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CONTENTS

CHAPTER 1

The Decorative Paintings of Defterdar Mahmut Efendi (Arpalanı) Mosque

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The Defterdar Mahmut Efendi Mosque is located in Manisa Province, Karaköy District, Lala Pasha Neighborhood, Hasan Dede Street, Plot 13, Block 111, Parcel 15. The mosque was registered as a historical structure with a decision dated 1965, No. 11. According to a foundation record dated 1582 in the General Directorate of Foundations Archive, the mosque is also known as "Arapalanı Mosque" among the public (Acun, 1999: 210-211).

The mosque was first built in the 16th century by Defterdar Mahmut Efendi. In the 19th century, it suffered significant damage and was rebuilt except for its minaret. As a result, some elements of the mosque belong to the 19th century, while others date back to the 16th century (Acun, 1999: 210-211). The structure was most recently restored by the General Directorate of Foundations in 2006-2007.

The Arapalanı Mosque, which holds historical and artistic value, has been surrounded and confined by modern buildings and apartments as a result of urban modernization. Along with the changing surroundings, the decorative paintings within the mosque were also covered, though the exact timing of this is unknown. There is limited information about the decorations in sources related to the city and its structures. This study briefly introduces the building and then provides data related to the decorative paintings[2].

The Defterdar Mahmut Efendi Mosque is situated within a courtyard. In addition to the mosque, the courtyard contains a historical fountain, an ablution area, restrooms, and a "community room."

The prayer hall/harim, with its wooden ceiling and rectangular plan, is covered by a single-hipped roof made of traditional Turkish tiles.

The minaret on the eastern façade has a square base. The cylindrical body, adorned with mouldings, features two thin decorative bands. The balcony is supported by sawtooth decorations, and the cylindrical upper section is covered with a conical cap.

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[2]Arapalanı Mosque was presented at the 11th International Mardin Artuklu Scientific Research Congress, and its summary was published in the abstract book of the congress. See Acar, 2023: 482-483. This study is an extended version of the presentation.
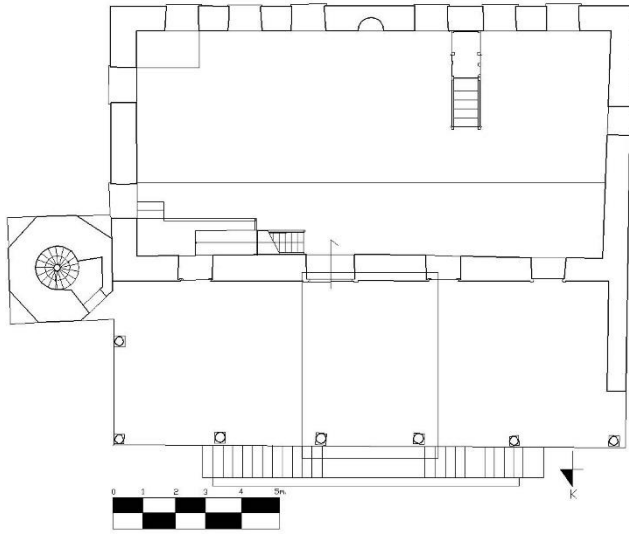
Drawing 1. Defterdar Mahmut Efendi (Arapalanı) Mosque. Survey Plan.

The arches of the wooden-ceilinged last congregation area, supported by wooden pillars, have a Bursa arch form with "S" and "C" curves. Decorative paintings are present on the arch spandrels and inner mirror sections. The centre of the wooden ceiling is highlighted by a wooden medallion. A raised platform is located on the west side of the last congregation area. Above the entrance to the prayer hall, there is a special call to prayer platform. Before the 2006 restoration, the arch openings of the last congregation area were enclosed with glass.

Photo. 1-2. Defterdar Mahmut Efendi (Arapalanı) Mosque. The Last Congregation Place Before Restoration.

Before the 2006 restoration, the walls of the rectangular harim covered by a wooden ceiling were lined with white tiles up to a certain height. The eastern wall has two lower-level windows and three upper level windows, the southern wall

has six windows at both levels, the western wall has one window, and the northern wall has three lower level windows. On the north side of the harim, there is a women's gallery supported by square and octagonal columns, accessible via stairs from within the hall.

The mihrab niche was covered with tiles, disrupting the original decorative elements and causing the loss of the painted decorations above it. The wooden minber to the west of the mihrab was also painted over with white oil paint.

Photo. 3-4. Defterdar Mahmut Efendi (Arapalanı) Mosque. Harim Before Restoration.

Photo. 5-6. Defterdar Mahmut Efendi (Arapalanı) Mosque. Mihrab and Minber Before Restoration.

During the restoration process that began in 2006, the removal of tiles from the lower walls revealed a small flat area beneath one of the windows. Following this discovery, scraping was conducted on the window frames and wall surfaces, revealing decorative paintings around the lower row of windows and on the wall surfaces. The decorative program of the mosque is as follows:

Drawing 2-6. Defterdar Mahmut Efendi (Arapalanı) Mosque. Sections with hand-drawn decorations in the harim after the restoration in 2006.

The sides of the windows are flanked by Corinthian-style columns. The pediments above the windows feature architectural depictions inside cartouches, topped with scrolling branches. In this scene, where olive branches and peppercorns are depicted, the artist was likely inspired by the olive and pepper trees in the mosque's courtyard. In the arch niches of the windows, floral decorations with multi-petal flowers and leaves can be seen within oval-shaped medallions. Some of these medallions extend beyond the iron grilles, suggesting that the grilles were moved inward later.

Photo. 7. Defterdar Mahmut Efendi (Arapalanı) Mosque. Mihrab and Eastern Section of the Southern Wall of the Harim.

The thick layer of plaster used to affix the tiles inside the mihrab niche caused the probable loss of the painted decorations within. The few remaining traces indicate that there were once decorative paintings within the mihrab niche. An inscribed rectangular panel was located at the top of the mihrab, although its contents are now illegible[3].

Surrounding the mihrab are scrolling branches with "S" and "C" curves. Above the inscription panel, there is another cartouche filled with a floral bouquet.

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[3]This panel has been recreated with a text containing the "Kelime-i Tevhid".

Photo. 8. Defterdar Mahmut Efendi (Arapalanı) Mosque. Mihrab and Western Section of the Southern Wall of the Harim after Restoration.

Rectangular cartouches at the upper level of the mosque's walls contain square religious panels. To the west of the mihrab is the name "Allah" to the east is "Muhammad" and the names of the "aşere-i mübeşşere" (the ten companions promised paradise)[4] are inscribed on the other panels. On the western side of the southern wall is a lamp-shaped inscription[5] of the "Kelime-i Tevhid". On the wall surfaces are inscriptions such as "Maşallah", "Hu," and mirrored inscriptions of "Muhammad," "Bismillah" and "Kelime-i Tevhid".

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[4]Ten people who were given the good news by our prophet that they would go to heaven while they were alive (Hz. Ebu Ebu Bekir bin Ebi Kuhafe, Hz. Ömer bin-il-Hattab, Hz.Osman bin Affan, Hz.Ali bin Ebi Talib, Hz.Talha bin Ubeyd-illah, hz.Zübeyr bin-il-Avvam, Abdürrahman bin Avf, Ebu Ubeyde bin-il-Cerrah, Said bin Zeyd, Sa'd bin Ebu Vakkas), Devellioğlu, 2001: 46.

[5]For examples of lamps given in text-picture form, see. Aksel, 2010: 32-39, photo. 17, 19; Acar, 2022: 89-90, photo. 9-10.

Photo. 9. Defterdar Mahmut Efendi (Arapalanı) Mosque. The Eastern Wall of the Harim and the Western Section of the Northern Wall of the Harim after Restoration.
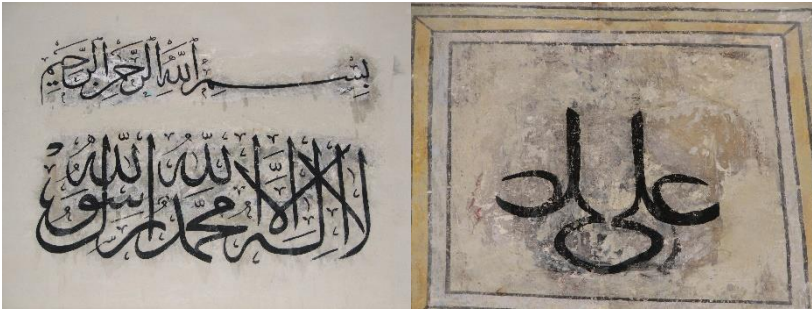
Photo. 10-11. Defterdar Mahmut Efendi (Arapalanı) Mosque. etail of the Hand-drawn Decorations in the Harim after Restoration.

Photo. 12-15. Defterdar Mahmut Efendi (Arapalanı) Mosque. etail of the Hand-drawn Decorations in the Harim after Restoration.

The white oil paint covering the wooden minber was removed, revealing decorative paintings with floral motifs on the minber door and platform.

Photo. 16-17. Defterdar Mahmut Efendi (Arapalanı) Mosque. The Minber After the Restoration.

Scraping of the arch spandrels and inner mirror sections of the last congregation area revealed still-life paintings of fruit and flowers in a bowl, placed on a base of acanthus leaves. These interior decorations are not present on the exterior of the building, likely due to the plastering of the surfaces over time.

Photo. 18-19. Defterdar Mahmut Efendi (Arapalanı) Mosque. The Last Congregation Place After Restoration.

Photo. 20-22. Defterdar Mahmut Efendi (Arapalanı) Mosque. The Last Congregation Place After Restoration.

No interventions, such as inpainting, were made to the decorative paintings. After cleaning the surfaces and filling the cracks in the walls, the contours and flat areas of the decorations were carefully restored. Legible inscriptions were revived.

In conclusion, painted decorations and wall paintings serve as ornamental elements in civil and religious architecture across Anatolia. Religious inscriptions and floral and geometric motifs are found in the coverings, transitions, wall surfaces, and window surrounds of these structures. In the later period of Ottoman art, known as the Westernization/Modernization period, the repertoire of decorative elements expanded to include city/house depictions, human and animal figures, naturalistic plant motifs, and stylized patterns, reflecting a shift in the approach to wall paintings[6].

Often, in the process of renovating or preserving mosques, layers of plaster and paint have obscured the high-art-value painted decorations that could provide insight into the period in which they were created. These actions, whether

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[6]For hand-drawn ornamentation, see. Alparslan, 1973: 1-27; Arık, 1976; Dağlı, 2015: 29-46.

intentional or not, have resulted in the lack of documentation of these decorations in scholarly literature and the general unawareness of their existence. These incorrect applications have led to two contradictory outcomes: while the plaster and paint layers have, in some cases, protected the decorations from natural decay, they have also caused damage and partial loss. Moreover, it has been impossible to avoid minimal losses during the process of uncovering these decorations. The main themes of the decorative program in this structure consist of vegetal motifs, calligraphy, and landscape depictions. Considering similar examples, it is possible that the same artist or group of artists worked on several buildings in Western Anatolia. Unfortunately, except for a few examples, the names of painters in Anatolia are not known.

In this context, Arapalanı Mosque, like other structures that bear witness to history and contain historical information not recorded in written history, should be preserved and promoted on relevant platforms. Conscious restoration efforts carried out by teams of experts, in collaboration with local governments, civil society organizations, and, most importantly, the users of these structures, are crucial for ensuring the preservation of our cultural heritage for future generations.

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CHAPTER 2

Desperation of Philosophy: A Critique of the Philosophy of Ecology

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Introduction

The ecological crisis represents the most significant global challenge of our era. It is a complex issue that extends beyond environmental concerns, having a profound impact on economic systems, social structures, and cultural values. Consequently, a comprehensive understanding of this crisis and potential solutions to it require a multidisciplinary approach that integrates economic, sociological, and cultural perspectives. The ecological crisis has its roots in the industrial production and consumption systems that have dominated for the past two centuries. This crisis is characterised by a complex structure, comprising a multitude of interrelated symptoms, and is inextricably linked to the tenets of industrial capitalism. Since the mid-twentieth century, humanity has been forced to acknowledge the tangible consequences of this crisis. A plethora of theoretical endeavours have been undertaken with the aim of identifying and resolving the issue, which has become a prominent topic of philosophical discourse. The ecological crisis has developed its own conceptual framework over time, which has been analysed in a variety of contexts, including ethics, ontology, politics and epistemology. This study aims to critically examine the approaches within the philosophy of ecology. It will explore how prominent philosophical approaches analyse the problem, assess the validity of their proposals, and evaluate the coherence of their conceptual frameworks. In this context, the relationship between philosophical attitudes, especially ethical approaches, and the material reality of the ecological crisis will be scrutinised. Overall, the study will critically address the connection between environmental philosophy and the current ecological crisis.

The Earth is exhibiting indications of a terminal illness. Climatic irregularities on a global scale have become a common topic of discussion, with the potential for drought and famine now regarded as a routine occurrence. The ecological crisis is manifested as a significant ecological pathological syndrome that poses a threat to all forms of life. It is evident that the industrial capitalist world order is the principal driver of the contemporary ecological crisis, without the necessity for extensive investigation or analysis. The twentieth century, which can also be referred to as the Age of Extremes, saw the emergence of numerous anomalous phenomena at both the regional and global scales, the consequence of extensive destruction of the natural environment. This can be attributed unambiguously to the production and consumption cycle, which gives rise to the destabilisation of the natural environment. The effects of two hundred years of industrial production have placed the climate system on the verge of collapse. The melting of glaciers has caused disruptions to the wetlands, while increasing atmospheric

anomalies are causing further instability. For some species, the danger threshold has already been exceeded. There are several inherent obstacles in the system that prevent capitalism from making decisions to prevent the ecological crisis. The most significant of these is the necessity to make profit and the increase in consumption that this necessity brings about. In other words, there is a continuous increase in material production (Tanuro, 2011: 87).

From an economic standpoint, the problem can be seen to have a tangible, objective reality. The ability to define the crisis and determine the network of cause-and-effect relationships is contingent upon the ability to answer the questions that arise from this factual framework. Similarly, the efficacy of potential solutions is dependent on these questions being addressed. It is pertinent to inquire to what extent appropriate legal regulations can be employed to exert control over the crisis. Similarly, it is crucial to determine whether it is feasible to regulate the ecological crisis from an economic standpoint. Furthermore, it is essential to ascertain if a green capitalism is a viable proposition. Finally, it is vital to investigate and determine how the primary cause of the ecological crisis can be attributed to a singular human activity. These are the fundamental questions that social sciences and philosophy should also contemplate on a scale-based approach. It would be beneficial, therefore, to consider the following question as a fundamental element of the discourse surrounding these issues: What should be done about the ecological crisis right here and right now?

Defining the ecology from philosophy

Philosophy cannot ignore the fundamental problems facing humanity in the present age. In this regard, it is inaccurate to suggest that philosophy is ignoring the issues of ecological concern. However, when addressing the problems of the present era, philosophy, due to the nature of its discipline, reframes the focus of enquiry within the conceptual framework of the discipline itself and situates it within the context of its own constitutive debates. an intricacy that renders any attempt to return to the initial premise futile.[3]

It is customary to begin any examination of the field of ecology with an account of the contributions made by its founder, Ernst Haeckel. Nevertheless, it

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[3] "But philosophy, by its very essence, never makes things easier, but only more difficult" (Heidegger, 2014, p. 20). In this sense, the discussions under the title of environmental philosophy will be analysed in a specific context. Presenting an in-depth critique of the prominent examples exceeds both the limits and the purpose of this article. The study should be taken as a critique of what environmental philosophy means in the context of the symptomatic effects of the current ecological crisis.

is possible to trace the origins of this field of enquiry to natural philosophers who sought to combine an appreciation of the mysteries of nature with an attempt to establish a system of ordered knowledge. It can be argued that the earliest examples of this approach are to be found among the works of Francis Bacon and Baruch Spinoza. The German Idealist thinkers, influenced by Spinoza's holism of nature and Kant's understanding of necessity, freedom and purposiveness[4] are among the founders of the nature-human relationship in the modern sense. In contrast to the scientific (mechanistic) perspective of early modern thought, 19th-century idealists conceptualised nature as a vital force that could be apprehended through intuitive understanding rather than rational analysis. The notion of nature is not solely confined to the realms of philosophy and scientific inquiry; rather, it has also played a pivotal role in the evolution of artistic expression. This tradition has served to both glorify nature and facilitate its integration as an integral aspect of ethical life. In other words, in modern philosophy, nature in its most basic sense serves the function of determining the limits of the subject's knowing and acting; just as in Spinoza's thought, the subject is determined as an illusion through the essentiality of nature, or Kant determines the purposefulness of human beings through the purposiveness of nature. The philosophy of ecology as we understand it today finds its basic motivation in the various symptoms and visible effects of the ecological crisis, especially in the twentieth century. The recognition of these effects by intellectuals, economic and political circles has paved the way for the spread of thinking and discussion centred on environmental philosophy.[5] The contemporary understanding of ecology is shaped by the various symptoms and visible effects of the ecological crisis. The acknowledgement of these effects by intellectual, economic and political circles has facilitated the dissemination of thought and discourse centred on environmental philosophy. In discussions of environmental philosophy, the relationship between human beings and nature is typically addressed within the context of environmental ethics. In this sense, environmental ethics is used in a more comprehensive sense, encompassing both moral debates based on the relationship between nature and human beings and ethical-political debates proposing new human understandings and social designs. It should be noted that there are approaches that fall outside the circle. These approaches seek to construct an ecologically based subjectivity through the lens of phenomenology. Additionally, studies that focus on questioning spatial and temporal scales, as

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[4] See (Kant, 2006: 31-47).

[5] According to Eric Katz, environmental philosophy can be initiated with the works of Aldo Leopold, Lynn White and John Muir from the 1960s onwards. These studies mainly focus on environmental problems such as pollution, threatened species, population growth (Katz, 1991: 80).

well as those that employ aesthetic approaches, can be viewed as examples of these approaches. However, it is essential to recognise that studies that aim to circumvent the cyclical questioning inherent to philosophical discourse, and instead conclude philosophical endeavours pertaining to environmental issues with a focus on action, are typically subsumed under the rubric of environmental ethics.

Environmental ethics is based on the principle that all living things are deserving of human recognition and, therefore, respect. Due to the speculative nature of philosophical thinking, it examines how human beings should relate to nature. The tenets of environmental ethics are based on a conceptual framework wherein the human entity is regarded as the primary agent of action within the ecosystem, while the natural environment is viewed as a passive receptacle for these actions. Environmental philosophy can be analysed on three principal axes. The first of these approaches is anthropocentrism, which asserts that environmental ethics is based on human values and interests. In this context, nature is treated as a human value, rather than an intrinsic value. According to the second approach, the life-centred perspective, non-human nature has intrinsic value, and it is crucial to recognise and accept the value of nature to foster a harmonious relationship between humans and the rest of the natural world. This approach can be described as one that is fundamentally opposed to the utilisation of nature as a mere instrument. The third approach is the ecocentric approach, which expands the scope of social interaction towards the natural environment, thereby promoting a holistic understanding. It may be argued that this broad categorization can encompass many contemporary debates within the field of philosophy of ecology. A multitude of ideas can be enumerated under the aegis of each approach. To ascertain the boundaries of philosophy of ecology and to identify the prevailing forms of enquiry, it is helpful to present a series of examples which illustrate the basic tenets of these three approaches. This also enables an inductive approach that will facilitate the integration of diverse perspectives and facilitate constructive criticism.

anthropocentric approach

Anthropocentric approaches argue that humans are in a dominant position in their relationship with nature. They should internalise nature within their own sphere of responsibility. The philosophical foundations of this approach can be associated with the rationalism of the modern subject and its self-limiting moral attitude, but also religious motivations, ecological pragmatism and moralistic approaches based on deontology can be considered. In radical ecological debates, the moralistic, human-blessing attitude of the anthropocentric approach is

criticised. Although it has lost its effectiveness in the theoretical field, the most prominent examples of a practical ecological attitude in the social sense are to be found in the discussions of applied ethics, which are essentially built on an anthropocentric foundation.

Applied ethics, also known as practical ethics, is a philosophical discipline. It has developed gradually since the 1970s. The main aim of applied ethics is the derivation of moral models for certain situations in practical life. It is basically concerned with the determination of moral norms for the solution of practical problems, or with the adaptation of practical problems to moral norms (Beaucham, 2003: 3-16). The main purpose is to evaluate the problems it deals with from different perspectives, dividing the problem into parts and determining whether the proposed attitudes towards these parts are ethical. It also attempts to determine whether ethical situations are in conflict with each other (Ben A. Minteer, 2005: 362). The main aim of ecologically focused applied ethics is to provide positions for the moral discussion of ecology. This is achieved in two stages: The first is to create positions that enable the development of an attitude, and the second is to determine the professional ethical attitudes of those who do ecological science, such as biologists, chemists and environmental scientists (Dudycha, 2003: 330-33). In this sense, applied ethics proposes to focus on ethical problems by means of specific scenarios, either fictional or real. What is done is to reformat the problem in an ethical discourse. The positive aspect of applied environmental ethics is that it enables the identification of a multi-faceted area of responsibility and enables a concrete understanding of the ecological crisis through many singular symptoms: The shortest way to practical results is to rethink problems through general moral principles. What is meant by thinking in terms of moral principles here is not the specialisation of a problem through its own causality, but rather its solution within a general moral, universal ought-to-be attitude (Beaucham: 2003). However, applied ethics is based on the assumption that ethical discussion derived from the practical situation and ethical theory are compatible. In other words, while it is assumed that the ethical discussion is derived from a certain factuality, what actually happens is that the discussion is derived from an ethical theory. In this respect, applied environmental ethics should be seen as an attempt to establish a morally based doctrine that takes the environment into account, rather than offering a solution to the ecological crisis. In other words, applied ethics seeks to refine and ethicalise the relationship between human beings and nature on the basis of

radical examples or paradoxical propositions.[6] This assumes that a social reality can be dissected along neat philosophical lines. But it ignores the discussion of whether there are appropriate tools for translating reality into ethical questions (Hedgecoe, 2004: 130). Identifying ethical attitudes appropriate to singularities cannot make it possible to develop a constructive attitude towards the ecological crisis. In other words, applied environmental ethics is essentially sufficient to show that we, as different ethical subjects (employer - producer - scientist - consumer, etc.), have a responsibility towards nature and the ecosystem. An attitude that feeds on contradictions necessarily defines areas of responsibility at the individual level, and thus makes clear the ways in which conscience can descend from the collective to the individual level.[7] In the case of an ecological crisis, the challenge is not to find solutions to ethical dilemmas or to translate problems into an ethical language. Therefore, the assumption that an appropriate ethical attitude is the first step to solving all problems is invalid. It is more a question of raising public awareness of the environment than of proposing a solution to the ecological crisis.

The Biocentric approach

According to the biocentric approach, all organisms are identical in terms of being alive; they are part of the living world by virtue of this whole-part relationship; every living being is equally valuable and human beings should, in principle, recognise this first (Jardins, 2006: 264-69; 421-25). The main aim of the biocentric approach is to eliminate the anthropocentric framework of ethics and replace it with an ethics of vitality. The shift away from an anthropocentric

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[6] (Hedgecoe, 2004: 127). The following example also points to the ground of fictionalisation inherent in applied ethics: 'Does it make any sense to protect endangered animal species or oil reserves if it is assumed that conditions may arise in the future that do not require humans to respect vital diversity, or that they may have developed alternative energy sources' (Mudgil, 2010: 123). This example itself can only be meaningful in terms of exemplifying a universal moral behaviour, and can only relate to the concrete conditions of the current crisis from this level of universality. This example is based on the portrayal of a fictional dilemma. What it claims to answer is also based on this fictionality.

[7] The reason for the increase in the consumption of organic and local products, which have come to the fore in recent years, can be considered in relation to this situation. Green products claim to be as natural as possible. The main sensitivities of these products, which do not pose a threat to human health and adopt a sustainable system, are that animals are not used in the production and testing stages, and that harmful materials that will harm the environment are not included in the production, packaging and transfer processes(https://en.wikipedia.org/wiki/Green_brands). All these extra qualities cause the cost of the products to increase significantly. This makes it impossible for them to be consumed massively. However, the main point that draws attention here is the marketing of green product consumption as an environmental awareness. In this respect, green products actually create the perception of protecting nature by consuming. Slavoj Zizek cites Starbucks' newspaper advertisement calling on consumers to support fair trade by consuming coffee as an example of this: 'If this is not enough to satisfy you ethically and you are still concerned about the poverty of the third world', says Zizek, "there are other products you can buy (for example, $0.05 of every bottle of water purchased (from Starbucks) goes to the "Ethos Water' programme, which supports the drinking water problem in Africa (Zizek, 2009: 53).

approach is clearly seen in Paul W. Taylor's *Respect for Nature: A Theory of Environmental Ethics*. In his work, Taylor applies Kantian ethics to all living beings and introduces the concept of "biocentric egalitarianism". According to Taylor, a biocentric view of the world see that all living beings have intrinsic value. This is the most plausible form of non-individualist environmental ethics for his time. However, according to Katz, Taylor has contradictions about the applicability of his normative moral claims: Although he rejects the place of human beings in the hierarchy of living beings, he prefers to take a stand in favour of humanity at points where the interests of humanity and non-human life conflict (Katz, 1991: 83). One of the first works to highlight the problem of ecology in the context of a biocentric approach is Aldo Leopold's A Sand County Almanac, written in 1949. In this work, Leopold's land ethic proposes a redefinition of the relationship between modern man, defined as a destructive figure, and wild nature. Based on the Soviet metaphysician Pyotr Ouspenskii's *Tertium Organum* (see Leopold, 1970: 147), Land Ethics argues that the main problem stems from the attitude of viewing nature as a mere object. According to Leopold, the natural environment, as a living being, has value in itself, and what humanity should do is to define itself as part of nature, rather than seeing it as an object to be exploited. Being alive necessarily means having rights. In this respect, he claims that the boundaries of ethics, which are essentially trapped between man and society, should be expanded. There is an urgent need to construct a new ethic in which the land will also be included. He sees the land as one community, including humans, land and water, plants and animals. Home is not only the piece of land you live on, but also the water, soil, plants and animals. Love and respect for the land on which one lives is clearly a genuine extension of ethics (Burchet, 2016: 48). In this sense, conservation is the first pillar of the harmony to be built between man and nature. Any action that disturbs the integrity, balance and beauty of the natural world should be condemned. The second pillar of harmony is the construction of an education system that respects nature. Aldo Leopold's articles on land ethics are notable for their impressive literary style and drawings, rather than for the theoretical elaboration of the proposal in question.[8] Therefore, land ethics, which cannot go beyond being a romantic demand, cannot deepen philosophically.

From the point of view of a biocentric ecology, the problem of 'boundaries' is one of the most fundamental: It is controversial to claim that the ecosystem as a

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[8] In the article 'Pines and Snow' Leopold writes: 'acts of creation are often seen as acts of gods and poets, but ordinary people can also enjoy this privilege if they have the knowledge of how to do it. For example, one does not need to be a god or a poet to plant a pine tree; all one needs is a spade. This rare loophole in the law allows even the most inept person to command: Let there be a tree-and there will be a tree'. (Leopold, 1970: 81).

whole has rights in itself. According to Singer, in order for an interest to be directly recognised as a right, it must be seen as a necessity. The ethical claim that a tree's interest in water and sunshine is essentially its right seems plausible. But the claim that the organisms we use as yeast also have a right to live leads the discussion into a dead end. Construction of an ethics that transcends species is a necessity for the protection of the ecosystem. However, if the limit is accepted as all life, the result is that it becomes almost impossible to distinguish between the 'included' and the 'excluded'. In this sense, almost all biocentric ethical initiatives are paradoxical.[9] Although a non-specific ethics in essence stands out as a revolutionary theoretical proposal in terms of regulating the relationship of human beings with nature in general, it is taken so far that it cannot be realised. In this sense, it is limiting rather than revolutionary (Singer, 2001: 415-20)

Deep ecology is one of the targets of Singer's criticism. Deep ecology radically rejects the claim that human beings are superior to nature. Ecosystem is absolutely precious. Deep ecology aims to restructure human consciousness about nature (Naess, 2003: 28-29). In his work *Ecology, Society and Way of Life*, which can be seen as the manifesto of the deep ecology movement, Naess first sets out the basic principles of deep ecology (Naess, 2003: 29). He then lays the foundations for the idea of "ecosophy" as an ecological wisdom that will transcend ecology as a science (Naess, 2003: 35-36). "Ecosophy", rather than ecological consciousness, also stands out as a direct critique of modernity. Deep ecology does not aim to provide a solution to the ecological crisis of our time, but rather to rethink the relationship between man and nature and to create a new man. Although deep ecology proposes a holistic philosophical transformation with the aim of regulating the relationship between human beings and nature, there is a lack of a comprehensive philosophical discussion that would make this transformation possible. Specifically, Naess's epistemological (idea of ecological self) and ontological (ecological ontology) claims rest on presuppositions that reject modern rationalism.[10] The whole philosophical transformation proposed by deep ecology is about taming the ethical relationship between nature and human beings. It is about elevating nature from a passive to an active position.[11] To put

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[9] According to Singer, neither Albert Schweitzer's biocentric equality; Paul Taylor's ethics based on the assertion that all living things have an end in themselves, nor Aldo Leopold's land ethics can offer a solution to this ambiguity (Singer, 2001: 421). (Singer, 2001: 421).

[10] See (Cavazza, 2014: 23-48). Ecology implies a relational ontology that enables each human individual to display a broader identity by integrating with nature. However, this leads to a central philosophical problem, the problem of defining the limits of the self. In this sense, however, Naess's work does not seem to favour a deepening in theoretical philosophy.

[11] There have also been philosophical debates in favour of removing this philosophical transformation from the realm of ethical imperative. The most prominent of these debates is the one led by Charles S. Brown and Erazim Kohak on the possibility of an ecology-based phenomenology.

it another way, nature is being reshaped by human values to create an ethical basis between nature and man. But this process is also a process of mystification, fuelled by Buddhism and the philosophy of Spinoza: An ethics of recognition, which arises from the relationship between man and man, is assumed to be inherent in nature. Man's topological superiority is made invisible in an illusion based on ethical indoctrination. This gives deep ecology a sacred, even religious character. The attempt to reorganise the relationship between man and nature in this sense is far from offering a solution to the ecological crisis. Deep ecology lays the foundations for a new understanding of human beings under the influence of the ecological crisis. Deep ecology's main problem is ignoring the historicity of the ecological crisis and treating it as a human tragedy. But it's problematic to blame humanity without identification of the actions that are responsible for the ecological crisis. (M. Bookchin, 1999: 22). An anti-human, anti-technological and anti-rational mysticism characterises deep ecology.

Ecocenterism

Ecocentric approaches argue that the relationship between humans and nature is fundamentally social. (Murray Bookchin, 1994: 44) They propose a sociality in which the ecosystem and all its components are central. They basically manifest themselves in the form of a critique of modernity, which they define as 'Western thought', and capitalism. Social ecology and ecofeminism are the first models to be considered in this context.

Murray Bookchin's idea of social ecology is a critique of approaches that focus on humans or mystify nature. Bookchin argues that what makes social ecology social is that contemporary ecological problems arise out of social life practices. The ecological problem is therefore essentially political. According to Bookchin, many approaches to the protection of nature and natural resources tend to ignore the complex causes of the ecological crisis and reduce the problem to a singular area (Murray Bookchin, 1996). It is naive to expect a solution to the problem from these approaches. Bookchin argues that the construction of a social structure that eliminates human sovereignty over nature should be considered a priority. According to Bookchin, the antagonism in the relationship with nature is essentially due to the inequalities and conflicts between human beings (Murray Bookchin, 1994: 44). What needs to be done is to rethink society and build a sociality based on a meritocratic system, direct democracy and ethical principles. This new sociality must be ecological, and it must also overthrow the modern understanding of sovereignty. The most appropriate political system for a social

ecology is communalism, established by independent communal associations. Communalism means a confederal approach in opposition to the idea of the state. The social order can only be overcome through such a libertarian approach (Bookchin, 2006: 97-110). According to social ecology, a participatory and democratic society can only be possible through an organisation with ecological foundations. However, the idea of social ecology is essentially reduced to a programme for democratic local government, while asserting that ecological debates should be dealt with within the political debate. In other words, although social ecology offers concrete critiques of the economic and political order that is destroying nature and suggests that the problem is essentially a social one, it uses the ecological crisis as a basis for the construction of a new sociality rather than offering solutions to the current situation. It sees the possible solution to the ever-increasing effects of the ecological crisis in a new sociality and a new ethical order based on it.

The attitude of social ecology, which proposes a new society, is similar to the anthropocentric and biocentric approaches in the context of a new ethics and an appropriate human being. This shows that environmental philosophy, instead of focusing on the problem itself as a general attitude, translates it into the language of philosophical discussion and makes it dependent on the question of what is good, human and social. Of course, the forms of thought that can be addressed in the context of environmental philosophy reveal important insights into the relationship between human beings and nature. However, the predictions of philosophy are not sufficient to construct the steps to be taken against ecological destruction.

Conclusion

It should be noted that there are also approaches that extend beyond the scope of the aforementioned framework. These approaches typically establish the framework of their inquiry on the basis of the economic conditions created by capitalism and the historical transformation of the relationship between human beings and nature. They essentially address the problem through the concept of sustainability. Notable examples of these efforts include the work of John Bellamy Foster and Paul Burkett. Foster's work is significant in that it presents the ecological crisis not as a phenomenon that emerged in the last fifty years, but rather as an enduring issue that has been present since the advent of capitalism and is intrinsic to capitalist society. Paul Burkett posits that in order to comprehend the ecological crisis, it is essential to adopt a comprehensive perspective that encompasses the intricate interconnections between human activity and the natural world. Such an approach is essential for the construction

of a holistic social ecology. This social ecology should afford equal consideration to qualitative and quantitative concerns (Burkett, 2004, p. 33). In Burkett's view, Marx's analysis demonstrates that one of the defining characteristics of capitalism is a human disposition that prioritizes material wealth over the natural environment. Nevertheless, the most unique aspect of these approaches is their methodological difference. As the starting point and the place where the discussion has reached, it is possible to continue the questioning from a point that exceeds the attitude that can be considered as reductionist in environmental philosophy in general; it makes new conceptual expansions possible through different questions. In general terms, it is difficult to say that environmental philosophy directly centres this crisis and many problems that express the complexity of the crisis. It would be more accurate to say that the ecological crisis as a whole created by the ecopathological symptoms that are slowly destroying the world, and the questions it brings with it, serve as a mover in terms of the basic discussions of environmental philosophy. In other words, although environmental ethics takes the conditions created by the ecological crisis as its starting point and in this sense arises from a concrete reality, these conditions are almost ignored in the founding debates of philosophy, especially political and moral philosophies. In this sense, it is clear that the discussions of environmental philosophy, which are carried out within an ethical framework in terms of their general scope, are not oriented towards the solution of the ecological crisis. At this point, a number of questions become apparent: Is philosophy functional in terms of producing a solution to the ecological crisis? Is philosophy compatible with other studies on the ecological crisis? These questions are essentially questions about the nature of environmental philosophy. Thinking environmental philosophy beyond the ethical framework in which it is stuck can be seen as the first step to overcome the problem in question.

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CHAPTER 3

Tracing Natural Disasters: Geographic Insights and Lessons from the 2023 Kahramanmaraş Earthquake

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1. Introduction

On February 6, 2023, two major earthquakes with magnitudes of Mw 7.8 and Mw 7.5, centered in the Pazarcık and Elbistan districts of Kahramanmaraş, were recorded as one of the most devastating natural disasters in Turkiye's history (Hussain et al., 2023; Goldberg et al., 2023). Spanning a wide area across southeastern Turkiye, these earthquakes caused severe human and material losses, with profound consequences. According to official records, the disaster led to the deaths of 50,783 people, injured 107,204, and left approximately 2.7 million people homeless. The provinces most severely affected in terms of casualties were Hatay (21,910 dead, 30,762 injured), Kahramanmaraş (12,622 dead, 9,243 injured), and Gaziantep (3,897 dead, 25,276 injured), with the total number of injured surpassing 122,000 across the country (Ata et al., 2023). Post-earthquake damage assessments highlighted the extensive condition of affected buildings nationwide. As of June 12, 2023, out of the 2,239,780 buildings inspected, 627,805 were classified as slightly damaged, 44,346 as moderately damaged, 202,366 as heavily damaged, and 38,901 as completely destroyed. Additionally, 21,208 buildings were identified for urgent demolition, and 132,780 buildings could not be assessed, illustrating the vast extent of structural damage caused by the earthquakes (TUBA, 2023). The impacts of these catastrophic earthquakes extended beyond physical destruction, leaving deep economic repercussions on Turkiye. The Strategy and Budget Office estimates the economic impact of the Kahramanmaraş earthquakes to be approximately USD 103.6 billion (Hotar et al., 2024). This substantial financial toll positions these earthquakes among the most significant disasters in Turkiye's history, both from a socio-economic perspective. Measured at magnitudes of Mw 7.8 and Mw 7.5, the two major earthquakes in southeastern Turkiye released immense energy along the East Anatolian Fault Line, profoundly affecting millions across the region. The earthquakes caused widespread destruction across 11 provinces, rendering hundreds of thousands of buildings uninhabitable and displacing countless individuals. Additionally, numerous structures, including historical buildings dating back thousands of years, collapsed entirely, significantly impacting societal memory and cultural heritage.

The physical destruction had far-reaching implications. Geologically, these tremors along the East Anatolian Fault Line highlighted the dynamics of tectonic plate movements in the region. A 400-kilometer surface rupture along the fault line and the 3 to 9-meter westward displacement of the region underscored the intensity of crustal movements, reaffirming Turkiye's vulnerability to seismic activity (Karabacak et al., 2023). The human and economic impacts of the

earthquake were as profound as the physical devastation. According to broader estimates, the total financial loss across Turkiye amounted to USD 148.8 billion, equivalent to approximately 9% of the country's gross domestic product (Tatar et al., 2024). Socially and psychologically, the devastation resonated deeply, with millions of displaced individuals seeking temporary shelter. Social media played a dual role during this period, rapidly disseminating information but also contributing to the spread of misinformation, which hindered aid and rescue operations. In response, the government and non-governmental organizations took significant steps to combat misinformation, imposing tighter regulations on social media platforms. The Ministry of Family and Social Services provided psychosocial support, particularly for children, the elderly, and disadvantaged groups, and promptly implemented crisis management plans in the post-disaster recovery phase. This study aims to explore the geographic foundations, along with social and economic lessons, derived from the February 6, 2023, Kahramanmaraş earthquake, offering key insights for advancing disaster management and resilience strategies.

2. East Anatolian Fault Zone (EAFZ)

The westward movement of the Anatolian Plate occurs within the context of the northward motion of the Arabian Plate and the southward retreat of the African lithosphere beneath the Aegean Plate along the Hellenic subduction zone. The East Anatolian Fault Zone (EAFZ) is a critical element in this tectonic configuration, representing a left-lateral strike-slip boundary that extends approximately 700 km between the Arabian and Anatolian plates in eastern Turkiye. Since the Miocene epoch, the northward advance of the Arabian Plate relative to Eurasia has pushed the Anatolian Plate westward, a movement accommodated by both the North Anatolian Fault Zone (NAFZ) and the East Anatolian Fault Zone (EAFZ) (e.g., McKenzie, 1972, 1978; Şengör, 1979; Dewey & Şengör, 1979; Şengör & Yılmaz, 1981; Şengör et al., 2005). However, based on GPS measurements and the kinematic properties of the faults surrounding the Arabian Plate, it has been determined that the Arabian Plate is no longer the primary driver of the Anatolian Plate's westward motion (Reilinger et al., 2006). This indicates that the EAFZ not only records past tectonic activity but also continues to accommodate active westward plate movement through its active fault segments (Fig 1).
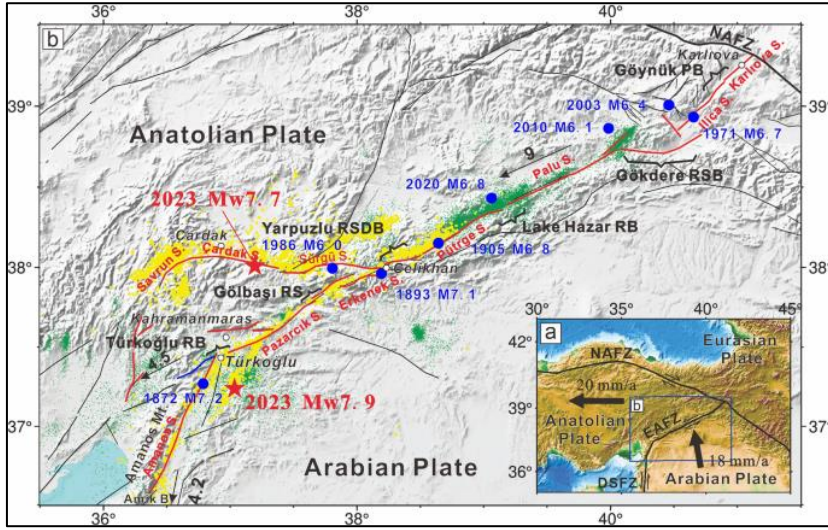
Figure 1. Tectonic setting of the East Anatolian Fault Zone (EAFZ). (a) Schematic diagram of regional tectonic movement with black arrows indicating plate motion, and the blue rectangle representing the study area of the EAFZ. (b) Map of the EAFZ with red lines for the EAFZ, blue line for the buried fault (fault-1), and black lines for other faults (modified after Duman and Emre, 2013). Black brackets indicate bends or stepovers. RB: releasing bend; RS: releasing stepover; RSDB: restraining double bend; RSB: restraining bend; PB: paired bend. Blue solid circles represent the epicenters of moderate to large earthquakes over the past 200 years. Red stars indicate the epicenters of the Mw 7.9 and Mw 7.7 earthquakes. Green dots represent epicenters of earthquakes between 2007 and 2020, and yellow dots show aftershocks of the 2023 Türkiye–Syria earthquake doublet (Liu et al., 2024).

