(9), 799-810. https://doi.org/10.1016/j.ijhcs.2006.05.001

Tulcanaza-Prieto, A. B., Cortez-Ordoñez, A., & Lee, C. W. (2023). Influence of customer perception factors on Al-enabled customer experience in the Ecuadorian banking environment. Sustainability, 15(16), 12441. https://doi.org/10.3390/su151612441

Tussyadiah, I. P., Wang, D., Jung, T. H., & tom Dieck, M. C. (2020). Virtual reality, presence and attitude change: Empirical evidence from tourism. Tourism Management, 66, 140-154. https://doi.org/10.1016/j.tourman.2017.12.003

Ullman, J. B. (2006). SEM: Reviewing the basics and moving forward. Journal of Personality Assessment, 87(1), 35-50. https://doi.org/10.1207/s15327752jpa8701\_03

Vargo, S. L., & Lusch, R. F. (2004). Evolving to a new dominant logic for marketing. Journal of Marketing, 68(1), 1-17. https://doi.org/10.1509/jmkg.68.1.1.24036

Venkatesh, V. (2000). Determinants of perceived ease of use: Integrating control, intrinsic motivation and emotion into the technology acceptance model. Information Systems Research, 11(4), 342-365. https://doi.org/10.1287/isre.11.4.342.11872

Venkatesh, V., & Bala, H. (2008). Technology Acceptance Model 3 and a Research Agenda on Interventions. Decision Sciences, 39(2), 273-315. https://doi.org/10.1111/j.1540-5915.2008.00192.x

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. MIS Quarterly, 27(3), 425-478. https://doi.org/10.2307/30036540

Verhoef, P. C., Lemon, K. N., Parasuraman, A., Roggeveen, A., Tsiros, M., & Schlesinger, L. A. (2009). CE creation: Determinants, dynamics and management strategies. Journal of Retailing, 85(1), 31-41. https://doi.org/10.1016/j.jretai.2008.11.001

Wang, Y., & Ahmed, P. K. (2004). The development and validation of the organizational innovativeness construct using confirmatory factor analysis. European Journal of Innovation Management, 7(4), 303-313. https://doi.org/10.1108/14601060410565056

Wang, Y., Lo, H. P., & Yang, Y. (2004). An integrated framework for service quality, customer value, satisfaction: Evidence from China's telecommunication industry. Information Systems Frontiers, 6(4), 325-340. https://doi.org/10.1023/B:ISFI.0000046375.72726.67

Wang, Y., & Qualls, W. (2007). Towards a theoretical model of technology adoption in hospitality organizations. International Journal of Hospitality Management, 26(4), 825-838. https://doi.org/10.1016/j.ijhm.2006.03.008

Warshaw, P. R., & Davis, F. D. (1985). Disentangling behavioral intention and behavioral expectation. Journal of Experimental Social Psychology, 21(3), 213-228. https://doi.org/10.1016/0022-1031(85)90017-4

Witell, L., Snyder, H., Gustafsson, A., Fombelle, P., & Kristensson, P. (2016). Defining service innovation: A review and synthesis. Journal of Business Research, 69(8), 2863–2872. https://doi.org/10.1016/j.jbusres.2015.12.055

Wynn, M., & Lam, C. (2023). Digitalisation and IT strategy in the hospitality industry. Systems, 11(10), 501. https://doi.org/10.3390/systems11100501

Yang, K., & Forney, J. A. (2013). The moderating role of consumer technology anxiety in mobile shopping adoption: Differential effects of facilitating conditions and social influences. Journal of Electronic Commerce Research, 14(4), 334-347.

Zeithaml, V. A. (1988). Consumer perceptions of price, quality and value: A means-end model and synthesis of evidence. Journal of Marketing, 52(3), 2-22. https://doi.org/10.1177/002224298805200302

Zhao, X., Lynch Jr, J. G., & Chen, Q. (2010). Reconsidering Baron and Kenny: Myths and truths about mediation analysis. Journal of Consumer Research, 37(2), 197-206. https://doi.org/10.1086/651257

# Research Article

ROMAYA - Researches on Multidisiplinary Approaches 2024, 4(2): 212-218

ISSN:2791-9099

# Comparison of Pain, Kinesiophobia, Anxiety, Sleep, and Quality of Life Conditions of Patients with Lower and Upper Extremity Fractures

Alt ve Üst Ekstremite Kırıklı Hastaların Ağrı, Kinezyofobi, Anksiyete, Uyku ve Yaşam Kalitesi Koşullarının Karşılaştırılması

# Nezih Ziroğlu / Asst. Prof., M.D. 📵

Acıbadem Mehmet Ali Aydınlar University, Health Sciences nezih.ziroglu@yahoo.com

# Yasemin Şahbaz / Asst. Prof. Dr. (D)

Istanbul Beykent University, Faculty of Health Sciences fztyaseminsahbaz@gmail.com

# Nergiz Batur / Res. Asst. (D)

Istanbul Beykent University, Faculty of Health Sciences nergizbatur@beykent.edu.tr

# Melike Kaymaz / PT (D)

melikekaymaz3412@gmail.com

## Deniz Su Öztunali/ PT (i)

denizoztunalii@hotmail.com

## Havva Sude Gür/ PT (D)

havvasdgr@gmail.com

## Gizem Buse Kurt/ PT (D)

g.buse.2002@gmail.com

## **Abstract**

Fractures affect the psychological status of individuals in addition to pain and functional problems. Fractures negatively affect patients' quality of life (QoL) by causing anxiety, kinesiophobia, and sleep problems. The aim was to develop personalized rehabilitation approaches by evaluating the psychological status of patients treated conservatively for lower and upper extremity fractures. 120 patients with isolated upper and lower extremity fractures who received nonsurgical treatment were compared prospectively in terms of pain, sleep quality, anxiety, kinesiophobia, and QoL. The visual analog score was used for pain, Tampa kinesiophobia scale for kinesiophobia, Beck anxiety inventory for anxiety, Pittsburgh sleep quality index for sleep, and short-form twelve for

QoL. Although there was no significant difference in demographics between the groups, the mean age of upper extremity fracture patients was lower. No significant difference was found between the two groups regarding pain, kinesiophobia, anxiety, sleep quality, and QoL. Patients with fractures in the lower or upper extremities experienced a decrease in their sleep and life quality, and an increase in their pain, anxiety, and kinesiophobia levels. However, no significant differences were found between lower and upper extremity fractures. Clinicians should approach patients who have fractures as a biopsychosocial whole, not only functionally and radiologically, but also by considering their psychological conditions.

**Keywords:** Lower Extremity, Upper Extremity, Fracture, Sleep, Anxiety, Kinesiophobia, Quality Of Life.

# Özet

Kırıklar, ağrı ve işlevsellik sorunlarının yanında kişilerin psikolojik durumlarını da etkilerler. Kırıklar, anksiyete, kinezyofobi ve uyku sorunlarına neden olarak hastaların yaşam kalitelerini olumsuz etkiler. Bu çalışmada konservatif olarak takip edilen alt ve üst ekstremite kırığı olan hastaların, psikolojik durumları değerlendirilerek, kişiselleştirilmiş rehabilitasyon yaklaşımları geliştirilmesi amaçlandı. İzole ekstremite kırığı yaşayan ve cerrahi dışı tedavi gören 120 hastanın ağrı, uyku kalitesi, anksiyete, kinezyofobi ve yaşam kalitesi açısından prospektif olarak karşılaştırıldı. Ağrı için vizüel analog skor, kinezyofobi için Tampa kinezyofobi ölçeği, anksiyete için Beck anksiyete ölçeği, uyku için Pittsburgh uyku kalitesi indeksi ve yaşam kalitesi için kısa form 12 kullanıldı. Gruplar arasında demografik veriler açısından belirgin bir fark olmamakla birlikte, üst ekstremite kırığı olan hastaların yaş ortalaması daha düşüktü. Ağrı, kinezyofobi, anksiyete, uyku kalitesi ve yaşam kalitesi açısından olumsuz etkilenen gruplar arasında istatistiksel anlamlı fark bulunmadı. Alt veya üst ekstremite kırık hastalarının uyku ve yaşam kalitelerinde azalma, ağrı, anksiyete ve kinezyofobi seviyelerinde artış görüldü. Ancak alt ve üst ekstremite kırıkları arasında anlamlı fark bulunmadı. Klinisyenler kırık hastalarına sadece fonksiyonel ve radyolojik olarak değil, psikolojik koşulları da gözeterek bir bütün klinisyenler, olarak yaklaşmalılardırlar.

**Anahtar Kelimeler:** Alt Ekstremite, Üst Ekstremite, Kırık, Uyku, Anksiyete, Kinezyofobi, Yaşam Kalitesi.

## Introduction

A fracture is the disruption of the anatomical integrity of a bone due to trauma resulting from external or internal factors (Kılıçoğlu, 2002). In addition to pain, anxiety, kinesiophobia, sleep, and quality of life (QoL) problems are also seen in fracture patients (Alpalhão et al., 2022). Since bone fractures are a traumatic experience, kinesiophobia is common in trauma patients (Jayakumar et al., 2019). Nonunion or delayed nonunion, which may be more common in individuals with long bone fractures (Ziroglu & Huri, 2017), especially those of the femur and tibia, has been associated with anxiety (Johnson et al., 2019).

A correlation exists between fractures and sleep status, with osteoporotic fractures linked to inadequate sleep quality (Fung et al., 2017). Poor sleep quality increases anxiety and pain severity, leading to a decrease in QoL (Herrero Babiloni et al., 2020). In individuals with fractures, decreased self-care, functional disabilities, sleep problems, pain, kinesiophobia, depressive mood, and decreased social interaction significantly reduce the QoL (Jia et al., 2024). In the post-fracture period, the QoL of individuals decreases significantly due to the combination of physical and psychological problems (de Putter et al., 2014). This study aimed to contribute to the development

of a more individualized approach in the treatment and rehabilitation process by determining the differences in conditions such as pain, kinesiophobia, anxiety, sleep, and QoL experienced by patients according to their fracture locations. It was hypothesized that there may be differences in such conditions mentioned above on the fracture's site and anatomical location. Our study stands out by addressing the parameters of pain, kinesiophobia, anxiety, sleep and life quality, and kinesiophobia in a single study, which are addressed separately in many studies.

## **MATERIAL METHODS**

#### **Ethics**

The study was conducted following the decision numbered 72128186-571 of the Istanbul Beykent University local ethics committee on 06.06.2024. This cross-sectional prospective study was conducted following the Helsinki Declaration. Informed consent was obtained from all participants.

# **Study Design and Setting**

Between June and September 2024, 120 patients who applied to Acibadem Atakent University Hospital with a history of extremity trauma and were diagnosed with a fracture and were planned for non-operative treatment and applied a cast/splint/sling/air-cast boot by the orthopedic surgeon were included prospectively. The patients were evaluated 4-6 weeks after the date of the trauma after the cast/splint treatments were terminated.

## **Inclusion Criteria**

- Diagnosed with isolated upper or lower extremity fractures,
- Those who have undergone non-operative treatments including plaster/splint/sling/air-cast boot applications,
- Treatment duration is limited to 4-6 weeks,
- Age between 18-80,
- Ability to read and comprehend Turkish language,
- Voluntarily participation in the study.
   Exclusion Criteria,
- Both lower and upper extremity trauma,
- Axial skeleton and pelvic injuries,
- History of head, thorax, and abdominal trauma,
- Serious visual or mental disabilities,
- Concomitant psychiatric, neurological, or rheumatological diseases.

## **Study Groups**

Comparison of Pain, Kinesiophobia, Anxiety, Sleep, and Quality of Life Conditions of Patients with Lower and Upper Extremity Fractures

The first group includes patients with upper extremity fractures divided into subgroups of clavicle and scapula, humerus, forearm, and wrist-hand fractures (Group 1). The second group includes patients with lower extremity fractures divided into subgroups of the femur, tibia-fibula, and ankle and foot fractures (Group 2).

## **Data Collection**

Participants were directed to the rehabilitation unit to increase their range of motion (ROM) and limb strengthening after the completion of their 4-6 weeks of conservative treatment. Pain, QoL, sleep, anxiety, and kinesiophobia conditions were measured by physiotherapists (PT), and clinical and demographic data were recorded.

### Measurement

## Visual Analog Scale (VAS)

Pain intensity was measured using VAS, and the score was between 0 and 10. The patient's painful area was assessed using a pain area drawing scale to determine both the intensity and location of the pain (Thong et al., 2018). VAS is a widely used, reliable, and valid assessment tool for measuring pain intensity (Crossley et al., 2004).

## Pittsburgh Sleep Quality Index (PSQI)

PSQI scale was used to interpret sleep quality. The 24 questions in this scale were used to assess the hours the individual slept, the time it took to fall asleep, and sleep efficiency (Buysse et al., 1989). The 7-component form validated and reliable in the Turkish language was used (Ağargün et al., 1996).

## Short Form 12 (SF-12) Quality of Life Scale

To assess the quality of life (QoL), the patient's emotional state, effective movement status, general body health, and ability to perform daily tasks over the last 4 weeks were assessed. The subscale scores of the 12-question form range from 0 to 100, and higher scores indicate good health (Ware et al., 1996). A valid and reliable Turkish version of the form was used (Soylu & Kütük, 2022).

## **Beck Anxiety Inventory**

The Beck Anxiety Inventory, developed in 1998, consists of 21 questions, and the possible score varies between 0-63 (Beck et al., 1988). It provides information about the patient's emotional state in the last week (Julian, 2011). The Turkish valid and reliable form of the scale was used (Ulusoy et al., 1998).

## Tampa Scale of Kinesiophobia

The 17-question scale (scorable from 17 to 68) mea-

sures fear of moving the extremity due to pain (Miller et al., 1991). There is no difference between the test and retest measurement results of the Tampa Kinesiophobia Scale, and it has been reported that it has excellent test reliability and is suitable for clinical use (Yilmaz et al., 2011).

## Statistical Analysis

The data was analyzed using version 25.0 of the Statistical Package for Social Sciences (SPSS). Intergroup evaluations were made with the Independent Sample T Test. Mean, standard deviation and percentage data were provided within the framework of descriptive statistics. In the evaluation of test results, the significance level was accepted as p<0.05.

## Sample Size Calculation

The calculation was performed with the G-Power program (3.1 version). It was calculated by taking into account the kinesiophobia scores of two different regions of Turhan et al. studies on patients with ligament injuries or fractures in the lower extremities (Turhan et al., 2019). The confidence interval was determined as 90% and the margin of error as 10%. Although the number of patients to be included was calculated as 104, it was planned to include 120 patients in case of exclusions.

#### **RESULTS**

While no significant difference was found between lower and upper extremity fracture groups regarding gender, patient/dominant side, smoking/alcohol use, regular exercise habit, and presence of chronic disease, a significant difference was shown between the groups in the age variable (p=0,027). The upper extremity fracture group was younger than the lower one.