The East Anatolian Fault Zone (EAFZ) extends from Karlıova to the Amanos Mountains and consists of various segments, each exhibiting distinct geological structures, seismotectonic characteristics, and earthquake risks (Saroglu et al., 1992). These segments are crucial for understanding and assessing regional seismic hazards. The Karlıova segment, located in the northeastern part of the fault zone, begins at the Karlıova triple junction (Sançar and Akyüz,2014). This approximately 25-km-long segment is characterized by surface features such as young fault scarps, displaced river valleys, and hot springs. The Ilıca segment stretches from the Göynük fold to Ilıca and is situated in a mountainous area. During the 1971 Bingöl earthquake, a surface rupture of about 35 km formed along this segment, which is surrounded by Paleozoic and Mio-Pliocene sedimentary and volcanic rocks (Seymen and Aydın, 1972). *The Palu segment* extends between Palu and Lake Hazar and is approximately 77 km long. Known for significant seismic activity, including the 2010 Elazığ earthquake (Mw 6.1), this segment features young fault scarps and displacements indicating past major

seismic events. In the eastern part of the segment, displacements of about 2.6 meters caused by large earthquakes have been recorded (Barka and Kadinsky-Cade 1988). The Pütürge segment traverses a mountainous area with Paleozoic and Mesozoic metamorphic rocks and ophiolitic formations. Although Holocene fault scarps are observed, there is limited information on historical earthquakes in this segment. However, a rupture of approximately 45 km was recorded along this segment during the 2020 Elazığ earthquake (Mw 6.7) (Tatar et al., 2000; Duman and Emre 2013). *The Erkenek segment*, located between Yarpuzlu and Gölbaşı, is notable for a displacement of approximately 4.5 meters during the 1893 Çelikhan earthquake (Emre et al., 2018). In the 2023 Kahramanmaraş earthquake (Mw 7.8), a 10-km-long surface rupture formed in the northern part of this segment, reaffirming its status as an active seismic hazard zone (Aksoy et al., 2023). The Pazarcık segment, stretching between Gölbaşı and Türkoğlu, is estimated to have a slip rate of about 9 mm per year during the Holocene period. The curved trace at the northern and southern ends of this segment produced a surface rupture during an earthquake in 1114 and displayed significant rupture in the 2023 Kahramanmaraş earthquake as well (Yonlu ve Karabacak, 2024). *The Amanos segment*, located in the southeastern part of the EAFZ, represents the southernmost end of the fault zone and is considered by some researchers to be an extension of the Dead Sea Fault. This segment ruptured during a major earthquake in 1872 and also generated a large aftershock following the 2023 Kahramanmaraş earthquake (Gokce, 2023). All these segments are focal points of seismic activity in the Eastern Anatolia region, playing a key role in understanding the distribution of varying tectonic stresses. The segmented nature of the EAFZ is essential for earthquake risk management strategies in Eastern Anatolia, as it represents a system with varying earthquake potentials across different regions.

3. Seismic Hazard and Vulnerability

On Monday, February 6, at 04:17, a powerful earthquake with a magnitude of Mw 7.8 struck the Pazarcık district of Kahramanmaraş, lasting approximately 60 seconds. Following this major earthquake, a second tremor with a magnitude of Mw 7.5 was recorded at 13:24, centered in the Elbistan district of Kahramanmaraş, lasting around 45 seconds (pProvost et al., 2023, 2024). These massive earthquakes occurred along the East Anatolian Fault (EAF), a fault line approximately 600 km long that defines the boundary between the Arabian and Anatolian plates in eastern Turkiye and were felt in over ten major cities. The EAF, one of Turkiye's two principal fault lines, facilitates a westward plate

motion of approximately 20 mm annually to relieve compressional forces across much of the country (Reilinger et al., 2006).

Table 1 presents the major historical earthquakes along the East Anatolian Fault (EAF), with many of these events concentrated in significant centers such as Antakya, Elazığ, and Latakia. Earthquakes with intensities of VIII and IX highlight the region's high seismic hazard and indicate considerable stress accumulation along the fault. For example, the Ms = 7.0 earthquake in Antakya in AD 1822 and the Ms = 7.3 earthquake in Aleppo in AD 1626 emphasize the destructive potential of the EAF. This table underscores the necessity of implementing seismic resilience measures in building designs in the region. Furthermore, the segment where the 2023 Kahramanmaraş earthquakes occurred had not experienced a significant rupture since the 1500s, leading to considerable stress accumulation over centuries due to ongoing plate motion (Table 1).

Table 1. Historical Earthquakes along the East Anatolian Fault (Biricik ve Korkmaz, 2021)

No	Date	Region	Intensity	Magnitude
1	148 BC	Antakya	VIII	-
2	69 BC	Antakya	IX	-
3	37 BC	Antakya	VIII	-
4	53 AD	Lazkiye - Antakya	VIII	-
5	220 AD	Antakya	VII	-
6	396 AD	Antakya	VIII	-
7	526 AD	Antakya	IX	-
8	529 AD	Antakya ve çevresi	IX	-
9	1544 AD	Elbistan	VIII	-
10	1568 AD	Lazkiye	VIII	Ms = 6.0
11	1626 AD	Halep	IX	Ms = 7.3
12	1726 AD	Harim	VIII	Ms = 6.1
13	1738 AD	Amik Gölü	VIII	Ms = 6.2
14	1789 AD	Elazığ	VIII	-
15	1796 AD	Lazkiye	VIII-IX	Ms = 6.8
16	1822 AD	Antakya	IX	Ms = 7.0
17	1866 AD	Karlıova, Bingöl	-	Ms = 6.8
18	1872 AD	Hatay (Amik Gölü)	VIII-IX	Ms = 7.2
19	1874 AD	Elazığ	IX	Ms = 7.1
20	1875 AD	Elazığ	VI	Ms = 6.7
21	1875 AD	Palu	-	Ms = 6.1
22	1893 AD	Malatya	IX	-

Table 2 presents earthquakes that occurred along the East Anatolian Fault during the instrumental period, highlighting seismic activity particularly concentrated in regions such as Bingöl, Elazığ, and Adana. These earthquakes, including destructive events like the Ms 6.8 Malatya-Pütürge (1905) and Sivrice-Elazığ (2020) earthquakes, underscore the seismic risk in the region. The table emphasizes that the East Anatolian Fault has produced earthquakes of varying magnitudes over the past century, underscoring the critical importance of structural precautions and seismic resilience (Table 2).

Table 2. Earthquakes along the East Anatolian Fault during the Instrumental Period (Tekin ve Okuyan Akcan, 2023).

No	Tarih	Bölge	Şiddet	Büyüklük
1	4 Dec 1905	Pütürge (Malatya)	-	Ms = 6.8
2	20 March 1945	Ceyhan (Adana)	-	Ms = 6.0
3	22 Oct 1952	Misis (Adana)	-	Ms = 5.6
4	14 June 1964	Sincik (Adıyaman)	-	Ms = 6.0
5	22 May 1971	Bingöl	-	Ms = 6.8
6	6 Sept 1975	Lice (Diyarbakır)	-	M = 6.6
7	1979	Adana-Kozan	-	Ms = 5.1
8	5 May 1986	Sürgü (Malatya)	-	Mw = 6.0
9	1986	Gaziantep	-	Ms = 5.0
10	1989	İskenderun	-	Ms = 4.9
11	1991	Kadirli	-	Ms = 5.2
12	1994	Ceyhan	-	Ms = 5.0
13	22 Jan 1997	Samandağ (Hatay)	-	Mw = 5.7
14	27 June 1998	Yüreğir (Adana)	-	Mw = 6.2
15	1 May 2003	Bingöl	-	Mw = 6.3
16	11 August 2004	Sivrice–Elazığ	-	Mw = 5.6
17	9 Feb 2007	Sivrice (Elazığ)	-	Mw = 5.5
18	21 Feb 2007	Sivrice (Elazığ)	-	Mw = 5.7
19	8 March 2010	Kovancılar (Elazığ)	-	Mw = 6.1
20	24 Jan 2020	Sivrice (Elazığ)	-	Mw = 6.8

It is noted that approximately 500 years of accumulated stress on the segment (Sunbul, 2019) where the main earthquake occurred indicated a fault slip potential of nearly 5 meters, and the observed 4–6 meters of displacement from

the 7.8 magnitude main shock on February 6, 2023, aligns with this expectation (Karabacak et al., 2023). Although the seismic risk has been recognized for a long time, it is emphasized that socioeconomic factors complicate risk management. In particular, regions with high poverty rates face increased risk due to low-quality construction techniques and structures that do not comply with outdated building codes. Additionally, the structural collapses observed after the 2023 earthquakes highlight that some buildings had attained legal status under the 2018 zoning amnesty without meeting current seismic regulations, making structurally unsafe buildings a key factor exacerbating earthquake risk. In this context, it is reported that the groups most exposed to earthquakes in the region are low-income and displaced populations, with more than 13 million people in southeastern Turkiye affected at moderate to high levels by the earthquake. Furthermore, 2.9 million displaced Syrians were also impacted by the earthquake, with poverty and poor construction conditions intensifying earthquake damages, as these communities typically reside in old or informal structures filled with hazardous buildings (Hussain et al., 2023). The occurrence of the earthquake during winter, amid heavy snowfall, further complicated search and rescue operations and delayed the delivery of aid to the region, worsening the disaster's impact.

4. Damage Assessment Study

The 2023 Kahramanmaraş earthquake underscored the critical role of Turkiye's earthquake response strategies and damage assessment capabilities in managing such large-scale disasters. Damage assessment forms the basis of post-earthquake emergency response and recovery processes. In this context, under the Turkiye Disaster Response Plan (TAMP; Türkiye Afet Müdahale Planı), damage assessment processes were organized by the Ministry of Environment, Urbanization, and Climate Change (Çevre, Şehircilik ve İklim Değişikliği Bakanlığı). Post-earthquake damage assessment involves the rapid and accurate evaluation of buildings by technical personnel. In these assessments, buildings are classified into various damage categories, including 'undamaged,' 'slightly damaged,' 'moderately damaged,' 'heavily damaged,' 'collapsed,' and 'requiring urgent demolition.' Additionally, specific symbols were used in line with these categories to analyze structural elements and damage levels of buildings (Aydoğdu Gürbüz ve Aslan, 2023). Damage assessment processes were conducted using the Damage Assessment Software (HTS; Hasar Tespit Yazılımı) to ensure the accuracy of field teams' data and expedite the process. HTS analyzes collected data, allowing for the mapping of damaged areas and the identification of priority intervention zones. Data obtained from fieldwork are regularly shared

with the public. Approximately 8,000 technical personnel were deployed in the earthquake zone. These teams were assembled with support from various public and private sector organizations. All logistical and coordination needs of the teams were provided by the General Directorate of Construction Affairs (YİGM; Yapı İşleri Genel Müdürlüğü). As of March 6, 2023, a total of 1,712,182 buildings in the 11 provinces affected by the earthquake had undergone damage assessment (Table 3). According to these inspections, 35,355 buildings were found to have collapsed, while 17,491 buildings were designated for urgent demolition. Additionally, 179,786 buildings were recorded as heavily damaged, 40,228 as moderately damaged, and 431,421 as slightly damaged. Among the collapsed or heavily damaged buildings are not only residential structures but also historical and cultural monuments, schools, administrative buildings, hospitals, and hotels.

Table 3. Total Number of Buildings in Provinces Affected by the Earthquake.

Province	Residen-tial	Commer-cial	Public	Other	Total
Adana	404502	29920	8916	7179	451117
Adıyaman	107242	5765	4370	3119	120496
Diyarbakır	199138	11412	11964	3165	225679
Elâzığ	106569	7221	2872	7051	123713
Gaziantep	269212	22829	5480	8162	305683
Hatay	357467	33511	10382	5489	406849
K.Maraş	219351	12358	6879	4565	243153
Kilis	33399	1526	1651	736	37312
Malatya	159896	8370	6670	4051	178987
Osmaniye	128163	9428	3105	2384	143080
Şanlıurfa	347902	18847	11790	4089	382628
Bölge Top-lamı	2332841	161187	74079	50590	2618697

Source: Ministry of Interior, MAKS (Merkezi Adres Kayıt Sistemi)

Although efforts are being made to enhance quality standards in residential construction, increase the earthquake resilience of building stock, make zoning plans disaster-sensitive, and expand reinforcement initiatives, issues such as unlicensed construction remain unresolved at the desired level. In Turkiye, decisions regarding settlement areas are made in accordance with spatial strategy plans and across various levels, including regional plans, master plans, and implementation zoning plans. In provinces with metropolitan status, regional and master zoning plans are managed by metropolitan municipalities, while implementation zoning plans are handled by district municipalities. In non-metropolitan provinces, master and implementation zoning plans are prepared by

provincial municipalities, whereas regional plans are managed by the Ministry of Environment, Urbanization, and Climate Change (ÇŞİDB; Çevre, Şehircilik ve İklim Değişikliği Bakanlığı).

According to the table, as of March 6, 2023, damage assessments have been conducted on a total of 1,712,182 buildings, which contain a combined 5,117,036 independent sections. Based on these assessments, 860,006 buildings were classified as undamaged. The number of slightly damaged buildings is 431,421, while moderately damaged buildings total 40,228, and heavily damaged buildings reach 179,786. A total of 35,355 buildings have collapsed, with an additional 17,491 buildings identified for urgent demolition. Additionally, 147,895 buildings were recorded as not having undergone damage assessment (SBB, 2024).

Table 4. Number of Buildings Assessed for Damage (as of March 6, 2023)

Summary	Number of Buildings	Independent Units
Undamaged	860006	2387163
Slightly damaged	431421	1615817
Moderate damaged	40228	166132
Heavily damaged	179786	494588
Collapsed	35355	96100
Urgent demolition	17491	60728
Not Assessed	147895	296508
Total	1712182	5117036

Source: Ministry of Environment, Urbanization, and Climate Change (ÇŞİDB)

5. Economic Impacts of the Earthquake

The Kahramanmaraş earthquakes have led to profound and multi-dimensional impacts on Turkiye's economy. The economic burdens of the earthquake are generally examined in three main categories: direct, indirect, and secondary costs. Direct costs encompass the immediate physical damages and reconstruction expenses following the disaster. These costs, which are the easiest to quantify, make up a large portion of the total cost attributed to the earthquake. Indirect costs, on the other hand, arise from disruptions in production and trade, halts in industrial and commercial activities, and other breakdowns in the general economic functions. Losses in the GDP of affected provinces illustrate the concrete effects of indirect costs on economic indicators. Secondary costs refer to long-term effects on macroeconomic indicators, such as increased inflation risks, decreased growth rates, and a widening current account deficit in the aftermath of the earthquake. If adequate and appropriate policies are not

implemented post-earthquake, adverse effects on income distribution, development, and property ownership may emerge in the long term.

In the aftermath of the earthquake, a state of emergency was declared to enable rapid intervention and stabilize the economy. Within this framework, various public policies and economic measures were implemented. Key actions aimed at stabilizing the economy include the Ministry of Treasury and Finance's deferral of tax declarations and payments in affected areas and the declaration of a force majeure status. Various ministries, such as the Ministries of Trade, Agriculture and Forestry, Labor and Social Security, introduced comprehensive support packages to protect the real sector and financial markets. These measures aim to mitigate the spread of adverse impacts across all economic levels and are crucial for reducing job losses and economic stagnation in the region. Large-scale relief campaigns organized by both the public and private sectors provided short-term support to the economy. The "Turkiye One Heart" campaign, for example, raised approximately $6.5 billion in aid, though this figure equates to only 10% of the state's earthquake-related financial burden, underscoring the need for additional economic support and public expenditure.

International organizations have also provided support to Turkiye following the Kahramanmaraş earthquakes. Institutions such as the United Nations (UN) and the European Bank for Reconstruction and Development (EBRD) have estimated the damages at approximately $100 billion. Although a significant portion of this cost will be covered by public resources and international aid, short-term inflationary pressures may arise from price increases and supply challenges, particularly in construction materials with high import dependency. This situation could destabilize economic balances and lead to additional costs that may widen the current account deficit. Overall, the Kahramanmaraş earthquakes are estimated to have an annual impact of around 10% on Turkiye's GDP. While the reconstruction process is expected to create new employment opportunities in the medium and long term, the state budget faces increased burdens and a heightened need for borrowing. Thus, the Kahramanmaraş earthquakes, which serve as a significant stress test for Turkiye's economy, highlight the importance of public policies and support mechanisms. Taking the right measures is crucial to enhancing the economy's resilience in the long term and establishing an economic structure that is better prepared for future disasters (Şen, 2023).

The economic impacts of disasters yield similar outcomes on a global scale. Natural disasters typically result not only in direct and indirect costs but also in substantial public expenditures by governments for post-disaster reconstruction.

For instance, during the 2011 Japan earthquake and tsunami, the country's infrastructure systems suffered extensive damage, leading the state to allocate vast amounts for reconstruction. Such large-scale disasters leave deep marks on the global economy, slowing economic growth rates and increasing debt burdens for affected countries. Long-term disaster management strategies and fiscal policies, especially those that enhance earthquake preparedness and resilience, are crucial to managing the economic impacts of disasters effectively.

6. Social Rehabilitation Efforts in the Earthquake

As a country at high risk for both natural and human-made disasters, Turkiye requires comprehensive disaster management systems that provide physical, economic, and psychosocial rehabilitation for affected communities (Koc and Yalcin, 2023). According to the World Risk Index, which assesses disaster risks across countries, Turkiye ranks among the most disaster-prone countries with a score of 4.7 (DRMKC, 2023). This risk is particularly significant for natural disasters such as earthquakes, as Turkiye is considered one of the "high-risk" seismic zones worldwide. Major earthquakes in Turkiye occur on average every five years, resulting in extensive loss of life and property. The 1999 Marmara Earthquake, for instance, along with the 2023 Kahramanmaraş Earthquake, highlights the traumatic impact of these events on society.

On February 6, 2023, two consecutive major earthquakes with magnitudes of 7.8 and 7.5 struck Kahramanmaraş, causing severe destruction and triggering over 9,000 aftershocks in the region. Under the Turkiye Disaster Response Plan (TAMP), the earthquakes were classified as a level 4 crisis, and numerous agencies, including the Ministry of Family and Social Services (ASHB) and the Disaster and Emergency Management Authority (AFAD), swiftly initiated response efforts. This response highlights the sophistication of Turkiye's disaster management framework, as each phase of the disaster response includes detailed intervention plans aimed at minimizing damage.

Social services in disaster situations aim to restore both the physical and psychosocial well-being of individuals and communities. The social services provided by ASHB in the rehabilitation process for groups affected by the earthquake align with crisis intervention methods established in national and international literature. Social work initiatives, particularly at the "micro (individual, individual with family), mezzo (neighbors, friends, treatment group), and macro (society, community, organizations)" levels, address the needs of individuals, groups, and communities in essential areas such as shelter, psychosocial support, and social aid (Neuhring, 1997). Social workers in these

efforts go beyond meeting material and physical needs; they also support individuals' psychological well-being, providing the necessary assistance to help them adapt to crisis conditions.

6.1.   Crisis Intervention and the Role of Social Services in Disasters

In Turkiye, organizations such as AFAD (Disaster and Emergency Management Authority) and ASHB (Ministry of Family and Social Services) play a coordinating role in crisis intervention and management processes during disasters. ASHB, in particular, serves as a key partner in areas like social aid, in-kind donations, warehouse management, and distribution. According to the Turkiye Disaster Response Plan (TAMP), ASHB has a primary role in quickly identifying the basic needs of disaster victims and ensuring the efficient distribution of social aid. During the earthquake, ASHB's Disaster and Emergency Social Aid Team (ASYA) was deployed to the affected region to rapidly assess the needs of citizens and manage distribution activities.

6.2.   Psychosocial Support Efforts

Supporting the mental health of individuals post-disaster is a critical component of the social rehabilitation process. ASHB's psychosocial support initiatives focus on psychological first aid and social integration activities. Psychological first aid involves effective interventions that ensure the safety and emotional well-being of disaster victims. Following the Kahramanmaraş Earthquake, mobile social service centers were established in the affected area, providing psychosocial support to over one million individuals. These efforts are instrumental in helping individuals adapt to post-disaster life and play a vital role in mitigating traumatic effects.

6.3.   Interventions for Groups with Special Needs

Interventions for individuals with special needs form another significant dimension of ASHB's post-disaster work. Vulnerable groups affected by the earthquake, such as the elderly, individuals with disabilities, and unaccompanied children, were provided with safe evacuation, shelter, and psychosocial support. For example, services such as reuniting unaccompanied children with their families safely or placing them under protective care have been among ASHB's priority tasks.

Turkiye's experience in disaster management underscores the need for rapid and effective handling of disaster processes. Through the coordinated efforts of institutions like ASHB and AFAD, the post-disaster reconstruction process is supported, aiming to build a resilient social structure. These efforts strive to enhance both individual and collective resilience to crises through social services and psychosocial support systems. Such holistic approaches are crucial in ensuring that post-disaster interventions address not only the physical needs of

individuals but also their psychological and social needs, thereby facilitating their reintegration into society.

7. Use of Social Media as a Tool for Disinformation in Disasters

In states of emergency and disasters, social media can be used effectively to spread disinformation. This situation, especially during disasters, hinders the public's access to accurate information, undermining social trust and causing unnecessary panic. During crises, the uncontrolled flow of information on social media platforms enables the rapid spread of unverified or intentionally misleading information, leading to misinformation. For example, during the 2023 Kahramanmaraş earthquake, numerous false reports circulated on social media, causing public anxiety and, in some cases, misdirecting security forces and search and rescue teams to unnecessary areas. Such misinformation obstructs official authorities from sharing accurate and timely information, resulting in disruptions in disaster management processes (Aydın, 2023).

The rapid spread of disinformation via social media becomes a serious issue during disaster times. As social media users tend to share information quickly in emergencies, unverified content spreads at an equally fast rate. This misleads people in affected areas, directing them toward inaccurate information and complicating the effective coordination of aid. For example, misleading location information or false aid requests shared by some users during crises can diminish the effectiveness of aid teams and sometimes lead to disorganization. The uncontrolled dissemination of disinformation not only makes it harder to access accurate information but also fosters a sense of mistrust within society.

Disinformative content on social media not only misleads the public but can also be intentionally used to manipulate public opinion. Particularly in sensitive situations like disasters, some individuals or groups spread false information to create a negative perception against certain institutions or people. This damages the trust relationship between the state, NGOs, and the public and complicates effective coordination in disaster management. During the 2023 Kahramanmaraş earthquake, some users spread unsubstantiated claims that certain government agencies did not provide adequate assistance, misguiding the public and negatively affecting societal perception. Such manipulation efforts highlight the importance of reliable information flow in disaster situations (Kocyigit, 2023).

The challenges of accessing accurate information during crises directly impact the effectiveness of disaster management. While social media can be used as a tool for accurate information dissemination and awareness, the rapid spread of false information also complicates the responsibility of public institutions to keep

the public well-informed. In their crisis management processes, official institutions collaborate with verification platforms like teyit.org to combat misinformation on social media. Verification platforms play a critical role in quickly identifying misinformation and communicating accurate information to the public. Such collaborations are crucial for reducing the effects of disinformation and ensuring public access to reliable information during disasters.

Legal measures taken to combat disinformation have also been implemented as a defense mechanism against misleading information circulating on social media. In Turkiye, various legal regulations have been introduced to combat disinformation, and criminal penalties have been imposed on misleading information spread via social media during crises. Institutions like the Center for Combating Disinformation, established under the Presidency's Directorate of Communications, play an active role in ensuring public access to reliable information during disasters. These institutions work to minimize the impact of disinformative content on social media by developing communication strategies that aim to inform the public accurately during crises. Such official interventions are considered an important step toward restoring trust in society.

8. Discussion and Conclusion

The 2023 Kahramanmaraş Earthquake has revealed the vulnerable structure of Turkiye's earthquake-prone regions, providing valuable insights into the region's geological and socio-economic characteristics. Despite being located in a high-seismic-risk geography, Turkiye's building stock remains insufficiently resilient against earthquakes. The geological structure of the East Anatolian Fault Zone and the accumulated stress along this fault have long warned of the potential for devastating earthquakes. However, factors such as socio-economic conditions and non-compliance with building regulations have exacerbated this latent threat, resulting in significant loss of life and property in the Kahramanmaraş earthquake. Post-earthquake damage assessments have highlighted the fragility of the region's building stock and underscored the importance of preventive measures that should have been implemented before the disaster.

The social and economic impacts of this disaster are also extensive. With an estimated cost of approximately \$100 billion to the national economy and the need for widespread social rehabilitation, the rebuilding process will necessarily be long and comprehensive. Additionally, the Kahramanmaraş earthquake has reiterated the importance of post-disaster management and crisis coordination. Services such as psychosocial support and the provision of basic necessities,

facilitated by institutions like the Ministry of Family and Social Services (ASHB) and the Disaster and Emergency Management Authority (AFAD), play a critical role in supporting community recovery after disasters.

While social media can be an important tool for information sharing during crises, it also provides a medium for spreading disinformation. The rapid spread of inaccurate information after the earthquake has complicated disaster management processes, made it difficult for the public to access accurate information, and undermined social trust. This underscores the need for stricter monitoring of social media platforms and efforts to combat disinformation to ensure a reliable flow of information. Strategies such as media literacy and digital awareness training during crises emerge as critical needs for effective disaster management.

The Kahramanmaraş Earthquake serves as a reminder that Turkiye must re-evaluate its level of preparedness for earthquakes. Building earthquake-resistant structures, updating and expanding disaster management plans, and strengthening social resilience are key elements that must be prioritized. In disaster management, focusing solely on mitigating physical damages is insufficient; comprehensive consideration of psychosocial support, social aid, and rehabilitation processes is equally essential. To combat disinformation on social media, collaboration between public institutions and NGOs is crucial to ensure the public's access to reliable information.

In the future, Turkiye should adopt a broader approach to disaster management, focusing not only on immediate solutions but also on long-term, sustainable disaster preparedness policies. Critical measures to enhance Turkiye's resilience to earthquakes include implementing pre-disaster precautions, improving building inspection processes, sustaining post-disaster rehabilitation efforts to strengthen community resilience, and promoting media literacy. These steps are vital to creating a more prepared and resilient society in the face of earthquakes.

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CHAPTER 4

Geopolitical Case Study: Crimea[*]

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Introduction

It is often noted that when asked the question "What is geopolitics?" to those who frequently use the term geopolitics in discussions, it draws attention that a concrete definition of this concept cannot be provided. Therefore, it would be easy to provide a definition for the term geopolitics by filling its content with an example. What lies behind the association of the concept of geopolitics with Crimea? Or what does applied geopolitics mean? These questions need to be briefly answered. As an academic, I have been teaching Political Geography and Geography of the Turkic World for years. In the courses I teach, emphasis is placed on geopolitics and the Crimea issue. Especially when dealing with the Crimea issue, events such as the May 18, 1944 deportation of Crimean Tatars, Nikita Khrushchev becoming the leader of the USSR after the death of Joseph Stalin and Khrushchev being Ukrainian, leading to Crimea's annexation to Ukraine, and the subsequent strain between Ukraine and the Russian Federation, the successor of the USSR, after the dissolution of the USSR, have led to the idea that these events would be a good example for defining the geopolitics of Crimea. This study is shaped by literature analysis and the correlation of historical events with geopolitics. General information about Crimea will first be provided, followed by a definition of the concept of geopolitics, and then the geopolitics of Crimea will be explained through a series of events that highlight Crimea from a geopolitical perspective.

Conceptual framework

The Crimean Peninsula, located north of the Black Sea and covering an area of 25,600 km², holds a strategically important position. It is surrounded by the Sea of Azov to the east. Throughout history, Crimea has been a center of attraction with its temperate climate during the Tsarist Russia and USSR periods, serving as one of the most important resort areas on the Black Sea coast, where Russian tsars and Communist Party leaders used it as their recreational places. Moreover, and perhaps most importantly, historically, the port of Sevastopol, where the navies of Tsarist Russia and the USSR were stationed in the Black Sea, is located on the southwestern coast of the Crimean Peninsula. One of the most commonly used concepts in international politics is geopolitics. Numerous books, articles, and papers are published in almost every language on this concept. Especially when discussing problematic regions in terms of international relations, geopolitics is one of the most frequently used terms. Therefore, debates concerning the geopolitics of disputed or problematic areas in international affairs hardly ever fade from the agenda. However, it is noteworthy that the substance

of this concept is not always fully filled, and its usage often remains confined to rhetoric.

Geopolitics helps in understanding the forces and arrangements that shape the world map. Considered as an alternative to political geography in some sources, geopolitics analyzes the relationship between events and space. Geopolitics examines the influence of geographical location on strategic relations between states or regions. Geopolitics is a concept used to express the effect of geographical location on politics followed in local and international relations, dealing with physical geography factors and human activities that give importance to a place. Additionally, geopolitics is defined as a political doctrine aimed at justifying a state's aggressive expansion from an economic and political geography perspective. Geopolitics takes into account the influence of geographical conditions on political activities. Geopolitics, one of the important concepts related to political geography, is composed of the combination of the terms "geo" (place) and "politics" (politics, political). While the concept of place defines any space on the earth, the concept of politics refers to the specific views and understanding related to organizing and conducting state affairs. Especially, the political aspect of geopolitics manifests itself in investigating the influence of geographical location on strategic relations between states or regions, thus analyzing the relationship between events and space. Therefore, geopolitics is analyzing the relationship between events and space. To define geopolitics in a formula, one might express it as follows: "Geography + Power + Politics + International Relations = Geopolitics" (Akengin, 2022, p. 8).

As a geopolitical case study

The Crimean Peninsula, currently occupied by the Russian Federation, occupies a distinctive position on the northern coast of the Black Sea. Due to its geographical location, natural features, and historical background, the Crimean Peninsula is one of the rare regions in the world. The Crimean Peninsula protrudes southward into the Black Sea from its northern coast, while the Kerch Strait, located to the east of the peninsula, connects the Sea of Azov to the Black Sea (Figure 1). The approximately 1000-kilometer-long Crimean Peninsula possesses an indented coastline, rich in bays and natural harbors, facilitating maritime operations. The geographical features of the Crimean Peninsula, particularly its location on the northern shores of the Black Sea, have made it a focal point for human settlement and transportation throughout history. The earliest known inhabitants of the Crimean Peninsula were the Iranian-origin Kimmerians. Subsequently, the region was dominated by the Scythians, Sarmatians, Alans, Germanic Goths, Milesians, Greeks, Romans, Byzantines,

and Italians. The first Turkic community to settle in Crimea were the Huns. The Huns were followed by the Göktürks, Oghuz, Kutrigurs, Khazars, and Pechenegs (Görgen, 2022, p. 284). The Golden Horde Tatars, predominantly of Kipchak Turkic origin, first invaded Crimea in 1239 (Kireçci, 2015, p. 14). The peninsula was largely populated by Turks, chiefly Kipchaks, who had moved into the area following the dissolution of the Khazar state.

Figure 1: The Black Sea coast and the Crimean peninsula. [2]

In the 14th century, internal disputes among the members of the Jochid dynasty, which ruled the Golden Horde, led to the decline of the state's power (Kardaş, 2015, p. 87). Consequently, the Crimean Peninsula and the Crimean Turks established an independent khanate, separate from the Golden Horde (Kardaş, 2015, p.104). Over the course of history, they came under Ottoman rule, regained independence as a khanate, were conquered by the Russian Empire, briefly declared independence during the power vacuum created by the Bolshevik Revolution, and were eventually annexed by the Soviet Union. It was occupied by German forces during World War II. Following the dissolution of the Soviet Union, it was subsequently occupied by the Russian Federation, the successor state to the USSR. The historical events of the Crimean Peninsula are inextricably linked to geopolitics, as the peninsula's strategic location has been a central factor in shaping its history. When examining the history of the Crimean Peninsula through a geopolitical lens, several key events emerge: the Crimean Khanate's annexation by the Ottoman Empire, the Russo-Turkish War and Crimea's subsequent independence, its conquest by Russia, the bombardment of Sevastopol which triggered Ottoman entry into World War I, the German

occupation of Crimea, Stalin's deportation of Crimean Tatars as punishment for the German occupation, Crimea's incorporation into the Ukrainian Soviet Socialist Republic, the resettlement of Russians in Crimea, the lease of the Sevastopol naval base to the Russian Navy following the dissolution of the USSR, the growing rift between Ukraine and Russia leading to the Crimean Tatars' desire to secede and join Russia, Russia's annexation of Crimea, Crimea's position in the inland waterway from the Sea of Azov to the Caspian Sea, and Putin's policy toward former Soviet states coupled with the US's desire to establish a military base on the Black Sea coast. Each of these events constitutes a piece of the geopolitical puzzle that is Crimea. The key points that emerge from a geopolitical analysis of the events outlined above are discussed below.

Following the turmoil and conflict between the Golden Horde, the Principality of Moscow, and the Khanate of Kasim in 1449, the process of establishing the Crimean Khanate began (Kardaş, 2015, p. 104). Subsequently, in 1475, the Ottoman Empire's conquest of the Crimean coastal cities of Kaffa and Kerch led to the Crimean Khanate becoming a vassal state of the Ottoman Empire (Kireçci, 2015, p. 15). With the annexation of Crimea to the Ottoman Empire, the Black Sea came under Ottoman dominion (Figure 2). Consequently, with the conquest of Crimea, the Ottoman Empire

Figure 2: A map illustrating the Ottoman Empire's dominion over Crimea and its corresponding territorial boundaries (Şirin, 2024).

transformed the Black Sea into a Turkish lake, gaining complete sovereignty over the Black Sea and all its coastal ports. This event marked a significant turning point for both the Ottoman Empire and the geopolitics of the Black Sea. The Principality of Moscow, once a vassal of the Golden Horde, transformed into the Tsardom of Russia in 1547 when Prince Ivan III was crowned Tsar (Taşkesenligil, 2017, p.145). It is known that Russia, having transformed from the Principality of Moscow into the Tsardom of Russia, sought to expand its dominion and reach the shores of the Black Sea. The Ottoman dominion over the Crimean Khanate persisted for three centuries until the Treaty of Küçük Kaynarca, signed following the Russo-Turkish War of 1774. The Crimean Khanate was removed from Ottoman suzerainty and established as an independent state under the terms of the Treaty of Küçük Kaynarca, signed between the Ottoman Empire and the Russian Empire in 1774 (Figure 3). While the treaty granted the Crimean Khanate a degree of autonomy, it simultaneously created conditions conducive to Russian encroachment. Ultimately, the Khanate was annexed by the Russian Empire in 1783 (Ünal, 2023, p. 621, Cinkara, 2021, p. 539). Some historians argue that, in their pursuit of access to warm-water ports, the Russians initially sought to utilize the Crimean Khanate as a buffer state rather than directly border the Ottoman Empire by occupying Crimea. It can be inferred from Russia's expansionist policy that its primary goal was not to make the Crimean Khanate independent from the Ottoman Empire but rather to utilize it as a buffer state between itself and the Ottomans. Given the power struggle between the Ottoman Empire and Russia, the desire to utilize Crimea as a buffer zone is particularly noteworthy in light of the peninsula's geopolitics. The Russians would soon take a further step and annex Crimea.

Figure 3: A map showcasing the Crimean Khanate, which gained independence from the Ottoman Empire following the Treaty of Küçük Kaynarca, and its strategic position along the Black Sea coast (Şirin, 2024).

With the Russian Empire's annexation of the Crimean Peninsula in 1783, Russia gained access to the Black Sea coast (Figure 4, Yılmaz, 2022, p. 172). A significant initial consequence of Russia's annexation of Crimea and subsequent access to the Black Sea was the establishment of a Russian naval presence alongside the Ottoman fleet. The Russian annexation of Crimea transformed it into Russia's gateway to the Black Sea. The establishment of Russian shipyards along the Crimean coast and the subsequent initiation of maritime activities in the Black Sea marked a significant turning point in Crimean geopolitics, weakening Ottoman control over the region and shifting the balance of power in the Black Sea.

Figure 4: A map demonstrating Russia's enhanced position on the Black Sea coast following its annexation of Crimea.

As a leading figure in political geography and geopolitics, Friedrich Ratzel advanced the notion that a state's power is directly linked to its territorial size, asserting that Germany's growth as a great power hinged on territorial expansion. According to geopolitical theories emphasizing territorial control, any power seeking global dominance must control Eastern Europe and the Siberian steppes. German geopoliticians embraced the Heartland Theory, propounded by the British scholar Halford Mackinder, and persuaded German policymakers of the necessity of conquering the territories outlined in this theory (Akengin, 2022, p. 30). It is well-known that numerous factors contributed to the outbreak of World War I. One of the most prominent factors was the German Empire's aspiration to become a global power between 1884 and the end of World War I. [3] It is evident that Germany, in its pursuit of global dominance, sought to implement the Heartland Theory, which posited that control of Eurasia would grant world power. Germany was an ally of the Ottoman Empire during World War I. The Ottoman Empire's entry into World War I is widely attributed to the bombardment of the ports of Sevastopol and Odessa on the Crimean Peninsula by German naval vessels. Manned by German crews, naval vessels acquired by the Ottoman Empire from Germany traversed the straits and entered the Black Sea, subsequently bombarding the ports of Odessa and Sevastopol on the northern

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[3]https://www.auswaertiges-amt.de/en/aussenpolitik/regionaleschwerpunkte/afrika/shared-history-conference/2402998

coast. The bombardment of Odessa and Sevastopol by Ottoman warships marked the de facto entry of the Ottoman Empire into World War I. The bombardment of Russian ports by German-commanded vessels flying the Ottoman flag is indicative of Germany's broader geopolitical strategy to establish a new front extending from the Black Sea coast towards the Eurasian heartland. This naval operation aligns closely with Germany's understanding of the region's geostrategic significance and its pursuit of a multi-front war. By seeking to control the Black Sea, Germany aimed to outflank Russia and gain a foothold in the heart of Eurasia, a region deemed crucial for continental domination. The geopolitical doctrine of land power asserts that the Eurasian heartland, extending from Eastern Europe to Central Siberia, is the geopolitical pivot around which world power revolves. This perspective, as advanced by scholars including Taylor (1993, p. 25) and Akengin (2022, p. 37), emphasizes the strategic importance of this region for any state seeking to exert global influence. The geopolitical doctrine of land power asserts that control of this region is essential for achieving global primacy. German geopoliticians, adhering to this doctrine, perceived the Crimean Peninsula as the linchpin to the Eurasian heartland. They argued that by controlling the Crimea, a state could significantly enhance its prospects for global power. The strategic bombing of the Crimean naval bases of Sevastopol and Odessa by Ottoman warships would constitute a casus belli, thus compelling Ottoman entry into the war. Furthermore, such a naval operation would represent a significant strategic gain, effectively opening a corridor towards the Eurasian heartland and facilitating a more direct path to the geopolitical center of gravity (Figure 5).
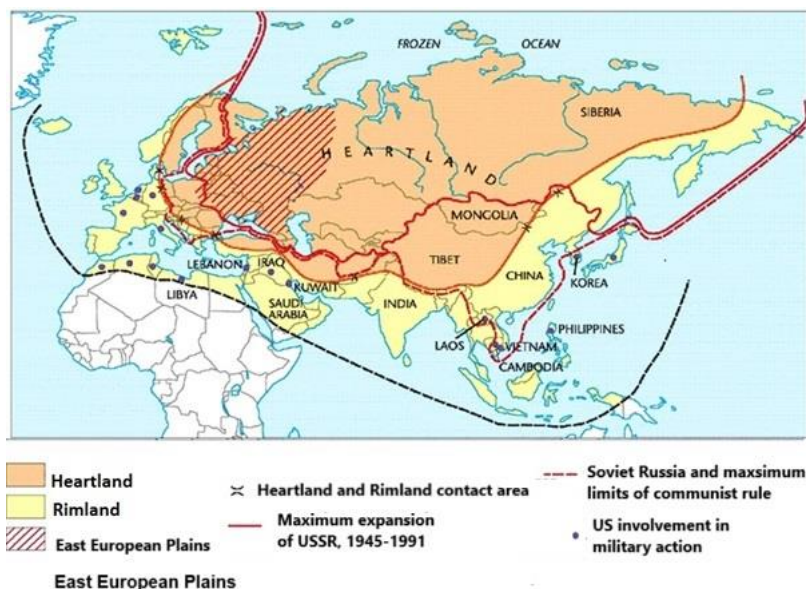
Figure 5: A map illustrating the Heartland, or the pivot area, as the global center of power according to the Heartland Theory.[4]

Germany's geopolitical ambitions, characterized by its desire to expand its colonial holdings and to secure control over the Eurasian heartland, were instrumental in precipitating the First World War. The German leadership perceived the Heartland as the geopolitical pivot around which global power revolved and sought to establish its hegemony over this strategic region. Germany's defeat in the First World War marked a turning point in its geopolitical trajectory. The subsequent pursuit of the Lebensraum policy, a strategy emphasizing territorial expansion and the acquisition of new Lebensraum (living space), was a direct response to Germany's perceived need to reassert its position on the global stage. The onset of World War II witnessed a rapid German advance towards Moscow, coupled with a concurrent military operation to secure the Crimean Peninsula via the Black Sea. The German occupation of Crimea was underpinned by the geopolitical doctrine of land power. German strategists perceived Crimea as a strategic lynchpin, providing access to the Eurasian heartland, which they considered the geopolitical center of gravity. The German occupation of Crimea therefore represented a significant strategic gain,

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consolidating German control over a pivotal node in the Eurasian heartland (Figure 6).

Figure 6: A map depicting the territories of Eastern Europe and Russia occupied by Germany during World War II.[5]

The stalemate on the Eastern Front during World War II led to the mass deportation of the Crimean Tatar population on May 18, 1944. Accused of collaborating with the German occupiers, the Tatars were subjected to a policy of ethnic cleansing orchestrated by Stalin, resulting in the virtual elimination of the Tatar community from the Crimean Peninsula (Şahin, 2015, p. 326). The forced displacement of the Crimean Tatars created a demographic void which was systematically filled through a policy of resettlement, with Russians and other Slavic peoples constituting the majority of the newly established population. The forced displacement of the Crimean Tatar population led to a profound demographic restructuring of the peninsula. The geopolitical implications of this demographic shift in the post-deportation period are of considerable interest. The Crimean Autonomous Soviet Socialist Republic experienced a substantial reduction in its autonomous status on July 28, 1946, when it was downgraded to the administrative level of a Crimean Oblast. The dual policies of forcibly displacing the Crimean Tatar population and redefining Crimea's administrative status were strategic choices with far-reaching consequences. These decisions established a framework for subsequent policies towards Crimea and exerted a profound influence on the peninsula's geopolitical evolution.

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[5]https://www.reddit.com/r/Turkey/comments/hcg30q/nazi-ler_s%C4%B1n%C4%B1r%C4%B1m%C4%B1za_kadar_gelmi%C5%9Fken_neden/#lightbox

Joseph Stalin, the Soviet leader who ordered the deportation of Crimean Tatars on the grounds of their alleged collaboration with the Germans during World War II, died on March 5, 1953. He was succeeded by Nikita Khrushchev. With the ascension of Ukrainian-born Nikita Khrushchev to the leadership of the Soviet Union, policies towards Crimea underwent significant changes. In a move designed to appease the Ukrainian leadership, most notably Nikita Khrushchev, the Soviet government transferred the Crimean Peninsula from the Russian SFSR to the Ukrainian SSR on February 19, 1954 (Hablemitoğlu, 2002, p. 11). This administrative change was primarily a symbolic gesture within the Soviet federal system. The severe restrictions imposed by Stalin on the population transfer of Crimean Tatars were lifted in 1956, however, the Tatars were not permitted to return to Crimea (Kireçci, 2015, p. 18). The forced displacement of Crimean Tatars was followed by a deliberate policy of resettling the peninsula with Slavic populations, primarily Russians. This demographic re-engineering resulted in a dramatic shift in the ethnic balance of Crimea, with Russians becoming the predominant ethnic group. The demographic re-engineering of Crimea, as a result of the forced displacement of Crimean Tatars and the subsequent resettlement of Slavic populations, had a profound impact on the peninsula's political trajectory. This became evident in the 2014 referendum, which led to Crimea's secession from Ukraine and annexation by Russia.

In order to provide a comprehensive understanding of the events described above, it is imperative to contextualize them within the broader framework of the Soviet Union's geopolitical interests and the strategic significance it attached to the Crimean Peninsula. The Russian Empire annexed the Crimean Peninsula in 1783, gaining access to the Black Sea coast. Consequently, the port of Sevastopol, located on the Crimean Peninsula, became the primary naval base for the Russian Empire in the Black Sea. Following Russia's annexation of Crimea, while Russia has been settling Slavic groups in Crimea on the one hand, on the other hand, it has begun to impose severe pressures on the Crimean Tatars living in the region. People who have opposed these practices have been arrested, exiled, or forced to migrate from their homeland due to the increasing pressures, and as seen in Figure 7, a process of decline in the Tatar population on the Crimean Peninsula has begun (Görgen, 2022, p. 84, Keleş, 2008, p. 153). With the Bolshevik Revolution, the Crimean Peninsula became part of the Soviet Union. Following the annexation of Crimea, the ports along its coastline were transformed into the cornerstone of the Soviet naval presence in the Black Sea, serving as vital strategic hubs for the Soviet fleet. The Crimean coastline served as a privileged enclave for the Soviet elite, where high-ranking party officials and their families

enjoyed the benefits of state-sponsored leisure and recreation. By the early 20th century, the Crimean Peninsula had solidified its position as a multifaceted region, fulfilling crucial roles in both military strategy and the burgeoning tourism industry. Following the alteration of the administrative structure of the Crimean Autonomous Soviet Socialist Republic on July 28, 1946, subsequent developments led to further changes in Crimea's status. On February 12, 1991, an Autonomous Republic of Crimea was established as part of Ukraine. Upon the dissolution of the Union of Soviet Socialist Republics on December 26, 1991, the Russian Federation was internationally recognized as the sole continuing state, thereby inheriting the majority of the Soviet Union's international rights and obligations. Consequently, the Russian Federation, as the successor state of the USSR, began utilizing the port of Sevastopol as a base for its Black Sea Fleet. The fact that Sevastopol, a port on the Crimean coast where the Russian Federation's Black Sea Fleet is stationed, was part of Ukraine did not pose a significant problem in the early years (Koçak, 2014, p. 4). This was because the Russian Federation had leased the Sevastopol naval base from the Ukrainian parliament, allowing the Russian Navy to use the Sevastopol port until 2017. Subsequently, the lease agreement granting the right to use this base was extended until 2042 (Özdal et al., 2014, p. 22). The Russian Federation's utilization of the Sevastopol Naval Base, located on the Crimean Peninsula which was then part of Ukraine, as a home port for its navy necessitated the development of a new strategy regarding Crimea.

Figure 7: Population Changes in Crimea over Time (1783-2014). [6]

Over time, as winds of change swept through the former Soviet republics and democratic governments came to power, positive relations with the European Union (EU) began to develop. Ukraine has been preparing to sign a partnership agreement with the European Union. However, when Ukraine's pro-Russian president did not sign the partnership agreement with the European Union, it elicited a reaction from the Ukrainian public. The demographic shifts resulting

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from the deportation of Crimean Tatars in 1944 and the subsequent resettlement of ethnic Russians and Slavs have had profound and lasting impacts on the Crimean peninsula. These demographic changes have come to the forefront of international attention in recent years, particularly in the context of the deteriorating relations between Ukraine and Russia since 2013, and the subsequent referendum on the status of Crimea. The Crimean Tatars' struggle to return to their homeland after the 1944 deportation continued for a long time, with small groups returning sporadically. A graphical examination of the demographic evolution of Crimea throughout history demonstrates substantial changes (Figure 7). The demographic composition of Crimea underwent a dramatic shift from 1783, when Crimean Tatars comprised almost the entire population, to 2014, when they represented only 12% of the total. Prior to the 1850s, the non-Turkish population of Crimea remained below 10%. However, from the mid-19th century onwards, a demographic shift occurred, leading to the Crimean Tatars becoming a minority by the turn of the 20th century. A demographic analysis reveals a significant shift in the ethnic composition of Crimea. The Crimean Tatar population, which stood at around 20% in the late 1930s, was drastically reduced following the 1944 deportation. Consequently, Russians became the dominant ethnic group, comprising approximately 70% of the total population by the end of the 20th century (Figure 7). The demographic makeup of Crimea in 2014 reflected the legacy of the 1944 deportation. Approximately 12% of the population was composed of Crimean Tatars and their descendants who had returned to the peninsula, whereas Russians, who had been resettled after the deportation, comprised around 70% of the total population. The political turmoil in Ukraine, ignited by its 2013 aspirations for European Union membership, escalated to Crimea, where the predominantly Russian or pro-Russian Crimean Parliament convened a referendum on the peninsula's future on February 23, 2014. Following the mass deportation of Crimean Tatars in 1944 and subsequent resettlement of Russians and pro-Russian populations, Crimea, with a population primarily composed of descendants of these settlers, voted overwhelmingly in favor of joining the Russian Federation in a referendum held on March 16, 2014, with over 95% of voters in support. On March 18, 2014, in response to the referendum outcome, the Crimean Parliament formally declared its secession from Ukraine and its accession to the Russian Federation. Russia then proceeded to annex Crimea. The annexation of Crimea, including the strategically vital Sevastopol naval base, marked a significant geopolitical shift. For Russia, both historically and symbolically, Crimea and Sevastopol held immense importance, making this acquisition a tangible manifestation of the Russian Federation's role as the successor state to the USSR (Davyor, 2008, p.

28). The annexation of Crimea to Russia following the referendum was not recognized by the United Nations or the international community, leading to the imposition of sanctions against Russia. The annexation of Crimea served as a crucial test for Russia, allowing it to assess the international community's and Ukraine's response to its actions. The international community's tepid response to the annexation of Crimea, characterized by relatively minor sanctions and a failure to provide Ukraine with adequate military and logistical support, created a power vacuum that Russia exploited. This perceived vulnerability on the part of Ukraine encouraged Moscow to initiate a large-scale military invasion.

It is possible to reach the Caspian Sea via inland waterways through the Kerch Strait, the Sea of Azov, and the Don and Volga rivers from the Black Sea (Figure 8). It is well-known that water transportation offers the lowest transportation costs among all modes of transport. Inland waterways transportation is also a significant alternative mode of transport in the Russian Federation. Due to its geographical location, the Crimean Peninsula is strategically important for controlling the waterway that connects the Black Sea to the Caspian Sea via the Kerch Strait, the Don River, and the Volga River system (Figure 8). One of the most crucial geopolitical considerations in Russia's policy towards Crimea is the security of the Black Sea-Kerch Strait-Sea of Azov-Don River-Volgograd Canal-Volga River-Caspian Sea waterway, as control over this route is contingent upon control of the Crimean Peninsula.

Figure 8: The Azov Sea-Don River-Volga River-Volgograd Canal-Caspian Sea Route.[7]

President Vladimir Putin of Russia has indicated that, in response to the evolving relationship between Ukraine and the United States, the U.S. is seeking

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[7] https://www.britannica.com/place/Volga-River

to establish a naval base in the Ukrainian settlement of Ochakov on the Black Sea coast. It is noted that, if the United States were to establish this base and NATO were to utilize it, it could potentially threaten Russia's interests along the Black Sea coast. Additionally, it is known that the U.S. is interested in setting up similar facilities in Crimea.

President Vladimir Putin of the Russian Federation has emphasized that the states which gained independence following the dissolution of the Soviet Union were established on the territories of the former Tsarist Russia. He has reminded these states not to forget that the Russian Federation, as the successor of the USSR, may have certain policies towards them. He has also stated that these states should consider Russia's interests in all their activities, and that any actions ignoring Russia's interests will be subject to intervention by Russia. Ukraine, as a post-Soviet state, has been actively seeking integration into Western institutions, notably the European Union and NATO. These aspirations have been perceived by Russia as a direct challenge to its sphere of influence and security interests, culminating in the large-scale military invasion of Ukraine on February 24, 2022. It can be inferred from this text that the Russian Federation has developed and implemented a new geopolitical discourse based on the territories of the former Russian Empire and the Soviet Union.

Conclusion

A study of the historical evolution of Crimea, from its inception as the Crimean Khanate in 1441 to its annexation by Russia in 2014, while under Ukrainian jurisdiction as an autonomous republic, underscores the peninsula's role as a geopolitical laboratory. Throughout its history, Crimea has been a focal point of great power competition and has served as a testing ground for various geopolitical strategies. The geopolitical location of the Crimean Peninsula has rendered its Tatar inhabitants vulnerable to centuries of exploitation and violence. Since the Russian Empire's conquest of the Crimean Khanate, the Crimean Tatars have endured a succession of occupations, genocidal atrocities, and forced displacements, underscoring the tragic consequences of great power competition in the region. The Crimean Tatar community, once a prominent demographic on the Crimean Peninsula, has suffered a precipitous decline in population following Russia's annexation. Their numbers, which had been in the millions, have dwindled to a mere fraction due to the ongoing occupation. The historical events surrounding Crimea, as summarized above, are fundamentally shaped by the peninsula's geopolitical significance, making it a focal point of competition and

conflict among various powers. The geopolitical trajectory of the Crimean Peninsula remains uncertain given the fluid nature of international relations. Nevertheless, the peninsula's strategic location at the crossroads of major powers and its rich resources ensure that it will continue to be a subject of geopolitical contestation and a catalyst for regional instability.

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CHAPTER 5

Representation of the Modern
Capitalist Life Style With Reference to
the Concepts of *Halal* and *Haram* in
Peyami Safa's *We Are Lonely**

Fatma Kalpaklı Yeğin[1]

Introduction:

Peyami Safa's novel, *We are Lonely*, deals with the issues of modern capitalist life style with reference to the concepts of *halal & haram*. The beautiful young girl named Meral and her parents are used as instrumental characters to illustrate Peyami Safa's views on the the concepts of *halal & haram*. The protagonist of the novel, Samim is in search of a life-partner and he likes Meral very much, but it seems that there is a huge gap between their understandings of what constitutes a good life. Their moral values seem to be very different from each other as well. Hence, in this study, the representation of the modern capitalist life style with reference to the concepts of *halal & haram* will be analyzed by giving examples from the novel.

Development:

As emphasized in the title of Peyami Safa's novel, *We are Lonely*- published as a novel in 1959- is based on the theme of loneliness; particularly the loneliness of people in modern life in capitalist societies. Morever, the methods of coping with loneliness by these characters are also touched upon in the novel. As an extension of this theme, we see that the main character of the novel, Samim, also experiences deep and constant feelings of loneliness. Therefore, Samim listens to his instincts and he is in search of a life partner. He tries to establish an emotional bond with a young and beautiful girl named Meral. Most of the events in the plot of the novel takes place in Istanbul, in the 1950s and 1960s. The new image of "the independent modern woman" begins to be accepted by many women all around the world, including the women, who live in Türkiye. This new image of women and its inevitable demand of being good consumers by being slave-like followers of fashion has a huge impact on the daily life in Istanbul, in Türkiye. Naturally, this very capitalist-socio-economic-cultural atmosphere affects the relationship between Samim and Meral and is also mentioned in the novel. As readers, while reading Samim's dialogues and conversations with Meral, we see Peyami Safa's interest in human psychology and his observations about human behaviour. As readers, it is impossible not to be impressed by Sefa's ability to observe the minute details about humans and human psyche, particularly his observations about women characters are worth mentioning. Hence, we can say that the novel We are Lonely is a very remarkable work of literature in terms of the diversity of the characters and the depiction of the depths of the human psyche. Therefore, in this study, the main characters in Safa's novel We are Lonely will be examined with reference to their modern capitalist life styles as well as with their concepts of halal & haram by giving examples from the novel.

As an extension of the image of independent woman that surrounds the whole world, many young girls and women in Istanbul strive to learn a foreign language and they also begin to follow foreign magazines, which advertise women dresses and make-up in the European-style. We will try to illustrate it especially through the character of Meral, with whom the protagonist, Samim falls in love.

Meral can be described as a young, beautiful girl who speaks French fluently and she dreams of living in Paris. She lives in İstanbul with her brother, Ferhat and her father, Nail Bey, while her mother Necile Hanım (Pasha's daughter) lives in another house, in another district in İstanbul. It is revealed that Meral's mother, Necile Hanım is also famous for her fascination with the French culture, when she was young.

One of Meral's close friends from school named Feriha lives in Paris, but she continues her life as the mistress of a very rich old man, and Samim is extremely uncomfortable with her influence on Meral since she leads an unconventional life and she does not believe in the institution of marriage, which is considered to be haram in Turkish Islamic culture.

Peyami Safa draws the character of Meral in a realistic manner and like each and every human being, she has dilemmas, but her biggest dilemma in the novel is the dilemma she goes through while she is searching for the question of whether Istanbul or Paris is the right place for her to live in. She is torn between two worlds; one is her settled life in Istanbul and the other imagined one in Paris; the sparkling, glittering ballrooms she dreams of in Paris as illustrated in most of the fashion magazines. She hopes that a new life is waiting for her in Paris/the center of the fashion world, where she can start from scratches. However, it can be suggested that the fashion magazines do not reflect the real face of Paris. To exemplify, homeless people lying under the Eiffel Tower, the smell of urine of the homeless people and the widespread poverty are never mentioned in these magazines. Therefore, Meral has a utopian picture of Paris in her mind. She takes the fake-images of Paris in magazines as real and she does not question if such a luxurious life shown in the magazines can be sustained with legal incomes or ways, or with halal earnings. Unfortunately, Meral, her mother and Feriha have aspirations for the French way of life in the name of modernization, and eventually, Meral has to pay for her greed and never-ending-desires with her life and at the end, she gives an end to her life with her own hands.

Even though her financial situation is good, she sleeps with men in exchange of money and argues with her brother, Ferhat about her desire for going to Paris with Feriha. Ferhat tries to prevent her going abroad by locking her in her room,

Upon this, Meral gets very angry and attempts to commit suicide, but then her life-drive wins over her death-drive and she regrets it. Unfortunately, her cigarette causes a fire and Meral burns to death in her locked room. In a way, we can think that this is an example of Divine Justice as we also see in the novels *Anne Karenina* and *The Mill on the Floss*. In other words, the punishment of the immoral women, who lost her chastity and virtue and who deserve to be punished by accidents or disasters as an illustration of God's anger or society's disapproval. We believe that Peyami Safa may have wanted to give a moral lesson to his readers, especially to his young female readers, by drawing a very tragic end for Meral. What is more significant in the novel is that the flames of fire may be seen as a vehicle to burn and purify Meral's body to make sure that she gets rid of all the sins she has committed so far. They might have a cleansing effect on her body as there is a belief among the people that the ground might refuse to accept bodies of some people for burial because of their deadly sins.

In addition to all these things, there are the following observations of Samim in the novel in relation to Meral's love for Paris:

> *A confession that reveals the inevitability of the duality within the beautiful and terrible self in the harshest landscape of impossibility. "Isn't her admiration for Feriha's audacity more than everyone else's admiration for every audacity? Of course it's too much. Beneath it, there are desires of its own, secret and open. Her weakness for Paris is well known. It is certain that attraction is not limited to the conservatory. Paris is a beautiful setting, a fairytale city and a center of luck. Paris or somewhere else. There are deeper desires that tickle the "Second [identity of Meral]". It is not right to attribute all of them to gender. Let me try to enumerate these desires, at the expense of sacrificing some subtleties, in order to feast my mind on clarity: 1. The desire to attain a freedom that allows one to try all possibilities, the desire to find the full measure of oneself, the desire to change oneself, the desire to change one's environment, the desire to enrich human contacts, The desire to enrich one's experiences (so to have more experience in life), The desire to break calcified habits and prepare free ground for creative moves in the soul that turns towards the unknown of the new, The desire to dress well and present the maximum of one's beauty to one's own admiration (narcissism). The desire to maximize the admiration of others, The desire to gain a victory of personality and will over one's own self and get rid of the feeling of inferiority. The desire to pass this victory on to others. Desire to show this victory to others. (Safa, 2023, s.95)*

Meral's above-mentioned state of mind causes Samim to think more and more about his relationship with her and makes him not feel fully secure, but still hopeful. In short, the phases of love and his relationship with Meral are expressed in the following words in *We are Lonely*:

AH MINE'L-AŞK VE'L-HÂLÂTIHI"* says the Arab. They have lived, they have lived, they know it all. The phases of love are countless. But the greatest suffering, I think, is concentrated in the necessity of believing. Degree of the doubt. Of course it depends a bit on me. She has sympathy. We have meetings as well. She [Meral] comes to every appointment. We talk for hours and sometimes wander around. What degree does this amount represent? Just liking? If higher, how many degrees? Can it be assumed that love finds the same alignment in those who make love, like water in adjacent vessels? Such moments of love, from the crudest to the most elusive nuances, make us think of so many issues that three packs of cigarettes and eight hours of sleep deprivation are not enough to solve any of them. (Safa, 2023, s. 95)

Meanwhile, Meral, on the one hand, feels safe with Samim, on the other hand, she oscillates like a pendulum between the artificial life in the glittering ballrooms that Feriha mentioned and promised to her that the rich old man in Paris might give to her. Samim has also noticed Meral's dilemma too. Therefore, Samim describes her dilemma in the novel by stating that there are two Merals. Unfortunately, Samim's fears prove to be true and eventually, the second Meral wins over the first Meral and has a tragic end as described below:

Ferhat, who ran to Meral's room door... leaned on the door with his shoulder and repeated his move several times, and the wing of the door suddenly opened. There was smoke covering both of their faces, with a dark burning smell. His eyes were burning. They took a step back. After the smoke in the room cleared up a bit, Ferhat entered. When he glanced at the ground, he covered his face with his hands, sighed as if he were suffocating, and wanted to scream, but was blocked. He stumbled and leaned against the edge of the door. Emine also looked at Meral's head, face, arms and feet, which were all black because everything was burnt on the ground, even her hair, and her body, which was smoking like a marsupial after the flames were extinguished, and she ran out screaming. He ran towards the door of the apartment building... Ferhat... In the smoke filling the corridor, he staggered into the living room and collapsed on the sofa. He blacked out. (Safa, 2023, s.200)

Samim later heard that Meral's mother also died of a heart attack shortly after being informed about Meral's death; her body was found at home by Renginaz, by a Circassian servant, who was also Meral's nanny, when she was a child.

In the novel, we can say that Renginaz represents, in today's terms, the working class women who worked at home as nannies or housemaids, who earn their bread in halal ways. At the same time, Renginaz also represents the spinsters

as a cliche. Samim observes various psychological problems such as the hysterical crises like the ones Necile used to have in her youth. Of whom he tries to cure by giving a massage to her ovaries. This shows that Samim is really keen on psychological issues and follows the publications made abroad in order to know the latest developments in the field. Renginaz also represents the adopted child, *odalisque* or nanny character in the late Ottoman and early Republican periods, who earn their own bread despite their disadvantegous status in life. Ferhunde Özbay provides the following information on the subject:

> _____ *In my study[2] on adoptions[1], I thought that 1864 was an important breaking point for those who study the history of adoption, based on the accounts of the miseries experienced by those who took refuge in the Ottoman lands with the Circassian migration. There are texts explaining that the state distributed Circassian immigrant daughters to families under the name of "adoption" during this date.*
> *According to Ömer Şen, this new policy was effective in the elimination of slavery:*
> *".. The state did not approve of these orphaned children being left alone and miserable and falling into the hands of slave traders... They began to be given for "adoption" to people who paid the "evidence" fee. While the immigrant commission placed boys in military schools and industrial companies, it gave girls to families that requested them. Other immigrants wanted to adopt the slaves left behind due to the death of their owners. This was against Ottoman law. The state allowed these slaves to become free by giving them "relief". In order not to be miserable, the administrators, in the places, where they lived, gave female slaves as "maids" to those who wanted them. "There were even immigrant women, who were sold after the death of their husbands" (Şen, 1994:176-177).*
> *(Özbay, "Adoption Practices Triggered by Circassian Immigration").*

Samim's older sister, Mefharet, is a typical anxious mother of Albanian origin and, in today's words, a narcissistic histrionic mother, who feeds herself on anxiety. Mefharet likes constantly attracting the attention of family members at home and tries to control her children with her endless worries; even if there is no problem, just like a drama queen, she likes to create problems.

Selmin, her daughter, on the other hand, is a young, beautiful, well-educated, intelligent girl who tries to assert her will against her mother. Selmin speaks French well, and likes to play mind games against her mother at home. She also takes the modern and independent woman image as her role model; but she has managed to stay within the socio-cultural norms without going to extreme ends like Meral and Feriha does. However, from time to time, she is in a power struggle with her mother and has conflicts with her. Selmin tries hard to prove that she also is an individual and has the right to take important decisions about her own

life regardless of her mother. At home, his uncle Samim is her best friend and confidant and supports her in order to be an independent grown-up. Selmin is a conservative girl at heart, but pretends to be a very care-free girl in order to make her mother angry.

Hasibe, on the other hand, is a smart working woman, who serves in the housework at Mefharet's house. She is aware of what is going on around her at home, yet she is smart enough not to interfere with the very complex relationships or the domestic issues in the house that she works for unless it is her concern or business. Thus, Hasibe is a very class conscious woman and pays attention to social-class boundaries.

Thus, we can say that in Peyami Safa's novel, *We are Lonely*, there are many female characters from all walks of life, from *pasha* girls (like Necile) to Circassian girls (like *odalisques* and nannies like Renginaz), to modern young girls (like Selmin and Meral), who were educated in Western colleges in the first years of the Republic.

Peyami Safa also draws male characters in order to give messages about the concepts of *halal* and *haram* to his readers. To exemplify, Nail Bey, Meral's father is an important character worth mentioning in the novel:

> *- That's it. Such is life. One must be a philosopher at times. I'm thinking... First of all, [my father was] a finance collector. Then... Do they call him "chief of accruals"? That's what it is. It's like keeping books for big merchants. He would show them the methods of book keeping and get thousands of liras from them. These are all lies. Something obvious. He helped them with tax evasion. And all of a sudden, he made a fortune. Because there's always something sour in my father. He is never completely satisfied with anything. Do you understand? Because he knows that he is not worthy of this comfort. Haram money, do you understand, haram? It's all just excuses. This is the one, who poisoned my father, maybe he doesn't know it himself. This, this feeling of haram. People are attracted to it, Ms. Meral, I am young, but I always see it that way around me. People suffer from what they do, you should know that. It's my father, I feel sorry for him. But who caused my mother to go astray? Hmm... Skip that side. Did Ms. Valide suffer a little too? She is still suffering. Her suffering is endless. What do these people think? Do they think they can get away with bad things, they have done? They always look at the appearances. If a woman has a mink or a Packard; her chest is decorated with diamonds like Taksim Square on a Republic Day. I'm not talking about our mother, it can be any woman. Yes, when they see her, the fools think she is lucky (Safa, 2023, s.153). Actually, all that showing-off and pomp is to hide these women's bleeding heart. Otherwise, why does a truly happy person need all that fuss to appear happy? Ferhat grimaced, twisted the right side of his lips and shook his head:*

- Nevermind… I sense that a disaster is approaching to our house and to all of us, a disaster bigger than my father's death. (Safa, 2023, s.154).

As explained above by Ferhat in the novel, Nail Bey's part in the tax evasion seems to be at the root of many of his problems such as his loss of health and the internal conflicts within his family. Money earned through haram ways brings problems and chaos to its owner since it is earned via the violation of other people's rights. In other words, anyone who commits bad deeds, will pay for it sooner or later as expressed in the passage below:

At such times, people think about the meaning of life. On ordinary days, oh, everything seems trivial. But now? Hmm... These are God's great days of reckoning... We will suffer for what we have done, Ms. Meral. Notice, I wet my finger and press it on the wall. We will [pay for our sins back] and suffer. Hard times ahead. (Safa, 2023, s.154).

Later on, Ferhat intends to show Meral that he knows about her dark side and he threatens her so that she may be afraid of going outside and she may remain in her room and forget about Paris:

Meral asked to interrupt her brother's words, which were poisoned enough to knock her out if he continued like this:
- Did you drink this evening?
Ferhat shook his head with a spiteful side glance:
- Hmm... You don't like the truth, reality, do you? Get used to it, Ms. Meral, get used to it! Terrific days are coming, I tell you, if you know this you will endure better, otherwise you will be caught off guard. Terrible days... Look, why... One day, my father will die. My gut tells me. I talked to the doctor. I'm honest. I'm rude, little lady. But I see everything. For example, did you go to the cinema today? Didn't you go somewhere else? I say I'll hit you. And I tell you that you will [also] suffer. Look, I'm saying this without anger, don't think I'm delusional. I may kill you one day. Believe that. There's something about you that drives me crazy. What I really wanted to say was something else. Ha... He will die. You and I will inherit his wealth. And we will go astray. You will go to Paris, right? (Safa, 2023, s.154).

And it is very likely that these are the final words that Meral might have heard of before dying in the novel.

Conclusion:

Hence, in this study, the representation of the modern capitalist life style with reference to the concepts of *halal* & *haram* and the impact of these concepts on both female and male characters have been analyzed by giving examples from the novel. To conclude, we can say that Peyami Safa, being an inquisitive writer,

is able to convey the psychology of both female and male characters to the readers with subtle and detailed descriptions in his novel.

Peyami Safa tries to give an insight into the psychology of his characters and why they do take wrong paths and lead *haram* life-styles in a very capitalist and so called modern world by holding a mirror to his society (as illustrated in the issue of tax evasion[2] in *We are Lonely*).In doing so, Peyami Safa hopes to help his readers to stay away from these wrong ways and adapt *halal* life-styles (both in their personal and public affairs).

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[2] As explained earlier, Nail Bey's involvement in the tax evasion in the previous years is touched upon in the novel in order to give moral lessons to the readers.

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CHAPTER 6

Classification Techniques in Machine Learning

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1. Introduction

Machine Learning (ML) is an expansive interdisciplinary field that encompasses concepts from computer science, statistics, cognitive science, engineering, and optimization theory. Its applications are diverse, with data mining being one of the most prominent. ML can primarily be categorized into two types: supervised and unsupervised learning. Supervised learning utilizes labeled data to train algorithms, while unsupervised learning focuses on datasets without known labels (Jain et al. 1999; Shalev-Shwartz & Ben-David, 2014). These varieties of algorithms are illustrated in Figure 1.

The rapid advancement of ML has positioned it as a cornerstone of information technology, increasingly influencing various aspects of daily life. With the continuous surge in data availability, ML tools are essential for detecting meaningful patterns, ultimately driving technological progress. The collaboration of statistics, machine learning, information theory, and computing has yielded powerful tools that enable significant insights through advanced learning algorithms. This synergy has fostered tremendous growth in the fields of data mining and machine learning, showcasing their integral role in extracting value from complex datasets (Kotsiantis, 2007).

Unsupervised machine learning is utilized to derive insights from datasets that lack labeled responses, meaning the desired output is not provided. In contrast, supervised machine learning seeks to establish relationships between input attributes, known as independent variables, and a target attribute, or dependent variable. Supervised techniques can be further divided into two primary categories: classification and regression, with regression focusing on continuous output values while classification deals with discrete class labels (Maimon & Rokach, 2005).

The exponential growth of data has necessitated increasingly sophisticated machine learning techniques, leading to the adoption of various algorithms for both supervised and unsupervised learning. Supervised learning is particularly prevalent in classification problems, aiming to create a classification system that is often predefined. Machine learning excels in uncovering hidden patterns within large datasets, enabling the extraction of meaningful insights without relying heavily on individual interpretations. As more data is integrated into a machine learning model, its capacity to train and enhance the quality of insights improves significantly, highlighting its effectiveness in managing complex and diverse data sources (Kotsiantis, 2007; Ayodele, 2010).

A standard formulation of supervised learning involves the classification problem, where the learner aims to approximate a function that maps input vectors to one of several predefined classes by examining input-output examples. Inductive machine learning involves deriving a set of rules from training instances, ultimately creating a classifier capable of generalizing to new instances. This study concentrates on evaluating various machine learning algorithms to identify the most efficient ones, emphasizing accuracy and precision, as well as analyzing their performance across different dataset sizes (De Mantaras & Armengol, 1998).

Classification is a prevalent machine learning task that involves assigning unknown instances to one of the established categories or classes. A critical aspect of classification is that target functions are discrete, meaning class labels cannot be assigned meaningful numerical values. The classification process relies on identifying similarities between an unknown object and known objects from various classes by analyzing their characteristics. The goal is to develop a model based on known classifications that can accurately categorize new objects, with the number of classes being predetermined and limited (Marzban, 2004).

A diverse array of classification algorithms exists, each possessing unique advantages and limitations. No single algorithm excels universally across all supervised learning challenges. Machine learning encompasses numerous techniques, including artificial neural networks, genetic algorithms, rule induction, decision trees, random forests, statistical methods, pattern recognition methods, k-nearest neighbors, Naive Bayes classifiers, and Support Vector Machines (Castelli et al., 2018; Diamantopoulou et al., 2023; Kardeş et al., 2024). These techniques are shown in Figure 1.
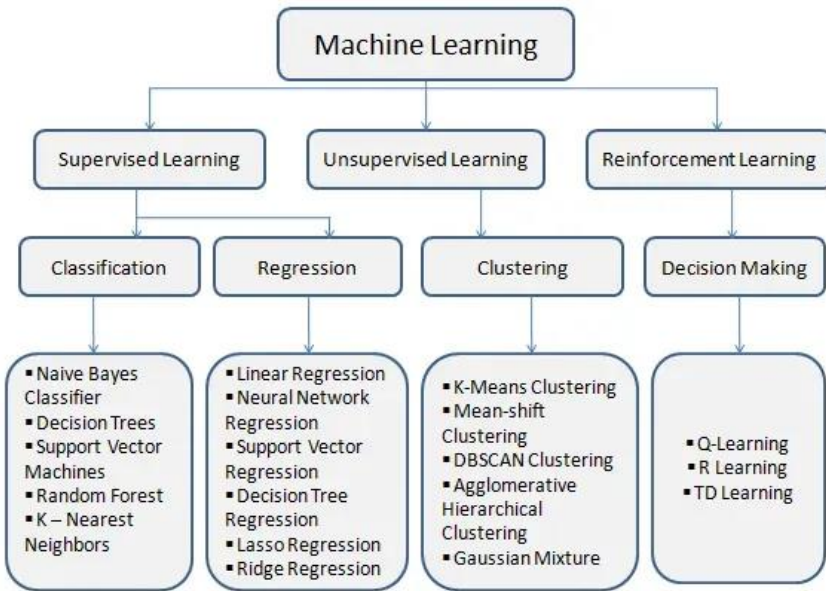
The primary objective of this study is to explain various classification techniques applicable to classification problems in supervised machine learning, along with their predictors. Model performance criteria are defined to select the most accurate model by comparing predictive performances among these techniques. To this end, the paper is structured as follows: The first section provides information about machine learning, supervised machine learning, and classification problems. The second main section details classification models, specifically decision trees, logistic regression, random forests, support vector machines, and k-nearest neighbors, including their purposes and prediction methods. Subsequently, model performance criteria (accuracy, precision, sensitivity, specificity, F1 score, ROC curve) are discussed, followed by a final section that presents a discussion of the results.

2. Decision Tree

Decision tree algorithms are among the most commonly used methods in classification tasks. The algorithm is part of the supervised learning category of algorithms. They offer a modeling technique that is straightforward to understand, which also simplifies the classification process. Decision trees provide a transparent framework, allowing users to easily follow the tree structure and understand how decisions are made (Brodley & Utgoff, 1992; Twa et al., 2005).

A Decision Tree consists of a root node, decision nodes, and leaves: each tree begins with a root node, and decision nodes are created by dividing this root node. Decision nodes represent structures that classify observations and show possible options at that point in the tree. Leaves, on the other hand, are the elements that provide the final classification results. Branches are the outputs of the decision nodes (Suthaharan, 2016). A typical decision tree model is shown in Figure 2.
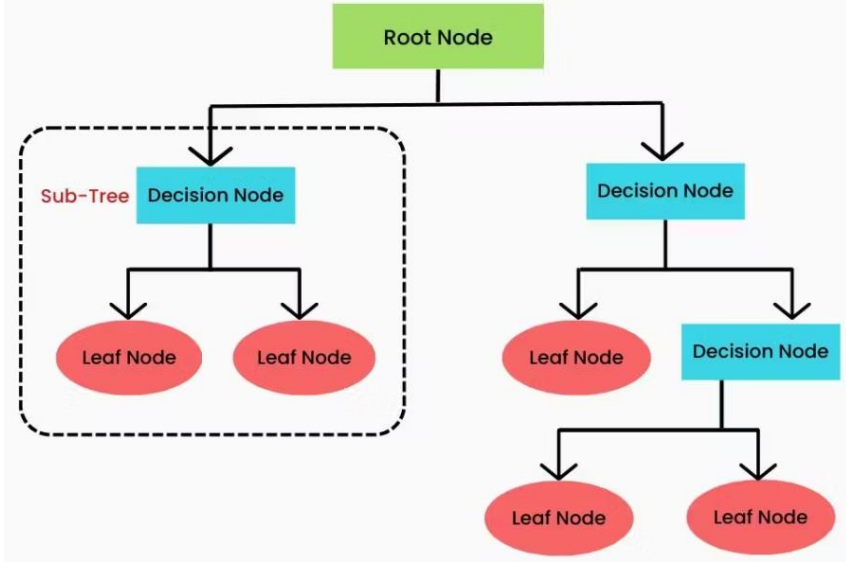
Figure 2. Decision Tree Model (Turing, n.d.)

To construct a Decision Tree, the selection of the root node and the determination of internal nodes are defined by splitting rules. Criteria used to decide which variable to select and how to split in classification problems include the Gini Index, Entropy, Information Gain and Gain Ratio (Suthaharan, 2016).

The Gini Index is a metric of purity or impurity utilized in the decision tree creation. It compares attributes with lower and higher Gini indices and is designed for binary splits. A cost function based on the Gini Index evaluates dataset splits by subtracting the sum of squared probabilities of each class from one. While it promotes larger partitions and is straightforward to implement, it tends to yield fewer splits with unique values. Gini Index is derived using the following equation 1 (Han et al., 2022).

$$Gini = 1 - \sum_{i=1}^{c} p_i^2 \qquad (1)$$

Entropy measures the randomness of information being processed, with greater entropy indicating increased uncertainty in resolving that information. For example, flipping a coin yields unpredictable results, as it is a purely random event that produces a random outcome. Entropy is derived using the following equation 2 (Quinlan, 1996; Han et al., 2022).

$$E(S) = \sum_{i=1}^{K} -p_i \log_2 p_i \qquad (2)$$

Here, Pi represents the probability of event i occurring within the state S.

Information Gain (IG) is a statistical measure that evaluates how effectively an attribute separates training instances based on their target classes. The process of building a decision tree involves identifying attributes that yield the highest information gain and lowest entropy. Specifically, information gain reflects a reduction in entropy, calculated by assessing the difference between the entropy before and after splitting the dataset according to the chosen attribute values. Information Gain is derived using the following equation 3 (Turing, n.d.; Han et al., 2022).

$$IG = Entropy(before) - \sum_{j=1}^{K} Entropy(j, after) \qquad (3)$$

Here, 'before' refers to the dataset prior to the split, (j, after) indicates the subset j resulting from the split, and K represents the total number of subsets created by the split.

The Gain Ratio (GR) is an enhancement of information gain designed to minimize its limitations and optimize its selection. It addresses the challenges of using information gain by accounting for the number of branches that would arise prior to the split. Furthermore, it refines information gain by incorporating the intrinsic information associated with a split. Gain Ratio is derived using the following equation 4 (Turing, n.d; Myles et al., 2004).

$$GR = \frac{Entropy(before) - \sum_{j=1}^{K} Entropy(j, after)}{\sum_{j=1}^{K} w_j \log_2 w_j} \qquad (4)$$

Here, 'before' refers to the dataset prior to the split. The notation (j, after) represents the subset that follows the split, while K indicates the total number of subsets generated as a result of the split.

3. Logistic Regression

Logistic regression is a statistical method used to create machine learning models with a binary dependent variable. It describes the relationship between one or more independent variables and a dependent variable, which can be nominal, ordinal, or interval. When the dependent variable has two categories, binary logistic regression is employed; if it has more than two, it is termed multinomial logistic regression (Menard, 2001).

In binary logistic regression, the dependent variable represents two possible outcomes: a value of 1 if an event occurs and 0 if it does not. There are no restrictions on whether independent variables are continuous or categorical, and interactions between them can also be included in the model. As the value of the independent variable decreases, the probability approaches zero, while increasing values bring it closer to one. Due to the nature of the problem, linear regression cannot represent this model, and an S-shaped curve resembling a cumulative logistic distribution is utilized. The logistic probability distribution is as in figure 3. (Hosmer et al., 2013).
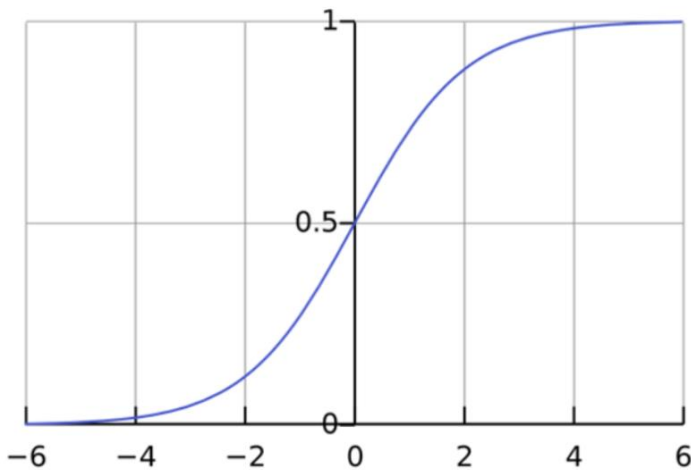
Figure 3. Logistic Probability Distribution (AWS, n.d.)

Most statistical assumptions required by traditional analysis methods are not applicable to logistic regression. For instance,

i. error terms do not need to follow a normal distribution but instead align with a binomial distribution;

ii. there is no expectation of a linear relationship between the dependent and independent variables;

iii. independent variables do not necessarily derive from a normally distributed population; and

iv. the variance of categorical variables with two values is not constant, which does not pose an issue for the method. This insensitivity to assumptions contributes to the widespread adoption of logistic regression in practice (Healy, 2006).

When constructing a binary logistic regression model, the logistic distribution function is utilized. This model is derived using the following equation 5 (Kleinbaum et al., 2002; Hosmer et al., 2013).

$$P_i = \frac{1}{1 + e^{-(\beta_0 + \beta_i x_i)}} \tag{5}$$

"The independent variable P_i represents the probability of Y taking a value of 0 or 1 for the i-th individual. This regression model, which has a nonlinear structure, can be linearized through appropriate transformations and is known as the Logit Model (Hosmer et al., 2013).

This model can be extended to cases where the dependent variable has more than two outcomes, referred to as a multinomial logistic regression model. This model is derived using the following equation 6 (Kleinbaum et al., 2002; Hosmer et al., 2013).

$$P_i = \frac{1}{1 + e^{-(\beta_0 + \beta_1 x_1 + \beta_2 x_2 + \dots + \beta_k x_k)}} \tag{6}$$

In a multinomial logistic regression model, the generalized formula in equation 7 is used to compare the categories of the dependent variable with one another (Kleinbaum et al., 2002; Hosmer et al., 2013).

$$g_k(X) = Log\left(\frac{P(Y=K/X)}{P(Y=K-1/X)}\right) \tag{7}$$

In equation 7, $g_k(X)$ represents the logit function, which is used to obtain the odds ratio in equation 8, indicating the ratio of the probability of an event occurring to the probability of it not occurring (Hosmer et al., 2013).

$$P_k(X) = \frac{\exp(g_k(X))}{\sum_{t=0} \exp(g_t(X))} \qquad (8)$$

The estimation of a logistic regression model's parameters is achieved using the Maximum Likelihood Estimator, which maximizes the likelihood function of the model's parameters (Kleinbaum et al., 2002).

4. Random Forest

The random forest algorithm is a popular machine learning method that enhances predictive accuracy by using multiple decision trees. In this method, trees are trained independently, and predictions are made by averaging or taking the majority vote across trees. By including randomly selected variables at each node, random forests reduce dependency among trees, addressing overfitting and increasing flexibility (Schonlau & Zou, 2020; Yonn, 2021).

Developed by Leo Breiman in 2001, random forests combine "Bagging" and "Random Subspace" techniques, both contributing to the robustness of this ensemble model. In bagging, different samples of training data are used for each tree, reducing variance and improving stability in classification and regression tasks. The ensemble structure of random forests relies on numerous decision trees trained on different feature subsets, which diversifies model output and enhances prediction reliability (Occhipinti et al., 2022).

In classification, random forests excel by leveraging the collective vote of multiple trees for the final prediction. Each tree produces an independent classification result, and the final classification is based on the majority vote across trees. This collaborative approach often outperforms individual decision tree models, especially when the classification task requires insights on the importance of different variables (Breiman, 2001; Biau & Scornet, 2016).

For regression, the final prediction in a random forest is derived from averaging the predictions of individual trees. This averaging mechanism increases the precision and robustness of predictions, especially in complex data environments. Random forests also mitigate issues inherent in single decision tree models, such as sensitivity to overfitting and reliance on specific variable distributions, by using multiple trees to stabilize the model's response across

varied data subsets (Breiman, 2001; Liu et al., 2012). A random forest model is shown in Figure 4.
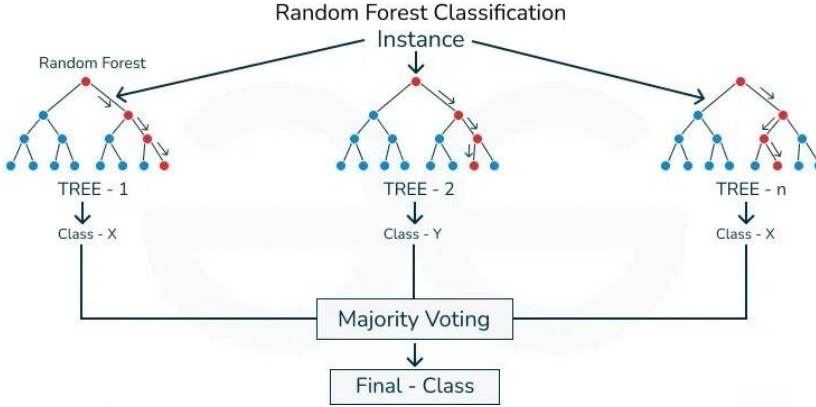
Figure 4. Random Forest Classification (Sinai, 2020)

Random forests can be generated through the bootstrap method for random feature selection. Let D represent a training dataset with d observations. To construct an ensemble with k decision trees, the following process is repeated for each tree (i=1,2,…,k):

- A subset of the training dataset D, containing ddd samples, is created through bootstrapping, meaning each selected sample is replaced in the dataset, allowing it to be chosen again in subsequent selections. Consequently, some samples appear multiple times in Di, while others may not appear at all.