Demographic and clinical characteristics are presented in Table 1. When Group 1 and Group 2 were compared in terms of pain, kinesiophobia, anxiety, sleep, and QoL, significant differences were not found between the groups in any variable. Group comparisons are presented in Table 2.

Both groups had moderate pain levels. Moderate pain indicates that it is bothersome but does not completely prevent the person from performing their daily activities. Although statistical significance (p=0,480) was not detected, the lower extremity group had a higher VAS value of  $5.55\pm1.85$  than the upper extremity group (VAS value was  $5.14\pm1.72$ ).

According to kinesiophobia values, both groups tended to avoid movement or physical activity and were seen to have moderate kinesiophobia. A statistically significant difference was not found between the

Nezih Ziroğlu / Yasemin Şahbaz / Nergiz Batur / Melike Kaymaz / Deniz Su Öztunali / Havva Sude Gür / Gizem Buse Kurt

groups concerning kinesiophobia levels (p=0.808).

According to anxiety levels, the upper extremity group had  $11.51\pm7.33$  points, while the lower extremity group had  $11.13\pm8.79$  points, and both groups had mild anxiety. A statistically significant difference was found between the groups in terms of anxiety levels (p=0.648).

Regarding sleep assessment, both groups had poor sleep quality. Although there was no statistical significance (p=0.208), the sleep quality of the lower extremity group was worse (8.86±4.35 points) than the

upper (7.86±3.86 points).

The QoL assessment showed that their physical health status, one of the sub-dimensions of SF-12, was good, they could easily perform their daily activities and their physical limitations were minimal. It was also seen that their mental health status was good and their emotional and social functionality was high.

Table 1. Social-demographic and Clinical Characteristics of Patients

	Group 1 (Upper Extre- mity) Mead±SD n (%)	Group 2 (Lower Extre- mity) Mead±SD n (%)	Group 1 and 2 Mead±SD n	Between Groups *p
Age (year)	37,80±15,10	40,40±11,74	38,93±13,75	0,027
Gender Female Male	29 (42,6) 39 (57,4)	26 (50) 26 (50)	65 (54,2) 55 (45,8)	0,423
Fracture Side Right Left	43 (63,2) 25 (36,8)	29 (55,8) 23 (44,2)	72 (60) 48 (40)	0,408
Dominant Side Right Left	56 (82,4) 12 (17,6)	43 (82,7) 9 (17,3)	99 (82,5) 21 (17,5)	0,961
Smoking Habits Yes No	30 (44,1) 38 (55,9)	27 (51,9) 25 (48,1)	57 (47,5) 63 (52,5)	0,396
Alcohol Usage Yes No	16 (23,5) 52 (76,5)	18 (34,6) 34 (65,4)	34 (28,3) 86 (71,7)	0,182
Regular Exercises Habits Yes No	20 (29,4) 48 (70,6)	13 (25) 39 (75)	33 (27,5) 87 (72,5)	0,592
Chronic Disease Yes No	13 (79,1) 55 (80,9)	11 (21,2) 41 (78,8)	24 (20) 96 (80)	0,782

Comparison of Pain, Kinesiophobia, Anxiety, Sleep, and Quality of Life Conditions of Patients with Lower and Upper Extremity Fractures

Fracture Location			
Foot-Ankle	-		
Tibia-Fibula	-		
Femur	-		
Hand-Wrist	17 (14,2)		0,000
Radius-Ulna	31 (25,8)		
Humerus	14 (11,7)		
Scapula-Clavicula	4 (3,3)		

SD: Standard Deviation

Table 2. Comparison of Pain, Kinesiophobia, Anxiety, Sleep, and Quality of Life Status of Study Groups

	Group 1 (Upper Extremity) Mead±SD n (%)	Group 2 (Lower Extre- mity) Mead±SD n (%)	Group 1 and 2 Mead±SD n (%)	Between Groups *p
VAS	5,14±1,72	5,55±1,85	5,32±1,78	0,480
ТАМРА	33,77±8,92	33,34±8,98	33,59±8,91	0,808
BAI	11,51±7,33	11,13±8,79	11,35±7,96	0,648
PSQI	7,86±3,86	8,86±4,35	8,30±4,09	0,208
SF-12 Mental Health Score	64,70±16,41	65,76±18,10	65,16±17,10	0,329
SF-12 Physical Function	61,82±16,91	64,07±16,37	62,80±16,64	0,857

SD: Standard Deviation; VAS: Visual Analog Scale; TAMPA: TAMPA Kinesiophobia Scale; BAI: Beck Anxiety Inventory; PSQI: Pittsburgh Sleep Quality Index; SF-12: Short Form-12 Quality of Life Scale

## **DISCUSSION**

The most important finding of this study is that both lower extremity and upper extremity fractures are associated with similar levels of pain, decreased sleep and life quality, and increased anxiety and kinesiophobia. Considering the incidence of fractures in society, it is undeniable that this is a significant public health problem and burden. In addition, this study reminds clinicians to consider their patients not only from a functional and radiological evaluation perspective but also from a biopsychosocial status when treating and follow-up.

The prevalence of fractures varies in different demographic groups. In a study investigating the prevalence of osteoporosis-related fractures, it was found that 5-10 out of every 1000 people aged 50 and over experienced osteoporotic fractures each year (Chandran et al., 2023). In another study investigating the prevalence of fractures in children and adolescents, it was stated that 25% of all injuries

seen in children were fracture injuries (Seens et al., 2021). This data is important in terms of showing the extent of psychological problems experienced by patients after fractures. In a Swedish study investigating fracture frequencies, it was stated that distal radius fractures were the most common (Rundgren et al., 2020). In lower extremity fractures, distal femoral and proximal tibial fractures around the knee, and ankle fractures were reported to be more common (Hemmann et al., 2021). It has been reported that femoral fractures, especially in people over the age of 65, negatively affect the quality of daily life more than upper extremity fractures (Wildner et al., 2002). Linton et al. emphasize that increased levels of fear and catastrophizing are important for recovery after an acute fracture (Linton et al., 2010). Therefore, they support the fear-avoidance model and underline the importance of psychological factors in recovery after a fracture.

It was suggested that the management of unhelpful

<sup>\*\*</sup>For numerical data, Independent Sample T-Test/For categorical data, Chi-Square Test,

<sup>\*\*</sup>For numerical data, Independent Sample T-Test/For categorical data, Chi-Square Test,

thoughts and symptoms of depression should also be addressed for optimal fracture care (Al Salman et al., 2022). Depressed mood and distressing thoughts confound the relationship between pain and fracture severity in fracture patients.

Various studies have been conducted in both adult and pediatric age groups and have reported the effects on various psychological and health-related QoL statuses after experiencing a fracture (Ali et al., 2024; Cantero-Téllez et al., 2024; Liu et al., 2022; Myhre et al., 2023; Sarı et al., 2021; Turhan et al., 2019). Duramaz et al highlighted the association between extremity fractures and anxiety, depression, and attention deficit hyperactivity disorder in a prospective analysis of the pediatric group (Duramaz et al., 2019).

Psychological distress causes pain to suppress functioning. Depressed mood and anxiety distress increasingly impact physical functioning during the recovery phase of lower extremity trauma. Wegener et al reported that both pain and psychological distress contribute to functional deficits during the first year after trauma, and even as recovery progresses, the role of psychological distress on functioning becomes evident (Wegener et al., 2011).

# **Limitations and Strengths of the Study**

Although 120 participants are not a small group, the fact that they may be relatively small groups when distributed across various fracture types or may show distributions outside of the global fracture incidence is a limitation of this study. Potential biases or confounding factors that might have influenced the results. Since the study was conducted among fracture patients who were followed with conservative treatment, it is insufficient to provide information for research to be conducted among surgically treated groups.

The first strength of this study is that it is one of the very limited articles in the literature that evaluates many parameters such as pain, QoL, anxiety, kinesiophobia, and sleep conditions of the participants. This study goes beyond the radiological and functional evaluations of patients with musculoskeletal fractures and examines the individual as a whole according to biopsychosocial.

## CONCLUSION

Regardless of whether the patient has a fracture in the lower or upper extremities, the majority of patients experience a decrease in their sleep and quality of life, an increase in anxiety levels, and kinesi-ophobia. Our study showed similar results regarding psychological conditions between lower and upper extremity fractures. To understand fracture patients more holistically, studies with larger samples and

longer follow-up periods should be planned. Our research emphasizes that clinicians should evaluate patients regarding functionality and radiological features and consider them as a biopsychosocial unit. Future studies with long-term follow-up of large tra-

Future studies with long-term follow-up of large trauma series classified according to validated scoring systems will help illuminate the biopsychosocial aspects of trauma patients.

#### Referances

Ağargün, M. Y., Kara, H., & Anlar, Ö. (1996). The validity and reliability of the Pittsburgh Sleep Quality Index. Turk Psikiyatri Derg, 7(2), 107–115.

Al Salman, A., Shah, R., Thomas, J. E., Ring, D., Crijns, T. J., Gwilym, S., & Jayakumar, P. (2022). Symptoms of depression and catastrophic thinking attenuate the relationship of pain intensity and magnitude of incapability with fracture severity. Journal of Psychosomatic Research, 158, 110915. https://doi.org/10.1016/j.jpsychores.2022.110915

Ali, K. A., He, L., Li, W., Zhang, W., & Huang, H. (2024). Sleep quality and psychological health in patients with pelvic and acetabulum fractures: A cross-sectional study. BMC Geriatrics, 24(1), 314. https://doi.org/10.1186/s12877-024-04929-y

Alpalhão, V., Cordeiro, N., & Pezarat-Correia, P. (2022). Kinesi-ophobia and Fear Avoidance in Older Adults: A Systematic Review on Constructs and Related Measures. Journal of Geriatric Physical Therapy (2001), 45(4), 207–214. https://doi.org/10.1519/JPT.0000000000000354

Beck, A. T., Epstein, N., Brown, G., & Steer, R. A. (1988). An inventory for measuring clinical anxiety: Psychometric properties. Journal of Consulting and Clinical Psychology, 56(6), 893–897. https://doi.org/10.1037//0022-006x.56.6.893

Buysse, D. J., Reynolds, C. F., Monk, T. H., Berman, S. R., & Kupfer, D. J. (1989). The Pittsburgh Sleep Quality Index: A new instrument for psychiatric practice and research. Psychiatry Research, 28(2), 193–213. https://doi.org/10.1016/0165-1781(89)90047-4

Cantero-Téllez, R., Algar, L. A., Cruz Gambero, L., Villafañe, J. H., & Naughton, N. (2024). Joint position sense testing at the wrist and its correlations with kinesiophobia and pain intensity in individuals who have sustained a distal radius fracture: A cross-sectional study. Journal of Hand Therapy: Official Journal of the American Society of Hand Therapists, 37(2), 218–223. https://doi.org/10.1016/j.jht.2023.12.008

Chandran, M., Brind'Amour, K., Fujiwara, S., Ha, Y.-C., Tang, H., Hwang, J.-S., Tinker, J., & Eisman, J. A. (2023). Prevalence of osteoporosis and incidence of related fractures in developed economies in the Asia Pacific region: A systematic review. Osteoporosis International: A Journal Established as Result of Cooperation between the European Foundation for Osteoporosis and the National Osteoporosis Foundation of the USA, 34(6), 1037–1053. https://doi.org/10.1007/s00198-022-06657-8

Crossley, K. M., Bennell, K. L., Cowan, S. M., & Green, S. (2004). Analysis of outcome measures for persons with patellofemoral pain: Which are reliable and valid? Archives of Physical Medicine and Rehabilitation, 85(5), 815–822. https://doi.org/10.1016/s0003-9993(03)00613-0

de Putter, C. E., Selles, R. W., Haagsma, J. A., Polinder, S., Panneman, M. J. M., Hovius, S. E. R., Burdorf, A., & van Beeck, E. F. (2014). Health-related quality of life after upper extremity injuries and predictors for suboptimal outcome. Injury, 45(11), 1752–1758. https://doi.org/10.1016/j.injury.2014.07.016

Duramaz, A., Yilmaz, S., Ziroğlu, N., Bursal Duramaz, B., Bayram, B., & Kara, T. (2019). The role of psychiatric status on pediatric extremity fractures: A prospective analysis. European Journal of

# Comparison of Pain, Kinesiophobia, Anxiety, Sleep, and Quality of Life Conditions of Patients with Lower and Upper Extremity Fractures

Trauma and Emergency Surgery: Official Publication of the European Trauma Society, 45(6), 989–994. https://doi.org/10.1007/s00068-018-0955-2

Fung, C. H., Vaughan, C. P., Markland, A. D., Huang, A. J., Mitchell, M. N., Bliwise, D. L., Ancoli-Israel, S., Redline, S., Alessi, C. A., & Stone, K. (2017). Nocturia is associated with poor sleep quality among older women in the Study of Osteoporotic Fractures. Journal of the American Geriatrics Society, 65(11), 2502–2509. https://doi.org/10.1111/jgs.15027

Hemmann, P., Friederich, M., Körner, D., Klopfer, T., & Bahrs, C. (2021). Changing epidemiology of lower extremity fractures in adults over a 15-year period – a National Hospital Discharge Registry study. BMC Musculoskeletal Disorders, 22, 456. https://doi.org/10.1186/s12891-021-04291-9

Herrero Babiloni, A., De Koninck, B. P., Beetz, G., De Beaumont, L., Martel, M. O., & Lavigne, G. J. (2020). Sleep and pain: Recent insights, mechanisms, and future directions in the investigation of this relationship. Journal of Neural Transmission (Vienna, Austria: 1996), 127(4), 647–660. https://doi.org/10.1007/s00702-019-02067-z

Jayakumar, P., Teunis, T., Vranceanu, A.-M., Moore, M. G., Williams, M., Lamb, S., Ring, D., & Gwilym, S. (2019). Psychosocial factors affecting variation in patient-reported outcomes after elbow fractures. Journal of Shoulder and Elbow Surgery, 28(8), 1431–1440. https://doi.org/10.1016/j.jse.2019.04.045

Jia, Q., Peng, Z., Huang, A., Jiang, S., Zhao, W., Xie, Z., & Ma, C. (2024). Is fracture management merely a physical process? Exploring the psychological effects of internal and external fixation. Journal of Orthopaedic Surgery and Research, 19(1), 231. https://doi.org/10.1186/s13018-024-04655-6

Johnson, L., Igoe, E., Kleftouris, G., Papachristos, I. V., Papakostidis, C., & Giannoudis, P. V. (2019). Physical Health and Psychological Outcomes in Adult Patients with Long-Bone Fracture Non-Unions: Evidence Today. Journal of Clinical Medicine, 8(11), 1998. https://doi.org/10.3390/jcm8111998