- At each node, F features are randomly selected as candidates for splitting. F should be significantly smaller than the total number of features to be split at each node.

- The CART method is used to grow decision trees to their full size, without pruning.

Random forests created using this process are known as ForestRI (Breiman, 2001; Bernard, 2009; Liu et al., 2012).

5. Support Vector Machine

Support Vector Machines, developed by Vladimir Vapnik, are learning algorithms initially designed for classification tasks but later adapted for regression. This supervised learning technique, applied in early remote sensing

in the 1990s, is widely used due to its structural risk minimization principle, which aims to achieve the lowest classification error. SVMs operate by finding an optimal hyperplane in a multidimensional space that distinctly separates different classes, thereby reducing overfitting while maintaining clear class distinction (Hearst et al., 1998).

In SVM classification, the objective is to maximize the margin between the classes, achieved through the optimal positioning of the hyperplane. This separation is effective in minimizing generalization error. When applied to regression, SVM constructs a hyperplane to predict target values within a specified margin, making SVM a versatile tool for both linear and non-linear data modeling. The margin preserved in SVM regression helps to capture complex relationships within the data, facilitating accurate predictions across various regression applications (Noble, 2006).

SVMs can address classification, regression, and anomaly detection problems. In a binary classification scenario, where training data are labeled, SVM trains to classify future data points by positioning them relative to the hyperplane separating the classes. The wider the margin created by the hyperplane, the lower the error rates, contributing to effective generalization in classification (Burges, 1998).

Given a training dataset with n data points $(x_1,y_1),\ldots,(x_n,y_n)$ where each $y \in \{-1,1\}$ denotes class labels, SVM seeks a hyperplane that maximizes the margin between the points of each class. The data points that lie closest to this boundary are termed support vectors, as they crucially determine the position and orientation of the hyperplane. These support vectors are essential for establishing a boundary that distinctly separates classes (Kecman, 2005).

SVM's efficiency in handling high-dimensional spaces and its flexibility in kernel selection make it a powerful algorithm for diverse applications. Its robustness against overfitting, particularly in binary classification tasks, and adaptability to non-linear relationships using kernel functions further contribute to its popularity (Genton, 2001). A support vector machine model is shown in Figure 5.
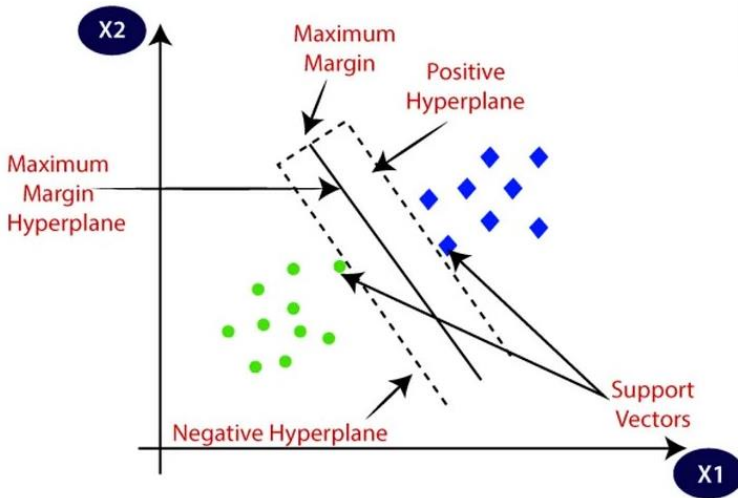
Figure 5. Support Vector Machine (Sumbati, 2020)

6. K- Nearest Neighbor

The K-Nearest Neighbors (K-NN) classifier is a non-parametric, instance-based learning algorithm that utilizes distance or similarity functions, such as Euclidean distance or cosine similarity, to classify data points. Introduced in the 1950s, K-NN's popularity grew in the 1960s with the rise in computational power, making it widely used in pattern recognition. The algorithm identifies clusters within data, categorizing points based on neighboring observations (Peterson, 2009).

The core principle of K-NN involves predicting a sample's behavior by averaging the behaviors of k nearby samples. Specifically, each test sample is classified based on the majority class among its closest k neighbors, chosen by a similarity measure. The accuracy of K-NN can be impacted by k; a high k value reduces classification noise but may blur boundaries, affecting differentiation between classes. Optimal k values are often chosen through heuristic techniques (Kramer, 2013).

The algorithm stores classification data and assesses similarities across training data to categorize new data points. This process involves calculating distances among data points based on selected variables, then determining the k closest neighbors for each test point. As a result, K-NN relies heavily on defining an effective similarity measure and a suitable k value to ensure meaningful classification results, allowing it to be applied to various practical use cases (Khan et al., 2010).

The working principle of the K-Nearest Neighbors (K-NN) algorithm can be summarized in four main steps (Mucherino et al., 2009; Harrington, 2012):

- Calculate the distance between the target observation and all other observations in the dataset.

- Sort these calculated distance values in ascending order.

- Select the k nearest neighbors with the smallest distance values.

- The most frequent class among these k neighbors is chosen as the predicted class for the target observation.

The visual showing the KNN classifier is presented in Figure 6.
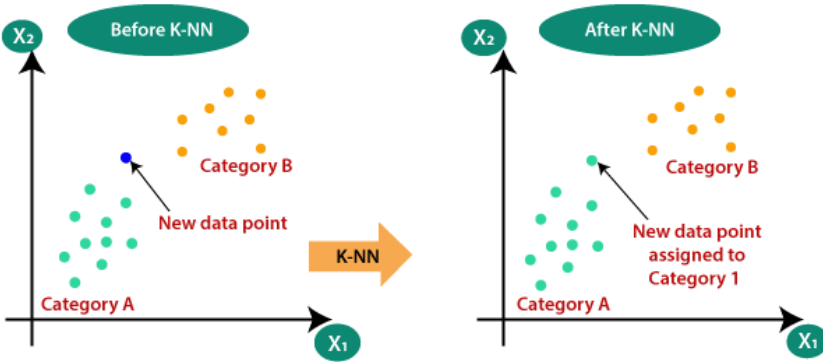
Figure 6. K- Nearest Neighbor Classification (Javatpoint, n.d.)

7. Model Performance Evaluation Criteria

The confusion matrix is a vital tool for evaluating the performance of classification algorithms. It compares the predicted outcomes of a classification model against the actual values, illustrating both correct and incorrect predictions for each class. This matrix not only reveals the overall accuracy of the model but also aids in understanding the types of errors made (Liang, 2022).

Various performance metrics have been defined to assess the effectiveness of classification algorithms. This section will discuss these metrics using the confusion matrix presented in Table 1 for binary classification problems (Visa et al., 2011).

Table 1. Confusion Matrix

Predict	Actual	
	Positive	Negative
Positive	True Positive(TP)	False Positive(FP)
Negative	False Negative(FN)	True Negative(TN)

True Positive (TP): The number of observations correctly predicted as positive by the model, which are actually positive (Room, 2019).

False Positive (FP): The count of observations that the model incorrectly predicts as positive, though they are actually negative (Room, 2019).

True Negative (TN): The count of observations accurately predicted as negative by the model, which are truly negative (Room, 2019).

False Negative (FN): The number of observations the model predicts as negative, although they are genuinely positive (Room, 2019).

These four fundamental values are utilized in calculating various metrics that assess the model's performance. These can be expressed as follows.

Accuracy: Represents the percentage of test set instances that a classifier correctly identifies, reflecting how well the classifier recognizes examples from each class. This metric is most effective when the class distribution is relatively balanced. It is calculated using Equation 9 (Visa et al., 2011).

$$Accuracy = \frac{TP+TN}{TP+TN+FP+FN} \qquad (9)$$

Precision: Precision is calculated based on a specific class, with the positive class typically considered in Equation 10. Commonly used in text classification and information extraction from text, this metric indicates the proportion of instances predicted as positive that are indeed positive, according to the given formula (Caruana & Niculescu-Mizil, 2004).

$$Precision = \frac{TP}{TP+FP} \qquad (10)$$

Sensitivity (Recall): Sensitivity is calculated based on a specific class, typically focusing on the positive class, as shown in Equation 11. It measures the proportion of actual positive instances that are correctly predicted as positive. A higher recall indicates a stronger ability to reduce false negatives. Also known as the True Positive Rate (TPR), recall reflects the extent to which truly positive observations are accurately classified as positive (Zeng, 2020).

$$Sensitivity = \frac{TP}{TP+FN} \qquad (11)$$

Specificity: Specificity is represents the proportion of truly negative observations that are correctly predicted as negative, calculated using Equation 12. This metric evaluates how effectively the model identifies negative classes, making it particularly relevant in scenarios where the cost of incorrectly classifying negatives as positives is high (Berrar, 2019).

$$Specificity: \frac{TN}{FP+TN} \qquad (12)$$

F1 Score: The F1 score represents the harmonic mean of precision and recall, balancing these two metrics. It is particularly useful when dealing with imbalanced classes, as it effectively combines precision and recall into a single measure (Chicco & Jurman, 2020).

$$F1 Score: 2 * \frac{Precision * Sensitivity}{Precision + Sensitivity} \qquad (13)$$

ROC Curve: The ROC curve (Receiver Operating Characteristic curve) is a graphical tool used to assess the performance of a binary classification model across various classification thresholds. Specifically, it plots the True Positive Rate (TPR) against the False Positive Rate (FPR) at each threshold, offering insights into the trade-offs between sensitivity and specificity for the classifier. This allows for an evaluation of the model's accuracy and its capability to distinguish between positive and negative classes across different threshold settings. The visual showing the ROC Curve is presented in Figure 7 (Hoo et al., 2017; Evidently AI, n.d.).
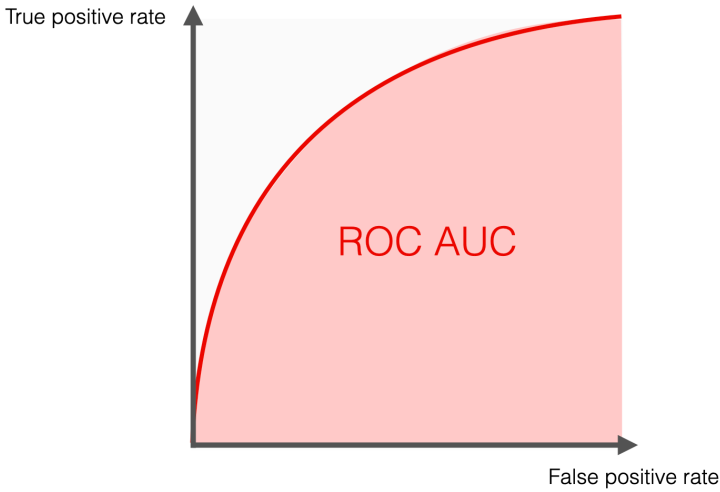
Figure 7. ROC Curve (Evidently AI, n.d.)

Each point on the ROC curve represents a specific decision threshold, correlating to a particular True Positive Rate and False Positive Rate. This helps illustrate how different thresholds affect the model's balance between correctly identifying positives and mistakenly classifying negatives as positives, allowing for an evaluation of the classifier's performance across a range of sensitivities (Evidently AI, n.d.).

8. Conclusion

This paper has thoroughly examined various classification techniques within supervised machine learning, detailing their fundamental mechanisms and the contexts in which they may be applied. Formulas applicable in real-world scenarios have been defined, along with statistical measures derived from confusion matrices for evaluating the performance of predictive models.

The classification methods discussed have broad applicability across domains such as facial recognition, document classification, handwriting recognition, and speech recognition. It is challenging to ascertain which technique is superior, as each possesses its unique strengths and weaknesses. Therefore, the choice of classification technique is largely contingent upon the user's specific problem domain. Future research should focus on developing novel approaches that enhance the capability to tackle large-scale data challenges. Continued investigation into classification methodologies will contribute to advancements in this field, improving accuracy rates in practical applications.

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CHAPTER 7

Organizational Cynicism

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1. INTRODUCTION

There are many reasons that challenge employees in organizational life, and these reasons create negative feelings and thoughts in employees towards the organization. Organizational cynicism is one of these negativities. The underlying idea of cynicism is that people only look out for their own interests, are selfish and unreliable. Due to this idea, human relations in organizations are negatively affected, and employees who experience cynicism can have negative feelings such as distress, shame and disgust towards their organizations. As a result of these feelings, employees can show negative criticism and ruthless behavior towards their organizations. These negativities disrupt the organizational climate, reduce motivation and performance, and cause many problems such as leaving the job and burnout (Aktuğ, 2024: 51).

Organizational cynicism is defined as the negative and unfavorable attitudes of people working in an organization towards the organization they work in for various reasons. Organizational cynicism has three main factors: the belief that the organization has a structure that is far from honesty, negative feelings that are felt and anticipated towards the organization, and negative behaviors such as statements that the organization is far from the concepts of sincerity and honesty. When the reasons for organizational cynicism are considered, concepts such as personality, psychological contract violation, and deficiencies in leadership behavior come to the fore (Çınar et al., 2023: 717). It is stated that elements such as disappointments, stressors, troubles, hopelessness, and pessimism find their place in cynicism. One of the main reasons for the experiences of the mentioned feelings within organizational structures is the lack of trust in organizations. Cynicism may arise as a result of employees not having sufficient trust in their organization, organizational rules, co-workers, managers and supervisors, and business owners (Hartoka et al., 2023: 324).

Considering that cynicism affects individuals' perceptions, expressions, evaluations and expectations towards other people and shapes their behaviors, it is understood that this phenomenon can affect not only individual and social life but also organizational life (Altınkurt et al., 2014: 26). Organizational cynicism is important for people-oriented organizations in terms of achieving their goals and organizing human relations. The necessity of making the best use of human resources in order to adapt to increasing competition conditions and rapidly changing internal and external environmental conditions is a fact that organizations have to understand and manage individuals, and in this context, cynicism is an important issue for organizations (Tokgöz and Yılmaz, 2008: 285).

2. CONCEPT OF CYNISM

The concept of cynicism first emerged in Ancient Greece and is generally expressed as a way of life or way of thinking, and is expressed as a way of becoming virtuous by distancing oneself from worldly life and pleasures (Brandes, 1997: 7). The first cynic is known as Antisthenes, a student of Socrates (Pelit and Pelit, 2014: 73). The most famous cynic is Diogenes of Sinope, a student of Antisthenes. Antisthenes and Diogenes argued that the greatest happiness lies in being virtuous and individuals being self-sufficient (Öndeş and İrmiş, 2018: 2). Cynicism is an attitude related to a person's lack of knowledge when it comes to human nature (Costa et al., 1986:284). Cynicism is used in close meaning with the words disbelief, skepticism, negativity and distrust. It is also used to include concepts such as being hard to please, criticizing and finding faults (Erdost et al., 2007). In addition, in different definitions made today, cynicism can also be defined as individuals being outspoken and being able to bravely confront emerging problems (Daft, 1993: 4).

Eaton (2000) evaluates cynicism as a sneaky and negative way of thinking, a personality trait or attitude full of prejudices that does not trust anything, rather than a way of life (Eaton, 2000: 6). Scharmer (2007) defines cynicism as all emotional actions that distance employees from their own creativity and argues that it renders employees ineffective because it prevents development (Arslan, 2012: 14). Naus et al. (2007) Cynicism is the oppositional and negative attitudes, thoughts and behaviors that individuals develop regarding their organizations (Ada and Yarım, 2017: 68). In other words, cynicism is also defined as an attitude that includes mockery and resentment (Polat et al., 2024: 181). According to Abraham (2000), cynicism is the tendency of a person to establish relationships with other individuals and manage affairs only for their own interests (Ada and Yarım, 2017: 69). In the cynical mindset, people tend to interpret events, in other words, everything, negatively. Those who advocate cynicism are selfish and use people as tools, thinking of their own interests in every action (Tokgöz and Yılmaz, 2008: 239).

Cynicism can be briefly defined as the belief that people do not trust their intentions and that they do not reflect the real personalities of the people concerned (Helvacı and Çetin, 2012). Cynicism is defined as a negative attitude towards environmental factors (Erdirençelebi and Yazgan, 2017: 268-269). The most characteristic feature of cynical individuals is that they have negative and pessimistic attitudes towards behaviors and events. According to cynics, people give importance to their individual interests and use other individuals for these individual interests (James et al., 2005: 552). Cynicism is generally expressed as

a feeling of insecurity that occurs in the individual as a result of the belief that the other party is bad in relationships established with other people (Berman, 1997: 105).

Brandes et al. (1999) define some of the distinctive characteristics of cynics as follows (Özgener et al., 2008: 54; Mülayim, 2024: 30):

- Cynics argue that human nature includes traits such as lying, cheating, and exploiting others.

- They perceive other people as liars, selfish, and uninterested.

- They exhibit a hostile and dominant attitude, and avoid being friendly and helpful.

- They think that people tend to be selfish when making choices, that their behavior is inconsistent, and that they are unreliable.

- Cynics tend to believe that there are often hidden purposes behind their actions.

- When they think about a person, organization, group, or society, they may feel emotions such as distress, disgust, and even shame.

- They may make open criticisms indicating that the psychological object lacks honesty and sincerity.

- They tell events from their own perspective based on their personal experiences and have a sarcastic sense of humor.

3. ORGANIZATIONAL CYNICISM CONCEPT

The term organizational cynicism first emerged with a study conducted on American employees and attracted attention in various fields and found its place in the literature (James, 2005: 6). Cynicism has an important place among the concepts encountered by organizations in the field of organizational behavior (Kayaalp and Özdemir, 2020: 104). The first studies on organizational cynicism were conducted by Niederhoffer (1967) on police officers in the police department, which was seen as an organization. It was stated that the negative feelings and behaviors developed by police officers towards society led to hatred, envy of people, powerlessness and resentment. Organizational cynicism research began to develop from the end of the eighties (Ada and Yarım, 2017: 74). There are many definitions of the concept of organizational cynicism in the literature.

Wilkerson et al. (2008) defined organizational cynicism as a negative attitude of a person towards the organization they work for and its procedures, processes and management, based on the idea that these elements are against the interests of the employee (Arslan, 2012: 14). In a similar expression, organizational cynicism is the perception of employees that their organizations spend criteria such as morality, fairness, honesty and sincerity in line with organizational interests (Çoban and Deniz, 2021: 1233). Naus et al. (2007) defined organizational cynicism as a self-defense attitude against the organization they work for in order to combat negative thoughts and feelings of disappointment about the steps taken by the organization and its management, and stated that organizational cynicism can be an alternative way to gain reputation in the business environment (Tokgöz and Yılmaz, 2008: 292). In this context, organizational cynicism is the negative emotional states that employees have directly towards the organization, management or managers (Reichers et al., 1997: 50). According to Dean and his friends (1998), organizational cynicism is a negative attitude that a person feels towards the organization he works for. This attitude includes three different dimensions. These are a belief that the organization lacks integrity, negative feelings towards the organization, and derogatory and critical behaviors (Dean et al., 1998: 345).

Organizational cynicism is the emotional reactions of employees in an organization only towards their organization and at the same time creating an opposing attitude with their whole self and behavior (Bommer et al., 2005: 736). Organizational cynicism is also defined as the individual beliefs that emerge with the perception that employees' expectations of morality, justice and honesty are neglected by the organization (Çelik and Ayık, 2023: 120). The basis of the concept of organizational cynicism is the lack of the principles of honesty, justice, sincerity and sincerity. Such a lack reveals the belief that the principles of honesty, justice and sincerity are sacrificed to increase personal leadership interests and lead to actions based on deception (Abraham, 2000: 269). Organizational cynicism is also defined as individual beliefs that emerge with the perception that employees' expectations of morality, justice and honesty are neglected by the organization (Kılıçaslan and Kaya, 2017: 14). Organizational cynicism is the individual's isolation from organizational values by believing that there is discrimination within the organization. In other words, organizational cynicism is the negative attitudes of the employee towards the organization (Nafei and Kaifi, 2013: 137).

The characteristic features of cynics in organizations can be summarized as follows (Saruhan and Yıldız, 2009: 106; Mülayim, 2024: 32):

- They belittle and see the institutions they work for as worthless.

- They have negative feelings towards their workplaces.

- They criticize their institutions using condescending expressions.

- Despite their constant criticism, they do not offer any solutions.

- They make negative and damaging comments about the institution.

- They tend to humor their work by exhibiting a sarcastic attitude.

- They are usually people who have not achieved their own individual goals or the positions they desire within the institution.

- Although their retirement is still a long time away, they act as if they are retired.

- They often state that they no longer have expectations from the institution.

- They lack a culture of compromise and see distancing as weakness or concession.

- They prefer hierarchical structures and have difficulty adapting to horizontal relationships

4. ORGANIZATIONAL CYNICISM DIMENSIONS

Dean et al. (1998) conducted a study that included all three dimensions of organizational cynicism and after this period, work began on three dimensions. Organizational cynicism dimensions are cognitive, affective and behavioral dimensions (Dean et al., 1998: 345).

4.1. Cognitive Dimension

The cognitive dimension is the dimension that best describes organizational cynicism. The cognitive dimension of organizational cynicism refers to the dimension in which negative beliefs are held against the organization. They think that other organization members always act in line with their own interests and prioritize their interests over their moral values (Çoban and Deniz, 2021: 1234). The cognitive dimension constitutes the knowledge-based aspect of a behavior or attitude (Demir et al., 2018: 234). This dimension develops with feelings such as anger, condemnation and contempt towards the organization. In cognitive cynicism, cynical individuals believe that tasks and actions within the organization; (Öndeş, and İrmiş, 2018: 3). For this reason, cynical individuals

think that their organizations have betrayed them due to their lack of positive emotions such as virtue and reliability (Efeoğlu and İplik, 2011: 348).

4.2. Affective Dimension

The second dimension of organizational cynicism, the affective dimension, includes the emotional reactions of employees to the work environment, decisions and procedures within the organization (Dean et al., 1998: 346). In the affective dimension, the emotions that the employee feels towards the organization, such as sadness, anger, resentment and anxiety, are at the forefront (Brandes et al., 1999: 5). According to this dimension, cynicism is felt as a result of experiences formed by emotional interactions in social life as well as beliefs and thoughts, and includes strong emotional reactions rather than impartial judgments about the organization (Öndeş, and İrmiş, 2018: 3). Emotional cynicism develops as a result of negative experiences experienced in work conditions where there is togetherness. Employees who constantly encounter injustice within the organization internalize this situation and organize as an emotional reaction, and have negative feelings (Abraham, 2000, 269). In this dimension of organizational cynicism, employees may feel resentment, anger, and resentment towards their organization, and may have feelings such as disgust, pity, and hatred after hearing statements about the organization (Pelletier and Bligh, 2008: 832). These feelings, combined with competition and distrust towards the organization, reduce job satisfaction and motivation. Employees realize that their experiences and relationships are not valued, and this leads to an emotional distance towards their organization (Erdem and İpek, 2021: 333).

4.3. Behavioral Dimension

The last dimension of organizational cynicism, the behavioral dimension, is expressed by behaviors that tend towards the negative and mostly include contempt towards superiors. According to the general perception, cynical attitudes include tendencies towards types of behavior rather than specific behavioral patterns (Ajzen, 1994: 27-58). Cynicism can fully manifest itself in the behavioral dimension. Individuals may not hesitate to reveal cynical attitudes in this last stage of cynicism, which has passed from the cognitive dimension to the affective dimension, and may not see any harm in influencing their environment (Özer and Güllüce, 2019: 39). In this dimension, individuals who exhibit cynical behaviors reflect these in their behaviors by making very harsh criticisms, bad statements, and mocking attitudes towards their organizations and colleagues (Beğenirbaş and Turgut, 2014: 228). The behavioral dimension can be briefly defined as the state of thoughts transformed into behavior (Aktuğ, 2024: 67). An individual working in an organization and exhibiting cynical behaviors making pessimistic predictions about the future events of the organization is one of the symptoms of the behavioral dimension (Pelit and Pelit, 2014: 100).

As a result, the cognitive dimension includes the belief that the organization lacks integrity; while the affective dimension refers to negative emotional reactions. The behavioral dimension includes the person's negative attitudes and behaviors that belittle the organization (Demir et al., 2018: 234).

5.THEORIES OF ORGANIZATIONAL CYNICISM

There are some theories developed in the literature to explain the concept of organizational cynicism. Attribution theory, expectancy theory, attitude theory, social exchange theory, social motivation theory and emotional events theory are considered as theories explaining the concept of organizational cynicism.

5.1. Attribution Theory

Attribution is a theory that emphasizes the desire to understand the reasons underlying human behavior. Human behavior consists of its own characteristics or environmental factors (James, 2005: 11). Attribution theory has an important place in understanding both one's own behavior and the behavior of other people, and in reaching the cause of the problem that occurs (Kızgın and Dalgın, 2012: 62). Individuals make causal attributions according to the perception of the event after the negative situations they experience. These attributions give rise to desires that cause feelings such as feeling closeness, decisions to take responsibility, hope, anger and insecurity. People who blame the organization attribute the negative events to the organization. According to this theory, individuals blame the organization for negative events. In the absence of these accusations, the person cannot be described as cynical towards the organization (Orhan and Küçükkaya, 2020: 333).

5.2. Expectation Theory

Expectation theory is related to the individual expectations of the employee. Employees' performance expectations, reward and goal satisfaction determine the level of their efforts (Arıkök, 2022: 18). According to the expectation theory, the person's effort in the work he does is effective in determining his performance when he knows that he will be rewarded when he achieves success in the business he works for (Orhan and Küçükkaya, 2020: 333). In the theory in question, the perception of the result of the work in a positive or negative way affects the achievement of individual goals and objectives. If the employees' requests related to their work are positive, good work relationships, revealing their talents, and sincerity in interpersonal relationships can be achieved. If they have a negative request, results such as distress, stress, fatigue, leaving the job, disappointment and hopelessness can occur (Kaplan, 2024: 17). In other words, this theory

emphasizes the behaviors expected from employees. In the organization, the answer to the question of whether the employee knows the expected behaviors and the value he will receive in return is sought. Rewards and payments are also emphasized. Employees are interested in the attractiveness of the rewards (Arıkök, 2022: 18).

5.3. Attitude Theory

Attitude can be defined as a situation that expresses the behaviors that individuals exhibit towards various concepts, situations and objects depending on internal or external factors (Kaplan, 2024: 18). In attitude theory, organizational cynicism characteristics are specified through attitudes. These attitudes examine the dimensions of organizational cynicism as affective, cognitive and behavioral relationships (Dean et al., 1998: 346). In this context, the cognitive dimension that a person learns about an event, the affective dimension of what he/she experiences in response to what he/she learns, and how he/she reflects all these feelings in his/her behaviors represent the behavioral dimension (Orhan and Küçükkaya, 2020: 333). Behaviors, thoughts and feelings towards any event can be called tendencies created as behavior. The affective, cognitive and behavioral elements of behaviors have played an important role in the definition of organizational cynicism since the beginning (James, 2005: 7).

5.4. Social Exchange Theory

Social exchange theory states that individuals need to establish relationships with other individuals in order to survive and meet their needs (Terlemez, 2023: 6). According to social exchange theory, rewards are not only material, such as goods or money, but also spiritual values such as social support, respect, work friendships, and emotional satisfaction (Lambe et al., 2001: 4). In this context, the basic principle of the theory is that individuals interact with each other and maintain these relationships with the expectation of being appreciated and rewarded in the context of social interaction. When an employee believes that he/she meets the expectations of the organization's management, his/her tendency to do his/her best to contribute to the organization positively affects his/her own satisfaction and motivation. At the same time, employees feel the need to interact with each other in order to maintain the balance within the organization (Kaplan, 2024: 18).

5.5. Social Motivation Theory

According to the social motivation theory developed by Weiner (1985), the cause of the outcome of an event is first investigated and then the event is examined in causal dimensions and evaluated. As a result of the evaluations, responsibility decisions are made for the event and solution expectations are developed in case similar events are encountered in the future. The resulting responsibility decisions and expectations lead to certain emotions such as anger and sympathy that may affect the next behavior (Eaton, 2000: 7). Social motivation theory is used to explain how events are perceived and thought by the employee and how these perceptions affect organizational cynicism rather than explaining organizational events that cause organizational cynicism (Eaton, 2000: 7).

5.6. Emotional Events Theory

The emotional events theory developed by Weiss and Crapanzano (1996) is a theory aimed at explaining the effects of the emotions (sadness, anger, disappointment) felt by the person on their behavior (Erol Korkmaz, 2014: 79). In this theory, which explains the effects of emotions on individuals' behaviors, emotions are viewed as a character trait. With this feature, emotions remain in the individual for many years without changing, and this emotion has now become a personality trait. It expresses that individuals are affected by positive or negative events they have experienced in the past for many years. According to this theory, the events that affect an individual's behavior do not necessarily have to be events that occurred much earlier. Any event that occurs during the day also affects the individual's behaviors for the rest of the day (Özdevecioğlu, 2004: 183).

6. ORGANIZATIONAL CYNICISM TYPES

The types of cynicism generally accepted in the literature are; personality cynicism, employee cynicism, professional (work) cynicism, social cynicism and organizational change cynicism (Erdem and İpek, 2021: 332).

6.1. Personality Cynicism

Personality cynicism can be expressed as "innate, determined and unchanging negative individual behavior" (Aktuğ, 2024: 68). Personality cynicism is generally negative attitudes and behaviors that reflect an innate, balanced and stable personality trait. Individuals experiencing personality cynicism have a generalization that the world is full of dishonest, evil-tolerant, indifferent, negligent and selfish people. The individual is dominated by a deep-rooted

distrust and ingrained suspicion of other people. Therefore, they do not believe in the sincerity or goodness of others, on the contrary, they find them fake and tend to behave rudely towards them (Öndeş, and İrmiş, 2018: 2). Personality cynicism refers to the negative attitudes and beliefs arising from the employee's personal characteristics and life experiences. This type of cynicism leads to negative behaviors such as distrust, hostility and resistance to cooperation in the employee's work life. Personality cynicism negatively affects the employee's job satisfaction and commitment to the organization, which reduces overall job performance and damages relationships in the workplace (Abraham, 2000: 270-271). According to personality cynicism, the person despises other people, treats them disrespectfully and establishes weak bonds with other people. The basic idea of personality cynicism is to always see people's personalities as negative (Çınar et al., 2023: 724). Personality cynicism is considered a type of organizational cynicism because individuals with personality cynicism not only develop a negative attitude towards general human nature, but can also carry these attitudes towards managers or other employees within their organizations. Therefore, personality cynicism is a concept that expresses a general negative attitude within the organization and can be reflected in relationships, beliefs, expectations, emotions and behaviors in the workplace. While organizational cynicism within the enterprise is a more general term, personality cynicism focuses specifically on the attitudes and behaviors of individuals (Mülayim, 2024: 33-34).

6.2. Social Cynicism

Social cynicism is defined as the disruption of the social contract between the individual and society. Social cynicism represents the negative beliefs, feelings and behaviors that individuals have towards their own country and its institutions (Mirvis and Kanter, 1991: 59). In other words, social cynicism is a type of organizational cynicism that states that "the citizens of a country do not trust their own government and companies" (Aktuğ, 2024: 69). Social cynicism is the attitudes and behaviors that emerge when the social contract and social agreement rules between the individual and society are not followed. It can be said that the violation of the mutual psychological contract between the individual and society breaks the trust of individuals, and as a result of this loss of trust, the individual feels personally wronged, the trust in the order is shaken and the belief that the system is broken (Öndeş, and İrmiş, 2018: 2). One of the basic characteristics of social cynicism is that employees constantly harbor doubts and mistrust in social relations. These employees constantly question and often perceive other people's intentions and behaviors negatively. Social cynicism also leads employees to

have a negative and critical attitude towards social events and social changes (Erdem and İpek, 2021: 332).

6.3. Employee Cynicism

Andersson (1996) states that employee cynicism is a type that occurs as a result of the violation of the psychological contract between the employee and the organization and encourages the employee to belittle and despise managers (Erdem and İpek, 2021: 332). In the study of Andersson and Bateman (1996), employee cynicism is defined as both broad and specific behaviors characterized by frustration and disappointment. This definition includes the negative feelings and distrust that an individual feels towards a group, ideology, social traditions or an institution (Mülayim, 2024: 35). It is a new paradigm in employer-employee relations that occurs as a result of excessive and intense working hours, impartial and lack of authority and management and administration, unwanted forward-looking organizational tasks, and the shrinking and shrinking of institutions. The elimination of management levels in organizations and between a potential recruiter and candidate (Çınar et al., 2023: 725). Behaviorally, employee cynicism leads employees to exhibit negative and anti-organizational behaviors in the workplace. Employees perform their duties with minimum effort, exhibit negative attitudes towards co-workers and managers, and resist organizational policies (Dean et al., 1998: 347). Such behaviors reduce organizational efficiency and negatively affect the work environment (Abraham, 2000: 271). When employee cynicism occurs, attitudes such as indifference towards the organization, lack of trust, slowing down of work, or anger towards co-workers can be observed. The main reasons for this cynicism include a sense of inequality and injustice. Factors contributing to the formation of employee cynicism include excessively long working hours, workplace violence, inadequate personal development programs, ineffective leadership, workforce reductions and demotions (Cartwright and Holmes, 2006: 201).

6.4. Occupational Cynicism

Occupational cynicism can be defined as negativity and distrust towards managers and organizations (Bateman et al., 1992: 770). In other words, occupational cynicism is defined as the cynicism that an employee develops towards his/her own profession or the content of his/her job (Aktuğ, 2024: 76). Employees may become engulfed in occupational cynicism due to the constant pressure and stress they encounter in their profession. This stress may be caused by factors such as excessive workload, insufficient support, and constantly changing job requirements. Occupational cynicism occurs as a result of such negative working conditions and damages the motivation and commitment of employees towards their profession (Çınar et al., 2023: 725). Occupational cynicism is generally defined as a mechanism by which employees protect

themselves against their customers. Employees who try to keep themselves away from customers take precautions with the idea that customers will harm and discredit them (Naus et al., 2007: 687). Professional cynicism can also be defined as a method of coping with emotional and behavioral numbness that directs employees to seek identity, desensitizes them, accelerates their disengagement from work, and creates reluctance towards work (Çakır and Kacır, 2018: 131). In professional cynicism, the employee first expresses his/her negative attitude to other employees of the organization and then to the public. When employees base their inadequacies on business management, policies, practices, or lack of resources, cynicism can expand in an organizational sense (Naus, 2007:13).

6.5. Organizational Change Cynicism

Organizational change cynicism can be defined as the disappointment and pessimistic perspective of employees towards managers who will implement the change due to previously attempted and failed change efforts in the organization (Erdem and İpek, 2021: 332). Organizational change cynicism is a reaction of employees to unsuccessful organizational change attempts and the loss of trust in the leader who provides the change in the organization (Reichers et al., 1997: 9). In a similar expression, organizational change cynicism is a reaction to the failure of change attempts made by organizations (Çakır and Kacır, 2018: 130). One of the basic characteristics of organizational change cynicism is the negative beliefs of employees towards change attempts within the organization. These beliefs are generally that the organization cannot effectively manage the change processes and that the change will not produce positive results for the employees (Wanous, Reichers and Austin, 2000: 133). In organizational change cynicism, it is seen that a pessimistic, negative and critical approach to change plans based on success comes to the fore. This cynicism, which consists of two elements, is shown as a negative perspective towards change and the accusation of those who plan and execute the change for incompetence in terms of successful change and motivation plans (Terlemez, 2023: 7).

7. CAUSES OF ORGANIZATIONAL CYNICISM

Organizational cynicism has individual and organizational causes. Individual causes are; age, gender, education level, marital status, income, working hours and hierarchy. Organizational causes are; organizational justice, policy and psychological contract violation, person-role conflict and communication (Cartwright and Holmes, 2006: 200). The causes of cynicism in question are explained below.

7.1. Individual Causes

7.1.1. Age

It is stated that the ages of employees affect their interests, desires, expectations and attitudes towards work life (Aktuğ, 2024: 78-79). The age levels that individuals are in can affect the attitudes, desires and expectations they develop towards the work they do in their working lives from different perspectives. Individuals tend to find the most suitable job for themselves by receiving various trainings in order to overcome the difficulties experienced in settling into a job and starting a job at the beginning of their working lives (Bernerth, 2007: 24). People's developmental periods can affect their attitudes, perceptions, desires and expectations at work. At the beginning of their working life, people first experience problems searching for and finding a job; In this way, their desire to work in a job suitable for their education and qualifications is high. However, at the beginning of their working life, contrary to their expectations, they are forced to accept a job they no longer want. For this reason, it is very important for young people to have a job and working environment where they can use their personal skills and talents and where human relations are good (Çınar et al., 2023: 726). If these expectations of young employees cannot be met by organizations, their likelihood of experiencing disappointment and organizational cynicism may increase (Terlemez, 2023: 9). In older employees, the opposite of this situation is that their expectations decrease as their experience increases, and their perception of organizational cynicism may decrease (Aktuğ, 2024: 78-79).

7.1.2. Gender

Since women and men are assigned roles according to gender in social life, women and men can perceive working conditions differently and have different expectations in organizational life (Aktuğ, 2024: 79). It is known that gender can affect different psychological, physiological and cognitive characteristics of women and men. For this reason, it can be said that both sexes have different expectations and views (Terlemez, 2023: 8). While female employees are more focused on social relations in organizational life, male employees are focused on power, career, wage and success (Aktuğ, 2024: 79). Due to the difference in gender roles, female and male employees value working conditions differently and have different expectations from organizational life (Çınar et al., 2023: 726). While there are studies that underline that women and men give similar reactions to their jobs, there are also studies that often indicate that they have different work attitudes (Çakır, 2018). It is stated that women are more emotional and therefore

their perception of cynicism in the face of negative events in the organization will be higher than male employees (Aktuğ, 2024: 79). However, Bernerth et al. (2007: 24) could not find any relationship between gender and organizational cynicism in many studies they conducted on the relationships between cynicism, equality and commitment to organizational change.

7.1.3. Educational Status

Since the educational status will affect the employee's perspective on work, expectations from the organization and career planning, the level of cynicism may also differ in employees with different educational levels (İlgın, 2019: 26). The educational factor is among the important factors affecting the perspectives of organizational employees on work and their expectations from work. As the educational levels of organizational employees increase, their perspectives in business life also develop. At the same time, expectations are shaped in this direction. When different studies on organizational cynicism are examined, it has been determined that the level of education affects organizational cynicism (Polat, 2014: 37). (Okumuş, 2019: 24). In general, as the level of education of employees increases, their expectations from business life increase. If the employee's level of education is low, the level of expectation tends to decrease accordingly. In this sense, the educational status can shape the employee's attitudes and behaviors in business life (Terlemez, 2023: 9). There is a significant positive relationship between the level of education and institutional cynicism. In other words, as the level of education increases, the level of organizational cynicism also increases (Fero, 2005: 36). Kerse and Karabey (2019) determined that employees with a postgraduate education perceive more organizational cynicism than employees with other educational backgrounds.

7.1.4. Marital Status

The fact that an individual is married or single is seen as a factor that can significantly affect organizational cynicism. When the relationship between marital status and attitudes towards organizational cynicism is examined, it is revealed that individual employees have a high level of organizational cynicism (Delken, 2004: 51). When the perceptions of married or single employees towards cynicism are examined, single employees generally turn to personal goals, while married employees turn to family goals. This result causes different attitudes and behaviors on both sides, while their perceptions of cynicism may vary depending on whether they are married or single (Terlemez, 2023: 9). It is stated that single people are not responsible, they avoid taking responsibility, they are not compatible, and they are not welcomed by the society because of the

widespread thoughts such as they are not compatible, they are not wanted to be included in groups or organizational integrations in work environments due to the reasons mentioned. When it comes to married people, they have to be committed to their jobs due to their responsibilities and they need to be more stable than single people because they do not want to have job anxiety about the future. For such reasons, it is stated that the marital status variable can be effective in the emergence of organizational cynicism. Therefore, it is stated that the marital status variable can be effective in the emergence of organizational cynicism (Elvanesentürk, 2019: 49).

7.1.5. Income

It is known that the income status of employees is also effective in the emergence of organizational cynicism. Ferro (2005:56) found a significant relationship between income level and organizational cynicism. It was found that low-income individuals had higher organizational cynicism levels (Çınar et al., 2023: 728). Tunçel (2020) found in his study that employees with low income levels had higher organizational cynicism levels. Laçin (2020) concluded in his research that employees with low income levels also had lower organizational cynicism levels. When the relationships between organizational cynicism and employees' income status are examined in the literature, it is seen that different results are obtained in this way (Aktuğ, 2024: 81). Delken (2004) divided people into three groups according to the variety of their jobs: piecework, hourly wages and fixed wages, and found that fixed wages are more prone to organizational cynicism. High-wage workers may not be more satisfied than fixed-wage workers because they can spend more and consume their income quickly. Therefore, cynicism may be high (Çınar et al., 2023: 728).

7.1.6. Length of Service

O'Connel et al., (1986), who determined the cause-effect relationship between the length of service of employees and organizational cynicism attitudes, determined that the rates of organizational cynicism attitudes of employees who have been employed for less than nine years or more than fifteen years are lower as a result of the research they conducted in public organizations. With this result, it was determined that there is a relationship between the length of service and organizational cynicism (Delken, 2004: 51). Length of service refers to the time employees have spent in the organization. As the length of time an employee spends in the organization increases, their commitment to the organization increases and their perception of organizational cynicism decreases (İlgın, 2019: 28). Seniority refers to how long an employee has been working at the job. A

significant positive relationship was observed between organizational cynicism and length of service. However, the level of the relationship was rated as low (James, 2005: 62). From a different perspective, it is stated that a person who has worked in the organization for a long time may develop negative thoughts about the practices and policies of the organization, but not expressing these thoughts due to the belief that nothing will change in the organization increases the likelihood of the employee experiencing organizational cynicism (Elvanesentürk, 2019: 48-49).

7.1.7. Hierarchy

The hierarchy that occurs in organizations affects organizational cynicism. It is stated that everyone from the top manager to the lowest employee in the hierarchy within the organizational structure can experience cynicism. The results obtained in the studies conducted show that employees in the lower layers of the hierarchical structure experience more cynicism (Aktuğ, 2024: 81). Kanter and Mirvis (1989) revealed that employees in a higher hierarchical position have a lower perception of organizational cynicism than employees in a lower hierarchical position. This result reveals that the employee who has more responsibility has a lower level of cynicism (Terlemez, 2023: 9). The reason for this situation is that employees working at higher levels of the hierarchical structure are given more responsibility due to their position and therefore their level of satisfaction increases, so their level of cynicism remains low (Delken, 2004: 23).

7.2. Organizational Reasons

7.2.1. Organizational Justice

Organizational justice is one of the important factors that can affect organizational cynicism. Studies show that when a negative increase is observed in employees' perceptions of justice towards their organizations, employees' organizational cynicism attitudes increase (Kaplan, 2024: 19). Organizational justice refers to employees' perceptions of justice within the organization and the effect of these perceptions on organizational cynicism. Organizational justice has three dimensions. The first dimension is distributive justice, which examines how rewards are given within the organization. When employees think that resources are distributed as they deserve, their trust in the organization increases and organizational cynicism decreases (Uzun, 2024: 44). Otherwise, the perception of unfair distribution creates distrust and cynicism. Secondly, procedural justice is the determination of how and under what conditions rewards will be distributed to whom. When employees believe that these processes are transparent,

consistent and objective, they trust the processes and their results more. Finally, it is interactional justice that examines whether employees are treated with respect. This type of justice ensures that employees feel valued and respected. The lack of these aspects of organizational justice will lead to negative emotions such as distrust, disappointment and cynicism in employees (Karaoğlu, 2024: 20).

7.2.2. Organizational Policy

Organizational policy is defined as attitudes and behaviors that affect the decision-making process of organizations, are rejected by the institution, and are based on personal benefits (Karaoğlu, 2024: 20).

It has emerged as a result of achieving the goals determined by the organization. While the attitudes and behaviors of employees determine organizational policies, it is possible to understand whether a behavior is prohibited in organizations based on the organizational policies of the institution (Gezeroğlu and Akyavuz, 2021: 46). Organizational policies are affected by anxiety, insecurity, interests, negative feelings and thoughts. Therefore, it can be said that organizational policy has an effect on organizational cynicism and that there is an effective connection between these two concepts (Kaplan, 2024: 19). Organizational policy is one of the factors that cause organizational cynicism and covers the perceptions of employees regarding the decision-making processes within the organization, the determination and implementation of policies (Erdoğan and Bedük, 2013). If employees do not find organizational policies fair, transparent and inclusive, this may trigger organizational cynicism (Uzun, 2024: 42). Organizational politics, another factor affecting organizational cynicism, refers to actions taken to gain superiority or avoid weakness within the organization, not because of the employee's formal role in the organization. The limitation of a behavior in an organization is answered in the context of organizational policies. Words and actions for various reasons in businesses can have a negative impact on organizational politics, and in this context, a relationship can be established with organizational cynicism (Gezeroğlu and Akyavuz, 2021: 46).

7.2.3. Psychological Contract Violation

Psychological contract refers to the obligations and expectations that an employee creates in his mind with his own perceptions and interpretations based on his past experiences, knowledge and individual characteristics, and believes exist between him and his manager (Örücü and Korkmaz, 2018: 339). Psychological contract is usually not a written document, but represents an understanding that reflects the expectations of employees from management

(Cihangiroğlu and Şahin, 2010: 7). Psychological contract violation is an important factor that causes organizational cynicism and refers to the violation of mutual, usually unwritten expectations between employees and the organization (Tarakçı and Akın, 2017: 1223). These violations arise from the incompatibility between employees' expectations from the organization and the promises the organization offers to employees (Topçu and Basım, 2015: 366). Psychological contracts include employees' expectations regarding issues such as job security, career development, promotion, salary increase, working conditions, management support and job satisfaction (Kickul, 2001: 292). Employees are committed to the organization by believing that these expectations will be met. However, if the organization does not meet these expectations or fulfill its promises, a psychological contract violation occurs (Tarakçı and Akın, 2017: 1223). For example, if an employee is promised a promotion or salary increase but this is not realized, the employee may feel that they have experienced a psychological contract violation. Such violations lead to loss of trust, dissatisfaction and a cynical attitude towards the organization (Kaşka Üreten and Gemlik, 2016: 449).

7.2.4. Person-Role Conflict

Person-role conflict is one of the important factors that need to be addressed. If the person's role definition in the organization is not made in a clear and understandable way or if there is a mismatch between the role description explained to the person and the actual role implementation, that is, if the person's job expectations are not met, person-role conflict arises (Karaman Şad, 2023: 14). In person-role conflict, the person's personal beliefs and the values of the organization do not match. Especially in some professional groups in the service sector, people working should not reflect the emotions they feel. In other words, it is expected for the person to show emotions they do not have and to comply with the orders given to them. Organizational cynicism emerges at this point (Dereli, 2021: 30). If an individual experiences person-role incompatibility or cannot adopt their role, they can experience person-role conflict and organizational cynicism. As a result of the role conflict seen when the organization does not clearly define the employee's job description or does not assign the appropriate task to the employee, the employee may move away from their real emotions and suppress them. If a person cannot establish a balance between his/her repressed feelings and the demands of society, he/she may feel hostility towards himself/herself, other individuals and the business, and subsequently experience organizational cynicism (Güneş, 2023: 31).

7.2.5. Communication

The last factor that is effective in the formation of organizational cynicism is the communication situation. In the organizational sense, communication is the provision of information and thought interaction in order for daily activities in organizations to continue and goals to be achieved. Employees in organizations should be in cooperation and communication. In this way, the motivation and productivity levels of employees increase. The smooth running of business in organizations depends on managers establishing a good communication network with employees. On the other hand, managers understand the needs and expectations of employees through effective communication. In case of failure to provide effective communication, problems and conflicts arise between employees and managers. This triggers employees to worry about trust, sincerity and honesty, and cynical attitudes begin to form (Pelit and Pelit, 2014: 96). Intra-organizational communication is of great importance in ensuring efficiency for the organization. If communication between employees or employees and managers in an organization is broken or has not occurred at all, employees with cynical attitudes may form in the organization due to misunderstandings and lack of trust (Karaman Şad, 2023: 14). In other words, the higher the level of communication in organizations, the lower the level of cynicism will be. Lack of communication will increase the level of cynicism in organizations. In other words, there is a negative relationship between these two concepts (Tınaztepe, 2012: 60).

8. ORGANIZATIONAL CYNICISM RESULTS

In organizations where cynicism is experienced, there are two-way negative effects, both in terms of individuals and the organization (Verdi, 2024: 49).

8.1. Individual Results

The results of organizational cynicism in terms of individuals can be classified as psychological and physical results and behavioral results (Karaoğlu, 2024: 22).

Organizational cynicism occurs when organizations cannot or do not respond to the requests and desires of their employees. Therefore, various psychological problems arise (Nanus, 2007: 40). When the expectations of employees are not met, organizational cynicism occurs and this situation creates some psychological results. As a result of cynicism, anger, resentment, feelings of persecution, defensive behaviors, irritation, rage, tension and anxiety are observed in individuals. These are the psychological results of organizational cynicism (Kandemir Emekli, 2023: 66). It has been observed that organizational cynicism affects physical health as well as mental health. Cynicism causes cardiovascular diseases in people, and this negatively affects the life span of cynical people

(Smith et al., 1988: 528). According to researchers who talk about the behavioral results of organizational cynicism, cynicism is linked to behaviors that adversely affect human health, such as alcohol and cigarette consumption and excessive weight. (Kandemir Emekli, 2023: 66). The behavioral results of cynicism include results that are negatively associated with health, such as alcohol and cigarette use. It has also been stated that cynicism is also linked to excessive weight gain. (Karaoğlu, 2024: 22). Another behavioral result of organizational cynicism is the insensitivity of the individual. Insensitivity manifests itself as the individual showing attitudes and behaviors devoid of emotion, without considering the people they serve. In this direction, the individual moves away from humanism, adopts an insensitive, mocking, degrading, harsh, and indifferent attitude. Organizational cynics adopt a distant, indifferent, sarcastic and cynical attitude towards the people they serve, their colleagues, their managers and the institution, and they do not feel any discomfort because of this behavior (Akman, 2013: 36).

8.2. Organizational Results

Organizational cynicism negatively affects organizations because it negatively affects individuals. It reduces the efficiency and effectiveness of organizations and causes material and moral damage (Turpoğlu and Mecanlıoğlu, 2019: 791). Motivation, performance, and work dependency decrease; complaints, absenteeism, dissatisfaction, neglect of work, and conflicts between organization employees increase (Rubin et al., 2009: 680). If the negative results created by organizational cynicism become permanent, the organization will become unable to get out of the situation and as a result, it will begin to disintegrate by not being able to establish a balance. Thus, the organization will begin to lose its efficiency and its continuity will be in danger (Pelit and Pelit, 2014: 103).

Organizational cynicism has many negative effects on the organization because it affects performance in general. When the literature is examined in general, the negative consequences of organizational cynicism on organizations are as follows (Görmen, 2012; Özdoğan, 2022: 48; Kalağan, 2009: 81-82; Mülayim, 2024: 44; Karaoğlu, 2024: 22-23):

- Decrease in commitment to the organization

- Job dissatisfaction,

- Decrease in employee turnover, increase in the rate of quitting and termination,

- Undermining, theft, fraud,

- Increase in organizational downsizing,

- Disregard for rules, disobedience,

- Increase in organizational suspicion and distrust,

- Increase in alienation from work and absenteeism

- Decrease in organizational performance, decrease in motivation,

- Increase in emotional exhaustion, increase in the level of humiliation of the organization,

- Compliance with unethical requests by the management, increase in negative attitudes,

- Disruption of relations with the organization,

- Decrease in employee self-confidence, seeing oneself as inadequate in terms of knowledge,

- Reluctance in the effort exerted for organizational change,

- Lack of communication and respect shown by union representatives,

- Decrease in morale,

- Decrease in trust in organizational leaders,

- Lack of communication and respect shown by the manager

Apart from these observed negativities, there are also studies that try to show cynicism as a positive phenomenon. It is also stated that the concept of cynicism gives managers and the organization the opportunity to criticize themselves (Johnson and O'Leary-Kelly, 2003: 640). Cynical employees are widely interested in their organizations and make recommendations on organizational problems and situations that require attention. Cynical employees play an important role in determining the root causes of organizational problems. Therefore, they contribute greatly to organizational change efforts (Bommer et al., 2005; Çınar et al., 2023: 723).

9. CONCLUSION

Considering that cynicism perceived in organizations leads to many negative personal and organizational consequences, it is very important and necessary to implement effective strategies to prevent or control cynicism in the workplace when such a situation occurs. The most important responsibility in implementing

such strategies undoubtedly belongs to leaders. Cynicism is an attitude that stems from criticizing the values, actions and motivations of an organization. Of course, a negative attitude becomes the behavior of the organization after a while and undesirable situations may arise in the organization (Çınar, 2023: 722). In order to prevent the formation of cynical attitudes in employees, organizations should fulfill their promises and not disappoint their employees. Disappointment and the feeling of being betrayed will trigger many negative emotions and behaviors in the individual (Öndeş and İrmiş, 2018: 11). There are some practices and behaviors that organizations should exhibit in order to minimize cynicism, which brings negative consequences from an organizational perspective. The practices and behaviors in question can be listed as follows (Fitz-Enz and Philips; 2001: 18-19); valuing the individual, having ethical rules and values within the organization, communicating the right expectations to the employees, giving the employee the feeling that he/she is a part of the organization, giving the employees the authority to take responsibility and make decisions within the organization, ensuring that communication between employees and managers is improved, monotony in the work of employees is reduced, and there are fair reward systems.

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CHAPTER 7

Organizational Silence

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1. INTRODUCTION

In today's new management approach, it is generally accepted that the most important factor that ensures the success of an organization is the organization's human resources. Employees, who are of critical importance for the success of organizations, are the basic dynamics of change, creativity, learning and innovation (Erigüç et al., 2014: 62). In order for organizations to gain competitive advantage in changing and developing environmental conditions, they expect their employees to meet customer expectations, focus on quality, provide ideas and take responsibility. In order to meet these expectations, employees who are not afraid to share information and express their opinions openly are needed (Öztürk, 2019: 366). Silence conceptually includes a complex process that is difficult to understand and includes different emotions, thoughts and dynamics. Due to this feature, it is important for the business to correctly understand the reasons why employees remain silent (Üçok and Torun, 2015: 29).

Organizational silence can be defined as employees consciously not sharing their knowledge, opinions and concerns about work-related issues and problems with the management and keeping them to themselves (Morrison and Milliken, 2000; Özdemir and Sarıoğlu Uğur, 2013: 258). Organizational silence is the failure of those who have the ability to affect organizational change to make behavioral, cognitive and emotional evaluations and withholding their sincere thoughts (Çakıcı, 2008, 118). The factors affecting organizational silence are tried to be explained with organizational, managerial and individual factors. According to research, fears such as being perceived as a complaining person, losing respect and trust, damaging relationships, being fired, not being promoted, and the belief that speaking openly will not be beneficial play an important role in silence behavior. On the other hand, the individual's perception of whether he/she will be supported by other members of the group also causes silence (Altınöz et al., 2020: 786).

When employees can freely express their feelings and thoughts and make themselves heard by their superiors, they perform their duties more effectively. However, the silence of employees in the organization due to various reasons constitutes an obstacle to the change and development of organizations (Karagöz and Uzunbacak, 2020: 1943). In organizations, benefiting from the knowledge, skills and experiences of employees plays an important role in terms of the future of the organization. The most important features that will put organizations ahead of their competitors are knowledge, innovation and speed (Milliken et al., 2003: 1453). It is possible for both employees and businesses to have high motivation by eliminating silence (Öztürk, 2019: 366). In an organization, employees' voices

of their ideas and thoughts about the problems and changes in the organization are of great importance in terms of participatory and democratic management, good communication and the development of the organization (Dağlar, 2020: 2488). The aim of this study is to examine the organizational silence and its dimensions, which exist in organizations but cause devastating results when not noticed, through a qualitative study.

2. ORGANIZATIONAL SILENCE CONCEPT

The concept of silence is perceived as the absence of sound, a peaceful phenomenon that everyone needs. It is often equated with problem-freeness and harmony (Morrison and Milliken, 2000: 706). Silence does not only mean not speaking, but also not writing, not presenting, not hearing and not caring (Nader, 2001: 162). Although silence may at first glance evoke a state of being closed to communication, it is actually considered an important communication style. Indeed, in their daily lives, individuals and employees in business life convey messages to their colleagues and managers on many issues by 'remaining silent' (Erigüç et al., 2014: 63).

Although the term silence appears with different meanings in different disciplines, it contains negative meanings such as not acting, losing value of individuals or being removed from the work to be done in the field of sociology (Paşa and Işık, 2017: 136). At the same time, when we look at the field of psychology, we come across the meanings of people being introverted, loss of self-confidence and indifference (Scott and Lester, 1998: 106).

Organizational silence is the collective conscious refusal of employees to express their ideas, thoughts and concerns about problems in the organization, and their preference not to share them with the management (Morrison and Milliken, 2000: 709). According to Monzani et al. (2016), organizational silence refers to employees avoiding voicing problematic issues at work. Organizational silence is when employees consciously hesitate to express their ideas or feel compelled to remain silent when faced with a negative situation (Monzani et al., 2016: 247).

Pinder and Harlos (2001) defined employee silence as the restriction of people who are perceived to have the ability to affect change or correct change from their true thoughts about behavioral, cognitive and/or emotional evaluations of organizational situations (Pinder and Harlos, 2001: 334). According to another definition, organizational silence is expressed as the individual's withholding of any kind of real expression from those who are thought to be able to change or compensate for the behavioral, cognitive or emotional evaluations of

organizational conditions (Halis and Ay, 2017: 48). Organizational silence is the situation in which employees do not consciously present their ideas about the problems that occur in managerial or functional tasks (Premeaux and Bedeian, 2003:1537). In other words, organizational silence is the failure of employees to share their ideas due to fear, obedience or solidarity concerns in the face of a problem (Macit and Erdem, 2020: 112).

Employees who remain silent in the organization do this by keeping their opinions to themselves on issues related to their work. According to Henriksen and Dayton (2006), organizational silence is the inability of employees to respond to the organization and address organizational problems. Organizations often experience situations where employees are reluctant to share their knowledge and opinions about their own work areas (Yıldırım et al., 2023: 3590). Organizational silence is the situation where subordinates in the organization avoid expressing their thoughts because they think that openly expressing their feelings and thoughts about any issue, problem or application in the organization will not make any change in the decision to be taken by the management or that expressing their feelings and thoughts will be considered as a person who raises voice and causes problems in the organization (Orhan and Yakut, 2023: 312).

Organizational silence is a reaction and a common behavior pattern that employees show towards a serious problem encountered in an organization. In addition, organizational silence includes elements such as threat, withdrawal, and fear, which include defense mechanisms. For this reason, employees do not want to contribute to the organization they are in due to all these negative elements and want to remain silent (Yenihan and Cerev, 2016: 89). Remaining silent may be due to employees not being able to express themselves or thinking that expressing their ideas is not important. Although employees' silence behavior was previously seen as compliance and obedience, when viewed from today's perspective, this behavior is considered as reaction and withdrawal behavior (Morrison and Milliken, 2000: 706).

3. TYPES OF ORGANIZATIONAL SILENCE

In the literature, the dimensions of organizational silence are examined under three headings, namely "acquiescent silence", "protective silence" and "protective silence" based on the work of Dyne et al. (2003) (Erigüç et al., 2014: 63).

3.1. Accepting Silence

Accepting silence involves intentionally being passive and not transferring information (Beheshtifar, et al., 2012: 279). Accepting silence is when employees remain silent because they believe that talking about any issue or problem is meaningless and that they cannot change anything by talking. It is a form of inaction that is interpreted as the employee accepting the current situation and organizational conditions as they are, where ideas, information and opinions about the job are withheld (Dyne et al., 2003: 1366).

Accepting silence is when employees choose to remain silent instead of expressing their opinions and thoughts about the organization, depending on their acceptance of the existing conditions and circumstances in the organization. In this type of silence, employees accept the conditions in the organization. They avoid talking to their managers and do not make suggestions to change the current situation of the organization (Karagöz and Uzunbacak, 2020: 1945). It is also defined as employees' consent to the situations that arise in the face of events or problems and not expressing any opinions. The employee consciously wants to remain silent and tends to keep himself out of the events. Employees do not tend to change the conditions by accepting the organizational conditions as they are (Pinder and Harlos, 2001: 348). The main reason for remaining silent in accepting silence is submission. Employees think that there will be no difference even if they speak (Karacaoğlu and Cingöz, 2009: 701).

The behavior of acquiescent silence mostly occurs in cases where employees have lost their belief that the organization will change and act reluctantly and indifferently as a continuation of this belief (Pinder and Harlos, 2001: 348). Employees unconditionally tolerate all organizational processes and ignore other solutions (Ülker and Kanten, 2009: 115). Employees with acquiescent silence are people who have lost hope in the development of the organization and do not make any suggestions on this issue. The motivational capacity of these people is lower. Employees are less conscious and less ready for the changes to be made (Shein, 2004: 261).

3.2. Defensive Silence

Protective Silence; employees instinctively tend to self-protective behavior. It is defined as employees hiding their information, ideas and opinions due to fear of danger and reactions that may come from outside (Dyne et al., 2003: 1367). In the protective silence type, employees deliberately prefer silence for a certain period of time. They are afraid of encountering a problem if they express their ideas and do not remain silent in the face of a situation and prefer to remain silent

without expressing their ideas, but they wait for the right time to speak (Pinder and Harlos, 2001: 349).

This behavior, which is done to protect oneself, includes ignoring problems, hiding personal mistakes, and hiding new ideas. Pinder and Harlos (2001) also express the behavior of putting up with it within the defensive silence behavior. Putting up with it is seen as a temporary silence and the individual can be convinced to speak openly. The individual is aware of the wrongdoings and injustices and only wants to break his silence against people who may oppose this situation and waits for the right time to do so (Dağlar, 2020: 2489).

Morrison and Milliken (2000) define protective silence as hiding ideas, information and thoughts for the purpose of self-protection due to fear. Employees want to protect themselves from external threats, they may not express something that managers do not want to hear because they are afraid of being punished. As the intensity of fear increases, the damage will also increase (Alparslan and Kayalar, 2012: 141). This behavior exhibited by employees in order to protect themselves causes people to hide their mistakes, ignore problems and hide different ideas (Çakıcı, 2010: 33).

The employee's fear-based silence behavior emerges with behavioral patterns that are basically exhibited with the instinct of self-protection, such as not expressing new ideas, covering up individual mistakes, and ignoring problems. Defensive silence, which can be seen as a kind of personal strategy, can also be observed in situations where the employee is aware of the situation and is waiting for the right time to get out of it (Çankaya, 2024: 13).

3.3. Protective (Prosocial) Silence

Protective silence can be defined as employees hiding their knowledge and thoughts about their work and the organization in order to be beneficial to the organization they work for (Pinder and Harlos, 2001: 360). Protective silence occurs when opinions and thoughts about work are shared based on dedication and cooperation, considering the goals and objectives of the organization and the benefits of other employees, without worrying about the well-being of others (Uçok and Torun, 2015: 34). Protective silence can be defined as an employee keeping their ideas and feelings to themselves with positive motivation for organizational interests (Çankaya, 2024: 13). Protective (prosocial) silence is the concealment of ideas, information and opinions related to work for the benefit of other people. This behavior is a deliberate behavior that is not required by anyone (Dyne et al., 2003: 1368). The situation where people remain silent for the benefit

of the organization or someone within the organization is also defined as protective silence (Halis and Ay, 2017: 48).

As a conscious and proactive behavior that considers others, the interests of others are taken into consideration. Individuals sometimes exhibit a communitarian attitude and prefer to remain silent by cooperating (Karacaoğlu and Cingöz, 2009: 702). Employees and managers may also choose to hide some information about the company. The reason for this is to prevent the peace of the company from being disturbed, and they may ignore information that will cause problems. The reason for this behavior is to ensure that the work is carried out well (Shein, 2004: 261). For example; an employee may not give out private information that he thinks may harm the organization (Çakıcı, 2010: 34). When he has a negative opinion about a colleague, he may hide it because he thinks that his colleague may be harmed (Dyne et al., 2003: 1368).

4. ORGANIZATIONAL SILENCE THEORIES

Various theories have been developed to explain why employees choose silence or remain silent during this process. These theories are discussed below.

4.1. Cost-Benefit Analysis Theory

Benefit-cost analysis is used in the field of economics, as well as in the field of psychology and behavioral sciences, in the analysis of individuals' relationships with themselves and other individuals (Baş, 2024: 7). Cost-benefit analysis can be defined as a technique that guides decision-makers to projects that will provide the greatest economic gain and allows for a net benefit to society (Karayılmazlar and İşler, 2019: 68). In cost-benefit analysis, a person performs a behavior by determining the benefit that the behavior will bring to him/her and the cost that he/she will lose. Employees may be exposed to costs such as time, labor, not being promoted, and job loss. The employee calculates the cost he/she may experience and may involuntarily become silent if he/she is convinced that the possible loss will be high (Çakıcı, 2007: 152).

It uses cost-benefit analysis for employees' preference of remaining silent or speaking. At this point, the costs that may arise as a result of speaking are calculated in return for the benefits that can be obtained by speaking (Canbuldu, 2024: 43). The costs incurred as a result of speaking behavior can occur indirectly or directly. Direct costs are the time and energy spent by the employee, and indirect costs are the negative mood created by the employee's opinion being ignored, the possibility of retaliation by individuals or groups with opposing

views, loss of image or reputation, and the conflict environment that may arise as a result of oppositional or hostile relations (Aydın, 2024: 5).

Individuals make cost-benefit analysis when deciding to remain silent or speak. They perform cost-benefit analysis by comparing the benefits individuals can gain by speaking against the costs they will pay by remaining silent (Çakıcı, 2007: 153). Before employees start working in an organization, they plan how they will react to events. During this planning process, employees choose to either remain silent or speak in the face of events in line with their own interests. Because the reactions given by the employee will return to them as benefits or harm. In this case, cost-benefit analysis will come into play. Cost-benefit analysis is an internal behavior that is not often seen in organizations and is exhibited by employees (Tayfun and Çatır, 2013: 119).

4.2. Expectation Theory

One of the theories explaining organizational silence is Vroom's (1964) "Expectation Theory". This theory is defined by Vroom as a temporary belief that a certain behavior will result in a certain purpose. This belief is not permanent and can also change (Çavuş et al., 2015: 13). In other words, the main factor that causes an action to occur is determined and directed by the personal characteristics of individuals and environmental factors. In other words, the individual's decision to take action is influenced by his/her view of the world and life, experiences, expectations from the workplace and psychology. Accordingly, before taking action, the individual analyzes whether the result of this action will meet his/her expectations and takes action if he/she develops a belief that the expectation will be met (Canbuldu, 2024: 40-41).

According to expectancy theory, the individual determines in advance what results they expect and behaves in this direction by making realistic predictions about achieving these results (Robbins and Judge, 2015: 132). This theory is about the individual's desire for something and the waiting period for this desire (Keser and Zencirkıran, 2021: 109). The basis of this theory lies in the belief that individuals can achieve what they want, how much the desired thing is desired and what needs to be done to achieve the goal (Demir and Cömert, 2018: 150). In this context, if it is hoped that the desired results will be achieved as a result of a behavior and the probability of this situation occurring is evaluated as high by the individual, the individual will make a special effort to perform this behavior (Çakıcı, 2007: 152). However, if individuals believe that they will not be able to achieve their expectations, they may gradually become silent. In other words, if a person thinks that the behavior he exhibits will bring positive results,

he performs this behavior; if he thinks that it will lead to negative results, he prefers silence and does not display the relevant behavior (Tayfun and Çatır, 2013: 119).

4.3. Spiral of Silence

The spiral of silence, developed by Noelle-Neumann (1974), is a theory that predicts that individuals will be excluded from society if they do not comply with the majority opinion. Individuals prefer to agree with the majority opinion due to their fear of isolation. They constantly follow which opinion is the "dominant opinion" individually and through the media. As a result, they make decisions to speak up or remain silent (Noelle-Neumann, 1974: 44). The theory, adapted to organizational conditions by Bowen and Blackmon (2003), emphasized that individuals will prefer to remain silent or give dishonest reactions when they do not feel the support of their colleagues or when they think that there is resistance to speaking out (Aydın, 2024: 5). According to the theory, the individual evaluates the dominant opinion by observing the social environment and expresses the opinion accepted by the majority more comfortably than the opinion of the minority (Çakıcı, 2007: 153).

For spiraling to occur, people need to perceive a threat and fear isolation. When individuals perceive their views as dominant or on the rise, they tend to publicly express their ideas and behaviors. Conversely, when people feel that their views are in the minority or on the decline, they become cautious and silent (Scheufele and Moy, 2000: 10). In this context, the views perceived as dominant become stronger and start a spiral process that increasingly determines (Kanal, 2023: 15). The spiral of silence can prevent the exchange of information and innovation that are important for the development of the organization. In order for this spiral to break, new and different ideas must be able to be spoken freely (Kahveci and Demirtaş, 2013: 54).

According to the spiral of silence theory, the process consists of four main assumptions and a fifth assumption that connects these main assumptions. These assumptions can be listed as follows (Neumann, 1998: 274; Baş, 2024: 8; Tayfun and Çatır, 2013: 120): (1) Employees are threatened with exclusion by the organization, (2) Employees live in constant fear of exclusion, (3) Fear of exclusion from the organization causes the employee to evaluate and monitor the environment they are in, (4) The employee chooses to express their opinion or remain silent as a result of the evaluation. The fifth assumption combines the above assumptions to ensure the formation and preservation of general opinion and shapes the thoughts regarding its change.

4.4. Self-Adaptation

Self-adaptation is related to the degree to which individuals show themselves in their relationships with other people, observe their images in the environment they are in, slowly adjust themselves to the environment and control their own behavior (Canbuldu, 2024: 42). According to the self-adaptation theory, individuals exhibit different behaviors in different situations and change according to the environment. Individuals with a high level of self-adaptation prefer to express the dominant idea in society instead of expressing their ideas and choose silence to express their own ideas. The aim here is for individuals to create a good impression in the environment they are in. If an individual is at a low level of skill in adapting to the environment, they express their ideas more easily. One of the important factors that determines people's behavior in our country is the desire to be accepted (Çakıcı, 2007: 154).

In the theory of self-adaptation, individuals adapt their thoughts and behaviors to the majority in order to maintain their position or status. Biret first analyzes the prevailing thought in the environment. Then, they adapt to the behavior that is appropriate for the society and the environment. The individual intervenes by observing the environment, sometimes changing and sometimes limiting their natural behaviors, and behaves as the environment requires (Bozaslan, 2023: 29). Therefore, the environment in which employees are located plays an important role in whether they choose to remain silent or speak. The thought that they will be excluded and disrespected in the organization may cause the person to remain silent and adapt their ideas to others, while agreeing with others and receiving support from them, and the existence of a trust environment in the organization will enable them to express their ideas openly (Aydın, 2024: 6).

5. REASONS FOR ORGANIZATIONAL SILENCE

Organizational silence is generally shaped by the attitudes and behaviors of managers, the structure and policies of the organization, and creates an environment that will cause employees to remain silent (Ülker and Kanten, 2009: 114). When the literature is examined, it is seen that the reasons for organizational silence are generally examined in individual, organizational and managerial dimensions. The reasons for organizational silence are explained below.

5.1. Individual Reasons

Individuals, who are social beings, develop many behaviors that reflect different feelings and thoughts according to their abilities, knowledge and personal characteristics. In explaining human behaviors, it is not enough to look

only at the concrete concepts put forward or claimed by the individual or the efforts made to justify the behaviors. In order to understand behaviors, it is necessary to consider the personality as a whole. One of the human behaviors that emerges within a certain organizational structure is the "silence" behavior (Yeşilaydin et al., 2016: 16). One of the most important factors of organizational silence is the individual dimension. Individuals are again at the basis of environmental, administrative and cultural changes. If an individual has tabooed his/her own ideas and thoughts to silence, no change will prevent silence (Öçal, 2023: 23).

The reasons why employees prefer silence include the following (Yalçınsoy, 2017: 77; Erol and Köroğlu, 2013: 47; Öçal, 2023: 23):

Believing that expressing their ideas will not change the outcome,

Thinking that managers will ignore employees' ideas,

Fear of receiving negative feedback from managers,

Staying silent so that colleagues and the organization are not harmed,

Fear of being the person who creates problems and damaging relationships,

Not wanting to risk new job opportunities and promotions,

Unwillingness to work and the organization they work for,

Managers being closed to new and creative ideas,

Thinking that expressing their ideas will increase workload

5.2. Organizational Reasons

A smooth and communication-friendly work environment allows employees to speak. Employees are aware that communication channels must function adequately and smoothly in order to convey their requests to the upper management. In classical organizational structures, communication usually occurs effectively towards the upper management, while communication channels from the lowest level to the upper management are ineffective and not at the required level (Durak, 2014: 92). Organizational factors that affect the silence of employees within the organization are; hierarchical structure, the cultural structure of the organization, the climate of silence, and injustice within the organization. In addition, the deaf ear syndrome that occurs in cases of injustice also pushes the employee of the organization to remain silent (Çakır and Uğurluoğlu, 2019: 395). The silence behavior of employees in the face of events or situations they encounter also occurs depending on the characteristics of the

organization they are a member of. Organizational factors that are effective in employees' preference for silence; hierarchical structure, organizational culture, climate of silence and culture of injustice (Kanal, 2023: 32).

In terms of hierarchical structure; in a centralized organizational structure where the organizational hierarchy consists of many levels, the possibility of supporting and strengthening silence behavior in organizations is high. In the presence of a high level of vertical differentiation, those at the upper levels have low communication and interaction with their subordinates. In this case, mutual distrust is experienced between the manager and the employee. Therefore, the organizational structure restricts open communication between employees and their superiors and can prevent them from conveying their ideas, criticisms and suggestions (Morrison and Milliken, 2000: 709). Organizational silence can be seen at all levels in the organization. Employees can remain silent about issues such as problems related to the efficiency and productivity of the organization, inadequacies of their colleagues regarding work, complaints about the treatment encountered in the organization, concerns about wages, organizational policies and processes, employee misconduct, absenteeism, lying, and theft (Üçok and Torun, 2015: 28).

The fact that the organizational culture is based on fear and obedience creates high silence behavior in the face of events or situations within the organization. In contrast, the fact that the organizational culture is open to participation, values the individual and supports communication is effective in the tendency of employees to speak openly (Henriksen and Dayton, 2006: 1539). An employee who exhibits silence behavior for organizational reasons may have inconsistencies between the decisions in the environment he/she is in and the behavior of his/her managers. After a while, the person cannot speak out against this culture of injustice within the organization and the climate of silence takes over at the point where he/she experiences acceptance (Deniz, 2019: 97). As the behavior of silence becomes a culture, behavior or climate within the organization, employees cannot tell the truth and cannot express their ideas and opinions due to this climate they perceive (Alparslan and Kayalar, 2012: 139).

The culture of injustice creates silence in the organization. Employees can remain silent when they perceive injustice in the organization (Pinder and Harlos, 2001: 348). The rigid bureaucratic structure and hierarchical order that continue in organizations is a factor that prevents employees from communicating comfortably with their managers and sharing their ideas with their superiors. Employees cannot express their thoughts freely due to the policies and pressures applied by organizational structures with such rigid bureaucratic structures and

hierarchical systems. Power distance is another important factor that affects silence behavior. The concept of power distance explains the level to which employees of an organization exhibit acceptance behavior against the unbalanced distribution of power in the organization (Çakıcı, 2007: 154-155).

Organizational reasons that affect the occurrence of silence in organizations can be summarized as the existence of a rigid bureaucratic structure in the organization, the fear that is widespread within the organization, the thought that they will pose a danger to themselves in case of speaking, and the existence of an environment where silence is perceived positively (Pinder and Harlos, 2001: 348). According to Erenler (2010), organizational factors include issues such as centralized decision-making mechanisms, unsupportive organizational culture and hierarchical structure, social pressures that force consensus. Organizational policy, functioning, rules, ethical values, normative attitudes and social pressures of groups or the organization within the organization, the idea that speaking will not change anything but on the contrary will lead to more negative results, and authoritarian management approach, bureaucratic functioning, negativities in performance evaluation, and an organizational climate where the culture of injustice is dominant are also seen as important factors that lead employees to silence (Altınöz et al., 2020: 789).

5.3. Managerial Reasons

Managerial factors that lead employees to remain silent within the organization are; the concern that the organization management will give negative feedback to the ideas and suggestions of the employees, the organization management being closed to new views and ideas, the organization management prejudicing the organization employee regarding his/her job, the lack of effective communication between the organization management and the employee (Henriksen and Dayton, 2006: 1548). In addition, the fear of receiving negative feedback by the managers, the managerial beliefs that the employees are selfish and unreliable, the managers are more knowledgeable and that differences of opinion should be prevented, and the distance between the employee and the manager are factors originating from the managers (Üçok and Torun, 2015: 29). It can be thought that if the negative feedback comes from the superiors rather than the subordinates, the accuracy and legitimacy of this information may be approached with suspicion (Morrison and Milliken, 2000: 708).

The managerial characteristics of the managers and the homogeneity of the organization's management team also affect the silence of the employee. However, if managers see the blame as an employee's fault in the face of any

negative situation occurring within the organization, this will cause the employee to remain silent (Çakır and Uğurluoğlu, 2019: 395). According to Premeaux and Bedeian (2003), it has been determined that as the transparency of the upper management increases, individuals with low self-adaptation power tend to speak up more. On the other hand, individuals prefer to remain silent in situations where they think they do not receive support from the people they work with, especially their managers, or when they know they will encounter resistance if they speak out (Yeşilaydın et al., 2016: 16).

6. ORGANIZATIONAL SILENCE RESULTS

When employees of an organization deliberately and consciously hide their ideas, knowledge and thoughts, it can lead to some negative results in the organization. However, it is not right to see organizational silence only as an individual action; this act of silence performed individually can also create many important results for the organization. For this reason, it may be better to consider the results of organizational silence individually and organizationally in order to see its effects (Canbuldu, 2024: 50).

6.1. Individual Results

There may be a variety of factors that affect individuals' silence behavior within an organization. The characteristics of the organization's dimensions such as individual, climate, and structure play a determining role in the behavior of individuals within the organization (Beheshtifar, et al., 2012: 280). Since organizational silence is a multidimensional and complex structure, its effects are also diverse and can vary from organization to organization and from person to person.

Organizational silence behavior leads to various negative consequences on employees (Sabuncuoğlu, 2009:321; Öztürk and Cevher, 2016:72-74; Altınöz et al., 2020:788; Pekel; 2023:15). These results can be listed as follows:

- Feelings of humiliation and worthlessness

- Resentment and grudges towards superiors or colleagues in the same position

- Displaying a protective and selfish attitude

- Physiological and psychological exhaustion, feeling of powerlessness

- Giving up, stress-related restlessness, dissatisfaction, lack of motivation, sabotage

- Decrease in feelings of commitment, belonging, trust, appreciation and support to the organization

- Inability to achieve job satisfaction, feeling of dissatisfaction

- Alienation from the organization and tendency to leave the job

- Lack of communication

- Tendency to isolate themselves from the organization

- Increased risk of adapting to organizational change

- Employees not sharing their views, ideas and knowledge

- Lack of creativity of employees

6.2. Organizational Results

In cases where silence is dominant and the behavior of silence becomes widespread within the organization, problems such as organizational inertia and lack of discussion arise (Slade, 2008: 28). The organizational reflections of silence are pushing problems to the background, avoiding negative feedback, employees not expressing their opinions and not reacting to problems. Such behaviors prevent individuals from making healthy decisions and increasing development and performance. This negatively affects the activities of organizations both in the medium and long term (Öçal, 2023: 36).

The organizational results of organizational silence can be listed as follows (Öztürk and Cevher, 2016: 74; Alparslan and Kayalar, 2012: 143; Canbuldu, 2024: 52-53):

- Making wrong decisions as a result of hiding information, ideas and thoughts

- Decrease in commitment and trust to the organization

- Deterioration of the functioning of organizational functions

- Stopping/decreasing/preventing organizational innovation, progress and development

- Preventing organizational socialization and adaptation

- Decrease in efficiency and quality

- Preventing administrative circulation of critical information

- Ignoring problems

- Stereotyped decision-making procedures

- Administrative incompetence

- Wage injustice

- Inadequate organizational performance

- Lack of healthy feedback

6.3. Ways to Prevent Organizational Silence

In order to prevent organizational silence, an organizational climate should first be created where people feel they can speak without fear of repercussion. According to Perlow and Williams (2003), managers with too much authority should not punish people, openly or indirectly, for speaking up. At the same time, individuals should be able to take courageous steps to express themselves constructively, as well as value different opinions and perspectives.

After realizing the culture of silence and the role that organizational leaders can play in creating this culture, Casper (2015) suggests the following to prevent organizational silence (Bozaslan, 2023: 39):

- Employees should constantly check the potential they carry within them and be aware of themselves.

- Leaders should start their work believing that all human capital is smart instead of thinking they know everything.

- The philosophy of lifelong learning should be made an indispensable part of the organizational culture.

- Organizational and social sharing should be increased between employees and leaders. Leaders should interact with employees.

- Leaders should create sincerity and a transparent organizational climate that will enable them to establish good relationships with employees.

- Leaders, especially among organization members, should develop effective communication skills.

- When a conversation environment is provided between leaders and employees within the organization, employees should be sure that they are listened to carefully by the leaders.

- Employees should believe that the ideas they share will be valued. For this, leaders should pause for a few seconds after someone speaks, express that they are truly listening and that it would be beneficial to provide more mutual communication.

- Leaders should be willing to learn the ideas of employees in organizational processes and meetings where organizational issues are discussed, and should motivate employees.

7. CONCLUSION

Organizational silence is a concept that can cause a picture that will put businesses in a difficult situation. Employees remain silent to protect themselves, protect the organization or accept the situation. This silence negatively affects organizations in the long term. Employees are encouraged to share information that can benefit the organization and are prevented from remaining silent (Öztürk, 2019: 375). Ensuring the continuity of the organization is as important as establishing it. Therefore, it is very important for every employee in the organization to have this idea. Organizational managers should both adopt this idea and put it into practice. One of the importance to be taken for the continuity of an organization is undoubtedly organizational silence. Organizational silence is a silent sanction that slowly drags an organization towards the expected end. Therefore, it is very important for managers to struggle with this issue (Milliken et al., 2003: 1453).

Organizational silence has negative effects. These can be seen at organizational and individual levels such as employees not being satisfied with their jobs, not feeling useful; employees adopting an antisocial personality structure; employees' trust in the organization decreasing, their loyalty decreasing, not caring about their jobs; coworkers becoming distant due to lack of communication in the organization; and fear of not being able to keep up with the organization's change (Özgen and Sürgevil, 2009: 316). In addition, individuals may feel sad about remaining silent on issues they know and are good at, may experience a sense of incompetence and may feel worthless. Stress and loss of motivation should also be added to this (Üçok and Torun, 2015: 28). Employees who find themselves stressed, intimidated and humiliated as a result of organizational silence may feel resentment and even hatred towards their managers and other employees, and unless a climate of voice is created in the organization, these feelings will be nurtured and people will grow the feelings they do not share within themselves. For the reasons stated, breaking organizational silence is important for the development of the organization and

the improvement of employee performance. These emerging behaviors create obstacles to effective decision-making, productivity and performance increase (Altınöz et al., 2020: 788). When managers or other individuals in the organization detect these effects, it will be in the best interest of the organization to bring to mind the possibility that there may be a problem (Özgen and Sürgevil, 2009: 316).

In today's competitive business environment, organizations can make a difference against their competitors by incorporating employees' knowledge, skills and abilities into their business processes (Üçok and Torun, 2015: 28). Organizations should take the necessary precautions against silence. In this context, organizations should make an effort to eliminate the culture of silence and encourage effective communication. Discussion and expression of different opinions should be encouraged, and an environment should be provided where employees can make their voices heard. In addition, it is important to diversify communication channels, operate feedback mechanisms effectively and adopt open communication policies. These measures will support the organization's adaptation to change, increase innovation and performance and achieve sustainable success (Öçal, 2023: 36). For development and progress, it is important for employees to be able to express their ideas without hesitation and for management to use common sense (Dağlar, 2020: 2488).