Julian, L. J. (2011). Measures of anxiety: State-Trait Anxiety Inventory (STAI), Beck Anxiety Inventory (BAI), and Hospital Anxiety and Depression Scale-Anxiety (HADS-A). Arthritis Care & Research, 63 Suppl 11(011), S467-472. https://doi.org/10.1002/acr.20561

Kılıçoğlu, S. S. (2002). Mikroskobi Düzeyinde Kırık İyileşmesi. Ankara Üniversitesi Tıp Fakültesi Mecmuası, 55(2), Article 2. https://doi.org/10.1501/Tipfak\_000000021

Linton, S. J., Buer, N., Samuelsson, L., & Harms-Ringdahl, K. (2010). Pain-related fear, catastrophizing and pain in the recovery from a fracture. Scandinavian Journal of Pain, 1(1), 38–42. https://doi.org/10.1016/j.sjpain.2009.09.004

Liu, W., Sun, Z., Xiong, H., Liu, J., Lu, J., Cai, B., Wang, W., & Fan, C. (2022). What are the prevalence of and factors independently associated with depression and anxiety among patients with posttraumatic elbow stiffness? A cross-sectional, multicenter study. Journal of Shoulder and Elbow Surgery, 31(3), 469–480. https://doi.org/10.1016/j.jse.2021.11.014

Miller, R. P., Kori, S. H., & Todd, D. D. (1991). The Tampa Scale: A Measure of Kinisophobia. The Clinical Journal of Pain, 7(1), 51. https://doi.org/10.1097/00002508-199103000-00053

Myhre, L., Featherall, J., O'Neill, D., Rothberg, D., Haller, J., Higgins, T., & Marchand, L. (2023). Patient-reported Anxiety Scores Are Associated With Lower Physical Function in Patients Experiencing Orthopaedic Trauma. Clinical Orthopaedics and Related Research, 481(5), 967–973. https://doi.org/10.1097/CORR.00000000000002516

Rundgren, J., Bojan, A., Mellstrand Navarro, C., & Enocson, A. (2020). Epidemiology, classification, treatment and mortality of distal radius fractures in adults: An observational study of 23,394 fractures from the national Swedish fracture register. BMC Musculoskeletal Disorders, 21(1), 88. https://doi.org/10.1186/s12891-

020-3097-8

Sarı, F., Özşahin, M., & Ziroğlu, N. (2021). Ön Çapraz Bağ Rekonstrüksiyonu Sonrası Operasyonun Fonksiyonel Sonuçlarının Sportif Aktivitelerle İlişkisi. Batı Karadeniz Tıp Dergisi, 5(2), Article 2. https://doi.org/10.29058/mjwbs.855676

Seens, H., Modarresi, S., MacDermid, J. C., Walton, D. M., & Grewal, R. (2021). Prevalence of bone fractures among children and adolescents with attention-deficit/hyperactivity disorder: A systematic review and meta-analysis. BMC Pediatrics, 21(1), 354. https://doi.org/10.1186/s12887-021-02821-x

Soylu, C., & Kütük, B. (2022). Reliability and Validity of the Turkish Version of SF-12 Health Survey. Turk Psikiyatri Dergisi = Turkish Journal of Psychiatry, 33(2), 108–117. https://doi.org/10.5080/u25700

Thong, I. S. K., Jensen, M. P., Miró, J., & Tan, G. (2018). The validity of pain intensity measures: What do the NRS, VAS, VRS, and FPS-R measure? Scandinavian Journal of Pain, 18(1), 99–107. https://doi.org/10.1515/sjpain-2018-0012

Turhan, B., Usgu, G., Usgu, S., Çınar, M. A., Dinler, E., & Kocamaz, D. (2019). Investigation of Kinesiophobia, State and Trait Anxiety Levels in Patientswith Lower Extremity Ligament Injury or Fracture History. http://openaccess.hku.edu.tr/xmlui/hand-le/20.500.11782/2767

Ulusoy, M., hisli sahin, N., & Erkmen, H. (1998). Turkish Version of the Beck Anxiety Inventory: Psychometric Properties. Journal of Cognitive Psychotherapy:An International Quarterly, 12.

Ware, J., Kosinski, M., & Keller, S. D. (1996). A 12-Item Short-Form Health Survey: Construction of scales and preliminary tests of reliability and validity. Medical Care, 34(3), 220–233. https://doi.org/10.1097/00005650-199603000-00003

Wegener, S. T., Castillo, R. C., Haythornthwaite, J., MacKenzie, E. J., & Bosse, M. J. (2011). Psychological distress mediates the effect of pain on function. PAIN, 152(6), 1349–1357. https://doi.org/10.1016/j.pain.2011.02.020

Wildner, M., Wildner, M., Sangha, O., Clark, D. E., Clark, D. E., Döring, A., & Manstetten, A. (2002). Independent living after fractures in the elderly. Osteoporosis International: A Journal Established as Result of Cooperation between the European Foundation for Osteoporosis and the National Osteoporosis Foundation of the USA, 13(7), 579–585. https://doi.org/10.1007/s001980200076

Yilmaz, Ö. T., Yakut, Y., Uygur, F., & Ulu, N. (2011). Tampa Kinez-yofobi Ölçeği'nin Türkçe versiyonu ve test-tekrar test güvenirliği.

Ziroglu, N., & Huri, G. (2017). Femur şaft kaynamama. 16. https://doi.org/10.14292/totbid.dergisi.2017.75

# Research Article

ROMAYA - Researches on Multidisiplinary Approaches 2024, 4(2): 219-231

ISSN:2791-9099

# Comparing the Islamic and Conventional Indices Focusing on Fractal Market Hypothesis 60

Fraktal Piyasa Hipotezi Odağında İslami ve Konvansiyonel Endekslerin Karşılaştırılması

# İlker Sakınç / Assoc. Prof. Dr. Dr.

Ondokuz Mayis University, Faculty of Economics and Administrative Sciences ilker.sakinc@omu.edu.tr

# Sıdıka Öznur Sakınç / Asst. Prof. Dr. (D)

Hitit University, Vocational School Of Social Sciences, Management and Organization Department oznursakinc@gmail.com

# Fatih Konak / Prof. Dr (D)

Hitit University/ Faculty of Economics and Administrative Sciences fatihkonak@hitit.edu.tr

## Diler Türkoğlu / Dr. 📵

Independent Researcher diler.turkoglu@samsun.edu.tr

## **Abstract**

Being able to accurately predict the direction of price fluctuations in financial instruments and their characteristics within this framework forms the basis for scientifically explaining the functioning of financial markets. The generally accepted theory, which is based on the assumption that security price movements occur on a random walk basis and that returns are normally distributed, is the Efficient Market Hypothesis. The idea that financial instruments may be inadequate in explaining price movements has led to the proposal and testing of the Fractal Market Hypothesis as an alternative in academic circles. In this perspective, the research purpose is to reveal the existence of the Fractal Market Hypothesis in both Islamic and conventional indices. In addition, the fractal properties of the selected indices are evaluated with Trend-Adjusted Fluctuation Analysis (DFA) and Transformed Breadth Analysis (R/S). In the study, daily closing values of six conventional and six Islamic indices generally accepted in the field of international finance between the years 2014 and 2024 are used as dataset. According to the findings, great majority of the Islamic indices exhibit strong longterm dependencies and fractal characteristics. On

the contrary, conventional indices exhibit short-term correlations and anti-permanent behaviors. These results illustrate that Islamic markets will provide significant advantages from risk management perspective and long-term investments, especially during financial crisis periods. In addition, this study provides empirical evidence supporting the applicability of FPH to Islamic finance.

**Keywords:** Islamic Finance, Fractal Market Hypothesis, Islamic Indices, Conventional Indices, Hurst Exponent.

**JEL Codes:** G10,G14,G15

## Özet

Finansal araçların fiyat dalgalanmalarının özelliklerini doğru tespit etmek, finansal piyasaların işleyişini bilimsel olarak açıklayabilmenin temelini oluşturmaktadır. Etkin Piyasa Hipotezi (EPH), finansal araçların fiyat hareketlerinin rassal yürüyüş ilkelerine dayandığını ve getirilerin normal dağıldığı varsayımı üzerine inşa edilmiştir. Finansal araçların fiyat haareketlerini açıklamada yetersiz olabileceği düşüncesi, akademik çeevrelerde alternatif olarak Fraktal Piyasa Hipotezi'nin öne sürülmesine ve test edilmesine yol

açmıştır. Bu perspektifte, çalışmada hem İslami hem de konvansiyonel endekslerinde Fraktal Piyasa Hipotezi'nin varlığını ortaya koymak amaçlanmaktadır. Ayrıca, Eğilimden Arındırılmış Dalgalanma Analizi (DFA) ve Dönüştürülmüş Genişlik Analizi (R/S) ile seçili endekslerin fraktal özelliklerini de değerlendirilmektedir. Çalışmada uluslararası finans alanında genel kabul görmüş altı konvansiyonel ve altı İslami endeksin 2014 – 2024 yılları arasındaki günlük kapanış değerleri veri seti olarak kullanılmıştır. Elde edilen bulgulara göre, İslami endekslerinin çoğunun güçlü uzun vadeli bağımlılıklar ve fraktal özellikler gösterdiği tespit edilmiştir. Aksine konvansiyonel endeksler ise kısa vadeli korelasyonlar ve anti-kalıcı davranışlar sergilemektedir. Bu sonuçlar, İslami piyasaların özellikle finansal kriz dönemlerinde risk yönetimi ve uzun vadeli yatırımlar perspektifinden önemli avantajlar sağlayacağını göstermektedir. Ayrıca, bu çalışma FPH'nin İslami finansa uygulanabilirliğini destekleyen ampirik kanıtlar sunmaktadır.

**Anahtar Kelimeler:** İslami Finans, Fraktal Piyasa Hipotezi, İslami Endeksler, Konvansiyonel Endeksler, Hurst Üsteli.

JEL Kodları: G10,G14,G15

## Introduction

It is thought that the Islamic Finance perspective, which has developed itself in a fast, dynamic and broad-based manner in global financial circles, will gradually increase its sphere of influence in the coming years. In this context, Islamic markets, which operate alongside traditional financial systems, offer unique solution proposals and alternative financial instruments based on the principles of Islamic law. In this perspective, while the prohibitions on interest (riba), excessive risk-taking (gharar) and gambling (maysir) are followed in Islamic finance, practices that place risk sharing at the focal point of activities are encouraged (Elteir et al., 2013; 87). In accordance with these principles, Islamic securities markets have gained significant momentum in international financial markets in recent years. A particularly notable development within this sector is the rise of Islamic stock indices specifically designed to track the performance of public companies operating in accordance with Sharia principles. These indices undergo a rigorous screening process to ensure that the companies' business activities and financial ratios are compliant with Islamic law. In addition, the dividends distributed are brought into line with religious standards (Zaidi et al, 2015; 241). Global banks and investment companies, including countries with different religions, provide market participants with investment opportunities parallel to Islamic law.

In the last two decades, economics and finance literature has shown great interest in testing the Fractal Market Hypothesis (FMH) of financial markets (Kara-

kaya and Atukalp, 2022; An et al., 2023). FMH stands out as a strong alternative to the traditional Efficient Market Hypothesis (EMH) in shedding light on financial market behavior. This hypothesis is based on the principles of fractal geometry in explaining the nature of financial markets, which are complex, dynamic, and often chaotic. FMH suggests that markets become stable when they encompass a wide range of investors with diverse investment horizons, thus forming a self-organizing system that balances supply and demand (Dar et al., 2017; 154). One of the most important contributions of FPH is its ability to address the limitations of EMH. EMH assumes that markets are in a constant state of equilibrium and that prices reflect all accessible information. However, as numerous market anomalies and financial crises have indicated, this is not always the case (Karp and Vuuren, 2019; 1). The Fractal Market Hypothesis describes how anomalous occurrences occur and how market trends persist despite the diversity of market participants and their varying investment horizons.

The FMH provides an economic and mathematical framework for fractal market analysis. This hypothesis allows us to perceive the reasons for the existence of self-similar statistical structures and how risk is distributed among investors (Peters, 1994; 39). In this context, Table 1 includes the fractal classification of the series.

Table 1. Fractal Classification of Series

Behavior type	Colour	Hurst Exponent (H)	
Non-permanent, devi- ating from the mean, negatively correlated	Pink Noise	0 <h<0,5< th=""></h<0,5<>	
Normal Distribution (Gaussian Process)	White Noise	H=0,5	
Brownian Motion (Wiener Process)	Brown Noise	H=0,5	
Continuous, trend strengthening (Hurst Process)	Black Noise	0,5 <h<1< th=""></h<1<>	
Cauchy process (Cauchy distribution)	Cauchy Noise	H=1	

Source: Mulligan, 2004; 158

FPH offers a more realistic perception of market dynamics incorporating the concept of long-term memory and persistent trends. This situation is sym-

bolized by the Hurst exponent, which measures the degree of long-term dependence in the time series. When the Hurst exponent is greater than 0.5, it is interpreted as persistent behavior, and when it is less than 0.5, it is interpreted as anti-persistent behavior (Garcin, 2019; 1950024-1). Thus, with the ability to capture long-term memory, more effective modeling and prediction of market behavior is possible.

Fractal Market Hypothesis provides significant contributions in the stages of risk management and in the development of investment strategies by taking into account different frameworks. Traditional models often fall short in predicting market volatility and risks associated with extreme events. FPH, on the other hand, focuses on fractal dimensions and scaling properties, providing tools for better understanding and prediction of market risks. For example, the fractal dimension measures market complexity and the likelihood of chaotic behavior (Blackledge and Lamphiere, 2022; 2).

Using these insights, traders are capable of instigating more robust trading strategies accounting for the multi-fractal nature of markets. In particular, recognizing that markets are inherently similar across timescales, they can adjust their strategies accordingly to manage risk efficiently and optimize returns. For instance, during periods of high market turbulence, strategies based on FPH can assist identify potential turning points and avoid significant losses. FPH's emphasis on the inherent scaling properties of financial time series significantly improves market predictions and forecasts. Traditional models assume that return distributions are normal, which does not adequately capture the extremes and anomalies observed in real markets. Nonetheless, FPH addresses the Lévy index, which takes into account the heavy tails and extreme changes in price differences (Liu et al., 2022; 4).

Machine learning models incorporating FPH principles hold promise for more accurate market forecasts. These models simulate future price movements using the Lévy index and other fractal-based metrics, providing valuable insights for both short-term and long-term investment decisions (Blackledge and Lamphiere, 2022; 36). Such advanced forecasting techniques are particularly beneficial in volatile markets such as cryptocurrencies, where traditional models often fail.

FPH makes significant contributions to the literature in understanding and expounding market crises and anomalies. While EPH views crises as anomalies or non-existent events, FPH suggests that crises are a natural consequence of the dominance of certain investment horizons. During financial crises, the fractal nature of markets becomes more outstanding, leading to increased volatility and unpredictability (Kristoufek, 2012; 1).