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CHAPTER 8

Joinpoint Regression Model With Application On Criminal Dataset

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INTRODUCTION

In time series analyses, the trend of a given period is usually calculated assuming a constant annual trend. However, interventions such as social changes, changes in policies and risk factors over time may cause breaks in this trend and lead to changes in the direction of the trend. In this case, it is not possible to explain the trend with a single model and fragmented trends emerge. Structural breaks occur due to such changes. Whether structural breaks are significant or not should be tested by econometric analyses. In the literature, such analyses are called joinpoint regression (Coelho and Nunes, 2011). The joinpoint regression model was first introduced in detail in the literature by Kim et al. (2000). The use of this methodology became widespread with the development of the joinpoint regression program by the National Cancer Institute of America (Yiğit and Kumru, 2019). The distinctive feature of this model is that the number of joinpoints is not fixed in advance, as in classical piecewise regression analysis, but is based on a statistical foundation. Accordingly, the minimum and maximum number of joinpoints can be set arbitrarily before the analysis. The joinpoint regression model has been used in literature mainly for cancer data (Rea et al. 2017). However, as it is used to investigate the temporal slope of many measures (proportions, rates, counts, mortality, prevalence, incidence, etc.), it has a wide range of applications in different fields. It is used especially in the fields of public health and epidemiology to analyze upward and downward trends in health indicators such as cancer incidence and mortality rates (Wong et al. 2018). It is also possible to analyze the course of infectious diseases, for example, changes in the rate of spread of COVID-19. In economic analyses, it is also preferred to identify breakpoints in economic indicators such as unemployment rates, and gross domestic product (GDP). In environmental sciences, it can be used to understand how air pollution levels or temperature changes change over time. In social sciences, it is useful for revealing trend changes in crime rates, educational achievement or population movements over the years. Therefore, the joinpoint regression model allows in-depth analyses of data in different fields and the detection of important change points (Gui et al., 2024; Yu et al., 2024).

The joinpoint regression model is used to identify changes in trends at points in time series data and to understand the implications of these changes. By modelling the data as multiple linear segments, it calculates a separate slope for each segment and identifies the joinpoints between these segments (Hincapie-Castillo and Goodin, 2023). The model provides a more detailed analysis by revealing periodic trend changes as well as the overall trend (Huang et al., 2023).

The major advantage of the joinpoint regression model is its ability to detect breakpoints in time series data. This model allows a more detailed examination of the rates and directions of change in the data over different periods, so that separate linear trends can be calculated for each segment. This allows for more accurate analyses, especially in data with significant changes over time (Backen et al., 2024). Furthermore, the joinpoint model is flexible, allowing the data set to be split into different periods to better understand the trends in each period. However, the model also has disadvantages. Firstly, it can be difficult to identify the breakpoints correctly and the accuracy of the model decreases when the wrong points are selected. In addition, joinpoint regression has a more complex structure, which can make the application process difficult. When the data is highly variable or noisy, the success of the model may decrease, because excessive variability may lead to incorrect identification of breakpoints (Irimata, 2022).

The joinpoint regression model can be analyzed using various software programs, each offering distinct advantages. Among the most used tools are the Joinpoint Regression Program (National Cancer Institute, 2021), the segment package in R (R Core Team, 2020), and the Pwlf package in Python (Pwlf Package, 2021), as well as MATLAB. These tools enable users to conduct detailed analyses on different types of data, providing flexibility for a wide range of applications.

JOINPOINT REGRESSION MODEL

Joinpoint regression analysis is usually performed using the grid search method. This method allows the model to select the best performing parameters after experimenting with different values over a given range of parameters. Joinpoint analysis assumes that the change in proportions is constant over time periods defined by breakpoints, but may vary over different time periods (Zafeiris, 2023).

The joinpoint regression model, which has similar assumptions to simple linear regression, assumes that the error terms follow a normal distribution, that there is a linear relationship in each segment, and that the error terms are independent and have a constant variance. In addition to the grid search method, alternative methods such as Bayesian statistical approaches and Monte Carlo simulations can be used in joinpoint analysis (Huang et al., 2023). In this study, the grid search method is preferred to obtain the best results. The mathematical form of the linear joinpoint regression model is given below (Telli and Saraçlı, 2014):

$$y_i = \beta_0 + \beta_1 x_i + \sum_{k=1}^{K} \delta_k (x_i - \tau_k)^+ + \varepsilon_i \qquad (1)$$

Where, β_0 represents the intercept, β_1 is the slope, and x_i denotes the independent variable. Parameter K indicates the total number of detected joinpoints. The term δ_k refers to the change in slope after the k-th joinpoint, while $(x_i - \tau_k)^+$ equals $x_i - \tau_k$ when $x_i > \tau_k$ and is 0 otherwise. Finally, ε_i epresents the error term (Dogan and Dogan, 2021).

APPLICATION

The data are compiled from the websites of the Turkish Statistical Institute (TUIK) and the General Directorate of Judicial Registry and Statistics and are based on the records of the General Directorate of Prisons and Detention Houses [URL1-2]. This data includes the number of offenders entering the prison system between 2011 and 2024.

In this study, a join point regression analysis was performed on the crime data to analyze the trends in the number of crimes over the years. The analyses were performed using the R package program and the significant change points and trends in the number of crimes between 2011 and 2024 were examined in detail. The steps and code required for the preparation and visualization of the data used in the R package are presented below.

```
data <- read.csv(file.choose(),sep=";")
summary(data)
head(data)
library(segmented)
data$year <- as.numeric(data$year)
data$criminal <- as.numeric(data$criminal)
plot(data$year, data$criminal, type = "b", col = "blue", pch = 19,
     xlab = "Year", ylab = "Number of Criminal Cases",
     main = "Crime Data Trend (2011-2024)")
```

Figure 1. The R codes for data preparation and visualization
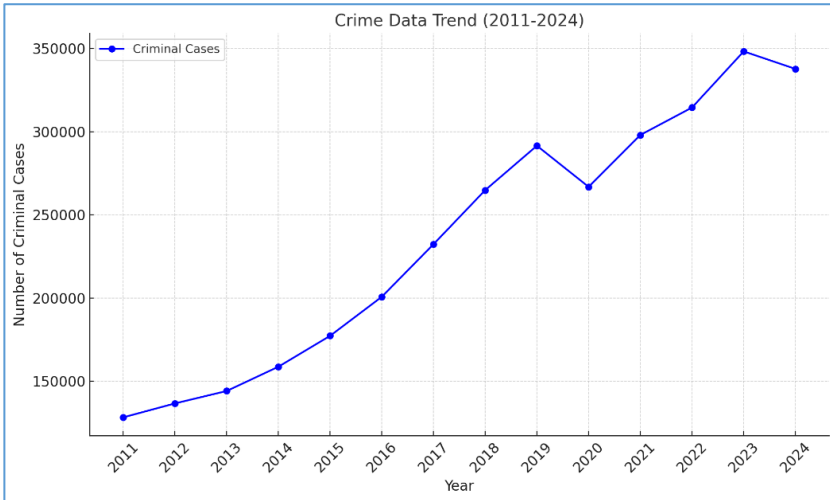
Figure 2. The trend and changes in the number of criminals over the years

Figure 2 shows a graph visualizing the trends and potential breakpoints. The graph clearly shows the general trend and changes in the number of offences over the years.

Before starting the join point regression model Let us use the linear regression model to perform an initial analysis by fitting the data to a general linear trend. The R codes for the linear regression model are as follows.

```
linear_model <- lm(criminal ~ year, data = data)
summary(linear_model)
abline(linear_model, col = "red")
```

Figure 3. The R codes for linear regression model
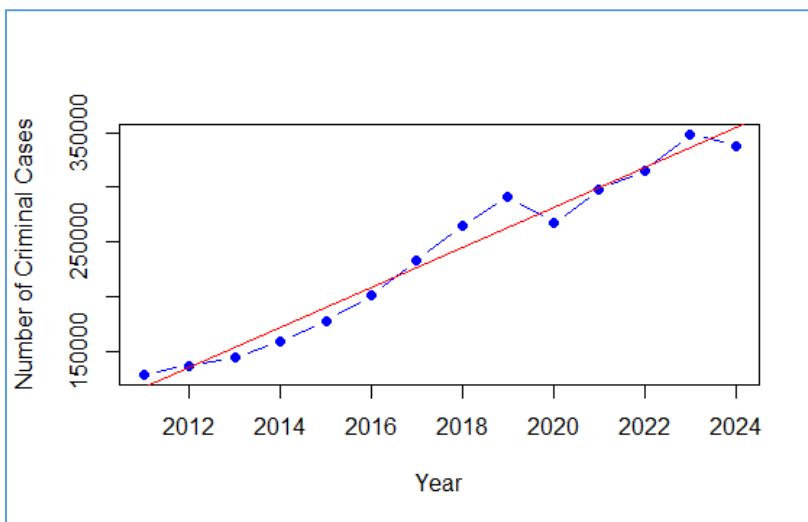
Figure 4. The general trend predicted by the linear regression model

The red line shown in Figure 4 gives a linear prediction of the trends such as increase or decrease in the number of offences over the years by the model.

Let's apply the joinpoint regression model to determine the breakpoints in the data and the trends of the segments. R codes for the joinpoint regression model are as follows.

```
library(segmented)
seg_model_log <- segmented(lm_model_log, seg.Z = ~year, psi = c(2014, 2018))
summary(seg_model_log)
breakpoints <- seg_model_log$psi[, "Est."]
slopes <- slope(seg_model_log)$year[, 1]
apc <- (exp(slopes) - 1) * 100
```

Figure 5. The R codes for joinpoint regression model

Table 1. Joinpoint regression model results

Trends	Periods	Breakpoints	Slope	APC
Trend1	2011-2014	NA	0,057886	5,96
Trend2	2014-2018	2014	0,129170	13,79
Trend3	2018-2024	2018	0,045157	4,62

Between 2011 and 2014, there was an annual increase of 5.96% in the number of criminals. In this segment, where the trend is relatively low, the increase in the crime rate may have been more balanced and slower. A breakpoint was identified in 2014. After this breakpoint, the annual rate of increase rose to 13.79%, i.e. there was a period of accelerated growth in the number of offences. A further

breakpoint was identified in 2018. After this break, the annual rate of increase fell to 4.62%. The slowdown in the rate of increase since 2018 may indicate that crime trends have stabilized, or that effective measures have been taken.

To visualize the results of the analysis and make them easier to understand, we have highlighted the break points by adding the join point regression model to the graph. Figure 6 shows the graph highlighting the break points.
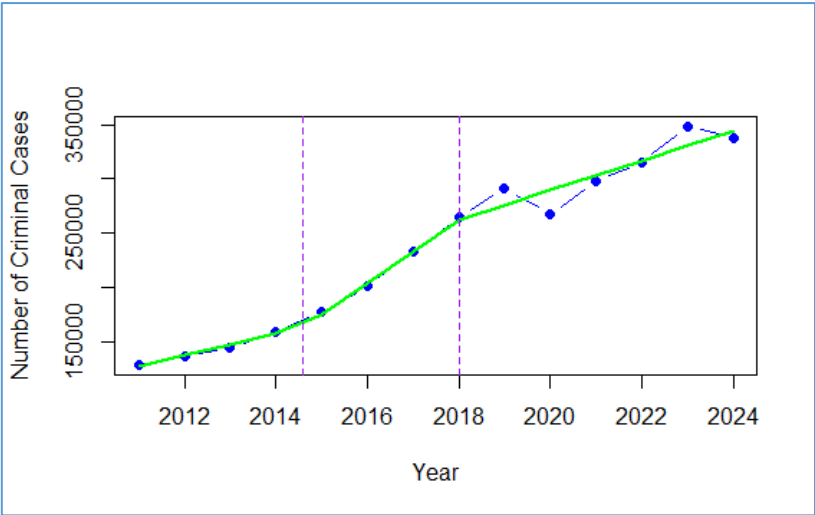
Figure 6. Joinpoint regression graph

The break points are indicated by the purple vertical lines in Figure 6. These breakpoints indicate that there has been a significant trend change in the number of offences.

In 2014, the observed increase in crime rates was probably the result of the interaction of multiple factors. Factors such as socioeconomic conditions, migration movements, social events and legal regulations may help explain the change in crime rates during this period. For a more precise analysis, it is important to analyze the data and policies in this period in detail. After 2018, the upward trend in crime rates shows a significant decrease in 2020. This decrease can most likely be attributed to the social, economic and legal effects of the COVID-19 pandemic. Curfews, quarantine measures and the slowdown in economic activities during the pandemic were among the factors that directly affected crime rates.

Table 2 presents the model performance measures for the linear regression model and the joinpoint regression model, evaluated after applying a logarithmic

transformation to the crime count data. These measures are used to determine which model is more appropriate for capturing the trends in the data.

Table 2. The model performance measures

Models	AIC	BIC	R^2
Linear Regression	-28,38858	-26,4714	0.9680904
Joinpoint Regression	-43,91970	-39,44633	0.9869081

The model with the lowest model information criteria is the best model for the data. Analyzing both the AIC and BIC values from Table 2, the best model is the join point regression model. Both models have high R^2 values. However, the joinpoint regression model has a higher R^2 value. Therefore, the joinpoint regression model fits the data better and is a more appropriate model to explain the changes in the number of crimes.
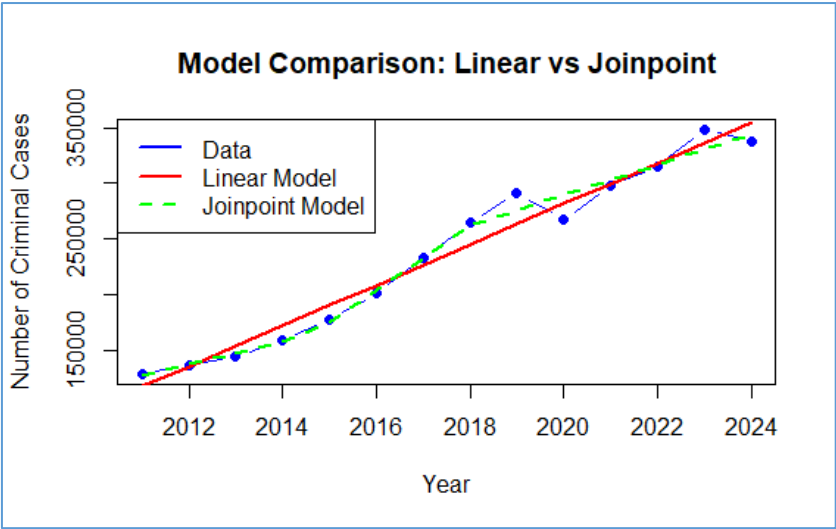
Figure 7. Model Comparison graphs

Both models seem to be successful in capturing the general trend, but a detailed analysis shows that the joinpoint model is more flexible than the linear model and is more successful in capturing trends specific to different periods over the years. In particular, the joinpoint regression model is more suitable for understanding important turning points in the data (such as 2014 and 2018) and evaluating their impact on crime rates.

CONCLUSION AND DISCUSSION

The joinpoint regression model is a powerful method used to analyze trends in data in more detail by detecting changes in slope at specific points

(breakpoints). This model adds flexibility to data analysis through its ability to detect periodic trends and breakpoints.

This study summarizes the joinpoint regression model and provides an application to show how it is implemented in the R package.

In our study, by applying the joinpoint model to the data on the number of crimes, significant breakpoints were identified in 2014 and 2018 and the changes in slope over these periods were interpreted. These points indicate periods of significant increases and decreases in crime rates and provide a basis for analyzing the possible socio-economic or political reasons behind these changes. The results show that the joinpoint model is more effective than traditional linear models in analyzing crime data and can provide more meaningful results.

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CHAPTER 9

Poverty and Institutıonal Quality Nexus: A Case Study of Selected Eastern Mediterranean Countries[*]

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Introduction

Poverty emerges as a sociological, economic, and social problem with multidimensional consequences, posing significant challenges for nations. It adversely affects individuals socioeconomically and restricts their access to essential resources. The fundamental thesis introduced by Nurkse (1953) suggests a vicious cycle wherein poor individuals are impoverished because they are undernourished and illiterate, and simultaneously, they remain undernourished and illiterate because they are poor. This perspective emphasizes the reciprocal relationship between poverty and the socio-economic conditions of both individuals and countries. Similarly, nations are impoverished due to low levels of savings and investment, and this poverty perpetuates their inability to improve these levels. In this context, numerous researchers in the literature strive to identify solutions to the poverty issue. Various economic, social, and institutional policies have been proposed to mitigate the effects of poverty and achieve sustainable development.

Among the solutions proposed by researchers to address poverty in nations, economic growth holds a significant position. The literature commonly supports the hypothesis that as per capita income increases, poverty diminishes (Adams, 2004; Balisacan et al., 2003; Deininger & Squire, 1996; Dollar & Kraay, 2002; Kraay, 2006; Roemer & Gugerty, 1997). Bourguignon (2003), however, argues that international comparisons of poverty should employ a methodology grounded in the relationship between poverty, average income, and income distribution. According to Bourguignon, a permanent redistribution of income, referred to as the "distribution effect," not only reduces poverty but also highlights how the level of development and inequality influence the pace at which economic growth alleviates poverty. Fosu (2010) highlights that in developing economies, the relationship between economic growth and poverty is influenced by the level of income inequality. However, the assertion that economic growth leads to a reduction in poverty continues to be a contested issue in the literature. Counterarguments suggest that economic growth, driven by globalization, often results in an uneven distribution of income, which exacerbates poverty (Ravallion & Chen, 2003, 2007; Salvatore, 2004). In economies with high levels of inequality, the poor receive a smaller share of the benefits from economic growth (Ravallion, 2011). Beyond its economic implications, income inequality also has profound social effects. A widening income gap can drive the poor toward activities such as crime, rebellion, and other disruptive behaviors, thereby fostering social unrest and disorder (Barro, 2000).

In this context, the literature frequently underscores the necessity of transforming the share of welfare received by the poor into a more equitable structure as a solution to poverty. Furthermore, the relationship between poverty and economic growth is complex and differs based on the time period and country under analysis. This complexity underscores the need for new approaches to addressing poverty, which is the primary objective of this study. Accordingly, drawing from North's (1990) foundational concept of the "rules of the game," this research investigates the thesis that institutions can offer a viable solution to the problem of poverty.

The connection between institutional quality and poverty indicates that market inefficiencies and resource misallocation are the primary factors driving the impact of institutional quality on poverty (Tebaldi & Mohan, 2010). In economies with underdeveloped institutional frameworks, government decision-making processes become less predictable, and the security of property and contract rights is undermined. In countries where property rights are neither fully developed nor adequately protected, existing foreign investments often exit, and potential new investments are deterred due to the risky environment. This scenario leads to lower economic growth and exacerbates poverty within the country (Keefer & Knack, 1997). Institutions influence the distribution of wealth generated by economic growth across various political and social groups. This, in turn, results in differences in the degree to which poverty is alleviated in countries with comparable economic performance (Lopez, 2004). Therefore, considering the inherent regional and cultural variations in institutions, analyzing specific regions becomes crucial (Perera & Lee, 2013, p. 72). Despite numerous studies on the relationship between institutional quality and poverty, this issue has not been adequately addressed in the context of Eastern Mediterranean countries.

In recent years, the Eastern Mediterranean countries, namely Cyprus, Greece, Israel, and Turkey, have exhibited notable economic growth trends. However, despite this growth, an alarming increase in the number of individuals earning less than $2.15 per day has been observed (World Bank, 2024). This underscores the persistent and significant issue of poverty in these countries. Numerous approaches to combating poverty have been presented in the literature, and this study intends to assess a potential solution by focusing on the role of institutional quality. To this end, a long-term analysis is conducted for the selected four Eastern Mediterranean countries over the period 2004–2021, employing FMOLS and DOLS techniques. This model makes several significant contributions to the literature. Firstly, it represents the pioneering study to empirically model the relationship between poverty and institutional quality in the context of the Eastern

Mediterranean region. Secondly, it utilizes FMOLS and DOLS techniques, enabling robust long-term analysis. Lastly, the inclusion of income inequality and economic growth variables in the model provides a broader and more comprehensive perspective on the factors influencing poverty.

This study is structured into five chapters. The first chapter presents the topic, while the second chapter reviews the literature on the relationship between institutional quality and poverty. The third chapter outlines the model, data, and methodology developed to align with the study's objectives. The fourth chapter presents the results derived from the model and offers an interpretation of these findings. Finally, the fifth chapter discusses the conclusions drawn from the results and provides policy recommendations.

Literature Review

The literature suggests that the effect of institutions on poverty generally operates through market inefficiencies and misallocation of resources. When reviewing theoretical studies on the relationship between institutional quality and poverty, North (1990) argued that the fundamental driver of economic development is found in institutions and policies. This thesis was supported by Olson (1996), who emphasized that there is an indirect relationship between institutions and poverty. Olson stated that in economies where institutional quality is underdeveloped, institutions tend to make decisions in favor of certain groups, supporting special interest groups. In such economies, where property rights are not fully secured, poor groups are subjected to discrimination, leading to increased income inequality. In this context, he highlighted how wealth becomes concentrated in the hands of a narrow elite, while the income levels of the broader society decrease. Olson argued that this mechanism not only disrupts income distribution fairness but also contributes to the creation of absolute poverty in the lower segments of society.In his study, Pedersen (1997) emphasizes that there is a mechanism in which capitalists in the private sector and the bureaucracy exploit agricultural workers, using the benefits of foreign investments to serve their own interests, thus marginalizing the poor. In this context, Pedersen emphasized that when interest groups have the power to exert political influence to maximize their rents, income inequality increases, and poverty deepens. In contrast to the approaches of Pedersen (1997) and Olson (1996), Chong and Calderón (2000) presented a different perspective in their work on the relationship between institutional quality and poverty. The researchers argued that reform activities aimed at strengthening institutional quality could initially deepen poverty due to high transaction costs. However, they contended that, in the long run, institutional quality would reduce poverty.

They emphasized that with increased institutional quality, a lower uncertainty environment would emerge, and public services in rural areas and marginalized urban regions would become more efficient, effective, and sustainable.

The notion that the primary drivers of economic growth in an economy are institutions, economic policies, and geographical factors is extensively discussed in the literature (Acemoglu et al., 2001; Easterly and Levine, 2003; Glaeser et al., 2004; Rodrik, 1999). In this context, it is argued that the relationship between institutions and poverty is shaped through the channel of economic growth, and that poverty can be reduced through economic growth in an environment with developed institutional quality (Dollar & Kraay, 2000; Ravallion & Chen, 2007). To explain this indirect effect, it is predicted that countries with more efficient institutions will have a wealthier economy. On the other hand, in an economic environment where institutions are ineffective, individuals are likely to avoid productive activities, leading to a decrease in welfare. This situation also brings about fundamental economic issues such as poverty and income inequality (Acemoglu et al., 2004).

Empirical evidence on the relationship between institutional quality and poverty consistently demonstrates that higher institutional quality contributes positively to poverty reduction. Assadzadeh and Pourqoly (2013) used a random effect model to analyze the period from 2000 to 2009 for MENA countries and found that institutional quality reduces poverty. Similarly, Perera and Lee (2013) conducted a study on East and Southeast Asian countries for the period from 1985 to 2009 using the GMM technique, and observed that institutional quality has a poverty-reducing effect. This study emphasizes that particularly ensuring government stability and establishing the rule of law are decisive factors in reducing poverty. A more recent study by Dwumfour (2020) focused on 40 Sub-Saharan African countries during the 2005-2015 period using the GMM technique, finding that institutional quality reduces poverty through sound policies. Likewise, Singh (2021), using the FMOLS technique in a study of BRICS countries from 1997 to 2011, demonstrated that the rule of law reduces poverty. The study also highlighted that other governance indicators used in the model reduce poverty through the income inequality channel. Ochi et al. (2024), in their the dynamic threshold panel model analysis of 57 South Asian and Sub-Saharan African countries from 2010 to 2019, examined the non-linear threshold effects of governance quality on poverty. They found that the relationship between governance quality and poverty is not linear, but observed that governance quality still reduces poverty.

Model, Data and Methodology

This section presents the model developed for the study, explains the variables included in the model, and outlines the methods employed in the analysis. The analysis begins with an examination of the stationarity levels of the variables in the model. The study, which aims to explore the relationship between institutional quality and poverty, conducts an empirical analysis of four Eastern Mediterranean countries (Cyprus, Greece, Israel, and Turkey) over the period 2004-2021. The primary limitations of the study stem from the country and time dimensions. The exclusion of other countries in the Eastern Mediterranean from the model is mainly due to the unavailability of data on poverty rates and institutional quality for these countries. The time limitation stems from the fact that the data spans from 2004 to 2021, offering the most recent available information. Based on the work of Singh (2021), the model developed is presented with its functional form in Equation 1.

$$POV_{i,t} = \delta_{1_{i,t}} + \delta_2 IQ_{i,t} + \delta_3 GINI_{i,t} + \delta_4 lnY_{i,t} + \varepsilon_{i,t} \qquad (1)$$

The variables in Equation 1 are described as follows: The dependent variable, POV, represents the poverty rate. The independent variable, IQ, represents institutional quality; GINI refers to changes in income distribution; and lnY represents economic growth. In the model, the coefficient δ reflects both the direction and the size of the relationship between the dependent and independent variables. The subscripts i, t, and ε denote the cross-sectional units (countries), the time dimension, and the error term, respectively.

Table 1: Data Specification

Indicator	Explanation	Acronym	Measure	Source
Poverty	Poverty headcount ratio	POV	%	World Bank (PIP)
Institutio-nal Quality	It reflects the extent to which the rule of law is enforced in the country.	IQ	Index -2.5 ile 2.5	World Bank (WGI)
Income Inequality	The data illustrates the alteration in in-come distribution.	GINI	Index (0-1)	The World Inequality Da-tabase (WID)
Economic Growth	Per capita GDP	lnY	PPP, constant 2017 interna-tional US dol-lar $	World Bank (WDI)

The variables utilized in the empirical analysis of this study are outlined in Table 1. The dependent variable, poverty rate (POV), is based on the threshold of $2.15 per day (the International Extreme Poverty Line) and represents the percentage of the population living in households with income below this threshold, adjusted for Purchasing Power Parity (PPP) as of 2017. The data was obtained from the World Bank's Poverty and Inequality Platform database. One of the independent variables, rule of law (IQ), is employed as an indicator of institutional quality. It is an indicator of the degree to which a society upholds the principles of contract rights, protects property rights, ensures security against crime and violence, and instills trust in the judicial system. The rule of law index ranges from -2.5 to +2.5, with values closer to -2.5 signifying a weaker rule of law and values closer to +2.5 indicating a stronger rule of law. The data provided has been sourced from the World Bank's Worldwide Governance Indicators database. The GINI index, which indicates changes in income distribution, ranges from 0 to 1. A GINI value closer to 0 indicates a more equitable income distribution, whereas values closer to 1 suggest that income is concentrated in a specific segment of the population. The data presented here has been obtained from the World Inequality Database (WID). The economic growth variable represents GDP per capita, adjusted for purchasing power parity (PPP), in U.S. dollars as of 2017. The data is included in its natural logarithmic form in the model and is sourced from the World Development Indicators (WDI) database.

In the literature on panel data analysis, several techniques have been developed for conducting unit root tests. Levin et al. (2002) propose the Levin, Lin, and Chu (LLC) panel unit root test, which is based on the Augmented Dickey-Fuller (ADF) test.

$$\Delta y_{it} = \theta_{it}\omega_i + \vartheta y_{it-1} + \sum_{j=1}^{n_i} \tau_{ij}y_{i,t-j} + \mu_{it} \qquad (2)$$

In Equation 2, θ represents the deterministic components (such as constant, trend, or a combination), ϑ is the autoregressive coefficient, n denotes the lag length, and μ is the error term. The LLC technique assumes that the value of ϑ is constant across panels. This assumption is considered to reduce the effectiveness and power of the test in the literature (Zoundi, 2017, p. 1072).

In equation 2, the variable θ represents the deterministic components, which may include the intercept, trend, or both. The variable ϑ denotes the autoregressive coefficient, while n indicates the lag length. Finally, μ refers to the error term. The LLC technique is predicated on the assumption that the value of

ϑ remains constant across panels. This assumption is frequently interpreted in the literature as a reduction in the effectiveness and power of the test (Zoundi, 2017, p. 1072). In their study, Im et al. (2003) further developed the LLC test by introducing the Im, Pesaran, and Shin (IPS) panel unit root test, which allows for the ϑ coefficient to vary across panels. The functional form of this method is presented in equation 3.

$$\Delta y_{it} = \theta_{it}\omega_i + \vartheta_i y_{it-1} + \sum_{j=1}^{n_i} \tau_{ij} y_{i,t-j} + \mu_{it} \tag{3}$$

Breitung (2001) highlights that the LLC and IPS tests produce more robust results in panels where the time dimension (T) exceeds the cross-sectional dimension (N). Therefore, in this study, considering the condition T > N, it has been decided to apply the LLC and IPS unit root test techniques. Both unit root tests have similar null and alternative hypotheses. The null hypothesis posits the absence of a unit root, while the alternative hypothesis asserts the presence of a unit root.

The existence of a cointegration relationship between poverty, institutional quality, income inequality, and economic growth is examined using the cointegration tests developed by Kao (1999) and Pedroni (1999, 2004). The primary advantage of the Pedroni (1999, 2004) test is that it delivers consistent results in the absence of cross-sectional dependence. On the other hand, the main advantage of the Kao (1999) test is its ability to generate reliable results in homogeneous panels (Kostakis et al., 2023, p. 4). The null hypothesis of both tests suggests the absence of a cointegration relationship.

In line with the primary aim of the study, the FMOLS and DOLS techniques are utilized to derive long-term reliable results. The FMOLS method, developed by Phillips and Hansen (1990), offers the key benefit of producing consistent results even when endogeneity and serial correlation are present in heterogeneous panels. On the other hand, the DOLS estimator, introduced by Saikkonen (1991) and Stock and Watson (1993), is applied to dynamic panel models with small cross-sectional units, providing dependable results (Kostakis et al., 2023, p. 4). Furthermore, the DOLS technique addresses the issues of endogeneity and serial correlation (Saidi, 2023, p. 9331).

Empirical Results

This section presents an evaluation of the empirical findings of the study. It begins with the descriptive statistics of the variables, followed by an analysis of

multicollinearity among the independent variables. Subsequently, the results of long-term estimations obtained using LLC and IPS unit root analyses, Kao and Pedroni cointegration tests, and FMOLS and DOLS techniques are discussed.

Table 2: Descriptive Statistics

Stats	POV	IQ	GINI	lnY
Mean	0.00498	0.55853	0.53558	10.35622
Max	0.02340	1.20960	0.62667	11.97337
Min	0.00004	-0.43259	0.42196	9.44435
Median	0.00454	0.75599	0.55001	9.98097
Standart Dev.	0.00491	0.00491	0.07137	0.86232
Standart Eror	0.00057	0.05757	0.00841	0.10162
Observation	72	72	72	72

The descriptive statistics for the variables included in the model constructed in the study—poverty, institutional quality, income inequality, and economic growth—are presented in Table 2. This table includes the mean, maximum, minimum, median, standard deviation, and the number of observations in the panel for each variable.

Table 3: VIF Test Results

Variable	VIF	1/VIF
IQ	3.19	0.313
GINI	3.16	0.316
lnY	4.12	0.242
Mean VIF	3.49	

To assess multicollinearity among the independent variables in the model, the Variance Inflation Factor (VIF) test was performed, and the results are presented

in Table 3. The findings indicate that the average VIF value and the VIF values for all variables are below 5. This suggests that there is no multicollinearity issue in the model (Salahuddin et al., 2016; Majeed and Khan, 2019).

Table 4: Unit Root Test

Variable	LLC		IPS	
	Level			
	Intercept	Intercept and trend	Intercept	Intercept and trend
	t-Stat.	t-Stat.	t-Stat.	t-Stat.
POV	-4.065^a	-2.209^b	-2.705^b	-2.197^b
	[0.000]	[0.013]	[0.003]	[0.014]
IQ	-0.078	-1.242	1.134	-0.112
	[0.468]	[0.107]	[0.871]	[0.455]
GINI	-1.581^c	-1.161	-0.171	-1.299^c
	[0.056]	[0.122]	[0.431]	[0.096]
lnY	-0.946	-0.884	1.649	-0.819
	[0.056]	[0.188]	[0.950]	[0.206]
	1st difference			
POV	-2.994^a	-2.541^a	-4.477^a	-4.784^a
	[0.001]	[0.005]	[0.000]	[0.000]
IQ	-2.645^a	-2.193^b	-3.843^a	-4.130^a
	[0.004]	[0.014]	[0.000]	[0.000]
GINI	-1.492^c	-1.424^c	-3.042^a	-2.942^a
	[0.067]	[0.077]	[0.001]	[0.001]
lnY	-1.825^b	-1.879^b	-2.927^a	-2.851^a
	[0.034]	[0.030]	[0.001]	[0.002]

Note: In the table, the symbols *a*, *b*, and *c* denote the rejection of the null hypothesis at the 1%, 5%, and 10% significance levels, respectively. In addition, the value in the square brackets indicates the p-value.

The LLC and IPS techniques were employed to analyze the integration order of the variables, with the results provided in Table 4. The findings suggest that the POV variable is stationary at the level, as the null hypothesis is not rejected in both the intercept and intercept-and-trend models based on the LLC and IPS tests. Additionally, it is observed that the first difference of the POV variable is stationary. For the IQ and lnY variables, the unit root hypothesis is rejected in both tests. When these variables are analyzed in their difference forms, they are found to become stationary. Regarding the GINI variable, the null hypothesis is rejected under the intercept model for the LLC test and under the intercept-and-

trend model for the IPS test, while it is accepted for other models. As the null hypothesis is not strongly rejected in the LLC and IPS tests, the GINI variable is concluded to be stationary at its first difference. Consequently, all variables in the sample are stationary at their first differences. Based on this finding, cointegration tests presented in Table 5 were conducted to examine the potential long-term relationships among the variables.

Table 5: Panel Cointegration Test Results

Kao Test	Statistics		p-values	
Modified Dickey	-2.069^b		0.019	
Dickey	-3.014^a		0.001	
Augmented Dickey	-2.061^b		0.019	
Unadjusted Modified Dickey	-2.619^a		0.004	
Unadjusted Dickey	-3.188^a		0.000	
Pedroni test	Intercept		Intercept and trend	
	Statistics	p-values	Statistics	Statistics
Modified Phillips	0.9781	0.164	1.667^b	0.047
Phillips	-3.421^a	0.000	-6.442^a	0.000
Augmented Dickey	-3.618^a	0.000	-3.366^a	0.000

Note: The symbols 'a', 'b', and 'c' in the table show the null hypothesis is rejected at 1%, 5%, and 10% respectively.

Table 5 presents the results from the Kao (1999) and Pedroni (1999, 2004) cointegration tests. For the five test statistics of the Kao cointegration technique, the null hypothesis of no cointegration relationship was rejected for the variables under examination. Therefore, it has been determined that the variables tend to approach equilibrium in the long term. This finding is further supported and reinforced by the Pedroni test. For two of the three test statistics in the Pedroni technique, the null hypothesis was rejected. Consequently, as a common result of both cointegration tests, a long-term relationship between poverty, institutional quality, income distribution, and economic growth was found in the four selected Eastern Mediterranean countries between 2004 and 2021.

Table 6: Long run estimation of FMOLS and DOLS models

Variables	FMOLS			DOLS		
	Coeff.	t-Stat.	P-valuse	Coeff.	t-Stat.	P-values
IQ	-0.037^a	-12.57	0.000	-0.073^a	-14.21	0.000
GINI	-1.866^a	-7.11	0.000	-0.352^a	-6.27	0.000
lnY	-0.049^a	-16.86	0.000	-0.078^a	-16.86	0.000

Note: The "a" symbol denotes the level of statistical significance at the 1% level.

In this study, the long-term effects of factors such as institutional quality, income inequality, and economic growth on poverty were analyzed using the FMOLS and DOLS methods, with the results presented in Table 6. The findings show that the estimates obtained from both methods are statistically very similar. In both FMOLS and DOLS model specifications, all explanatory variables are found to have a poverty-reducing effect at the 1% significance level. Firstly, an investigation into the relationship between institutional quality and poverty, a 1-unit increase in institutional quality was found to reduce poverty by 0.037% in the FMOLS model and 0.073% in the DOLS model. This result is in accordance with the results presented by Perera and Lee (2013) and Singh (2021). Secondly, when examining the relationship between poverty and income inequality, a 1-unit increase in the GINI index was found to reduce poverty by 1.866% in the FMOLS model and 0.352% in the DOLS model. This finding is supported by the study of Breunig and Majeed (2020). Thirdly, when examining the effect of economic growth on poverty, a 1% increase in economic growth was found to reduce poverty by 0.049% in the FMOLS model and 0.078% in the DOLS model. This result aligns with the findings of Mogess et al. (2023). In conclusion, the findings of this study suggest that in the long run, developing and improving the legal system, modeling welfare in a way to distribute it more equitably to all segments of society, and increasing economic growth will reduce poverty in the four Eastern Mediterranean countries selected within the framework of the established model.

Conclusion and Policy Recommendations

This study examines the relationship between poverty and institutional quality in four Eastern Mediterranean countries over the period 2004-2021. In the constructed model, the first step was to investigate the multicollinearity among the variables, followed by unit root analysis. The findings were used to examine the existence of a long-term relationship among the series. The long-term estimation results obtained through FMOLS and DOLS techniques were then interpreted.

The study's findings indicate that institutional quality is a crucial factor in the long-term reduction of poverty in the four Eastern Mediterranean countries. It has been observed that ensuring the rule of law can prevent poverty. In this context, improvements in institutional quality contribute to increasing the share of welfare received by the impoverished segments of society. The development of stronger and more effective institutions will reduce the depth and prevalence of poverty. Another finding is that the reduction in income inequality leads to a decrease in poverty rates. A more widespread distribution of welfare will reduce the number of impoverished individuals in society. Furthermore, the study found that economic growth reduces poverty. This result indicates that in periods of increased economic growth, welfare is more evenly distributed, and poverty decreases.

In consideration of the aforementioned findings, a number of policy recommendations can be proposed for policymakers seeking to diminish poverty. First, improving institutional quality should be a priority. This is because institutions not only directly affect poverty but also influence economic growth, which in turn indirectly reduces poverty. Studies by Acemoglu et al. (2001) and Rodrik (1999) suggest that building strong institutions fosters economic growth. Therefore, institutions do not merely reduce poverty rates directly, but also promote economic growth, which, according to our findings, further reduces poverty and creates an indirect effect. Finally, policymakers should develop social policies that will ensure the broader distribution of welfare. Such policies will allow all segments of society to benefit more from welfare, thereby contributing to a reduction in poverty rates.

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CHAPTER 10

The Performance of Economic Cooperation Organisation in View Of Vision 2025: A Qualitative Analysis On Food And Agricultural Trade

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Introduction

Built on the former Regional Cooperation for Development (RCD) established in 1964 by Iran, Pakistan and Türkiye, the Economic Cooperation Organization (ECO) became operational as an outcome of the agreement of the leaders at the Summit held in Tehran between 15-17 January 1985. Following the dissolution of the Union of Soviet Socialist Republics, the number of ECO member states reached 10 with the accession of Afghanistan, Azerbaijan, Kazakhstan, Kyrgyzstan, Uzbekistan, Tajikistan and Turkmenistan in 1992. As stated in article 2 of the revised Treaty of Izmir signed on 14 September 1996, the overall goal of the ECO is to contribute to the integration of the member states among themselves and with the entire world and thereby raising the living standards and the quality of life of the peoples of the ECO member states, by means of developing cultural, commercial and economic cooperation and investing in relevant infrastructures. In line with this objective, two long-term strategies have been formulated so far. The first one is the Vision 2015 adopted at the 15th Ministerial Council held in Astana on 1st October 2005 and the second one is the Vision 2025 adopted at the 13th Leaders Summit held in Islamabad on 1st March 2017. Spread over 7 million square kilometres, the ECO is not only an organisation with a population of approximately 500 million, but also a strategic transit belt providing a passage from China to Europe and from China to Russia. Based on the experience of pandemic, it could be argued that any incidence occuring in any state is rapidly and highly affecting the rest of the states, thus every corner of the World is worth studying. Much has been written on the prominent regional integration organisations such as the European Union (EU), yet the regional integration of the ECO is untapped.

The Aim and the Method of the Research

In this context, the general aim of this paper is to provide a descriptive analysis of the policies and performance of the ECO member states in view of integration process so that it may inspire and provoke further studies on the ECO region. No single study has the power to explain the entirety of a phenomenon. It is inevitable to narrow the topic in order to reach an explicable magnitude. Therefore, the specific aim of this paper is to provide a descriptive analysis on the integration dimension of the ECO member states in view of food and agricultural trade. To achieve this end, the case study method will be used. Enumarated among the qualitative research methods, the case study provides a methodological approach that involves the collection of data and analysis of the documents to provide a sound explanation on the way a particular system works and a prediction on its orientation (Yıldırım & Şimşek, 1999: 289; Gerring, 2007: 19; Chimiliar, 2010:

582; Karabaş 2022:177). As Gerring puts it, a case study is "*an intensive study of a single unit for the purpose of understanding a larger class of (similar) units*" (Gerring, 2004: 342). Keeping this definition in mind, this paper's single unit is the ECO regional integration as compared to a larger class of units indicating various regional integration organisations such as the EU and the like. In other words, the entire population of this research is regional integration organizations of various type while the research sample is the Economic Cooperation Organisation composed of 10 member states. Relying to the fact that each unit may have variations in a larger class of units (Gerring, 2004: 343), this paper will focus on the variations of each member state in terms of food and agricultuaral trade, providing the main dimensions or variables of the research design. For the sake of harmonisation and ease of comparison, the statistical data will be extracted from the ECO web-site, constituting the main difficulty of the research as the data provided by ECO Statistics Office ends up by 2017 in view of food and agricultural trade. Nevertheless, the strengths of case studies in general and those of this paper in particular lie in that, the findings of the research reveal what should be buckled down to in the forthcoming studies.

The observations on ECO will be realized through the outputs of official meetings such as the ECO Vision 2025 statement and the proceedings of Council of Ministers (COM) and the programmes of Regional Planning Council (RPC), and the performance will be assessed through statistics provided by the ECO against the theoretical framework conceptualized by Martin *et. al.* (2016: 621-643) so as to identify the integration degree of ECO member states. They have based the inter-organisational interaction scale developed for disaster management on a 4-C scheme including "communication", "co-operation", "coordination" and "collaboration". Accordingly, "communication" is the simplest form of interaction between organisations and involves sharing information over the internet or face-to-face (Martin et al., 2016: 624-625, 627, 637-638). "Co-operation", which provides more interaction than communication, requires a minimum level of communication in order to work together; it is based on a desire to work together that does not go beyond a declaration of intent. Co-operation is usually based on a short-term, informal and voluntary relationship between organisations with similar missions and indicates a low-intensity state of joint action (Martin et al., 2016: 625, 627, 638). On the other hand, "coordination" requires harmonised action on the axis of common goals and objectives (Martin et al., 2015: 625-627, 638), while "collaboration" requires acting within the framework of a strategic action plan based on long-term partnership and envisages the establishment of partnerships, alliances and

coalitions to solve common problems (Martin et al., 2015: 626-627, 638-639). The more common goals and objectives are defined, the more members states are committed to strategic action plans and the more joint ventures are established and resources allocated to dedicated goals and rising risks taken jointly, the more the system moves towards the form of a collaboration (Martin vd., 2015: 257).