Studies have revealed that the FPH can effectively explain the behavior of financial markets during crises such as the 2008 Global Financial Crisis. Researchers analyzing stock markets across investment horizons have concluded that the FPH provides a more appropriate explanation for market behavior observed during such turbulent periods (Dar et al., 2017; 153). This understanding will help policymakers and investors develop more effective strategies to mitigate the impact of future crises. Given the increasing importance of Islamic finance, there is still a lack of understanding of the fundamental physical properties of returns in Islamic financial markets. Further research on the fractal nature of these markets can provide critical insights into various important properties such as the distribution of signal singularities, geometric properties, and local scaling behaviors, which are significant for a more profound understanding of the unique dynamics of Islamic financial markets.

As mentioned, the main purpose of this study is to demonstrate the validity of the Fractal Market Hypothesis in Islamic and conventional indices. In this context, five international and one national Islamic indices and five international and one national conventional indices were included in the scope of the research. In addition, to examine the dynamics of Islamic stock markets, Detrended Fluctuation Analysis (DFA) and Transformed Breadth Analysis (R/S) methods were taken into consideration. The contributions of the research to the literature as follows: First, studies on the fractal properties of Islamic markets are quite limited in the international literature. In fact, the majority of these studies used Multifractal Detrended Fluctuation Analysis (MFL) methods (Saâdaoui, 2018; Dewandaru et al., 2015; Bouoiyour et al., 2018). Secondly, in the literature written in Turkish, there are inadequate studies on the Fractal Market Hypothesis (Erdoğan, 2017; Moralı and Uyar, 2018; Çevik and Karaca, 2021; Karakaya and Atukalp (2022), and only Güneş (2020) has been found on the fractal nature of Islamic indices. The most important contribution of the study is that it provides evidence on the fractal nature of Islamic markets, increasing the efficiency of portfolios to be created with these indices and forming the foundation for the implementation of systematic risk management.

In the following sections of the research, a summary of the literature written on the Fractal Market Hypothesis and Islamic indices will be discussed. Then, in the data set and method section, the calculation methodology of the DFA and R/S methods applied in the study will be elaborated on. In the analysis and findings section, the outputs of the methods used will be presented. Finally, in the conclusion section, the analysis results obtained in the previous section will be interpreted.

## Literature review

In this section, the literature will be summarized under two headings, namely the Fractal Market Hypothesis and Islamic indices.

# Literature review on the Fractal Market Hypothesis

The Fractal Market Hypothesis (FPH) has emerged as a strong alternative to the Efficient Market Hypothesis (EMH), suggesting that financial markets exhibit fractal properties such as long-term dependencies, scaling behavior, and multifractality. In recent years, many academic studies have tested the FPH, contributed to a more efficient understanding of market dynamics and questioned traditional finance theories (Kendirli, 2006; Güneş, 2020; Karakaya and Atukalp, 2022; An et al., 2023).

The development of the Fractal Market Hypothesis (FPH) is based on the pioneering work of Benoit Mandelbrot. Mandelbrot's 1963 paper "The Variation of Certain Speculative Prices" presented a serious challenge to the Gaussian distribution models widely used at the time by introducing the idea that financial markets exhibit long-range dependencies and heavy tails. This concept provided the basis for understanding that financial markets have a fractal structure, that is, that certain patterns repeat at different scales (Mandelbrot, 1963). In another paper conducted by Mandelbrot with Van Ness in 1968, he took this idea further by introducing a mathematical model called fractional Brownian motion (fBm) that captures the long-term dependencies observed in financial time series, and provided an significant framework for FPH (Mandelbrot and Ness, 1968). Towards the end of the 1980s, the application of fractal concepts to financial markets gained momentum with the work of Edgar E. Peters. Peters's 1989 article "Fractal Structure in the Capital Markets" was among the seminal studies to explicitly relate Mandelbrot's fractal geometry to the behavior of financial markets (Peters, 1989). Peters brought significant criticism to the Efficient Market Hypothesis (EMH) by arguing that financial markets exhibit fractal properties. In his subsequent books "Fractal Market Analysis" (Peters, 1994) and "Chaos and Order in the Capital Markets" (Peters, 1996), he developed these ideas further, providing empirical evidence and practical applications of how fractal analysis can be implemented in investment strategies. Peters' work played an remarkable role in the popularization of the Fractal Market Hypothesis and in closing the gap between theory and practice.

The theoretical basis of FMH was significantly influenced by Hurst's (1951) work on long-term dependencies in natural systems. Hurst's findings, especially the Hurst exponent, became the basic tools for measuring the fractal dimensions of financial time

series, thus further reinforcing the fractal structure of markets. The empirical validation process of FMH continued with Lux's 1996 study on the stable Paretian hypothesis in German stock returns (Lux, 1996). The author demonstrated the limitations of traditional financial models by showing the existence of heavy tails and long-term dependencies in financial data and contributed to FMH. Interdisciplinary approaches have made significant contributions to the application of fractal concepts to financial markets. Mantegna and Stanley (1995) applied statistical physics to financial indices and demonstrated scaling behaviors, providing additional empirical support for FMH. Bouchaud and Potters (2003) developed these ideas further, integrating statistical physics models into risk management and derivative pricing, thus linking FMH to practical financial applications. Mandelbrot and Hudson (2010) synthesized these developments and provided a comprehensive critique of traditional financial models, reaffirming the importance of fractal structures in understanding market behavior.

Also in the 2000s, Muzy et al. (2000) introduced the multifractal cascade model to explain fluctuations in financial time series, relating multifractality to stochastic volatility and further strengthening the theoretical foundations of FMH. Calvet and Fisher (2008) comprehensively analyzed multifractality in asset returns, demonstrating that financial markets are characterized by multifractal properties where different scaling laws apply in different time periods. This study emphasized the importance of considering the complexity of market dynamics, which is often oversimplified by traditional financial theories.

FPH has also found wide application in the explanation of market crashes and extreme events by Sornette (2004). Using the concepts of critical phenomena and complex systems, Sornette showed that markets exhibit critical points and exponential laws, and that these features are consistent with fractal market behavior. Laherrère and Sornette (1998) further reinforced this view by examining exponential distributions that stretch in economic data and providing empirical evidence for the existence of non-Gaussian, fractal behavior in financial markets.

In the early 2000s, physical scaling laws found wider application in economics. Stanley et al. (2008) studies on scaling and universality in economics provided a theoretical framework that strengthens FPH by revealing the universal nature of fractal structures in economic data. These contributions emphasize the transformation of FPH from a theoretical concept to a robust framework for understanding the complex and non-linear dynamics of financial markets and provide a powerful alternative to traditional finance theories.

In his study, Güneş (2020) aimed to assess the fractal structure of volatility in index data with daily data of

Participation 30 and Dow Jones Islamic Markets Turkey Index between 2013-2020. The analyzes made in line with the purpose provide evidence that there is a fractal structure in both indices. Karakaya and Atukalp (2022) aimed to inspect the existence of a fractal structure in the volatility of stock returns of banks traded in the BIST Bank Index. Based on the analyzes considering the daily returns of the banks in question between January 05, 2010 and December 31, 2020, they obtained findings supporting the existence of the Fractal Market Hypothesis. Similarly, in his study, Niveditha (2024) examined the fractal behavior in the Gold, Bitcoin, Swiss Franc and US Dollar markets in the 2015-2022 sample period using the Continuous Wavelet Transform methodology. The analyzes determined the existence of a fractal structure in the markets in question. An et al. (2023) investigated the nonlinear multi-fractal correlation between carbon price fluctuations and China's economic policy uncertainty (CNEPU) in Shenzhen, Beijing, Tianjin and the national carbon market, and concluded that there are long-range correlations with anti-persistence multi-fractal features in three regional carbon markets.

## **Literature Review on Islamic Indices**

The study of Islamic indices has attracted significant interest among both researchers and practitioners over the last few decades. This interest emerged as an attempt to gain perception on the dynamics, performance and impact of these financial instruments within the broad framework of Islamic finance. Islamic indices consisting of companies that comply with Sharia law, offer a different perspective in the field of investment by strictly adhering to the principles that prohibit interest (riba), excessive uncertainty (gharar) and investments in haram sectors such as alcohol and gambling.

Hussein and Omran (2005) analyzed the performance of the Dow Jones Islamic Market Index (DJIM) by comparing it with conventional indices and found that DJIM did not perform significantly better or worse than conventional indices. While the findings can be interpreted as Sharia-compliant investments and conventional investments can compete, this research has made significant contributions to the acceptance of Islamic indices as a reliable investment alternative. Similarly, Hakim and Rashidian (2002) further deepened the findings of previous studies by investigating the risk and return characteristics of DJIM. As a result of the analysis, it was found that the risk measures of Islamic indices were generally lower than those of conventional indices. It is argued that the exclusion of especially high leveraged companies and speculative firms from Islamic indices supports this situation. It has been claimed that the compliance of the risk aversion tendency with Islamic principles acts as a lifesaver for the market during financial instability processes. In addition, Saiti et al. (2014) examined the performance of Islamic and conventional stock indices during and after the 2008 financial crisis and found that Islamic indices exhibited more stability. This result was attributed to the conservative nature of Sharia-compliant investments. In this context, it can be said that Islamic indices should be seen as safer financial instruments during economic uncertainty processes.

The comparative performance of Islamic and conventional indices has also been the focus of research. Ho et al. (2014) reveal that Islamic indices outperform conventional indices during crisis periods. This finding suggests that Islamic indices offer investors a superior investment alternative, especially during periods of financial instability. However, comparing the performance of Islamic indices with conventional indices during non-crisis periods has been inconclusive. In other words, it has been found that Islamic indices do not exhibit any significant superiority or weakness over conventional indices during these periods. The effect of Islamic indices on portfolio diversification has also been a subject of interest for researchers. Dewandaru et al. (2017) investigate whether the inclusion of Islamic and conventional asset classes in the portfolios of both conventional and Islamic investors will expand the efficient margins of these portfolios. The findings of the study illustrate that in terms of internal asset allocation, both Islamic and conventional fund managers can mutually benefit from Islamic and conventional asset classes in a given asset class under different regimes. The study reveals that the advantages offered by Islamic financial assets in terms of portfolio diversification may depict diversity depending on specific market conditions and asset classes. This situation indicates that portfolio strategies should adopt a dynamic and regime-specific approach, especially for Islamic investors. Another critical aspect of Islamic indices is their performance during periods of market turbulence. Abduh (2020) examined the volatility of conventional and Islamic indices in Malaysia and investigated the impact of the global financial crisis on volatility on both markets. The research findings reveal that the Islamic index is less volatile than the conventional index during crisis periods. In addition, it was found that the financial crisis significantly affected the short-term volatility of the conventional index and the long-term volatility of the Islamic index. These results indicate that Islamic financial markets may be more resilient in crisis situations and may offer an alternative path in terms of risk management. Sakınç and Açıkalın (2022) underline that Islamic financial indices can be preferred as a hedging tool during crisis periods due to their low volatility. Furthermore, Kandemir and Uçar (2023) analyzed the return performances of BIST 50 and BIST 30 conventional indices and Participation 50 and Participation 30 Islamic indices in the pre- and post-pandemic periods using Sharpe, Treynor and Jensen Alpha metrics. According to the findings, it was determined that conventional indices performed better in the pre-Covid-19 period, while Islamic indices performed better in the Covid-19 period.

Konak and Türkoğlu (2022) concluded that the market was not efficient in a semi-strong form as a result of their study in which they revealed the effect of the inclusion of the Participation Index in Borsa Istanbul on stock prices on November 12, 2021. As a result of the analysis made by Delice and Tuncay (2024) for the Dow Jones Global Index and Dow Jones Islamic Market World Index with the EGAARCH method, it was revealed that the index considered within the scope of the Islamic index exhibited higher performance.

# Dataset and methodology

The study utilized daily data obtained from the world's and Turkey's leading Islamic and conventional indices (MSCI, MSCI Shariah, Nifty 50, Nifty 50 Shariah, FTSE 100, FTSE Shariah, SveP 500, S&P Shariah, Dow Jones, Dow Jones Shariah, BIST 100 and BIST Participation 100). The existence of fractal structure was investigated through Hurst Exponential coefficients. For this purpose, Rescaled Range Analysis (R/S) and Detrended Fluctuation Analysis (DFA) methods were used. In this direction, it was tried to determine whether the stocks have long memory. The analyzes were performed with Python Jupyter Notebook version 7.0.8.

In this context, the indices included in the analysis, index codes and analysis dates are presented in Table 2. Since each index is analyzed separately, analysis dates and therefore observation numbers may differ. Relevant daily data were obtained from the "Yahoo Finance" database.

Table 2. Analyzed Indices

Indices	Туре	Index Code	Dates Analyzed
MSCI	Conventional	MSCI	22.07.2014-22.07.2024
DOW JONES	Conventional	^DJI	22.07.2014-22.07.2024
FTSE 100	Conventional	^FTSE	22.07.2014-22.07.2024
NIFTY 50	Conventional	^NSEI	22.07.2014-22.07.2024
S&P 500	Conventional	^SPX	22.07.2014-22.07.2024
BİST 100	Conventional	XU100.IS	22.07.2014-22.07.2024
MSCI WORLD ISLAMIC MARKET	Islamic	ISWD.L	22.07.2014-22.07.2024
DOW JONES WORLD ISLAMIC MARKET	Islamic	^DJIMI	22.07.2014-22.07.2024
FTSE SHARIAH	Islamic	HLAL	22.07.2019-22.07.2024
NIFTY 50 SHARIAH	Islamic	SHARIABEES	22.07.2014-22.07.2024
S&P 500 SHARIAH	Islamic	^SP500SH	22.07.2014-22.07.2024
BİST Katılım 100	Islamic	XK100.IS	12.11.2021-22.07.2024

# **Detrended Fluctuation Analysis (DFA)**

DFA is a statistical application used to assess the presence of long- term correlations in time series. Originally developed in the field of physiology to analyze heartbeat intervals, DFA has been adapted over time to be applied in various disciplines such as finance. In finance, DFA is of great importance, especially because of its ability to identify and quan-

titatively measure long-term persistence or memory in financial time series, which traditional methods may not be able to detect due to their inadequacy in handling non-stationary data sets (Peng et al., 1994). In finance, time series data such as stock prices, exchange rates, and other financial indices often exhibit complex and non-stationary behavior. Such behavior can obscure underlying patterns and make it

complicated to both assess inherent risk and predict future movements. DFA addresses this challenge by systematically extracting trends of varying degrees (e.g., linear, quadratic) from the data and then analyzing the residuals to assess the degree of fluctuation at various scales (Kantelhrdt et al., 2002). Outputs of DFA is the fluctuation function, which plotted on a log-log scale, provides a scaling exponent that indicates the existence and strength of long-term correlations. DFA has two main purposes in finance. First, it allows researchers and analysts to determine whether a financial time series exhibits long-term dependencies. This is an indication of persistent trends that may influence future behavior (Carbone et al., 2004). For example, a scaling exponent greater than 0.5 indicates a persistent trend, in which past increases (or decreases) are followed by further increases (or decreases). Conversely, an exponent less than 0.5 indicates a persistent behavior, in which an increase in a value is followed by decrease.

Secondly, DFA is used to improve risk management and forecasting processes in financial markets. By understanding the scaling behavior of financial time series, analysts can more effectively model the risks associated with different assets or portfolios. For example, DFA provides an important tool for distinguishing random walk behaviors (where future movements are not dependent on the past) from more predictable, trend-dependent behaviors (Grech and Mazur, 2004). This distinction is extremely important for developing more accurate models for asset pricing, risk assessment, and portfolio management.

DFA procedure consists of five steps (Teng and Shang, 2018; 312). The first one is to detect the profile of [[Xj]] in a series of [[N]]\_length.

$$X(i) = \sum_{\{i=1\}}^{\{i\}} (x_k - \langle x \rangle), \quad i = 1, 2, ..., N$$
 (1)

Secondly, the profile is divided into non-overlapping equal segments of length s, such that  $Ns \equiv \lfloor N/s \rfloor$ . Thirdly, for each segment v, the local trend of the data will be calculated by the least squares method. Then, the trend-free time series Xs(i) will be definzed as:

$$X_{s(i)} = X(i) - q_{v(i)},$$
 (2)

q\_v(i) denotes the appropriate polynomial in the segment. The variance for each 2Ns segment is formulated below:

$$F_{\{DFA\}}^{2}(v,s) = \langle X_{s}^{2}(i) \rangle = \left(\frac{1}{s}\right) \sum_{s}^{\{s\}} X_{s}^{2} \left[ (v-1)s + i \right], \quad v = 1, 2, ..., Ns, (3)$$

$$\langle X_s^2(i) \rangle = \left(\frac{1}{s}\right) \sum_{i=1}^{\{s\}} X_s^2 [Ns+1, Ns+2, \dots, 2Ns], \tag{4}$$

 $X_s(i)$  is obtained by averaging over all data points i in segment V. Fourtly, the fluctuation function is got by averaging over all segments.

$$F_{\{DFA\}}(s) = \sqrt{\left|\left(\frac{1}{2Ns}\right)\sum_{\{\nu=1\}}^{\{2Ns\}} F^2(\nu, s)\right|}.$$
 (5)

Finally, F\_DFA (s) will be examined on the log-log plot to detect the scaling behavior of the fluctuation functions. If the series x\_k illustrates a long-term power law correlation, F\_DFA (s) increases as a power law at large s.

$$F_{\{DFA\}}(s) \sim s^{\alpha}. \tag{6}$$

# Rescaled Range Analysis (R/S)

R/S has a common purpose with the DFA mentioned above. R/S analysis and DFA have similarities, especially in the purpose of detecting and quantitatively measuring long-term correlations in time series data. Both methods are based on fractal theory and are widely employed to estimate the Hurst exponent which reflects the degree of memory or permanence of a time series. The goal of both methods is to calculate the Hurst exponent. However, they differ from each other in terms of approach and application, especially in the processing of non-stationary data.

Hurst (1951) devised the R/S analysis technique, which is used to quantify the permanence or anti-permanence of a time series. Using this technique, the time series is divided into non-overlapping segments. The range of cumulative departures from the mean within each segment is then calculated, and this range is normalized based on the segment's standard deviation. The Hurst exponent is then found by plotting the rescaled interval (R/S) against the segment length on a log-log scale and measuring the slope of the resultant line. The capacity of R/S analysis to discover long-term dependency is one of its primary characteristics; this ability is especially helpful for spotting patterns in stationary time series. The way trends are handled in time series is the primary distinction between DFA and R/S analysis. R/S analysis is more susceptible to the effect of exogenous trends and is regarded a more acceptable approach for stationary time series. Conversely, because DFA specifically eliminates these types of trends, it is more suited for non-stationary data (Kantelhardt et al., 2002).

Concerning the sequence of continuously compounded returns  $\{r1,r2,...,r\tau\}$ ,  $\tau$  is the length of the forecast period and  $(r_{-}\tau)^{-}$  is the sample mean. The R/S statistic is calculated as follows:

İlker Sakınç / Sıdıka Öznur Sakınç / Fatih Konak

$$(R/S)_{\tau} \equiv \frac{1}{S_{t}} \left[ \max_{1 \le t \le \tau} \sum_{t=1}^{\tau} (r_{t} - \overline{r_{\tau}}) - \min_{1 \le t \le \tau} \sum_{t=1}^{\tau} (r_{t} - \overline{r_{\tau}}) \right]$$
(2)
$$S_{t} \equiv \left[ \frac{1}{t} \sum_{t} (r_{t} - \overline{r_{\tau}}) \right]^{1/2}$$
(3)
$$(R/S)_{\tau} = (\tau/2)^{H}$$
(4)

# **Analysis and Findings**

Methods such as DFA and R/S use different techniques to calculate the Hurst exponent and the results may vary. Both methods evaluate the recursive properties of the time series, but the mathematical and computational methods used differ. Therefore, the values obtained from the Hurst exponent may also differ. Analyses were performed implementing Python Jupyter Notebook. The ability to work more effectively on massive data sets and obtain accelerated results gives Python an advantage over traditional methods. Python's performance is superior to other techniques, especially in data processing and time series analysis. In addition, it offers more flexib-

le solutions thanks to its powerful libraries and wide analysis options.

DFA method was applied via Python in the analyses performed to obtain the Hurst exponent. First, the window size was determined and then the cumulative time series was calculated. The logarithms of the variance for each window size were calculated and plotted on the Log-Log graph. The slope in this graph represents the Hurst exponent.

Similar steps were followed in the R/S analysis. First, the window size was selected and the cumulative time series was calculated. The difference between the highest and lowest values for each window was found and standard deviations were calculated. Then, the logarithms of the R/S ratios and the logarithms of the window sizes were plotted to create a Log-Log graph. The Hurst exponent was determined from the slope in this graph.

As a result of all these steps, the Hurst exponents and P-values obtained from the DFA and R/S analyses are presented in Table 3.

Table 3. Hurst exponents and P-values as a result of the DFA and R/S analyses

	DFA analysis results		R/S analys	R/S analysis results	
INDICES	H Exponent	P-values	H Exponent	p-Values	
MSCI	0.42	0.000***	0.36	0.0000***	
MSCI SHARIAH	0.41	0.000***	0.51	0.0000***	
DOW JONES	0.48	0.000***	0.46	0.0000***	
DOW JONES SHARIAH	0.53	0.000***	0.50	0.0000***	
BİST 100	0.65	0.000***	0.52	0.0000***	
BIST KATILIM	0.64	0.000***	0.51	0.0000***	
NIFTY 50	0.56	0.000***	0.53	0.0000***	
NIFTY 50 SHARIAH	0.54	0.000***	0.52	0.0000***	
S&P 500	0.48	0.000***	0.33	0.0000***	
SveP 500 SHARIAH	0.45	0.000***	0.35	0.0000***	
FTSE 100	0.48	0.000***	0.32	0.0000***	
FTSE SHARIAH	0.52	0.000***	0.51	0.0000***	

<sup>\*\*\*, \*\*, \*</sup> indicate 1%, 5% and 10% significance levels respectively.

It was determined that the probability values of the selected conventional and Islamic Indices were statistically significant. H=0.65 was found in the DFA analysis for the BIST 100 index, and H=0.52 in the R/S analysis. Both values indicate trend continuity, but the DFA value of H=0.65 suggests that the future trends of the time series will continue more strongly than the DFA method. This index is in the 0.5<H<1 range and is in the black noise category with a continuous and strong trend. Therefore, it can be said that BIST 100 has a long-term memory. The same situation applies to the BIST Participation Index. The Hurst

exponents obtained in both methods are in the black noise range. On the other hand, the H=0.41 value in the DFA analysis for the MSCI Shariah Index reflects the recursive properties of the series and shows that there is negative recursion (anti-persistence) in the series. This suggests that the time series may tend to reverse trends rather than follow a general trend. In the R/S analysis, the value of H=0.51 indicates that the time series may continue its past trends to some extent. Both results indicate that the series has some recursive properties. However, the value of H=0.41 in the CFA suggests that the future trends of

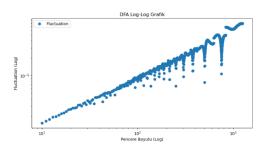
the series may be less strong.

S&P 500 and S&P Shariah Indices, in contrast, show a non-permanent, short-term dependence and negative correlation in both analyses. These indices are in the pink noise category. FTSE 100 and FTSE Shariah Indices, on the other hand, exhibit a different picture. While FTSE 100 Index is in the range of 0<H<0.5

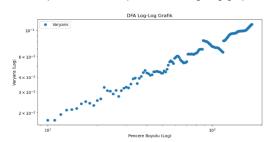
in DFA and R/S analyses and follows a negative recursive, non-permanent trend, FTSE Shariah Index is in the range of 0.5<H<1 in both methods and is in the black noise category that reinforces the continuous trend.

Log-Log graphs related to the findings obtained as a result of the analyses are presented below.

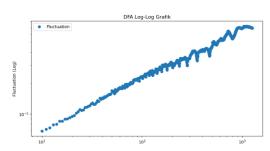
Graph 1. BIST 100 DFA Log-Log graph



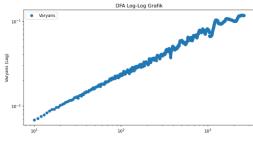
Graph 3. BIST Participation DFA Log-Log graph



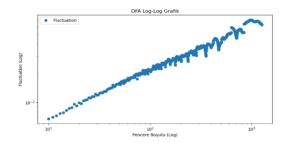
Graph 5 Dow Jones DFA Log-Log graph.



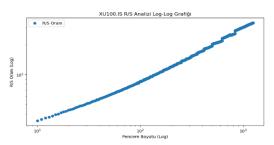
Graph 7. Dow Jones Shariah DFA Log-Log graph



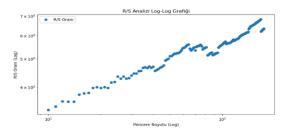
Graph 9. FTSE 100 DFA Log-Log graph



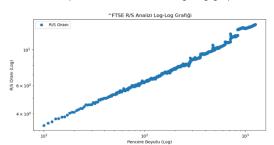
Graph 2. BIST 100 R/S Log-Log graph



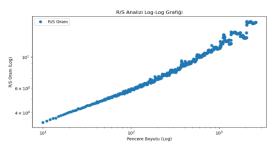
Graph 4. BIST Participation R/S Log-Log graph



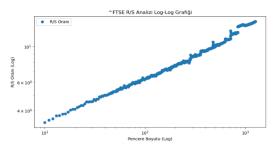
Graph 6. Dow Jones R/S Log-Log graph



Graph 8. Dow Jones Shariah R/S Log-Log graph

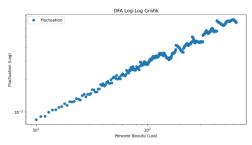


Graph 10. FTSE 100 R/S Log-Log graph

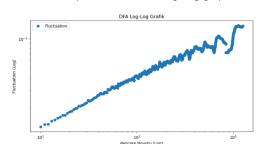


# İlker Sakınç / Sıdıka Öznur Sakınç / Fatih Konak

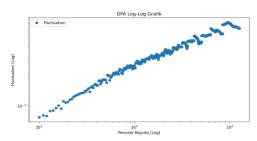
Graph 11. FTSE Shariah DFA Log-Log chart



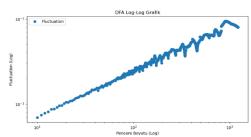
Graph 13. MSCI DFA Log-Log graph



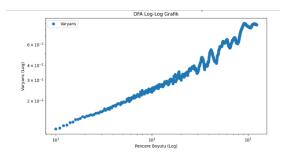
Graph 15. MSCI Shariah DFA Log-Log graph



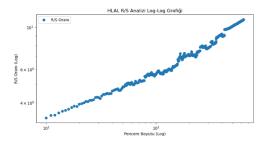
Graph 17. Nifty 50 DFA Log-Log graph



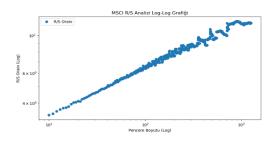
Graph 19. Nifty 50 Shariah DFA Log-Log graph



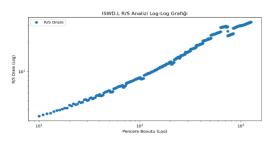
Graph 12. FTSE Shariah R/S Log-Log chart



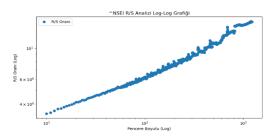
Graph 14. MSCI R/S Log-Log graph



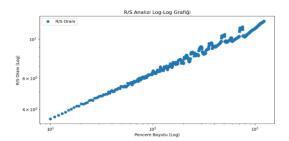
Graph 16. MSCI Shariah R/S Log-Log graph



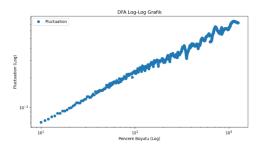
Graph 18. Nifty 50 R/S Log-Log graph



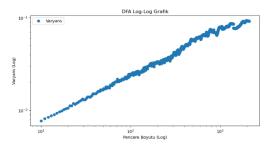
Graph 20. Nifty 50 Shairah R/S Log-Log graph



Graph 21. S&P 500 DFA Log-Log graph



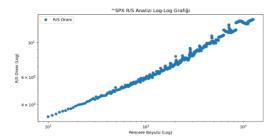
Graph 23. S&P Shariah DFA Log-Log graph



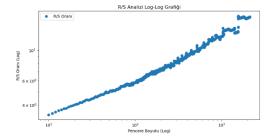
Graphs 1-24 contain log-log graphs representing the Hurst exponent obtained for all indices subjected to DFA and R/S analyses. In these graphs, the X-axis (log window size) displays the window sizes on a logarithmic scale. The Y-axis (Log variance) represents the logarithms of the variance values for each window size. The points on these graphs reflect the variances calculated according to various window sizes and are used to analyze the change of these variances. The best line for the data points is found by the regression line on the log-log graph; the slope of this line indicates the Hurst exponent. The value of the Hurst exponent, which is used to assess the series' long-term memory characteristics, is reflected in the slope of the regression line.