The Economic Cooperation Organisation: Formation and Operational Background

The fore-runner forum of Regional Cooperation for Development (RCD), founded by Iran, Pakistan and Türkiye in 1964, was re-structuralized in line with the provisions of the Treaty of Izmir signed in 1977, yet the Treaty became dysfunctional due to the Iran Islamic Revolution observed in 1979. Nevertheless, the regional cooperation among the member states was revitalised in 1985 with an amendment introduced to the founding treaty and the name Economic Cooperation Organisation was adopted. The aim of the re-structured ECO is to develop cultural, commercial and economic co-operation among its members. The ultimate goal is to establish a free trade area whereby tariffs and non-tariff barriers are abolished, while the member states are allowed to implement independent trade policies in favour of / against non-member states. Theoretically in a free trade area, free movement of goods within the integration area is secured, whereas that of production factors is impeded (Ertürk, 1998; Karluk, 2007).

After the dissolution of the Union of Soviet Socialist Republics (USSR), the number of ECO members reached 10 with the accession of the Central Asian Turkic Republics (Kazakhstan, Kyrgyzstan, Uzbekistan, Tajikistan and Turkmenistan), Afghanistan and Azerbaijan in 1992. Furthermore, a decision taken at the ECO Summit in 2012 paved the way for the Turkish Republic of Northern Cyprus to participate in the activities of ECO as observer. Following the enlargement, the ECO has become an international organisation with 10 member states comprising of a population of more than 500 million spanning over an area of 7 million square kilometres with rich natural resources. The fact that ECO member states are stretching on an area among China, Europe and Russia, and acting as a prominent transit route makes the organisation worth focusing on.

The ECO institutional structure includes the Summit, the Council of Ministers (COM), the Council of Permanent Representatives (CPR), the Regional Planning Council (RPC) and the Secretariat. The works of these institutions are accompanied by the reports of high-level working groups, committees and various research groups. ECO Summit is a high-level platform that brings

together the Heads of State and Government at least twice a year in accordance with article 4 of the Treaty of Izmir. At the Summits, the progress achieved in ECO objectives, programmes and projects are discussed. The Council of Ministers, composed of Ministers of Foreign Affairs, acts as a decision-making body. Among the powers and responsibilities of the Council of Ministers are the approval and adoption of policy documents, strategy papers and work programmes and the budget. The Council of Permanent Representatives is an intergovernmental body authorised by COM to implement the policies formulated by COM. The Regional Planning Council, consisting of the heads of the state planning agencies of the member states and representatives of sectoral agencies and ministries, is given the task to formulate technical plans and programmes in line with ECO objectives and report on the completed plans and programmes in return.

Fundamentals of ECO Vision 2025

With the competence given by the Treaty of Izmir, all the activities of the ECO are supposed to serve the following (Karagül, 2011):

- ❖ ensure the sustainable economic development of member countries,

- ❖ reinforce regional trade by removing intra-regional trade barriers, thereby increasing the share of member states in global trade,

- ❖ increase and improve existing transport and communication networks among member states and with the third countries,

- ❖ accelerate economic liberalisation, ease transition to a free market economy and promote privatisation,

- ❖ increase the mobility and availability of metal reserves of the ECO Region,

- ❖ improve efficient utilisation of the industrial and the agricultural potential of the ECO Region,

- ❖ enhance co-operation in the ECO Region for the fight against drug trafficking, in favour of environmental protection and preservation of historical and cultural heritage,

- ❖ increase the opportunities for cooperation with other regional and global organisations so as to serve for mutual interests.

Being discussed in both the Council of Permanent Representatives and the Regional Planning Council, ECO Vision 2025 and the Action Plan were adopted

at the 22nd COM held in Islamabad on 28 February 2017. ECO Vision 2025 is an important milestone for ensuring economic development through liberalisation of markets, gradual removal of trade barriers, increasing intra-regional trade and the share of the ECO Region in the world trade. The ECO Vision 2025 stipulates that (Economic Cooperation Organisation, 2017: 1);

"ECO will pave the way to a territory of integrated and sustainable economies as well as free trade area achieved by highly educated societies and improved governance through enhanced cooperation."

Building on joint efforts of 10 member states in reinforcing their stance on the global stage in view of the changing paradigm, the member states have reaffirmed their commitment to the United Nation's Sustainable Development Goals of 2030 and affirmed to cooperate with international financial institutions and regional actors for the socio-economic development of the peoples in the ECO Region. In addition, making relevant infrastructural investments, establishing trade-enabling links and creating an atmosphere that facilitates trade have been accepted as the basic principles of the integration model to be realised in the Region (Adnan, 2017: 1-2). The "ECO Vision 2025" is based on 3 core principles (sustainability, integration, conducive environment) and 6 cooperation areas (trade, transport and connectivity, energy, tourism, economic growth and productivity, social welfare and environment) as depicted in the Figure 1. For each of these co-operation areas, the strategic objectives, policy framework and expected results are defined in detail.
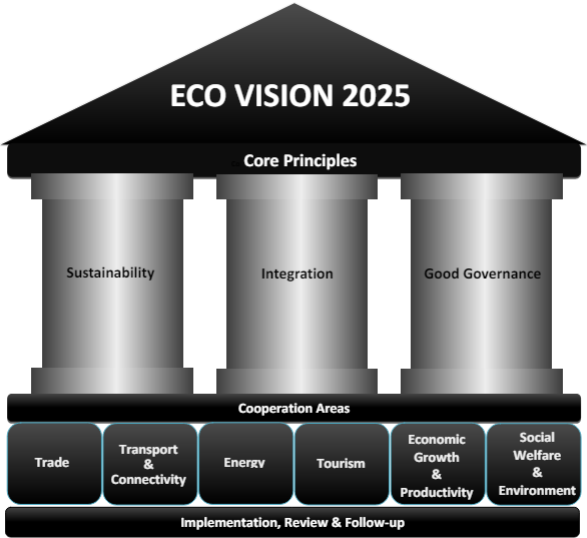
Of all these core economic areas, "trade" is the foremost one as it has been set forth the task: "to double intra -regional trade increase ECO share in the global trade and specifically exports, increase share in global trade and tap regional trade potential for economic growth" (ECO Vision 2025, 2). "Transport and connectivity" is aligned with the strategic objective to maximize connectivity, mobility and accessibility by making major ECO transport corridors commercially viable and operational and contribute to achieve goals of information society in the region" (ECO Vision 2025, 3). "Energy" enhances "energy security and sustainability through wider energy access and trade within the ECO Region and beyond" (ECO Vision 2025, 5). "Tourism" aims "to establish a peaceful and green tourism destination with diverse products and high quality services in the ECO region" (ECO Vision 2025, 6). "Economic growth and productivity" seeks "to achieve long term high level growth, knowledge and information based production through increased contribution of research and development (R&D), entrepreneurship, involvement of private sector, increased women participation and SMEs" (ECO Vision 2025, 7). It should be noted that one of lead drivers of economic growth in the ECO Region is agriculture. The expected outcome of ECO Vision 2025 in view of agriculture ise that the agricultural export potentials of the members states and intraregional agriculture trade potentials would be identified and realized (ECO Vision 2025, 8). "Welfare and environment" aims "to increase the standards of living, quality of life, economic welfare and well being of people through adopting social protection and environment preservation policies in the region" (ECO Vision 2025, 9).

Systematic review and monitoring mechanisms have been included in the ECO Vision 2025 together with the Action Plan in order to ensure timely realisation of the committed work. A "Vision Fund" was envisaged to be established to provide the necessary resources (Adnan, 2017: 7-8). Thanks to the agreed ECO Vision 2025 and the Action Plan, it is expected that multilateral cooperation in the region will be strengthened and that the quality of life and the welfare level of the peoples of the region will increase (Adnan, 2017: 8-9).

Fundamental Indicatiors Regarding the ECO Region

Table 1 shows the position of ECO Region in the World in terms population and the gross domestic product (GDP). Accordingly, the population of ECO Region, which was 350 million in 2000, reached 512 million by 2020.

Considering that the world population is approximately 8 billion, the share of ECO Region in the world population is calculated as 6.39 % as of 2020. On the other hand, the GDP of ECO Region, which was approximately USD 1 trillion at constant prices in 2000, rose upto USD 2 trillion by 2020. Considering that the world's GDP is approximately USD 81.5 trillion, the share of ECO Region in the global GDP is calculated as 2.68 % as of 2020.

Table 1: Population and GDP Statistics of ECO Region and the World

	2000	2015	2020
Population of ECO Region (million)	350	458	512
The population share of ECO Region in the World (%)	5.73	6.23	6.39
The GDP share of ECO Region in the World (in 2010 constant prices, USD million)	1 024	1 969	2 187
World GDP (in 2010 constant prices, USD million)	49 607	74 889	81 562
The GDP share of ECO Region in the World (%)	2.06	2.63	2.68

Resource: Compendium of ECO Statistical Tables: Demography and Socio-economic Indicators, Accessed on 27.10.2022 at https://www.eco.int/general_content/88751-Compendium.html?t=General-content

Table 2 shows the agricultural land and the rural population of ECO member states. Accordingly, the total agricultural land of ECO Region spans an area of 4,534,757 square meters, accounting for 53.9 % of the overall land of ECO Region itself, Kazakistan having the utmost share (accounting for 80 % of its land amounting to 2,160,365 square meters in constant terms) among the overall member states. The agricultural land of ECO Region as percentage of the total land is much more as compared to the World (36.9 %), indicating that ECO Region has a sound basis for agricultural production. The rural population of ECO Region amounts to 248,250,076, Afghanistan taking the lead (136,637,556) followed by Pakistan (28,244,481) and Iran (20,404,283). ECO Region is well ahead with a rural population growth rate of 1 % as compared compared to the World (0.1%). Keeping in mind that the share of agriculture in GDP vary between 5,1% and 26,8% in the ECO Region and that roughly half of the total population of ECO Region live in rural areas and one third is employed in agriculture, any measure or policy mix that aim at decreasing poverty should focus on rehabilitation of the agricultural sector (Economic Cooperation Organisation, 2021: 12).

Table 2: Agricultural Land and Rural Population of ECO Region and the World

Country	Agricultural Land (square meter, 2018)*	Agricultural Land (% of total land, 2018)	Rural Population (million, 2019)**	Rural Population Growth (%, 2019)
Afghanistan	379 190	58.1	28 244 481	2.0
Azerbaijan	47 795	57.8	4 407 577	0.1
Iran	459 540	28.2	20 404 283	-0.6
Kazakistan	2 160 365	80.0	7 860 906	1.0
Kyrgyzstan	105 413	55.0	4 093 812	1.7
Pakistan	363 000	47.1	136 637 556	1.6
Tajikistan	47 277	34.1	6 775 541	2.2
Türkiye	378 020	49.1	20 331 797	-0.6
Turkmenistan	338 380	72.0	2 849 351	0.6
Uzbekistan	255 777	58.1	16 644 772	2.0
ECO	4 534 757	53.9	248 250 076	1.0
World	47 953 427	36.9	3.4 billion	0.1

*Agricultural land refers to the share of land area that is arable, under permanent crops, and under permanent pastures. Arable land includes land defined by the FAO as land under temporary crops (double -cropped areas are counted once), temporary meadows for mowing or for pasture, land under market or kitchen gardens, and land temporarily fallow. Land abandoned as a result of shifting cultivation is excluded. Land under permanent crops is land cultivated with crops that occupy the land for long periods and need not be replanted after each harvest, such as cocoa, coffee, and rubber. This category includes land under flowering shrubs, fruit trees, nut trees, and vines, but excludes land under trees grown for wood or timber. Permanent pasture is land used for five or more years for forage, including natural and cultivated crops.

**Rural population (coverage) refers to people living in rural areas as defined by national statistical offices. It is calculated as the difference between total population and urban population. Aggregation of urban and rural population may not add up to total population because of different country coverage.

Resource: ECO Secretariat (2021). ECO Statistical Report-2021 (Draft). PMS 6/3/2021

Table 3 shows Exports of Food by ECO member states respectively at 5 years' intervals. Exports of food indicate exports of generic quantities of food measured in billion US dollars. The total value of food exported by ECO member states was 6,254 billion US$ as of 2020 in absolute terms rising upto 29,779 billion US$ by 2017. The rising trend in the export value of food also had the share of ECO in the World rise from 1.5% in 2000 to 2.0% in 2017. Table 3 illustrates the dominant position of the founding members (Türkiye, Iran and Pakistan) whereas three of the Turkic States (Türkmenistan, Tajikistan and Kyrgzystan) taking the least position in terms of exporting food.

On the other hand, Table 4 shows Imports of Food by ECO member states respectively at 5 years intervals. Imports of food indicate imports of generic quantities of food measured in million US dollar value. The total value of food imported by ECO member states was 2,473 million US$ in 2000, positioning the share of ECO Region in the World at 1.5% of the ovearall. Rising upto 3,867

million US$ in absolute terms, the share of ECO Region in the World in terms of food imported stood at 2% as of 2017. Table 4 shows that Turkmenistan took the lead in view of imports of food among the all ECO member states. Above stated figures show that ECO Region as a whole have always been a net exporter of food.

Table 3: Exports of Food (billion US$)

Country	2000	2005	2010	2015	2016	2017
Afghanistan	59	156	132	306	273	384
Azerbaijan	99	483	611	751	618	607
Iran	1 154	2 073	4 029	3 480	3 422	4 615
Kazakistan	87	669	1 934	2 117	2 105	2 359
Kyrgyzstan	67	93	312	144	149	193
Pakistan	964	1 933	3 531	4 361	3 786	4 008
Tajikistan	41	36	113	68	73	106
Türkiye	3 521	7 714	11 869	16 562	16 004	16 672
Turkmenis-tan	8	5	33	39	47	8
Uzbekistan	254	533	1 198	845	794	827
ECO Total (billion US$)	6 254	13 695	23 762	28 673	27 271	29 779
ECO's Share in the World (%)	1.5	2.0	2.1	2.1	2.0	2.0

Source: ECO Secretatiat, ECO Statistical Report – 2021, Draft PMS 6/3/2021, p. 21.
Explanatory Notes: Figures are based on statistics derived from National Statistical Offices of Member States and the United Nations. Exports of food include all food items according to SITC 0+1+22+4.

Table 4: Imports of Food (million US$)

Country	2000	2005	2010	2015	2016	2017
Afghanistan	60	70	81	121	91	114
Azerbaijan	53	101	44	13	22	40
Iran	253	249	422	246	245	329
Kazakistan	86	208	106	83	109	150
Kyrgyzstan	40	70	55	36	42	37
Pakistan	270	238	409	303	208	235
Tajikistan	112	101	211	180	170	194
Türkiye	308	379	493	619	637	619
Turkmenis-tan	235	113	630	472	348	1 829
Uzbekistan	1 056	1 179	2 619	1 273	356	320
ECO Total (million US$)	2 473	2 708	5 070	3 346	2 228	3 867

ECO's Share in the World (%)	2.1	1.6	2.2	1.4	1.0	1.5

Source: ECO Secretatiat, ECO Statistical Report – 2021, Draft PMS 6/3/2021, p. 27-28. Explanatory Notes: Figures are based on statistics derived from National Statistical Offices of Member States and the United Nations. Exports of food include all food items according to SITC 0+1+22+4.

Table 5 shows Exports of Agricultural Products by ECO member states respectively at 5 years' intervals. Export of agricultural products are measured in million US dollars, representing any product or commodity – whether raw or processed – marketed for human consumption (excluding water, salt and additives) or animal feed. The total value of agricultural products exported by ECO member states was 8,727 million US$ as of 2020 in absolute terms rising upto 33,611 million US$ by 2017. The rising trend in the export value of agricultural products also made the share of ECO in the World rise upto 1.9% in 2017 from share (1.6%) quoted in 2000. Table 5 illustrates that Türkiye as one of the founding members is well ahead of lately joining Kyrgzstan with absolute export value of agricultural products 17,291 million US$ and 33,611 million US$ as of 2017, respectively.

On the other hand, Table 6 shows Imports of Agricultural Products by ECO member states respectively at 5 years intervals. Imports of agricultural products are measued in billion US dollars, indicating import volumes of agricultural products in line with the definition recognized by FAO. The total value of agricultural products imported by ECO member states was 9,951 billion US$ in 2000, positioning the share of ECO Region in the World at 1.7% of the ovearall. Rising upto 46,129 billion US$ in absolute terms, the share of ECO Region in the World in terms of food agricultural products imported stood at 2.6% as of 2017. Table 6 shows that Türkiye took the lead in view of imports of agricultural products among the all ECO member states. Above stated figures indicate that ECO Region as a whole have always been a net importer of agricultural products.

Table 5: Export of Agricultural Products (million US$)

Country	2000	2005	2010	2015	2016	2017
Afghanistan	119	227	213	427	364	462
Azerbaijan	152	585	655	763	640	647
Iran	1 407	2 322	4 451	3 726	3 668	4 944
Kazakistan	173	877	2 040	2 200	2 214	2 508
Kyrgyzstan	107	163	368	179	191	230
Pakistan	1 234	2 172	3 940	4 665	3 994	4 243
Tajikistan	153	137	324	248	242	301

Türkiye	3 828	8 093	12 361	17 181	16 641	17 291
Turkmenis-tan	244	118	663	511	394	1 838
Uzbekistan	1 310	1 712	3 817	2 118	1 149	1 147
ECO Total (million US$)	8 727	16 406	28 832	32 018	29 497	33 611
ECO's Share in the World (%)	1.6	1.9	2.1	2.0	1.8	1.9

Source: ECO Secretatiat, ECO Statistical Report – 2021, Draft PMS 6/3/2021, p. 22-23.
Explanatory Notes: Figures are based on statistics derived from National Statistical Of-
fices of Member States and the United Nations. Exports of food include all food items
according to SITC 0+1+22+4.

Table 6: Imports of Agricultural Products (billion US$)

Country	2000		2005	2010	2015	2016	2017
Afghanis-tan	316		582	775	2 079	1 763	2 229
Azerbaijan	237		484	1 335	1 477	1 671	1 813
Iran	2 537		3 662	10 643	7 036	6 615	8 177
Kazakistan	239		1 278	2 339	3 288	2 843	3 186
Kyrgyzstan	90		186	582	604	531	678
Pakistan	1 882		3 656	6 737	7 184	7 739	9 020
Tajikistan	66		182	514	661	593	567
Türkiye	4 133		6 480	12 880	16 061	15 638	18 292
Turkmenis-tan	223		189	581	817	656	673
Uzbekistan	228		404	1 082	1 502	1 276	1 494
ECO Total (million US$)	9 951		17 103	37 468	40 709	39 325	46 129
ECO's Share in the World (%)	1.7		1.9	2.7	2.5	2.4	2.6

Source: ECO Secretatiat, ECO Statistical Report – 2021, Draft PMS 6/3/2021, p. 29. Explanatory Notes: Figures are based on statistics derived from National Statistical Offices of Member States and the United Nations. Exports of food include all food items according to SITC 0+1+22+4.

Achievements in the ECO Region and Prospects for the Future

Food security is of prominent concern on the global scene, as the projections show that nearly 670 million people (8 % of the world population) will be facing hunger by 2030, that is the primary reason why the UN 2030 Agenda was launched in 2015 (Economic Cooperation Organisation, 2022: 10). Over the last decade all the catastrophic events, i.e. armed conflicts, economic downturns, depletion of natural resources, biodiversity loss and the distruptions in supply chain including the food sector manifest themselves as hunger and malnutrition world-wide. After remaining relatively unchanged since 2015, the prevalence of undernourishment saw a rapid rise from 8.0 % in 2019 upto 9.3 % as of 2020 and a steady rise at 9.8 % as of 2021 (Economic Cooperation Organisation, 2021: 10-11). High population growth rate in the region exarcerbated by the refugees and emigrants calls forth a robust intervention for providing adequate food. Obviously, none of the member states has relevant source to tackle the problem on its own, instead the situation calls forth a collective attempt to solve the problems in the field of agriculture and food security. Thus, determined to realize

the potentials of the member states in agricultural productivity in general and to evade food loss and waste, thereby improve food security and achive zero hunger, ECO Regional Coordination Center for Food Security (ECO-RCCFS) was established in 2012. Mandated to implement the Regional Programme for Food Security (RPFS) in close collaboration with FAO, the ECO-RCCFS coordinates projects relevant to RPFS and enhance cooperation among the member states in the field of agriculture and food security (ECO-RCCFS, no date).

The majority of ECO member states rely heavily on the agricultural sector for economic growth. The share of agricultural sector in GDP of the ECO region is 11% on average, with a variation of 5,1% to 26,8% among the member states. Furthermore, almost half of the total population of the ECO region live in rural areas, with a growth rate of 1 % well above that of the World (0.1% - see Table 2). Due to the fact that nearly one third of the total population is employed in agriculture, development and rehabilitation of the agricultural sector is of great importance to end poverty and boost prosperity in the ECO Region (Economic Cooperation Organisation, 2021: 12). To this end, establishment of ECO Seed Association (ECOSA) in 2009 by ECO member states is a step forward in ensuring seed supply security and free movement of high quality seeds in the region, therefore increasing agricultural production and productivity so as to ensure food security and improve farmers' livelihoods. Organizing a total of Seed Congresses and Fairs since its establishment, ECOSA has finalized the draft ECO Regional Seed Agreement that aims at harmonizing seed policies of Member States (Economic Cooperation Organisation, 2022:13-14). Another step forward is the finalization of the Work Plan of the ECO Veterinary Commission (ECO-VECO) that prioritise the border quarantine issues, halal certificates and combating with trans-boundary animal diseases (ECOSA, no date; Economic Cooperation Organisation, 2022: 13-14).

Despite the promising developments given above, there are still rooms for improvements. It is worth noting that giving mandate to a task group on agro-food production, drafting trade risk maps, organisation of regional agricultural trade forums and fairs and establishment of trade promotion organisations are promoting developments yet an ECO Regional Agricultural Trade Information Network (ECO-RATIN) should be established as stipulated in the ECO Vision 2025 Implementation Plan and made operational so as to forecast the potential risks on agro-food production and mobilize the international and intraregional agricultural trade potentials of member states (ECO Vision 2025 & Implementation Plan, 22). Furthermore, The domain of ECOTA should be expanded to cover entire member states and needs to be opearational to the full

sense, and the scope should be transformed from a preferential trade agreement to a free trade agreement. The ongoing accession of 4 the member states (Azerbaijan, Iran, Turkmenistan and Uzbekistan) to the World Trade Organisation should be finalized with regular consultations and exchange of good practices. Last but not least, close cooperation with regional (i.e. ECO-RCCFS, ECOSA, etc.) and global partners (i.e the UN and its affiliated organisations) should be realized in order to help member states insert twin transition (green and digital transformation) of agricultural sector in the regional programmes and the prospective ECO vision and implementation plan.

Concluding Remarks

Established in 1985 as the forerunner of Regional Cooperation for Development (RCD), the overall goal of the ECO is to contribute to the integration of the member states among themselves and with the entire World by means of developing cultural, commercial and economic cooperation and investing in relevant infrastructures and thereby raising the living standards and the quality of life of the peoples of the ECO member states. In line with this objective, two long-term strategies (ECO Vision 2015 and ECO Vision 2025) have been formulated and enacted so far. The ECO member states have agreed to (1) liberalise trade within the region and with the entire World, (2) encourage private sector investments within the region and ensure fair competition in the markets, (3) utilise the natural resources rationally, (4) realise the potential of human resources, (5) ensure sustainable development by enhancing economic cooperation between the parties through sectoral development programs particularly in agriculture and thus (6) raise the standards and quality of life of the people in the ECO region. Though the desire was to create a free trade area covering all types of goods in the ECO Region, it turned out to be that the realisation is limited to the preferential trade agreement and even the ECO Trade Agreement (ECOTA) concluded in line with the provisions of Izmir Treaty could not be made operational to cover all members.

Spread over 7 million square kilometres, the ECO is not only an organisation with a population of approximately 500 million, but also a strategic transit belt providing a passage from China to Europe and from China to Russia with a promising potential of agro-food production and trade. Despite the fact that the indicators regarding agri-food production and trade have risen since its inception, the outcome is well below the potential of ECO Region. Most of the researchers argue that the results obtained from the economic co-operation activities carried out under the ECO scheme, which has a 30-year history including the RCD period, have fallen short of expectations (Karluk, 2007). There are a number of

factors hindering effective realization of ECO activities; namely the economic and political developments destabilising the region, a number of comprehensive projects occupying the agenda for a long time yet with no concrete outcomes, the shifting expectations and attitudes of the member states, differences in the economic structures and foreign trade regimes of the member states (Özgörker, 2011).

Contrary to the supra-national governance system of the EU, the ECO is an international organisation with the foregrounded aim of economic cooperation, as emphasised in its name. The existing non-binding system requiring voluntary participation in programmes, with some members even refraining from ratifying the trade agreement, positions the ECO in a "cooperation-on-the-move" on the interaction scale of Martin, moving towards a mere "communication" in view of congresses and fairs organized to secure dialogues on the one hand and towards a coordination in view of subsidiary bodies like ECO-RCCFS, ECOSA, ECO-VECO and programmes like RPFS with limited outcome. If ECO member states had fully utilised their agricultural potential it might have had serious consequences for their positions on the international markets as well as for the bilateral trade relations within the ECO region and with the neighbouring countries. (Economic Cooperation Organisation, 2021: 1; Economic Cooperation Organisation, 2022: 10-12). So as to exit the path dependece, it is suggested that the ECO member states should beter leap towards a collaboration.

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CHAPTER 11

A Contemporary Assessment of Cognitive Dissonance Theory

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1. INTRODUCTION

The outcomes of consumers' buying process may not be always positive. Consumers may sometimes complain and tend to switch. In such circumstances, repurchasing or revisiting activity may disrupt and bring severe problems for consumers. Besides, possible cognitive biases may cause consumers to experience dissonance during and even after the purchasing process, accelerating the formation of undesirable behaviors (Sweeney and Soutar, 2000).

Since a great majority of consumers evaluate various things such as the characteristics of the product as its price and availability at the required location in the purchasing process, purchasing decisions are becoming more difficult. Besides, personal factors including age, occupation, lifestyle, social and economic status, and the gender also affect the purchasing process. This variety of product characteristics and personal factors results in product-related information intensity causing dissonance. From this point of view, it can be concluded that   consumers tend to have cognitive dissonance related to their purchasing decisions (Harmon-Jones and Harmon-Jones, 2009).

The primary objective of the study is to discuss consumers' cognitive dissonance in the context of cognitive biases. Besides, it reviews the cognitive dissonance theory for better understanding of consumers' dissonance feelings in their decision-making process and to analyze the antecedents of cognitive dissonance. In the study, the cognitive dissonance theory is discussed under cognitive biases, as cognitive dissonance is generally regarded as the type of cognitive bias. In most studies, cognitive bias is considered as one of the main indicators of consumer decision making process.

Literature discusses the concept of cognitive bias mostly focusing on economics and finance (Cooper and Fazio, 1984). This study differs from this routine by examining the concept from the perspective of marketing. It reviews the findings of the marketing-related studies focusing on cognitive biases of consumers on their purchasing decisions or their decision-making process; and presents various factors that may cause negative behavioral outcomes. Firstly, the study defines cognitive dissonance theory. Then, cognitive dissonance, one of the cognitive bias types, its components, its determinants and its role in marketing are discussed respectively. Lastly, the relation between cognitive bias and cognitive dissonance is defined.

Findings of the study are expected to be useful and provide guidance especially for marketing managers. Marketing managers must be aware of the antecedents or the indicators of cognitive dissonance, as this awareness is the key

point to change biases of consumers. Understanding the key concepts related to dissonance and bias can aid marketing managers for planning strategies in order to reduce the negative effects of undesirable consumer behaviors and eliminate factors causing negative feelings.

2. THEORETICAL FRAMEWORK

The theoretical framework of the study is developed on *cognitive dissonance theory*. A comprehensive discussion of the theory by considering its key concepts, main components and determinants are given below, respectively.

Cognitive Dissonance Theory

As a psychological theory introduced by Leon Festinger in 1957, cognitive dissonance theory refers to the mental discomfort or tension that an individual experiences when he holds two or more conflicting beliefs, attitudes, or values simultaneously; or when his behavior conflicts with his beliefs (Festinger, 1957). In circumstances in which a disharmony or inconsistency exists in one's cognitive processes, the term *cognitive dissonance* can be referred. Cognitive dissonance often arises when one's beliefs or opinions clash with each other. For instance, the one who values health may sometimes continue to engage in unhealthy habits and consequently experiences cognitive dissonance (Bem, 1967).

The inconsistency or discrepancy that emerges between an individual's actions and attitudes (or values) arises cognitive dissonance. An individual who is environmentally conscious but frequently engages in behaviors harmful to the environment may experience this discomfort. However, individuals have tendency to reduce cognitive dissonance and restore a sense of internal consistency (Milliman and Decker, 1990; Bei et al., 2007). This reduction and restoration may be done by changing beliefs, acquiring new information that supports the existing belief, or altering behaviors to align with their beliefs. An example of cognitive dissonance can be a smoker who is aware of the health risks associated with smoking (Milliman and Decker, 1990). To reduce the discomfort, the individual may downplay the health risks, convince himself that he can quit any time, or seek out information that minimizes the dangers of smoking.

Cognitive dissonance theory deals with understanding persuasion and attitude change. When confronted with persuasive messages that challenge existing beliefs, individuals may experience dissonance and either modify their attitudes or reject the new information (Aronson, 1976). Cognitive dissonance theory is applicable in the study of social influence and group dynamics. It explains how individuals may conform to group norms to reduce dissonance, even if it means

altering their own beliefs or behaviors (Harmon-Jones and Mills, 1999). Festinger's Theory of Cognitive Dissonance remains a fundamental concept in psychology, influencing research in areas such as social psychology, decision-making, and behavior change. Understanding cognitive dissonance provides insights into human behavior, decision-making processes, and the ways individuals reconcile conflicting cognitions to maintain psychological comfort (Cialdini et al., 1995; Cialdini, 2009).

2.2. Components of Cognitive Dissonance

Cognitive dissonance encompasses three central components that characterize the nature of the phenomenon (Krosnick and Petty, 1995). As the theory posits that individuals experience a state of mental discomfort when they hold conflicting beliefs, attitudes, or engage in behaviors inconsistent with their attitudes. The components of cognitive dissonance, as stated by Festinger (1957), are crucial for understanding the cognitive processes involved in resolving this discomfort.

The first component revolves around the existence of a cognitive discrepancy, where an individual holds two or more cognitions that are in conflict. This discrepancy could manifest as a clash between beliefs, attitudes or behaviors. Festinger (1957) argues that the discomfort arises from the incongruity between these cognitive elements. He established this foundational aspect, asserting that the mere existence of dissonant cognitions serves as the catalyst for the subsequent psychological discomfort (Sweeney and Soutar, 2000).

The second component emphasizes the psychological discomfort or dissonance that individuals experience due to the cognitive discrepancy. This discomfort is a motivational factor, driving individuals to resolve the inconsistency and restore cognitive harmony. Besides, it serves as a powerful motivator for individuals to engage in cognitive processes aimed at minimizing the dissonance (Sweeney and Soutar, 2000).

The third component involves the cognitive processes individuals employ to achieve consistency and alleviate the psychological discomfort. Festinger (1957) proposes that individuals are motivated to reduce dissonance through various strategies, such as changing beliefs, acquiring new information, or modifying behaviors. His theory suggests that the primary goal is to bring the conflicting cognitions into alignment, thus resolving the dissonance and restoring cognitive consonance. This aspect underscores the dynamic nature of cognitive dissonance resolution ((Festinger and Carlsmith, 1959; Harmon-Jones et al., 2011).

Understanding these components provides a comprehensive view of cognitive dissonance, shedding light on the cognitive mechanisms individuals employ to navigate conflicting beliefs and attitudes. Cognitive dissonance theory serves as a foundational reference for researchers exploring the complexity of cognitive dissonance and its implications for human behavior and decision-making (Festinger and Carlsmith, 1959).

2.3. Determinants of Cognitive Dissonance

Cognitive dissonance, a psychological state arising from conflicting cognitions, is influenced by a variety of determinants that contribute to its emergence and intensity (Krosnick and Petty, 1995). This definition seeks to investigate the complexity of the factors shaping cognitive dissonance, providing a clear understanding of its determinants.

Individual Differences: Individual characteristics are vital in determining how individuals experience cognitive dissonance. Personality traits, cognitive styles, and personal values influence the cognitive processes involved in reconciling conflicting beliefs or actions. For instance, individuals with high levels of cognitive flexibility may navigate dissonance more adaptively than those with a more rigid cognitive style (Elliot and Devine, 1994).

Magnitude of Discrepancy: The magnitude of the discrepancy between conflicting cognitions is a significant determinant of cognitive dissonance. Larger disparities create more substantial psychological tension, prompting individuals to actively seek resolution. Understanding the size and significance of the conflict is crucial in testing the potential impact on cognitive dissonance (Elliot and Devine, 1994).

Importance of Elements in Conflict: The significance attributed to the conflicting elements plays a crucial role in determining the intensity of cognitive dissonance. Conflicts involving deeply held values or fundamental beliefs often evoke more profound discomfort than situations where the conflicting elements are less central to one's identity (Landon, 1977).

Perceived Control: The level of perceived control over the conflicting situation influences how individuals experience cognitive dissonance. A sense of agency in resolving the conflict may empower individuals to actively seek solutions, thus alleviating the discomfort. Conversely, a perception of helplessness may increase the intensity of dissonance (Chambers and Windschitl, 2004).

Social and Cultural Influences: Social and cultural factors shape the determinants of cognitive dissonance. Cultural norms, societal expectations, and group dynamics can influence how individuals perceive and navigate conflicting cognitions. Social support or pressure from significant others may either strengthen or alleviate cognitive dissonance (Chambers and Windschitl, 2004; Keng and Liao, 2009).

Justification and Rationalization Strategies: Individuals employ various strategies to reduce cognitive dissonance, and the choice of these strategies serves as a determinant. Justification and rationalization mechanisms, such as altering beliefs or selectively attending to information, influence the resolution process and the overall experience of dissonance (Milliman and Decker, 1990).

Emotional States: Emotional states contribute to the determinants of cognitive dissonance. Negative emotions, such as guilt or anxiety arising from the conflict, may intensify the discomfort, while positive emotions, like pride in one's decisions, can alleviate the psychological tension (Landon, 1977; Elliot and Devine, 1994).

As stated above, cognitive dissonance is a multifaceted phenomenon influenced by a series of determinants. Cognitive dissonance has also implications for decision-making processes (Keng and Liao, 2009).When faced with choices that conflict with one's existing beliefs, the individual may experience discomfort, leading him to rationalize and justify his decisions to alleviate this tension. Festinger (1957) proposes that individuals are motivated to minimize cognitive dissonance and seek a state of consonance. Implications of cognitive dissonance on decision making encourage marketers to discuss the concept from the marketing view (Festinger, 1957; Simonson, 1992).

2.4. Cognitive Dissonance in Marketing

Cognitive dissonance in marketing refers to the psychological discomfort or tension experienced by consumers when they encounter conflicting information, attitudes, or beliefs related to a product or service after making a purchase decision (Jackowitz and Reingen 1987; Sweeney and Soutar, 2000). This concept is rooted in Festinger (1957)'s theory of cognitive dissonance, which posits that individuals strive for internal consistency and harmony in their beliefs and actions. In the context of marketing, cognitive dissonance emerges, when consumers experience a discrepancy between their expectations and the actual post-purchase experience. (Proulx et al., 2012).

Post-Purchase Discrepancy: Consumers often purchase with certain expectations based on marketing messages, advertisements, or peer recommendations (Rook, 1987). When the actual experience deviates from these expectations, a post-purchase discrepancy occurs, leading to cognitive dissonance (Proulx et al., 2012).

Sources of Cognitive Dissonance: Discrepancies can arise from various sources, such as product performance not meeting expectations, unanticipated costs, or conflicting information about the product's benefits. These inconsistencies create a psychological discomfort that consumers seek to resolve (Keng and Liao, 2009).

Consumer Behavior and Decision-Making: Cognitive dissonance significantly influences consumer behavior post-purchase. Individuals may respond by either seeking additional information to justify their decision or by modifying their beliefs to align with their actions as cognitive consonance (Hasan and Nasreen, 2012).

Marketing Strategies to Reduce Dissonance: Marketers play a crucial role in addressing cognitive dissonance. Providing clear and accurate information, offering post-purchase support, and emphasizing positive aspects of the product through references or reviews are strategies to reduce dissonance (Milliman and Decker, 1990; Liu and Keng, 2014).

Brand Loyalty and Customer Satisfaction: Effectively managing cognitive dissonance contributes to brand loyalty and customer satisfaction. If marketers address discrepancies transparently and provide solutions, consumers are more likely to maintain a positive view of the brand (Koller and Salzberger, 2012).

Online Reviews and Social Influence: The advent of online reviews and social media amplifies the impact of cognitive dissonance. Consumers often turn to reviews and social networks to seek reassurance or share their experiences, influencing the perceptions of others (Liu and Keng, 2014).

Understanding cognitive dissonance in marketing is crucial for marketers to enhance customer satisfaction, maintain brand loyalty, and foster positive post-purchase experiences. It underscores the importance of managing consumer expectations, ensuring transparency, and providing effective communication throughout the customer relation (Zhang and Zhang, 2010).

2.5. Cognitive Dissonance in Consumer Behavior

Cognitive dissonance, a prominent psychological phenomenon in consumer behavior, denotes the mental discomfort experienced by individuals when their

beliefs, attitudes, or values conflict with their actions or when they encounter contradictory information (Liu and Keng, 2014: 980). Cognitive dissonance plays an important role in understanding post-purchase decision-making processes and subsequent behaviors of consumers. Post-purchase dissonance arises when consumers perceive an inconsistency between their expectations and the actual experiences associated with a product or service after making a purchase decision (Sweeney and Soutar, 2000). Discrepancies may originate from various sources, including unmet expectations, unexpected product performance issues, or discrepancies between promotional messages and actual product attributes. To reduce cognitive dissonance, consumers engage in several cognitive and behavioral strategies. This can include seeking additional information to support their decision, devaluing alternatives, or adjusting their attitudes to align with their actions (Rieh et al., 2009).

Cognitive dissonance significantly influences subsequent decision-making. Consumers may either exhibit loyalty to their initial choice, modifying their beliefs to align with their actions, or they may decide to return the product and seek alternatives (Cooper and Fazio, 1984). Marketers play a crucial role in managing cognitive dissonance. Transparent communication, clear product information, and after-sales support are important in reducing dissonance. Marketers may also employ strategies such as highlighting positive aspects and benefits of the product to reinforce the consumer's positive perception. Emotional and social factors intensify cognitive dissonance. Social media and online reviews provide platforms for consumers to share their experiences, contributing to the collective perceptions and influencing the decisions of others (Hasan and Nasreen, 2012).

The effective management of cognitive dissonance can foster long-term customer satisfaction and loyalty. Resolving discrepancies positively contributes to the establishment of a favorable brand image and a positive consumer-brand relationship (Cooper and Fazio, 1984). Cognitive dissonance in consumer behavior is subject to cross-cultural differences. Different cultural norms and values may shape how individuals experience and cope with dissonance, influencing their subsequent behaviors. Understanding cognitive dissonance in consumer behavior is essential for marketers to improve strategies that address the post-purchase psychological state of consumers. By recognizing and effectively managing cognitive dissonance, marketers can enhance customer satisfaction, loyalty, and positive brand perceptions in a dynamic and competitive market environment (Koller and Salzberger, 2012).

In consumer behavior, cognitive dissonance can occur in a variety of contexts, such as when a person makes a purchase that they later regret, when they are exposed to negative information about a product they own, or when they are asked to justify their purchase to others. There are a number of ways that consumers can reduce cognitive dissonance (Milliman and Decker, 1990). One common strategy is to change their beliefs or attitudes to be consistent with their behavior. For example, a person who buys a product that they later regret may start to believe that the product is actually better than they thought it was (Landon, 1977). Another strategy is to rationalize their behavior by minimizing the importance of the contradictory belief or behavior. For example, a person who is exposed to negative information about a product they own may dismiss the information as being biased or inaccurate (Gorsuch and Petty, 1973).

There are some specific examples of how cognitive dissonance can be applied to consumer behavior. For example, a consumer who buys a new car may start to believe that the car is better than he thought it was after he start driving it. Besides, a consumer who is exposed to negative information about a product he owns may start to use the product less often or may even return it. Another example is that a consumer who is asked to justify his purchase of a product to others may start to believe that the product is actually a good value (Karniol et al., 2003). By understanding how cognitive dissonance works, marketers can develop strategies that will help them to influence consumer behavior in a way that is beneficial to their businesses.

2.6. The Concept of Cognitive Bias and its Relation with Cognitive Dissonance

Cognitive bias refers to systematic patterns of deviation from objective judgment, often stemming from mental shortcuts or heuristics that lead individuals to make decisions in an irrational or non-optimal manner (Tversky and Kahneman, 1974: 1124). Cognitive dissonance, on the other hand, encapsulates the psychological discomfort experienced when individuals hold conflicting beliefs or attitudes. There is a nuanced relationship between these phenomena and their implications for understanding human cognition (Tversky and Kahneman, 1974; Aronson, 1976).

Cognitive bias is a mental shortcut that leads to inaccurate judgments and decisions. It is a way of thinking that causes people to interpret information in a way that is consistent with their existing beliefs or expectations (Kahneman, 2011; Proulx et al., 2012). Cognitive biases can occur in any situation, but they are particularly common in situations where people are making important

decisions or where they are under stress. Cognitive dissonance is a psychological discomfort that occurs when a person holds two contradictory beliefs or engages in two contradictory behaviors. It can be caused by a variety of factors, such as making a purchase that you later regret, being exposed to negative information about a product you own, or being asked to justify your behavior to others. A comprehensive exploration of cognitive bias requires an examination of its various types, including confirmation bias, anchoring bias, availability bias, and others. Each type contributes to the cognitive landscape, predisposing individuals to interpret information in specific ways, sometimes leading to distortions and errors (Bei et al., 2007).

Cognitive bias and cognitive dissonance are closely related. Cognitive bias can lead to cognitive dissonance, and cognitive dissonance can lead to cognitive bias. For example, a person who is biased towards a particular product is more likely to experience cognitive dissonance if he is exposed to negative information about that product. Conversely, a person who is experiencing cognitive dissonance may be more likely to engage in cognitive bias in order to reduce the discomfort that he is experiencing (Cialdini, 2009). Marketers can use an understanding of the relationship between cognitive bias and cognitive dissonance to influence consumer behavior in several ways. For example, they can use cognitive bias to create a sense of urgency or to emphasize the benefits of a product. They can also use cognitive dissonance to reduce the likelihood that consumers will return a product by providing them with information that will help them to justify their purchase (Hasan and Nasreen, 2012).