Therefore, in the analyses performed assuming that other variables are constant, the reliability of the analysis increases since both methods produce similar results in the Hurst exponent examined using DFA and R/S methods. When the graphs are analyzed carefully, it is seen that 7 out of the 12 indices examined (Graph 16 and 17-MSCI Shariah, Graph 7 and 8-Dow Jones Shariah, Graph 1 and 2-BIST 100, Graph 3 and 4-BIST Participation, Graph 17 and 18-Nifty 50, Graph 19 and 20-Nifty 50 Shariah, Graph 11 and 12-FTSE Shariah) do not exhibit random behavior but have a long-term fractal structure. The other five indices (Graphs 13 and 14-MSCI, Graph 5 and 6-Dow Jones, Graph 21 and 22-S&P 500, Graph 23 and 24-S&P 500 Shariah, Graph 9 and 10-FTSE 100) exhibit pink noise behavior with temporary negative correlation. With the Hurst exponent obtained with DFA and R/S methods, future behaviors of time series are estimated based on their past performances and structural features. It should be emphasized that it is important to evaluate these estimates together with market conditions, external factors and the characteristics of the time series.

Graph 22. S&P 500 R/S Log-Log graph



Graph 24. S&P Shairah R/S Log-Log graph



## **Conclusion**

The purpose of the research is to evaluate the Fractal Market Hypothesis (FPH) in both conventional and Islamic indexes. If Islamic indices differ from conventional indices in their fractal behaviors, is the key issue of the research. In order to investigate the fractal characteristics of six Islamic and six conventional indices between 2014 and 2024, Detrended Fluctuation Analysis (DFA) and Rescaled Range Analysis (R/S) methodologies were included in the research. The main findings obtained reveal that Islamic indices generally exhibit stronger long-term dependencies and fractal properties, and these properties become more pronounced especially during financial crisis periods. In contrast, conventional indices exhibit shorter-term correlations and anti-permanent behaviors. These findings indicate that Islamic markets can offer more robust investment opportunities, especially during periods of economic volatility, due to their inherent long-term memory and stability. In this direction, the study shows similar results to the studies of Laherrère and Sornette (1998), Güneş (2020), Karakaya and Atukalp (2022). The fractal dynamics of Islamic financial markets and provides empirical evidence supporting the applicability of FPH to Islamic indices. This has important implications for policy makers, financial analysts, and investors as it highlights that Islamic indices can provide a more stable investment environment during periods of financial instability. In addition, this study challenges the traditional EMH and claims the inclusion of fractal analysis in the assessment of market dynamics.

This study is not free from some limitations. The analysis is limited to a specific set of indices and a defined time period, which may not fully reflect all market dynamics. In addition, the study only focused on the fractal properties of the indices and did

not consider other potential market effects. Future research should expand the scope of the analysis by including a wider range of indices and other emerging markets. In addition, combining machine learning techniques with fractal analysis can provide deeper insights into market behavior and increase forecast accuracy.

The current research's results underscore the significance of taking into account fractal features in the analysis markets, particularly within the framework of Islamic finance. By demonstrating the durability and long-term stability of Islamic indices, it argues for a more nuanced approach to market assessments. It also suggests a promising methodology that acknowledges complex and non-linear financial system behaviors and holds promise for future financial modeling and risk management strategies.

#### References

Abduh, M. (2020). Volatility of Malaysian conventional and Islamic indices: Does financial crisis matter?. Journal of Islamic Accounting and Business Research, 11(1), 1-11.

An, Y., Jiang, K., & Song, J. (2023). Does a Cross-Correlation of Economic Policy Uncertainty with China's Carbon Market Really Exist? A Perspective on Fractal Market Hypothesis. Sustainability, 15(14), 10818.

Blackledge, J., ve Lamphiere, M. (2022). A review of the fractal market hypothesis for trading and market price prediction. Mathematics, 10(1), 117. 1-46. https://doi.org/10.3390/math10010117

Bouchaud, J. P., Potters, M. (2003). Theory of financial risk and derivative pricing: from statistical physics to risk management. Cambridge university press.

Bouoiyour, J., Selmi, R., & Wohar, M. E. (2018). Are Islamic stock markets efficient? A multifractal detrended fluctuation analysis. Finance Research Letters, 26, 100-105.

Calvet, L. E., Fisher, A. J. (2008). Multifractal volatility: theory, forecasting, and pricing. Academic Press.

Carbone, A., Castelli, G., ve Stanley, H. E. (2004). Time-dependent Hurst exponent in financial time series. Physica A: Statistical Mechanics and its Applications, 344(1-2), 267-271.

Çevik, M., & Karaca, S. S. (2021). Kredi temerrüt takası primlerinin oynaklığında uzun hafıza ve etkin piyasa hipotezi-fraktal piyasa hipotezi sınaması: Türkiye örneği. Gaziantep University Journal of Social Sciences, 20(3), 1375-1400.

Dar, A., Bhanja, N., ve Tiwari, A. (2017). Do global financial crises validate assertions of fractal market hypothesis?. International Economics and Economic Policy, 14, 153-165. https://doi.org/10.1007/S10368-015-0332-0.

Delice G., & Tuncay, M. (2024). İslami Sermaye Piyasalarında Volatilite: İslami Hisse Senedi Endeksleri Üzerinden Karşılaştırmalı Bir Analiz, Maliye Dergisi, 186: 221-250

Dewandaru, G., Masih, R., Bacha, O. I., ve Masih, A. M. M. (2017). The role of Islamic asset classes in the diversified portfolios: Mean variance spanning test. Emerging Markets Review, 30, 66-95.

Elteir, M., Ragab, A., ve Eid, N. (2013). Sukuk: Does it minimize risk?. American Academic ve Scholarly Research Journal, 5(6). 87-94.

Erdoğan, N. K. (2017). Finansal zaman serilerinin fraktal analizi. Aksaray üniversitesi iktisadi ve idari bilimler fakültesi dergisi, 9(4), 49-54.

Garcin, M. (2019). Hurst exponents and delampertized fractional Brownian motions. International journal of theoretical and applied finance, 22(05), 1950024. 1-26

Grech, D., ve Mazur, Z. (2004). Can one make any crash prediction

in finance using the local Hurst exponent idea? Physica A: Statistical Mechanics and its Applications, 336(1-2), 133-145.

Güneş, H. (2020). İslami endeks volatilitesinde uzun hafizanın asimetrik model ile test edilmesi. International Journal of Islamic Economics and Finance Studies, 6(2), 180-196

Hakim, S., ve Rashidian, M. (2002). Risk ve return of Islamic stock market indexes. 9th Economic Research Forum Annual Meeting, 26-28 October, Sharjah UAE.

Ho, C. S. F., Abd Rahman, N. A., Yusuf, N. H. M., ve Zamzamin, Z. (2014). Performance of global Islamic versus conventional share indices: International evidence. Pacific-Basin Finance Journal, 28, 110-121.

Hurst, H. E. (1951). Long-term storage capacity of reservoirs. Transactions of the American society of civil engineers, 116(1), 770-799

Hussein, K., ve Omran, M. (2005). Ethical investment revisited: evidence from Dow Jones Islamic indexes. The journal of Investing, 14(3), 105-126.

Kandemir, T., & Gözde, U. Ç. A. R. (2023). Geleneksel ve İslami Hisse Senedi Endekslerinin COVID-19 Öncesi ve COVID-19 Dönemi Getiri Performanslarının Değerlendirilmesi. Süleyman Demirel Üniversitesi Vizyoner Dergisi, 14(40), 1120-1141.

Kantelhardt, J. W., Zschiegner, S. A., Koscielny-Bunde, E., Havlin, S., Bunde, A., ve Stanley, H. E. (2002). Multifractal detrended fluctuation analysis of nonstationary time series. Physica A: Statistical Mechanics and its Applications, 316(1-4), 87-114.

Karakaya, A., & Atukalp, M. E. (2022). Türkiye'deki bankaların hisse senedi getirilerinde fraktal piyasa hipotezinin testi. Hacettepe Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi, 40(2), 316-3

Karp, A., ve Van Vuuren, G. (2019). Investment implications of the fractal market hypothesis. Annals of Financial Economics, 14(01), 1950001. https://doi.org/10.1142/S2010495219500015

Kendirli, S. (2006). Portföy Yönetiminde Kaos Teoremi. Journal of Istanbul Kültür Üniversitesi Dergisi, 4(2), 171–180.

Konak, F., ve Türkoğlu, D. (2022). Borsa İstanbul Bünyesinde Katılım Endeksi Oluşturulmasının Hisse Senedi Fiyatları Üzerindeki Etkisi. Uluslararası Sosyal Bilimler Akademi Dergisi, 4(10), 813-831. https://doi.org/10.47994/usbad.1140256.

Kristoufek, L. (2012). Fractal markets hypothesis and the global financial crisis: Scaling, investment horizons and liquidity. Advances in Complex Systems, 15(06), 1250065. 1-11. https://doi.org/10.1142/S0219525912500658

Laherrere, J., ve Sornette, D. (1998). Stretched exponential distributions in nature and economy: "fat tails" with characteristic scales. The European Physical Journal B-Condensed Matter and Complex Systems, 2, 525-539.

Liu, G., Yu, C.-P., Shiu, S.-N., ve Shih, I.-T. (2022). The Efficient Market Hypothesis and the Fractal Market Hypothesis: Interfluves, Fusions, and Evolutions. Sage Open, 12(1), 1-8. https://doi.org/10.1177/21582440221082137

Lux, T. (1996). The stable Paretian hypothesis and the frequency of large returns: an examination of major German stocks. Applied financial economics, 6(6), 463-475.

Mandelbrot, B. (1963). The Variation of Certain Speculative Prices. The Journal of Business, 36(4), 394-419.

Mandelbrot, B. B. Ve Hudson, R. L. (2010). The (mis) behaviour of markets: a fractal view of risk, ruin and reward. Profile books.

Mandelbrot, B., ve Van Ness, J. W. (1968). Fractional Brownian Motions, Fractional Noises and Applications. SIAM Review, 10(4), 422-437.

Mantegna, R. N., ve Stanley, H. E. (1995). Scaling behaviour in the dynamics of an economic index. Nature, 376(6535), 46-49.

Moralı, T., & Uyar, U. (2018). Kıymetli metaller piyasasının fraktal analizi. Hitit Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 11(3), 2203-2218.

Mulligan, R. F. (2004). Fractal analysis of highly volatile markets: an application to technology equities. The quarterly review of economics and finance, 44(1), 155-179.

# Comparing the Islamic and Conventional Indices Focusing on Fractal Market Hypothesis

Muzy, J. F., Delour, J., ve Bacry, E. (2000). Modelling fluctuations of financial time series: from cascade process to stochastic volatility model. The European Physical Journal B-Condensed Matter and Complex Systems, 17, 537-548.

Niveditha, P. S. (2024). Identifying Safe Haven Assets: Evidence from Fractal Market Hypothesis. Computational Economics, 1-23.

Peng, C. K., Buldyrev, S. V., Havlin, S., Simons, M., Stanley, H. E., ve Goldberger, A. L. (1994). Mosaic organization of DNA nucleotides. Physical Review E, 49(2), 1685-1689.

Peters, E. E. (1989). Fractal Structure in the Capital Markets. Financial Analysts Journal, 45(4), 32-37.

Peters, E. E. (1994). Fractal market analysis: applying chaos theory to investment and economics (Vol. 24). John Wiley ve Sons.

Peters, E. E. (1996). Chaos and order in the capital markets: a new view of cycles, prices, and market volatility. John Wiley ve Sons.

Saâdaoui, F. (2018). Testing for multifractality of Islamic stock markets. Physica A: Statistical Mechanics and its Applications, 496, 263-273.

Saiti, B., Bacha, O. I., ve Masih, M. (2014). The diversification benefits from Islamic investment during the financial turmoil: The case for the US-based equity investors. Borsa Istanbul Review, 14(4), 196-211.

Sakınç, İ., & Açıkalın, S. (2022). COVID 19 Pandemisinin Küresel İslami ve Geleneksel Endeksler Üzerindeki Etkilerinin Karşılaştırılması. Gaziantep University Journal of Social Sciences, 21(3), 1439-1456.

Sornette, D. (2004). A complex system view of why stock markets crash. New Thesis, 1(1), 5-18.

Stanley, H. E., Plerou, V., ve Gabaix, X. (2008). A statistical physics view of financial fluctuations: Evidence for scaling and universality. Physica A: Statistical Mechanics and its Applications, 387(15), 3967-3981.

Teng, Y., ve Shang, P. (2018). Detrended fluctuation analysis based on higher-order moments of financial time series. Physica A: Statistical Mechanics and its Applications, 490, 311-322.

Weron, A., ve Weron, R. (2000). Fractal market hypothesis and two power-laws. Chaos, Solitons ve Fractals, 11, 289-296. https://doi.org/10.1016/S0960-0779(98)00295-1

Zaidi, S. A. H., Shah, I. H., Umair Ashraf, R., Ghauri, S. M. K., ve Hassan, I. (2015). Standardization of Islamic market indices. International Journal of Commerce and Management, 25(2), 240-256.

## Research Article

ROMAYA - Researches on Multidisiplinary Approaches 2024, 4(2): 232-240

ISSN:2791-9099

# Investigation of Turnover Tendency Predictions with Artificial Intelligence and Mathematical Models<sup>1</sup>

Yapay Zekâ ve Matematiksel Modeller İle Yapılan İşten Ayrılma Eğilim Tahminlerinin İncelenmesi

# Hasan Burak Aycan / MSc Stu. (D)

Yıldız Technical University burakaycan@gmail.com

Mert Bal / Assoc. Prof. Dr. (D)

Yıldız Technical University, Department of Mathematical Engineering mertbal@yildiz.edu.tr

## **Abstract**

In today's business world, human resource management is becoming increasingly important and human resource processes are becoming more complex. Companies are implementing many new practices to increase employee engagement. The common goal of these efforts is to positively affect labor turnover by increasing employee happiness and job satisfaction.

However, it is quite difficult to predict the tendency to quit. Since employees do not share their decision to leave with their employers, employers are caught off guard when they learn about the decision to leave.

In this context, artificial intelligence technologies offer employers the opportunity to predict employee turnover trends and take measures accordingly. The aim here should be to identify the reasons that trigger turnover and enable them to make improvements in these areas, rather than identifying the employee who will leave. Artificial intelligence algorithms and mathematical modeling allow companies to analyze employee data and learn the underlying causes of employee turnover.

In addition, human resources analytics studies include a series of processes from employee recruitment to performance evaluation, from training to turnover management. With artificial intelligence and HRIA applications, these processes are managed more efficiently and effectively. In this way, HRIA helps businesses increase their competitive advantage.

**Keywords:** Artificial Intelligence, Human Resources, Human Resource Analytics, Employee Engagement, Resignation Tendency.

**JEL Codes:** C63,C65,C83

# Özet

Günümüz iş dünyasında insan kaynakları yönetimi giderek önem kazanmakta ve insan kaynakları süreçleri daha karmaşık hale gelmektedir. Şirketler çalışan bağlılığını artırmak için birçok yeni uygulamayı hayata geçiriyor. Bu çabaların ortak hedefi, çalışan mutluluğunu ve iş tatminini artırarak işgücü devrini olumlu yönde etkilemek.

Ancak işten ayrılma eğilimini tahmin etmek oldukça zordur. Çalışanlar ayrılma kararlarını işverenleri ile paylaşmadıkları için işverenler ayrılma kararını öğrendiklerinde hazırlıksız yakalanmaktadır.

Bu bağlamda yapay zeka teknolojileri işverenlere çalışan devir eğilimlerini tahmin etme ve buna göre önlem alma fırsatı sunuyor. Burada amaç, ayrılacak çalışanı tespit etmekten ziyade, işten ayrılmayı tetikleyen nedenleri tespit etmek ve bu alanlarda iyileştirmeler yapmalarını sağlamak olmalıdır. Yapay zeka algoritmaları ve matematiksel modelleme, şirketlerin çalışan verilerini analiz etmesine ve çalışan devrinin altında yatan nedenleri öğrenmesine olanak tanır.

Ayrıca insan kaynakları analitiği çalışmaları, çalışan işe alımından performans değerlendirmesine, eği-

<sup>&</sup>lt;sup>1</sup> "Predicting employee intentions to leave and quiet quitting in the finance sector with human resource analytics methods" produced from the thesis titled.

# Hasan Burak Aycan / Mert Bal

timden işten ayrılma yönetimine kadar bir dizi süreci içeriyor. Yapay zeka ve İRİA uygulamaları ile bu süreçlerin daha verimli ve etkin bir şekilde yönetilmesi sağlanıyor. Bu sayede İKİA, işletmelerin rekabet avantajını artırmasına yardımcı oluyor.

**Anahtar Kelimeler:** Yapay Zeka, İnsan Kaynakları, İnsan Kaynakları Analitiği, Çalışan Bağlılığı, İşten Ayrılma Eğilimi.

JEL Kodları: C63,C65,C83

## Introduction

Türkiye, In the business world, the most important resource of organizations is the human resources working in the business and its stakeholders. Businesses should try to increase the performance of their employees, motivate them and reduce the tendency to leave the job in order to achieve the success they desire in the medium and long term.

Instead of investing in precise research to understand employees' motivation to leave or their motivation to stay, most companies invest in additional benefits or measures to search for talent. [1] However, increasing the engagement of existing employees will both reduce costs and improve the quality of work in the medium term. The last resort should be to let an undesirable employee leave and replace them with a new employee.

There are many factors affecting the decision to leave the job. Determining these factors is not possible only with observational information. Supporting observations with models based on analytical data will ensure accurate determination. In her 2018 article, Hila Chalutz Ben-Gal conducted a return on investment (ROI) based review of human resources (HR) analytics. This study showed the positive results of Human Resource Analytics (HRA) applications [2].

With artificial intelligence, it is possible to identify the factors that trigger the turnover process. In order to maximize employee performance and loyalty, it is necessary to identify the factors that trigger turnover. Examining the studies on identifying these factors offers a great opportunity for businesses.

# **Conceptual Framework**

The word 'work engagement' emerged in 1990 as the emotional, physical and cognitive involvement of employees in their roles [3]. Underlying this relatively short history is the

sense of belonging. Increasing the sense of belonging has become one of the most critical issues for businesses today.

Turnover propensity has significant impacts on organizations' workforce management strategies and performance objectives. Therefore, it is a concept that needs to be addressed comprehensively. Or-

ganizations can reduce turnover rates by increasing the motivation and commitment of their employees. Thus, it creates a competitive advantage in terms of achieving business goals.

Although employees are the main asset, they are also the most important cost [4]. However, employees should not only be seen as a cost item. Employees are also the most important source of revenue generation for a business. Employee engagement should be considered and focused on in this context.

The analytical dimension should always be considered when addressing employee engagement. HR analytics is a relatively new term that first appeared in the academic literature in 2004 [5]. Although it is new, it has a great impact on businesses and businesses have started to spread these practices rapidly. The returns of these practices of businesses have also been revealed in the studies in the literature. An MIT study conducted in 2011 concluded that top-performing organizations use HR Analytics applications five times more than low-performing organizations [6]. These studies in the literature and the experiences of businesses in daily life have shown the benefits of HRIA applications to businesses. These outputs have led businesses to invest more in this area.

The departure of a key employee is not only a loss in terms of business continuity, but also damages the business in different ways in terms of transferring knowledge to a competitor. Delays in work due to the process of replacing the departed employee bring with them various alternative costs.

With advancing digitalization, it has become easier to create data sets that identify the factors that trigger employee turnover. Structured and unstructured data sources are

becoming more accessible to human resource (HR) professionals, enabling them to better analyze the complexity of workforce decision-making [7]. HR professionals have reached a point where they can easily collect a lot of data on employee engagement. Processing the data with artificial intelligence and mathematical models, identifying the factors that trigger turnover will guide the business on where to focus resources and increase resource efficiency.

Many academic studies have examined the relationship between HR practices and organizational success. It has been clearly seen that if organizations follow successful HR practices, they increase their profitability [8]. Acting on this knowledge, organizations have started to implement many practices to increase employee engagement. These practices include training, stock options, changes in work environments, flexible working opportunities, etc.

To reduce high turnover, HR organizations need the help of HR analytics [9]. Without the support of

HR analytics, it will be difficult to identify employee trends and it will not always be possible to make the right decisions as they will be based on personal judgments. Especially in companies with tens of thousands of employees spread across the country, making these predictions with only manager observation poses many risks. The accuracy of determinations based on personal observations may be met with skepticism by employees. A trend forecast that is not based on an analytical basis may interpret a short-term loss of motivation as a tendency to resign and cause worse consequences.

A high level of labor turnover can be caused by different reasons. These include inadequate wage levels, hiring the wrong employees in the first place, poor morale and low motivation. Such reasons make the decision to change jobs easier in a vibrant local labor market that offers more and perhaps more attractive opportunities to employees [10]. Salary is an important factor, but not the only one. Especially for Millennials and Generation Z, work-life balance, development opportunities and additional benefits may be more important than salary in decision-making. Before predicting turnover tendency, the expectations of the employee should be fully understood during recruitment and it should be examined whether the organization meets these needs.

Decisions based on personal observations also involve biases. Biases lead to discrimination in the workplace and various analytical tools should be used to control these biases [11]. It must be clearly demonstrated to employees that how promotions, wage increases, performance bonuses or training opportunities are distributed among employees is determined by using analytical methods.

The factors affecting the decision to leave the organization can be categorized under two headings: internal and external factors.

External factors generally refer to individual and external factors. Individual factors include characteristics such as career goals, work-life balance, health status, while external factors may include economic conditions, industry trends, competition, etc.

Businesses should not ignore these factors in order to reduce turnover. The potential of how artificial intelligence technology can be used to analyze these factors has also been discussed in the literature and its benefits have been demonstrated by various studies.

The rapid development of technology and the fact that artificial intelligence applications can be easily used by the end user have offered new opportunities to the human resources management of enterprises in this respect. Human resources management includes a series of processes from employee recruitment to performance evaluation, from training to turnover management. With artificial intelligence and HRM applications, these processes are mana-

ged more efficiently and effectively. In this way, HRM helps businesses increase their competitive advantage.

Artificial intelligence in recruitment and selection processes can help assess the skills and suitability of candidates by using big data analysis and machine learning techniques in recruitment and selection processes. Especially in CV screening, job interviews and personality assessments, AI can help to achieve objective and consistent results.

One of the most important triggers of the turnover process is undoubtedly hiring the wrong employee. Human resources analytics methods benefit businesses in this respect. Nowadays, detailed data about the prospective employee can be collected through methods such as personality inventories and job entry tests. These data can be processed with HRIA applications to determine which employees are more suitable for the corporate culture. In addition, more accurate recruitment will be made by comparing the rights offered by the organization with employee expectations.

Another area of use for human resource analytics is training and development. The development of technology and high digitalization has led to changes in the qualifications sought in the labor market. These changes have increased the importance of training and development of existing employees. The use of HRD applications in identifying training needs and preparing training inventories will increase efficiency in this area. Thus, a more effective employee-specific training plan can be prepared.

Reshaping job descriptions in line with the state of technology is another important issue for engagement. HR can restructure jobs following a four-step process to achieve the optimal combination of humans and machines [12]. Figure 1 illustrates these four steps. With this method, training and development needs that will occur within the framework of changing job needs and job descriptions can be predicted and planned for employees.

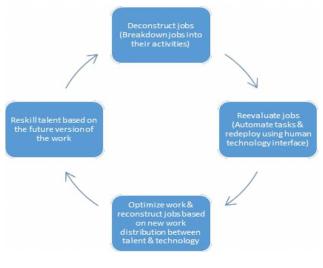


Figure 1. A four-step model for redefining jobs

Another element that increases engagement is performance management. Artificial intelligence can be used to make performance appraisal processes more efficient and objective. Feedback processes can be improved by monitoring employees' goals, achievements and development areas with artificial intelligence algorithms. To improve talent management decisions, HR-related data needs to be systematically collected, analyzed and interpreted. This has led to the frequent use of HR Analytics in talent management [13]. Promoting a successful employee or assigning him/her to a different field will not always lead to positive results. It is important that the expectations of the employee and the new task are compatible. At this point, managers' opinions should be supported by analytical models.

Specific data about employees such as age, qualifications, skills, project work, rewards, technological skills, conceptual skills can be used for performance measurement. Employee performance can be measured using statistical tools such as mean, correlation, regression, Chi-square test [14]. Measuring employee performance with analytical methods will be more convincing in terms of the validity of the result. Performance measurements and related rewarding systems in which the effect of personal evaluations is low increase success. Otherwise, the decisions made may be met with skepticism by employees.

The use of HR analytics in the performance analysis (PA) system will exclude personal biases and biased assessments. Thus, the results for employees are certain to be fairer. This further positively influences employee satisfaction with the PA system, which in turn increases employee willingness to improve performance [15]. In this environment, successful employees will be less likely to leave their jobs.

Artificial intelligence can make performance management processes more efficient and objective. Data analytics and algorithms can make it easier to monitor and evaluate employee performance and provide recommendations for feedback. Effective performance management will strengthen employee engagement with the company and reduce turnover.

According to a study conducted by Deloitte consulting firm, human resource analytics has a strong correlation with performance evaluations and organizational profitability. Companies that use HR analytics extensively have 82% higher average annual profits than those that do not [16].

Technologies such as big data analysis, prediction models, artificial intelligence can help to have an idea about which factors affect employees' tendency to leave their jobs. Despite this, it is seen that businesses do not allocate sufficient resources. A study by Deloitte found that although 71% of companies consider HR analytics a high priority in their organizations (31% very important), its use is very limited

[ 17]. Businesses should allocate more resources to HRIA studies that are seen as a priority and make more use of these applications during the recruitment phase.

Predicting turnover trends offers employers the opportunity to intervene in a timely manner and retain talented employees. In this context, artificial intelligence technology offers a new approach to turnover prediction, helping businesses to manage this process more efficiently. HR analytics can therefore be defined as the systematic identification and measurement of human drivers of business outcomes in order to make better decisions [18]. With different artificial intelligence and HRA models, better identification of the key elements that connect employees to the company and taking remedial actions on these elements will maximize engagement. At this point, many different models and variable sets have been examined in the literature.

The preparation of these models requires HR staff to have sufficient technical knowledge and to work in collaboration with analytics teams. Undoubtedly, models prepared by HR teams that are not analytically competent will not be valid. An analytical perspective is also required when interpreting the outputs of existing models. In an article published by the Chartered Institute for Personnel and Development in 2013, the HR analytics dimension of the employee-employer relationship was examined. In this context, the importance of HR functions being competent enough to ask the right questions in order to access the right data was emphasized [19]. In order to prevent this, HR teams need to be trained more on technology. It should be ensured that they understand these technologies better and use them effectively and correctly.

Thanks to big data analysis and algorithms, organizations can predict employee turnover using data such as past performance, absenteeism levels, and promotion history. HR analytics provides descriptive, predictive and perspective analysis [20]. In order to prepare analyses in a healthy way, it is necessary to collect the necessary data set in a complete and healthy way. These data sets may differ for each sector and business. For this reason, the data set should be added to the model in its widest form at the first stage, and then it should be narrowed down by examining it specifically for the sector and the enterprise.

Predictive analysis, including numerous statistical techniques such as modeling and data mining, uses current and historical data to predict future outcomes [21]. When adding historical data to the data set, the conjuncture at that time should be taken into account and the data should be interpreted accordingly. For example, while all companies were working remotely during the Covid 19 period, remote working behavior was at a negligible level before, remote working expectations before, during and af-

Investigation of Turnover Tendency Predictions with Artificial Intelligence and Mathematical Models

ter the Covid 19 period should be examined in the light of this information and added to the dataset.

Identifying turnover propensity involves a challenging process to understand a situation that is difficult to detect by traditional methods. As mentioned, identifying this tendency by manager observation alone involves different risks. The use of artificial intelligence (AI) technologies to make predictions free from observations based on personal interpretation stands out as a critical approach to understanding and predicting silent resignation and turnover trends

Artificial intelligence is a technology that increases the competencies of companies in terms of analyzing big data, finding patterns and developing predictions based on this information. In the field of human resources management, Al techniques can affect many areas, from recruitment processes to performance management, from training to turno-

ver prediction.

Setiawan V.D. divided the analysis process into five steps in his wear and tear analysis studies

- Data Voting and Business Insight: Collecting and analyzing data to better understand what the main objectives of the study should be.
- Data Preprocessing: The step of preprocessing the data so that it is suitable for the analysis method. Pre-processing may involve cleaning the data, transforming the data or creating new variables that can bring useful information for the analysis steps.
- Exploratory Data Analysis (EDA): This step creates textual and visual summaries of the dataset highlighting some of the characteristics of the data.
- Model Selection and Training
- Model Testing and Evaluation: Evaluating the performance of proposed models



Figure 2 Wear analysis steps.

The most important stage in RDA applications is the collection of the right data in the right context and the necessary pre-processing of these data. Undoubtedly, the same data can mean different things in different contexts. For example, a person who does not tend to quit his/her job in the finance sector may express his/her intentions differently during a crisis when economic data are very bad or during periods of goal realization when the pressure is very intense. Analyzing this data independent of the context will

negatively affect the research results.

Lenka Girmanová, Zuzana Gašparová, in their article published in 2018, examined the reasons for employee turnover by choosing deep data mining methods for analysis, namely association rule search and predictive decision trees. At the end of this study, the dissatisfaction of employees and their tendency to leave their jobs were confirmed by the analysis [22].

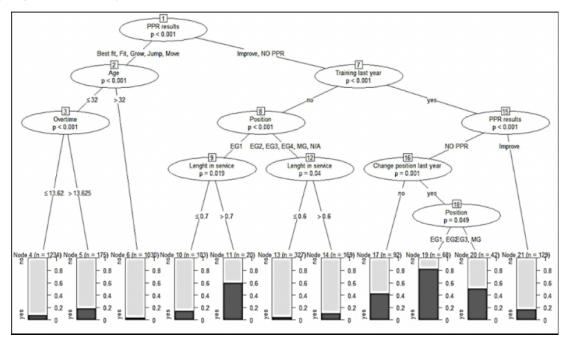


Figure 3. Decision Tree of the ctree Algorithm

## Hasan Burak Aycan / Mert Bal

These analyses, an example of which can be seen in Figure 3, vary for different sectors, but give a general idea. When the leading dissatisfactions are analyzed, it is seen that dissatisfaction with income, working environment and motivation stand out. Even if their priorities change for different generations, each group of variables are important variables in supporting the tendency to leave the job.

The parameters used in turnover prediction may vary within the framework of sectoral and cultural constraints. In each study, the parameters should be determined in detail within the framework of these constraints. After the model is established, more accurate results can be obtained by removing irrelevant or less effective parameters from the model. Although they vary according to the sector and culture, the parameters to be used in the estimation can be considered in 5 main groups.

These parameters include demographic variables (age, gender, marital status, education level, occupational group, position, salary, number of children, etc.), working conditions variables (workload, working hours, perception of job opportunities, telecommuting, job security, career development, etc.), job satisfaction variables (salary and fringe benefits, Relations with colleagues, top management communication, job stability, job motivation, etc.), organizational commitment variables (commitment to colleagues, emotional commitment to top management, emotional commitment to organizational culture, commitment based on work ethics, commitment to social responsibility, etc.).

Multilayer perception is one of the first neural networks proposed and the structure is shown in Figure 4. It is suitable for simple model classification tasks, such as two classification tasks [23].

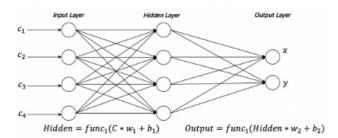


Figure 4. Multilayer perception structure for the binary classification problem.

Multilayer perceptron neural network (MLP) is one of the methods that can be used in human resource analytics to predict employee turnover. By learning from variable data that can predict an employee's propensity to leave, MLP can model which factors are more likely to influence an employee's likelihood of leaving. For example, variables such as employee

satisfaction, engagement information, company benefits, performance appraisals, team dynamics and career advancement opportunities are data that can be used by MLP for learning.

There are two main types of decision trees used in data mining:

- Classification tree analysis is used when the predicted outcome is the class to which the data belongs.
- Regression tree analysis is used when the predicted outcome can be considered a real numher

The most common types of decision tree algorithms are CHAID, CART and C4.5. CHAID (Chi-square automatic interaction detection) and CART (Classification and Regression Trees) were developed by statisticians [46]. When analyzing with decision trees, it is important to decide on tree decompositions and select variables. The decision tree divides the data set horizontally according to the importance of the features. Each split represents a specific value of an attribute and the data set is divided into subsets according to these values. During each partitioning process, statistical measures such as the Gini index are used to decide which variables form the best tree and the best representative partitions are selected. The random forest model is a learning method that combines multiple decision trees to select the best outcome.

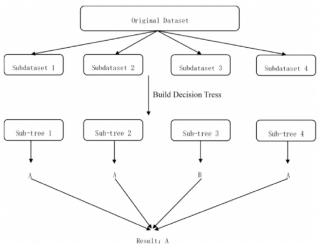


Figure 5. Decision-making process of the random forest

As shown in Figure 5, the dataset extracts 4 sub-datasets to form 4 sub-decision trees, 3 trees are voted as A, one sub-decision tree is voted as B and the final output is A. Among the factors affecting the tendency to leave in this study, Monthly Income, Age, Distance to workplace are the top 3 important characteristics that indicate whether the employee tends to leave or not, marital status is married and women between 40 -50 years old are less likely to leave [24].

Analyses with the random forest method consist of multiple decision trees. Each decision tree is trained independently using randomly selected subsets of the dataset. This process allows each tree to learn different aspects of the data set and improves the overall success of the model. In each tree, the features used to identify splits are also randomly selected. This method ensures that the decision trees are different from each other and makes the model more resistant to overfitting.

"Employee Attrition: What Causes an Employee to Quit?", using Logistic Regression, Random Forest and K-Nearest Neighbor (KNN) methods on a dataset provided by IBM, the study found that the characteristics with the highest correlation were those related to economic factors, such as age, length of employment and monthly income, and employee participation in overtime work. Qualitative attributes such as environment and job satisfaction are associated with attrition, but not to the same degree as other factors [25].



Figure 6. IBM attribute and separation correlation values

The data preparation phase is very important for artificial intelligence-based prediction models. At this stage, the data on past resignation and silent resignation cases should be organized, cleaned and variables should be carefully selected. While preparing this data set, data sets should be differentiated for each sector and company by evaluating them with observations. In order to reduce the subjective effect based on observations, we can start with the largest data set and then work with more refined data sets. Characteristics may include factors such as employee demographics, job performance, organizational commitment level. Differentiating the dataset before and after the pandemic, according to the age of employees and sectors will be neces-

sary to get more accurate results in order to correctly identify the priorities of employees.

After data preparation, model training is performed on the selected machine learning algorithm. In the training phase, the model is tuned to predict turnover and silent resignation trends using historical data sets. The performance of the model is tested on the validation dataset and the hyperparameters are optimized. The trained model makes predictions on new data inputs. Turnover and silent resignation trends are predicted with a given probability. When evaluating the prediction results, the model's performance measures such as accuracy, sensitivity, specificity and F1 score are taken into account.

Al-based predictive models offer employers the opportunity to detect turnover and silent resignation trends earlier and develop strategies accordingly. These models can help employers use resources more efficiently and increase employee job satisfaction.

A review of the literature reveals that HRQA models have been used in many studies to measure employee commitment to work and to predict possible decreases in commitment. In general, economic factors are seen to be prominent factors in turnover, but it is also stated that their importance may decrease in different generations and sectors.

Another method that can be used to predict turnover is the logistic regression model. The following steps should be followed when using the logistic regression model.

- Data Pre-Processing: The answers to the survey questions should be answered on different scales in order to quantify them. Questions that cannot be answered on a scale should be asked categorically. This categorical data should be digitized in the data preprocessing step before the model is built.
- Model Training: In order to reach more accurate results in the logistic regression model, it should be trained with the training data set. In this process, maximum likelihood estimation (MLE) method can be used to determine the coefficients (2) values).
- Making Predictions: The logistic regression model calculates the probabilities of the target variables for new data with the coefficients it finds during training iterations. The model uses the values of the independent variables for each row in the data set. It then calculates a probability for each variable.
- Evaluation of Results: The performance of the model is evaluated by comparing the predicted values with the actual values.

Logistic regression is used to estimate the effect of one or more independent variables on a dependent variable. In general, it is a method used to estimate one of two possibilities. It calculates the probability of each category of the target variable using a process called logit transformation:

 $Logit(p) = log(1-pp) = \beta 0 + \beta 1x1 + \beta 2x2 + \dots + \beta nxn$ 

The outcome p is the probability that the target variable takes the value "1" (e.g. propensity to quit).  $\beta 0,\beta 1,...,\beta n\beta 0,\beta 1,...,\beta n$  are the coefficients of the model and show the effect of each variable on this probability.

## **Conclusion**

Research in the literature clearly demonstrates the importance of human resources, the value of employee engagement for businesses and the benefits of identifying the triggers of turnover. In addition, the benefits of human resource analytics applications, mathematical models and artificial intelligence in these areas have also emerged in the literature.

The literature review was conducted under certain constraints. First of all, the research examines the relationship between human resource analytics and turnover prediction regardless of industry. Studies in the literature may contain different results for businesses in different industries. Another limitation is sociocultural differences. The questions administered in the analyzes in the studies conducted may produce different results in each country and even in each subculture. An important constraint is the time constraint. Especially after the pandemic and with the inclusion of Generation Z in the workforce, expectations from working life have changed. The fact that a relatively short period of time has passed after the pandemic to measure the impact of these changes and that

Generation Z has been in business life for a short time constitutes a constraint for research.

In this respect, turnover tendency should not only be evaluated from a humanities perspective by businesses, but also an engineering perspective should be added to the issue. In case of a multidisciplinary approach, employee engagement can be increased more effectively and labor turnover rate can be improved.

Research in the literature offers us a new perspective on another issue. This is that human resources employees working in organizations today need to increase their competence in technology and data analysis. As the literature clearly shows, employees expect many decisions such as performance evaluation and promotion decisions to be objective and free from personal judgments. This situation reveals the necessity to increase analytical approaches in human resources.

As a result of all these studies, it was clearly seen

that artificial intelligence and mathematical models can be used in predicting turnover tendency. This result supports the results of previous studies in the literature.

Every organization should act with this perspective and develop its human resources team in this respect. Investments made in this area will yield returns in a short time with the effects of reducing resignation rates and increasing motivation within the company.

In addition to identifying the tendency, human resource analytics methods can also be used to determine which variables are more effective in increasing this tendency to quit. From this point of view, in future academic studies, the variables that have the most effect on the tendency to quit can be examined in more depth. By finding the sub-variables affecting these variables, the root causes of the tendency to quit can be taken in detail.

In addition, in-depth sector-specific researches and surveys can be conducted to determine which variables affect turnover tendency more in different sectors. Thus, findings that will shed light on both businesses and future research can be obtained.

#### Referances

- [1] Zulla Consulting & Partners, (2017). "Should I stay or should I go Why your employees have this doubt?" Zulla Consulting & Partners. [Online] April 26. Available at: < https://www.linkedin.com/pulse/should-i-stay-go-why-your-employees-have-doubt-daniele-zulla/ [Accessed February 15, 2024].
- [2] Girmanová L. & Gašparová Z., (2018). "Analysis of Data on Staff Turnover Using Association Rules and Predictive Techniques" Lenka Girmanová, Zuzana Gašparová,.

DOI: 10.12776/QIP. V22I2.1122

- [3] Orth, M. & Volmer, J., (2017). "Daily within-person effects of job autonomy and work engagement on innovative behavior: the crosslevel moderating role of creative self- efficacy", European Journal of Work and Organizational Psychology.
- [4] Karmańska A., (2020). "The benefits of HR analytics" Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu, 64(8) DOI: 10.15611/Pn.2020.8.03
- [5] Marler, J., and Boudreau, J. (2017). "An evidence-based review of HR analytics.

The International Journal of Human Resource Management", 28(1), 3

- [6] LaValle S., Lesser E., Shockley R., Hopkins M & Kruschwitz N (2011). "Big Data, Analytics and the Path From Insights to Value" MIT Sloan Management Review 52(2):21-32
- [7] Pauli Dahlbom, Noora Siikanen and Pasi Sajasalo- Marko Jarvenpää, (2018) "Big data and HR analytics in the digital era", Baltic Journal of Management 15,1
- [8] Lochab, A., Kumar, S. & Tomar, H. (2018), "Human Resource Analytics On Organizational Performance: A Review Of Literature Using R-Software" International Journal of Management, Technology And Engineering, Vol. 8, pp. 1252-1261.
- [9] Bandi G., Rao T., Ali S. (2021). "Data Analytics Applications for Human Resource Management" 2021 International Conference on Computer Communication and Informatics (ICCCI-2021), Jan. 27 29, 2021, Coimbatore, INDIA
- [10] Alao D. & Adeyemo A. B. (2013), "Analyzing Employee Attrition Using Decision Tree Algorithms", Computing, Information Systems & Development Informatics Vol. 4 No. 1

# Investigation of Turnover Tendency Predictions with Artificial Intelligence and Mathematical Models

- [11] Hennessey, H.W. and Bernardin, H.J. (2003), "The relationship between performance
- appraisal criterion specificity and statistical evidence of discrimination", Human Resource Management, Vol. 42 No. 2, pp. 143-158.
- [12] Gaur B. (2020). "HR4.0: An Analytics Framework to redefine Employee Engagement in the Fourth Industrial Revolution" 11th ICCCNT 2020, IIT Kharagpur,
- [13] Soundararajan R & Kuldeep Singh K., (2017). "Winning on HR Analytics Leveraging Data for Competitive Advantage" New Delhi, Sage Publications India Pvt. Ltd., 2017, xxii + 245 pp,
- [14] Bandi G., Rao T., Ali S. (2021). "Data Analytics Applications for Human Resource Management" 2021 International Conference on Computer Communication and Informatics (ICCCI -2021), Jan. 27 29, 2021, Coimbatore, INDIA
- [15] Sharma, A., & Sharma, T. (2017). HR analytics and performance appraisal system: A conceptual framework for employee performance improvement. Managemen Research Review, 40(6), 684-697
- [16] Deloitte Development LLC. (2017). "Rewriting the rules for the digital age: 2017 Deloitte Global Hu-Man Capital Trends." Online at https://www2.deloitte.com/content/dam/Deloitte/global/Documents/About- Deloitte/central-europe/ce-global-human-capital-trends.pdf [Accessed January 11, 2024]
- [17] Deloitte Development LLC. (2017). "Rewriting the rules for the digital age: 2017 Deloitte Global Hu-Man Capital Trends." Online at https://www2.deloitte.com/content/dam/Deloitte/global/Documents/About- Deloitte/central-europe/ce-global-human-capital-trends.pdf [Accessed January 11, 2024]
- [18] Van den Heuvel, S. & Bondarouk, T. (2017), "The rise (and fall?) of HR analytics: a study into the future application, value, structure, and system support", Journal of Organizational Effectiveness: People and Performance, Vol. 4 No. 2, pp. 157-178.
- [19] Sharma, A., & Sharma, T. (2017). "HR analytics and performance appraisal system: A conceptual framework for employee performance improvement." Management Research Review, 40(6), 684-697
- [20] Reddy, P. (2017). "HR analytics an effective evidence based HRM tool". International Journal of Business and Management Invention, 6.7(2017), 23-34.
- [21] Karmańska A., (2020). "The benefits of HR analytics" Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu, 64(8) DOI: 10.15611/Pn.2020.8.03
- [22] Girmanová L. & Gašparová Z., (2018). "Analysis of Data on Staff Turnover Using Association Rules and Predictive Techniques" Lenka Girmanová, Zuzana Gašparová,.
- DOI: 10.12776/QIP. V22I2.1122
- [23] Cheng X., (2020) "Obtain Employee Turnover Rate and Optimal Reduction Strategy Based On Neural Network and Reinforcement Learning.". 2012.00583v1 [cs.Al]
- [24] Shenghuan Yang, Md Tariqul Islam (2021). "IBM Employee Attrition Analysis" arXiv:2012.01286v6 [cs.CY]
- [25] Frye A, Boomhower C, Smith M, Vitovsky L and Fabricant S (2018) "Employee Attrition: What Makes an Employee Quit?" MU Data Science Review 1