It is important to note that cognitive bias and cognitive dissonance are not always negative. For example, cognitive bias can help individuals to make quick decisions in situations where they do not have time to weigh all the evidence (Chambers and Windschitl, 2004). Cognitive dissonance can also motivate them to change their behavior to reduce the discomfort that they are experiencing. However, it is important to be aware of the potential negative effects of cognitive bias and cognitive dissonance. By understanding how these two concepts work, consumers can make more informed decisions and avoid being manipulated by marketers In conclusion, a nuanced understanding of cognitive bias and its connection with cognitive dissonance enhances consumers' grasp of human cognition and decision-making processes (Hasan and Nasreen, 2012).

3. CONCLUSION

When individuals hold conflicting beliefs and attitudes, they are likely to experience a psychological discomfort. Cognitive dissonance is a psychological

discomfort that occurs when a person holds two contradictory beliefs or engages in two contradictory behaviors. Cognitive dissonance is a powerful motivation factor for consumer behavior. It can lead consumers to make changes in their beliefs, attitudes and behaviors in order to reduce the discomfort that they are experiencing. This paper contributes to the scholarly discourse by offering a comprehensive analysis of cognitive dissonance phenomena, fostering a deeper appreciation for the complexities that shape consumers' cognitive experiences.

The factors shaping cognitive dissonance are so complex that each requires detailed research. These factors are clasified as individiual differences, magnitude of discrepancy, elements in conflict, perceived control, social and cultural influences, justification and rationalization strategies and emotional states. As many researchers (Krosnick and Petty, 1995; Keny and Liao, 2009) indicate it is a multifaceted phenomenon influenced by a variety of determinants.

Making decision is not always fun. In fact, it can be painful when the decision maker feels that deciding means committing to one out of a many other options. From a consumer's point of view, it can be difficult to make his mind and he may probably delay the purchase. Decision maker reflects on what is important about particular decision, what is important to him and what the short term and long term consequences of the decision can be. Lastly, he will be thoughtful enough to conclude that perhaps none of the available alternatives are satisfactory (Simonson, 1992; Harmon-Jones et al., 2011).

Marketers can use an understanding of cognitive dissonance to influence consumer behavior in a number of ways. For example, they can use cognitive dissonance to encourage consumers to make purchases by creating a sense of urgency or by emphasizing the benefits of a product. They can also use cognitive dissonance to reduce the likelihood that consumers will return a product by providing them with information that will help them to justify their purchase.

In conclusion, understanding cognitive dissonance in marketing is important to increase customer satisfaction, maintain brand loyalty, and foster positive post-purchase experiences. As Proulx et al. (2012) stated, understanding this phenomena emphasizes the importance of managing consumer expectations, ensuring transparency, and providing effective communication throughout the customer relation (Proulx et al., 2012). Marketers play a crucial role in addressing cognitive dissonance. Providing clear and accurate information, offering post-purchase support, and emphasizing positive aspects of the product through references or reviews are proposed as effective strategies to reduce dissonance.

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CHAPTER 12

Battles Over the Peso: A History of Relative Prices in Argentina, 1976–2012

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1. Introduction

A consensus among prominent economists suggests that undervalued real exchange rate is a key driver of economic growth, particularly within developing economies (Berg, Ostry, and Zettelmeyer, 2012; Johnson, Ostry, and Subramanian, 2006; Levy-Yeyati and Sturzenegger, 2009; Rodrik, 2008). Frieden (1991a) discusses that the clearest impact of an undervalued exchange rate is a rise in external competitiveness. A depreciated exchange rate causes higher prices of tradable goods relative to non-tradable goods. This increase in prices helps the tradable goods producers- whose final products' prices increase more than their non-tradable inputs prices- and hurts non-tradable producers. The fall also makes imported goods costlier for local consumers, which encourages them to buy more domestic goods. Therefore, the tradable sector benefits from the undervalued currency, which increases the competitiveness level of its products in the home and international markets. In contrast to the tradable sector, non-tradable sectors reap the benefits of appreciation that raises the relative domestic price of their products and decreases the relative domestic price of tradable products. Likewise, international investors who are interested in buying assets abroad also can benefit from an appreciated currency.

In addition to this benefit of undervaluation, Acemoglu et al. (2003) show that undervalued exchange rate provides more stable growth rates for countries. They discuss that countries can maintain positive trade balances with the level of exchange rate, which lowers countries' vulnerability to capital flight and financial crises (Reinhart and Rogoff 2009).

Rodrik (2008) published one of the most prominent studies in this field, and he says that undervaluation encourages firms to invest in high-productivity tradable industries. The rising investment in this sector raises economy-wide productivity rates, and in this way, undervalued regime increases economic growth in developing countries. Lastly, Frenkel and Ros (2006) argue that an undervalued exchange rate lowers wages and also makes hiring workers relatively cheaper than using imported inputs, such as imported capital goods; therefore, undervaluation leads to a decrease in the unemployment level.

Although the findings above suggest the undervalued real exchange rate is the engine of economic growth, the negative impacts of the undervaluation should not be neglected. There are two prominent negative effects explained in the literature. First, an undervalued exchange rate causes an increase in the prices of imported goods, and firms that use imported goods as inputs for their production

face increasing costs due to undervaluation. Also, the rise in the prices of imported goods leads to an upward pressure on overall inflation. Consequently, depreciation decreases real wages and the purchasing power of the labour class. Therefore, labour unions mostly prefer appreciated currency (Campa and Goldberg 1997; Broz and Frieden 2001; Walter 2008). Secondly, individuals and firms may take loans in foreign currency in developing economies. As undervalued exchange rate raises the cost of their foreign debts, these actors tend to prefer appreciated exchange rate (Steinberg, 2015).

Given the discussion on the benefits of undervaluation above, one can say that an overvalued exchange rate can have disastrous consequences for the economic growth of developing countries. An overvaluation causes a loss in the international competitiveness of export sectors. This loss can be more detrimental for developing countries if export sectors are price takers and restricted by world prices and the countries' exports rely on non-differentiated primary products. The most crucial result is macroeconomic instability. Ploeg (1989) explains this instability by focusing on the current account. According to his discussion, an overvalued real exchange rate improves the current account in the short term because the rise in real income causes an increase in savings out of a given level of producers' income. However, since the volume of net exports changes with the real exchange rate, this appreciation in the real exchange rate deteriorates the current account in the long term. As a consequence, the overvalued exchange rate brings the balance of payment crises, shortages of foreign currency, rent-seeking and corruption, unsustainable current account deficits and finally, stop-go macroeconomic cycles into the economy (Dornbusch et al., 1995; Rodrik, 2008; Eichengreen, 2007).

In a nutshell, both the overvalued and the undervalued exchange rates affect the actors in the economy differently. These distributional impacts cause pressure on the choice - it is composed of a political-economy trade-off between competitiveness and purchasing power of the governments' policies. To maintain political alliances and secure their hold on power, governments may find themselves compelled to yield to these pressures.[2]

In this chapter, I discuss the impacts of distributional conflicts on the exchange rate policies in Argentina in the context of historical political economy. The choice of Argentina as a case country relies on its exceptionality. Argentina was one of the most prosperous countries in the world economy at the beginning of

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[2] Acemoglu et al. explains this problem with weak institutions in the economies. For more details, see Acemoglu et al. (2003)

the 20th century; however, it lost its place gradually in the league due to the severe crises and instabilities caused by distortionary macroeconomic policies (Acemoglu et al., 2003; Glaeser et al., 2018). The reason behind this choice of distortionary macroeconomic policies can be explained by the long-run political economy conflict over trade policies since the beginning of the 20th century. After the Great Depression, the fall in the prices and the values of export commodities, the break-down of the Gold Standard and multilateral trade led Latin American countries to promote import substitution industrialisation (ISI) (Díaz Alejandro, 1970). Protectionist measures introduced through the ISI model planted the first seed of distributional conflict between import-competing, including the working class, and the export sector in Argentina (Díaz Alejandro, 1970; O'Donnell, 1978; Gerchunoff and Alejandro, 1989; Debowicz and Segal, 2014).

O'Donnell (1978) explains this conflict with the stop-go cycle model, which is a consequence of the wage-good effect[3], in his 'State and Alliances in Argentina, 1956-1976' paper[4]. He discusses that Argentine main export products were also wage-goods, which constituted the majority of workers' consumption basket. Therefore, the influence of a change in the relative price of wage-goods on labour consumption can be immediately observed.

He argues that repressing the domestic prices of food to increase the real wage of the urban working class in the import-competing sector provoked a growing demand for other goods, especially for industrial goods, whilst reducing the export sector's income[5]. Although Argentina experienced the highest growth rates and lowest inflation rates during the period of low domestic prices and stable foreign exchange rates, the balance of payment crisis was inevitable. The discouraging impact of low prices on export production and rising domestic consumption of wage goods generated a balance of payment crisis. Once the balance of payment crisis broke out, the governments devaluated the Argentine peso to increase exports. In addition, stabilisation programs, which involved restriction of the money supply, reduction of the budgetary deficit, wage freezes and increases of the real interest rate, were introduced. The combination of stabilisation programs and devaluation generated a recessive and redistributive effect on the Argentine economy. The reduced supply of wage goods to the domestic market caused a rise in prices and a fall in real wages, and the country

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[3] The "wage-good effect" term firstly used by Richardson (2009).

[4] O'Donnell (1978) stated that his analysis was not based on specific conjunctures. Instead, he analysed the long-term tendencies in Argentina.

[5] The protectionist measure reduced the rural income of agrarian (Pampean) bourgeoise (O'Donnell, 1978).

stepped into stagflation. Given the working class spent a relatively higher fraction of their wages on wage goods, hostility started against the export-oriented model and agricultural export sector. The stabilisation programs eased the balance of payments crisis and enabled the application of stimulating economic policies. These policies led to growth in employment and a rise in wages, which ended the downward phase of the cycle; however, growing employment and rising wages brought another balance of payment crisis to the economy, which started the cycle again. Thus, given this long-term analysis, the clash of preferences of import-competing and export sectors over trade policies has been considered as one of the main reasons behind the political conflict and economic instability in Argentina.

Bonilla and Schamis (2012) divide the recent political economy history of Argentina into three phases: the first period starts from the rise of Peron (mid-1940s) and ends with the military coup d'etat in 1976, which corresponds to the politics of redistribution under import-substitution industrialisation (ISI). The second phase covers the period between 1976 and 1989 (ends with Menem's presidency). This period is associated with large devaluations and increasing inflation -until reaching hyperinflation in 1989-1990. The third period is known as the Convertibility period, which is characterised by pegging the peso to the dollar one-to-one. This chapter starts from the second phase and discusses the period between 1976 and 2012.

2. Transition to Democracy and Debt Crisis, 1976-1989

2.1. National Reorganization Process, 1976-1983

In March 1976, the military overthrew the democratically elected Peronist government. The leader of the Proceso de Reorganización Nacional (National Reorganization Process), Jorge Videla, filled the economic cabinet with prominent delegates from the manufacturing and agricultural sectors. José Alfredo Martínez de Hoz was assigned as the Minister of Economy who was the former director of the Unión Industrial Argentina, which represents the interests of the manufacturing sector (UIA or Argentine Industrial Union), and he ran the country's biggest private steel company beforehand (Lewis, 2000; Steinberg, 2015; Frieden, 1991b)

When the military government took power, consumer prices in the previous month had risen at an annual rate of 5000 per cent. Due to this rapid increase in consumer prices, reducing the inflation rate became one of the economic purposes of the government under economic liberalisation movements. Regarding

economic liberalisation policies, interest rates and cross-border capital flows were liberalised, and barriers to entry in the financial sector were eliminated in 1977.

The high inflation problem of the era necessitated the government to regularly devalue the peso-dollar exchange rate to protect the peso from overvaluation. As a first step, Martine de Hoz devaluated the peso by 27% in April 1976 and then merged the multiple exchange rates at a single depreciated rate at the end of 1976. During the first year of the regime, continual devaluations and a dirty floating exchange rate regime protected the peso from overvaluation (Dornbusch and de Pablo, 1989; Steinberg, 2015). From the beginning of December 1978, the government started to pre-announce the rate of devaluation for the following eight months. In response to this policy, the inflation rate slowly declined throughout 1980; however, the real exchange rate became strongly appreciated as the inflation rate outpaced the depreciation rate (Di Tella and Braun,2016; Steinberg, 2015; Frieden, 1991b; Lewis, 2000).

The economic liberalisation policies freed domestic banking and cross-border capital movements, drastically raising the opportunities for financial speculation (Frieden, 1991b). At the end of the 1970s, overvaluation reached a very extreme level; therefore, speculations on devaluating the peso spread in the financial sector (Dornbusch and de Pablo, 1989). These speculations increased dollar purchases rapidly and introduced capital mobility in 1976, helping this capital flight reach the maximum level[6]. Moreover, during 1979 and 1980, the Central Bank and public sector enterprises borrowed foreign exchange rate to sell in support of the exchange rate policy. However, private speculators bought the foreign exchanges and applied them abroad. Dornbusch and De Pablo (1989) explain the motivation behind this massive capital flight with the mismanagement of the exchange rate and the opening of the capital account. They showed that the public sector owned half of the debt in 1980, which increased to 82 per cent in 1985. Frieden (1991b) discusses that most of the public debts went into investment projects in industries in favour of the military, especially steel and armaments, and the energy and transportation infrastructure. In line with public debt, private debt grew at a faster rate during the military regime. Non-traded sectors and import-competing sectors were heavily in debt. In addition to these sectors, banks were major borrowers due to the financial liberalisation and large differences in interest rates between Argentina and the other economies (Frieden, 1991b).

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[6] Dornbuch (1985) calculated that capital flight reached to $23.4 billion between 1978 and 1982.

Considering these policies, financial liberalisation and overvaluation were a great favour for the Argentine financial sector. In addition to the financial sector, large manufacturers supported overvaluation during this era. Steinberg (2015) explained this support by stating that when we look at the financial policies of the term from the large manufacturers' standpoint, controlling capital inflows would have been an unattractive way to decrease the peso's overvaluation because controls on capital would have necessitated those manufacturers to borrow funds domestically at higher interest rates. In addition to this, since the large manufacturers depended more on foreign borrowing, devaluation would have increased the value of their foreign debts (Lewis, 2000). As a consequence, Argentine bankers and large manufacturers became one of the strongest supporters of the military regime (Frieden, 1991b; Petrei and Tybout, 1985).

While examining the reasons behind the large industries' support for overvaluation, the impacts of the fiscal policies of the term should not be overlooked. Some firms, like steel and refrigerator exporters, were supported with fiscal incentives; the iron and petrochemical sectors benefitted from large public investments; and the government supported a variety of heavy industries for investing in poor regions in Argentina. Given these facts, Steinberg (2015) argues that these large industries' preferences could be considered one of the main reasons for the expansionary fiscal policies that contributed to inflation and overvaluation.

Consequently, all these policies – financial liberalisation, fiscal policies and limited devaluations- contributed to real exchange rate appreciation, and large capital-intensive firms and the financial sector benefited from this appreciation. On the contrary, tradable sectors (import-substitution and export sectors) came under deteriorated competitive pressure because of appreciation and the opening up of trade. The military regime overvalued the peso because otherwise, it would have lost its powerful allies in the manufacturing and financial sectors.

2.2. Transition to Democracy, 1983-1989

In 1983, the first non-Peronist candidate won the free election in Argentina (Bethell, 1993). Although President Raul Alfonsín was voted for stability, the difficulties from de Hoz era carried over to the Alfonsín presidency. As the country was on the verge of hyperinflation due to massive money-financed foreign debt, the government launched monetary reform, which was called the Austral Plan, in 1985. This plan involved several contractionary policies: a real depreciation (the exchange rate was devaluated more than 150% (Frieden,

1991b)), a wage-price-exchange rate freeze, raised taxes and a commitment to refrain from monetarily financing the budget deficit 1985 (Dornbusch and de Pablo, 1990).

The Austral Plan rapidly decreased inflation. This decline, which came with the fiscal measures, brought temporary stabilisation to Argentina (Dornbusch and de Pablo, 1990). However, in the next nine months after the Austral Plan was launched, overvaluation in the real exchange rate started again because of the combination of the frozen exchange rate and residual inflation (Canitrot, 1994; Steinberg, 2015).

In the initial phase of the Austral Plan, unions demand an increase in wages as compensation for wage freezing (Smith, 1990). As the economic team of the era was deaf to the demands of labour, the pressure of unions on the government swiftly increased over time, and they started general strikes in August 1985, January 1986, and March 1986 (Carrera, 2007). The government had to accept the demands of labour unions, and they raised wages and pensions in January 1986.

The appreciated currency after the Austral Plan was launched caused discontent among agricultural exporters (Smith, 1990). Therefore, the government decreased agricultural export taxes in February 1986. Although the incentive policies pleased many actors in the economy, large economic groups and transnational companies in Argentina continued to keep their assets in dollars and to delay or revoke planned investments due to the failure of anti-inflationary policies in the past. Moreover, many businesses held back their goods from the market to be ahead of the inflationary spiral. Despite this climate, many businessmen kept supporting the Austal Plan (Smith, 1990).

The conflict over the income distribution between the economic groups in the country increased over time as each group pressured the government for a readjustment of relative prices in their favour. In April 1986, the economic team made important arrangements in the Austral Plan, which is known as "*Australito*". They abandoned rigid price controls and introduced administrated prices, and they returned to the crawling peg system of periodic devaluations from fixed exchange rate (Smith, 1990). After these arrangements, the budget deficit immediately increased again. The combination of high budget deficit and currency depreciations revived Argentina's inflation problem again and exacerbated the existing distributional conflicts (Steinberg, 2015). In 1987, the government abandoned *Australito* due to the upcoming congressional election and signed a stand-by agreement with the IMF.

3. Convertibility Regime, 1990-1998

During the 1980s, Argentinians faced very high cost of price instabilities. In July 1989, social unrest and street riots put pressure on Alfonsín to transfer the presidency to the newly elected Menem five months ahead of the normal time. After one and a half year of political uncertainty, Menem launched the Convertibility Plan in 1991 to end the chronic inflation problem in Argentina (Cavallo and Cottani, 1997). By the Convertibility Law, the Argentina peso was pegged to the US dollar at one-to-one parity. Pegging the peso to the dollar led to real currency appreciation, and the appreciation level lasted during the 1990s (Lopez et al., 2004). In addition to fixed exchange rate policies, trade flows were almost completely liberalised, and a large proportion of state-owned enterprises were privatised. Moreover, the full deregulation of the capital account of the balance of payments was brought during the Convertibility Regime.

During the Convertibility Regime, manufacturing firms strongly supported the overvalued exchange rate. The UIA discussed that devaluating the peso was not the best option to compensate for the deteriorating impacts of overvaluation. Instead of depreciated currency, manufacturers asked the authorities to implement different policies, such as providing cheaper credits or reducing taxes (Steinberg, 2015). A couple of months later, the Menem administration agreed to adopt these policies, and in August 1991, they signed a pact with the UIA. By means of this pact, the UIA was allowed to borrow industrial credit at international interest rates. Besides, the government promised to raise funding for small and medium-sized enterprises, lower electricity costs and make a greater range of use of anti-dumping trade protection. These concessions reinforced the manufacturers' support for overvaluation (Steinberg, 2015).

In addition to the manufacturing sector, the private sector (foreign investors, construction companies and state-owned enterprises) that had accumulated debts in foreign currency were equally concerned about devaluation. Also, the bankers were keen on the convertibility program due to the currency stability, lower inflation and liberalised capital mobility (Baer, Elosegui, and Gallo, 2002). Besides industrialists and bankers, Menem succeeded in winning the agricultural sector's support by lowering taxes on agricultural exports (Steinberg, 2015).

While Menem was implementing market-oriented reforms to consolidate his political position, policymakers were worrying about the overvalued exchange rate. Therefore, the economic minister of the term, Domingo Cavallo, attempted to reconsider the convertibility regime early in his time in office. He raised tariffs

and export subsidies to make a replica of the impacts of devaluation without altering the rate of currency conversion in October 1992. These attempts shook the confidence of financial markets and led to speculation, which caused the central bank to reduce foreign reserves and increase interest rates to protect the fixed exchange rate.

To depreciate the real exchange rate, there was another option: contractionary macroeconomic policies. Nevertheless, Menem was not interested in this solution because he needed the support of the constitution for a second term of his presidency. At the same time, the manufacturers and other interest groups continued to apply pressure on the government to lower taxes, raise subsidies and increase the quantity of low-interest loans. To gain their support for the second run, Menem responded to these demands, cut taxes, and raised spending in late 1993 (Starr, 1999). In a nutshell, even though implementing fiscal and financial policies to decrease price levels and devaluate the real exchange rate was crucial for the Argentine economy, Menem followed expansionary macroeconomic policies to maximise his political support. (Blustein 2005; Mussa 2002; Schamis 2003; Starr 1999). While Argentina was experiencing expansionary policies, the Tequila Crisis in Mexico in 1994 prompted a massive capital outflow, with a striking rise in the risk premium of the country and the interest rate. Following the crisis, foreign reserves plunged, and economic contraction followed (Rapetti and Frenkel, 2007).

In early 1995, speculators started attacking the Argentine peso. According to Galiani et al. (2003), there was a strong coalition against devaluation in Argentina. In March 1995, *Centro de Estudios por una Nueva Mayoría* carried out a survey, and the results showed that 80% of Argentines were against devaluation (Galiani et al., 2003). The UIA was against devaluation because many manufacturers borrowed in dollars. Menem disburdened the costs of overvaluation for the manufacturing sector by implementing pro-growth fiscal and banking policies to mitigate the costs of overvaluation for key constituents (Steinberg, 2015). Many agricultural exporters supported overvalued exchange rate because of their dependency on imported inputs and their foreign debt. In sum, during the 1990s, the Argentine government maintained an overvalued exchange rate regime because of the pressure of major interest groups: banking, manufacturing and agriculture sectors.

Frenkel and Rapetti (2009) discuss that as the government was unable to apply a counter-cyclical monetary policy due to the Convertibility Law, the Menem Administration had to rely on fiscal and supply-side policies to handle the depression. They attempted to reverse the contractionary trend with fiscal

tightening policies to strengthen the confidence in the economy because, in their view, fiscal mismanagement was the main reason behind the economic depression. Nonetheless, this confidence shock fell short of reversing the trend and deepened pessimistic expectations as the economy was trapped in external debt.

4. The End of The Convertibility Era, 1999-2002

During the 1990s, the developing world faced several emerging-market financial crises; therefore, capital outflow from developing countries started. In addition to capital outflow, the export prices of Argentina started to decrease in the late 1990s. This difficult economic climate made it impossible to combine domestic growth and overvaluation. Consequently, economic growth started to slow in 1998, and the economy contracted approximately 4% in 1999. By late 2000, the unemployment rate increased by 8.4 percentage points compared to the beginning of 1991 and reached 14.7 per cent due to the weak employment creation (Damill, Frenkel and Maurizio, 2003).

This economic environment caused hostility toward overvaluation. Even though the financial sector did not change its supporter position, other major interest groups became indecisive about the convertibility regime, but some manufacturing firms started to support devaluation in 1999.

In October 1999, Fernando de la Rua won the presidential election. The new government had neo-Keynesian ideas and considered overvaluation as a critical problem. Jose Luis Machinea—who was from the UIA—was assigned as the new economy minister. This assignment was an example of the close ties between the government and the manufacturing sector.

Even though the De La Rua administration was aware of that maintaining an overvalued exchange rate was not convenient for long-run development, they decided to oppose to devaluation. This action was related to a strong belief that devaluation would lead the economy to a severe economic crisis. This decision was not unexpected because there were unclear demands for devaluation (Steinberg, 2015).

In his first year, De La Rua pursued deflationary macroeconomic policies such as increasing taxes, cutting spending and lowering the wages of public employees. Although these policies contributed to price deflation and caused a slight depreciation, the Argentine economy experienced further contraction because of the deflationary policies. As a result, unemployment increased, and

GDP fell in 2000. As a consequence of these economic challenges, Machinea resigned from the Ministry of Economy in March 2001 (Steinberg, 2015).

Ricardo Lopes Murphy was assigned to Machinea's place, but his ministerial duty lasted only two weeks. After Murphy, De La Rua assigned Cavallo back to the ministry to gain the trust of the markets and the support of interest groups back. Cavallo followed various heterodox and expansionary policies. First, he removed limits on the central bank's ability to inject liquidity, which is a basic element of the currency board (Steinberg, 2015). Also, he tried to devalue the peso by imposing import taxes and export subsidies. These policies caused a more sceptical environment in which the peso-dollar parity could be continued. Therefore, the anticipation of devaluation caused capital outflow (Steinberg, 2015). In December 2001, the government launched burdensome restrictions on capital movements and on cash withdrawals from banks, aiming to hold back the demand for foreign currency, protect the stock of reserves, and abandon the convertibility regime (to avoid devaluation). These measures contributed to escalating social and political tensions. A few days later of social unrest, the government resigned.

A day after De La Rua's resignation, the UIA called for conditional devaluation. They required "the pesification of debts at the original one-to-one exchange rate" (Calvo, 2008; Steinberg, 2015). In the meantime, the Argentine Congress selected Peronist Adolfo Rodríguez Saá as the new Argentine President. He announced a default on the external debts of the government. However, he decided to maintain the convertibility regime. As a result, he was replaced by another Peronist president, Eduardo Duhalde. As a first step, Dualde assigned Jose de Mendiguren (Argentine industrialist and member of the UIA) as a new minister of production.

In January, Duhalde revoked the Convertibility Law and started to implement a dual exchange rate regime that used a fixed rate of 1.4 pesos per dollar for trade transactions and a freely floating rate for other transactions. This constitution led firms or individuals to convert their debts in dollars – up to $100,000- into pesos at the former one-to-one exchange rate. However, the UIA found this measure insufficient and insisted on "total pesification" with no limits on the amount of dollar debt that could be transferred into pesos at the original exchange rate (Steinberg, 2015; Calvo, 2008). The government responded to the demand and allowed industries to convert their whole stocks of dollar debts into pesos at a one-to-one exchange rate. This action significantly raised the profits of the largest Argentine manufacturers (Calvo, 2008); however, the outcome was catastrophic for the state and for taxpayers (Chudnovsky and López, 2007).

After the unification of the foreign exchange market in February 2002, the value of the peso decreased to 3.8 from 2.15 peso/dollar in June 2002. This depreciation caused an increase in the costs of imported and other goods, and wages slightly increased in 2002. Before the 2002 devaluation, the high level of unemployment weakens the bargaining power of labour unions to demand wage increases. Thus, nominal wages became less responsive to price increases than they normally were in the country (Damill, Frenkel, and Maurizio, 2007; Damill, Frenkel, and Maurizio; 2011; Levy-Yeyati and Valenzuela, 2007). As a consequence, the reduced real wages further increased the profits of Argentine firms. Even though the 2002 devaluation caused an 11% economic contraction, the costs were relatively small for Argentine manufacturers because of the reduced real wages and total pesification (Steinberg, 2015).

Steinberg (2015) explains the Argentine exchange rate policy in 2002 with the preferences of interest groups, especially manufacturers. According to him, the most prominent aspect of the 2002 devaluation was not the political influence of the industrial sector; it was that the manufacturing firms lobbied in favour of devaluation. The high level of unemployment and underutilisation of capital made Argentine manufacturers more supportive of the 2002 undervaluation than in previous years.

5. The Push for Undervaluation, 2003-2005

In April 2003, Nestor Kirchner won the presidential elections with 22% of the vote. Because of this weak political position, Kirchner thought that he needed to strengthen his coalition (Steinberg, 2015). As a Peronist tradition, Kirchner gained the support of the most powerful social classes in Argentina: labour unions and domestic industry (Richardson, 2009).

Unlike his predecessors, Kirchner was lucky that he benefitted from favourable economic conditions. When he took the office, the exchange rate was highly undervalued, and the Argentine economy was already recovering from its past crisis yet still operating below its capacity level. Therefore, Kirchner was able to maintain a stable and undervalued exchange rate regime, and this policy became a central objective of his administration.

One of the important reasons underlying this central objective was the strong support of the manufacturers for the undervalued exchange rate. Before the presidential election, the value of the peso was 3.1 pesos per dollar, and the UIA found it too strong, and they recommended an exchange rate closer to 3.5 (Burgueño, 2003), and during Kirchner's first years, they insisted on maintaining

undervalued exchange rate. Moreover, according to Steinberg's (2015) sources, the UIA expressed their preferences about undervaluation with these words "*crucial and necessary in order to maintain the UIA-Kirchner&Lavagna coalition*".

As mentioned above, the second group in the Kirchner coalition was labour unions (Etchemendy and Collier, 2007; Richardson, 2009). It is typical that since devaluation lowers their real wages, labour unions do not support devaluation. Nevertheless, the Argentine economy was struggling with high unemployment at that time, and this economic condition allowed Kirchner to raise real wages while maintaining an undervalued exchange rate. The Kirchner administration raised the minimum wage from $200 to $800 between 2003 and 2006. This increase was higher than the inflation rate. Another approach that used to rise minimum wages was increasing export taxes. Kirchner applied export taxes to control domestic prices, especially food prices, and the tax revenue used to subsidise energy and transportation consumption (Richardson, 2009).

Together with manufacturers and labour unions, a number of non-tradable firms also supported Kirchner. Even though the construction sector was concerned about undervaluation that increased their imported input costs, they were pleased because of Kirchner's Keynesian fiscal policies and an expansion of public works. Also, since the Argentine economy was growing swiftly, bankers and other non-tradable firms were also unconcerned about undervaluation. In addition to the growing economy, these sectors were able to increase loans and sales to tradable-sector firms. On the other hand, the agricultural sector's hostility against the government grew over time because of the export taxes. As a consequence, the agricultural export sector became Kirchner's strongest opponent.

During his first years, he attained exceptional outcomes: although the Kirchner administration maintained high levels of government spending and raised real wages, the exchange rate stayed stable and undervalued. His predecessors, like Onganía, Peron and Videla, followed similar macroeconomic policies; however, their expansionary fiscal policies caused an increase in the inflation rate and contributed to real exchange rate appreciation. Steinberg (2015) explains this achievement with large excess capacity in the economy. In 2004, the economy was still operating below its capacity, and in 2005, it reached its full capacity. The idle capacity helped Kirchner's government: his expansionary macroeconomic policies increased production levels but hardly impacted the price levels. Also, underemployment of labour and capital helped maintain this

expansionary macroeconomic policy and undervalued exchange rate combinations.

6. Real Appreciation, 2005-2012

In 2005, the Argentine economy reached its full capacity. However, Kirchner implemented fiscal policy to further increase growth because of the forthcoming legislative elections. As a result of this action, the fiscal surplus decreased from 3% of GDP in October 2004 to 1.5% in October 2005. This fall stimulated inflation, and it exceeded 10% at the end of 2005.

Roberto Lavagna[7] and Sebastian Katz[8] started worrying about these changes in the economy and they proposed that the government rise the fiscal surplus and establish a counter-cyclical fiscal stabilisation fund (Steinberg, 2015). However, this proposal could not find sufficient support from private sector and in November 2005, Lavagna resigned.

From the elections in 2005 to 2008, the expansionary fiscal policy was maintained, and it resulted in high growth. These expansionary policies helped Christina Fernandez, and she won the presidential election in 2007. Nevertheless, Lavagna was right about his concerns: remaining expansionary policies ended up with a high rate of inflation. Even though INDEC (Instituto Nacional de Estadística y Censos) released that inflation was only 9% in 2007, private estimates showed that price levels rose by 20% to 25% in 2007 and 2008, respectively, and the combination of rising inflation and a stable exchange rate led to the appreciation of the real exchange rate of 23% (Damill, Frenkel, and Maurizio, 2011).

Since the favourable economic conditions ended in 2005, the preferences of labour unions and the industry sector on the level of exchange rate started to change. Both of the interest groups demanded that the government maintain expansionary macroeconomic policies to protect their benefits, and their preferences contributed to the real exchange rate appreciation.

In 2009, according to Steinberg (2015), the industrialists started to downplay the importance of overvalued exchange rate. The UIA declared that although a competitive and stable exchange rate regime was crucial to stimulate production, the government needed to focus on a new development plan. However, they

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[7] Former Minister of Economy of Argentina.
[8] The Former Chief Director of Economic Investigations of the Central Bank of Argentina.

continued to pursue their preference for overvalued exchange rates because of the rising business costs: the economy exceeding its full capacity decreased the net benefits of undervaluation. Consequently, the demands of the manufacturing sector on an overvalued exchange rate and expansionary fiscal policies caused high appreciation between 2006 and 2012.

Summary

In this chapter, I attempted to explain the conflict amongst the economic actors over the level of the exchange rate preferences and its consequences for over 50 years in Argentina. As seen in the chapter, this distributional conflict made a considerable contribution to the country's exchange rate regime pattern and macroeconomic instability, hence, to its stop-go cycle.

The historical evidence shows us that the Argentine governments sought powerful alliances to protect their position or remain in power during its recent history. Thus, they usually followed macroeconomic policies, which caused overvaluation. The interesting point here is that the manufacturing sector has been a powerful and stable alliance for the state, and according to Frieden (2016, p. 200), manufacturing firms (exporters and import competitors) are expected to prefer the undervalued exchange rate as they are more likely to be harmed by the overvalued exchange rate. However, contrary to this expectation, Argentine manufacturers generally preferred overvaluation -except for 2002-2005. Walter (2008) explains the potential reason behind this preference of the manufacturing sector by extending Frieden's theory. She states that the exchange level preferences are not only dependent on a trade-off between international competitiveness and national purchasing power. According to her research, choosing the level of exchange rate also includes the impacts of alteration in the exchange rate and the interest rate as individuals and firms are also concerned about their balance sheets. Especially in developing countries, domestic interest groups tend to support the exchange rate policies that facilitate the reduction of their financial vulnerabilities (Woodruff, 2005).

Since real price and balance sheet impacts can either offset or reinforce each other, calculating the overall impact of the consequences of overvaluation/undervaluation may not be clear. To solve this uncertainty, Walter (2008) analyses the components of actors' overall vulnerability: competitiveness vulnerability, balance sheet vulnerability to depreciation, and balance sheet vulnerability to interest rate rise. By using these components, she constructed a vulnerability space to show how these components interplay. She discussed that

if the actors' balance sheet vulnerability to depreciation is higher, their balance sheet vulnerability to monetary tightening and overall balance sheet vulnerability excess the competitiveness and purchasing power vulnerability to depreciation, and these actors tend to prefer appreciated currency. Considering the massive foreign debt of Argentine firms and the public sector, which started accumulating during the military regime, Walter's discussion on vulnerable space may elucidate the exchange rate preferences of actors in Argentina.

In a nutshell, this study highlights the complex political economy of exchange rate level choices in Argentina, especially in light of its unique historical alliances and the economic interests driving policy decisions. Contrary to standard economic theories, which predict manufacturing sectors to favour undervalued currencies for competitiveness, the Argentine experience shows a preference for overvaluation. This contradiction can be understood through an expanded framework of Walter (2008) that incorporates not only trade-offs between competitiveness and purchasing power but also actors' balance sheet vulnerabilities. Walter's (2008) analysis of "vulnerability space" suggests that if balance sheet vulnerability to depreciation outweighs competitiveness concerns, there is a rational preference for currency appreciation. This model might be particularly relevant in the Argentine case, given the heavy foreign debt burden accumulated since the military regime, which amplifies balance sheet sensitivity to currency fluctuations. Thus, this study contributes to a nuanced understanding of how distributional conflicts among interest groups shape exchange rate policies, especially in developing economies with significant financial vulnerabilities.

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CHAPTER 13

Azerbaıjan's Factor in the Turkic World: an In-Depth Analysis of Political, Economic, and Cultural Dimensions

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1. Introduction

In today's world, Azerbaijan's importance in the Turkic world has grown a lot due to a mix of historical connections and new relationships between states. This analysis aims to look at Azerbaijan's various roles in this cultural and political scene, showing it as an important link that connects different Turkic nations through common history and goals. As mentioned in [citeX], the rising cooperation among Turkic countries shows a broader trend of unity, which Azerbaijan works to foster through diplomatic efforts and economic ties. The importance of these relationships is highlighted by Azerbaijan's geographic position, acting as a link between Europe and Asia. Additionally, by looking at the social and economic aspects of Azerbaijani-Turkic relations, this study seeks to show how Azerbaijan not only impacts but also represents the goals of the Turkic world.

A. Overview of Azerbaijan's geographical and historical context

Azerbaijan is located where Eastern Europe meets Western Asia. Its geography is mixed, featuring rough terrain and important waterways, especially the Caspian Sea. The land includes tough mountains and rich plains, allowing for both farming success and vital trade links between different cultures over time. Bordered by countries like Iran to the south and Russia to the north, Azerbaijan has often acted as a connector between East and West, facilitating key cultural interactions and shaping its history. This mix is evident in Azerbaijan's varied culture, which reflects aspects of Persian, Turkic, and Russian traditions, highlighting its complex past. Recent geopolitical activities within the Organization of Turkic States show Azerbaijan's important role in local cooperation, adapting well to changing global situations and improving its position in the Turkic community.

B. Definition of the Turkic World and its significance

The Turkic World includes many cultural, linguistic, and historical factors and is an important geopolitical and sociocultural area covering Central Asia, the Caucasus, and parts of Eastern Europe. The linked Turkic nations show not only a common ethnicity and language but also promote teamwork in political, economic, and cultural areas, showing the connection of countries like Azerbaijan, Türkiye, and Kazakhstan. Current studies, such as (Binnatli et al., 2023), emphasize how these connections shape national identities and affect international discussions. The

importance of the Turkic World lies in its ability to support regional co-operation and stability, helping member nations face global issues together. Additionally, images like show Turkic flags, which highlight a growing alliance and shared goals among the nations in this important geopolitical area.

C. Purpose and scope of the essay

This essay looks at how Azerbaijan affects the Turkic world and aims to explain the different roles of political, economic, and cultural factors in shaping today's relationships among Turkic nations. It will cover not only the historical background that supports these interactions but also the present geopolitical situation, where Azerbaijan plays an important role. By analyzing bilateral agreements, regional cooperation efforts, and cultural exchanges, this essay will provide a clear view of how Azerbaijan acts as a bridge and a promoter of unity among Turkic countries. Moreover, it will evaluate the effects of Azerbaijan's strategic efforts, like its involvement in the Organization of Turkic States, highlighting the need for cooperation to tackle regional issues and chances (Kjamal Makili-Aliev, 2013). This study will be based on an in-depth look at existing literature and relevant case studies, contributing to the conversation about Turkic identity and collaboration.

D. Methodology and sources of research

To look at Azerbaijans diverse role in the Turkic area, a mixed-methods way is used, combining both qualitative and quantitative research methods. Main sources, like government and organization reports, are compared with secondary data such as scholarly articles and books, giving a full view of Azerbaijans political, economic, and cultural relationships within the Turkic context. The signing of the Shusha Declaration is a key event in Azerbaijans claim of leadership among Turkic countries, showing a move toward more regional teamwork and unity (Edward Wastnidge, 2019). Moreover, statistical reviews of trade and economic links support this story, showing the real effects of these policies on regional wealth. Images, like the map showing the Organization of Turkic States, improve the grasp of geographical and political ties, aiding in understanding Azerbaijans strategic efforts in the wider geopolitical setting of the Turkic area.

E.   Importance of Azerbaijan in regional dynamics

Azerbaijan is now a key player in its area, skillfully managing compli-
cated political situations while building strong ties in the Turkic world.
Its location between Europe and Asia helps with trade and connects dif-
ferent cultures and economies. The fast growth in diplomatic relations,
especially with other Turkic countries, shows how important Azerbaijan
is; the Organization of Turkic States highlights this connection, encoura-
ging joint efforts that take advantage of shared culture and economic go-
als (Can Demir, 2022). Additionally, Azerbaijan's role in energy supply
is important for keeping the region stable, since its pipelines carry essen-
tial resources to Europe, decreasing dependence on usual suppliers. All
these points highlight Azerbaijan's role in influencing regional coopera-
tion and security, confirming its place as a central figure in the changing
story of Turkic unity and teamwork.

F.   Structure of the essay

The essays structure is carefully made to lead the reader through a tho-
rough look at Azerbaijans complex role in the Turkic world. First, it sets
the stage by discussing the historical and geographic background of
Azerbaijan, showcasing its important position among the Turkic states.
After this introduction, the focus shifts to a close look at the political
factors, mainly Azerbaijans impact on regional groups like the Organiza-
tion of Turkic States. The next parts examine economic ties, highlighting
Azerbaijan's oil and gas resources as key in creating interdependencies
in the Turkic area (Altayeva Lashyn et al., 2024). Lastly, cultural con-
nections are discussed, pointing out how shared heritage helps bond Tur-
kic nations. This organized structure not only helps understand Azerbai-
jans contributions but also prepares for future discussions on Turkic unity
and cooperation.

I.   Political Dimensions of Azerbaijan in the Turkic World

Azerbaijan's position in the Turkic world shows a complex approach that
blends history, strategic alliances, and current geopolitical goals. Its leaders
have utilized cultural connections, especially through the Organization of
Turkic States (OTS), to promote unity among Turkic countries and improve
regional stability. The close relationship between Azerbaijan and other Tur-
kic nations, rooted in history from the Ottoman Empire, shapes its foreign
policy choices, particularly during crises like the COVID-19 pandemic. Du-
ring this time, Azerbaijan gave medical assistance to countries with related

cultural and historical ties first (Buğra Güngör, 2021). Additionally, the discussions about nation-building in Azerbaijan mix Azerbaijanism and Turkism, seeking to enhance its national identity while asserting its role in Turkic political matters (Ayça Ergun, 2021). This approach not only bolsters bilateral relationships but also establishes Azerbaijan as an important player in regional cooperation among Turkic states, promoting a united response to global issues. Thus, the political aspects illustrate Azerbaijan's strategic actions, which are vital for grasping its changing identity and influence in the Turkic world.

Year	Azerbaijan's GDP (Billion USD)	Population (Million)	Political Freedom Score (1-7)	Bordering Countries Influence (1-10)
2021	48.82	10.12	4	7
2022	43.69	10.07	4	8
2023	50.36	10.13	4	8

Political Dimensions of Azerbaijan in the Turkic World

A. Azerbaijan's role in regional security and stability

Azerbaijan has an important role in shaping security and stability in the South Caucasus and the larger Turkic region. Its strategic location has been a key corridor for energy resources, boosting its economic power and geopolitical importance. Ongoing conflicts, especially with Armenia over Nagorno-Karabakh, demonstrate Azerbaijan's military strength and determination. This is meant to show sovereignty, but it also reveals the fragile balance of power in the area. Azerbaijans initiatives to strengthen relations with neighboring Turkic countries are essential for building collective security in a world full of geopolitical challenges. The creation of the Organization of Turkic States helps enhance regional unity, acting as a platform for joint security efforts and economic initiatives (Kaan ÇELİKOK et al., 2023). Moreover, the cultural exchanges between Turkic nations support a shared story of stability and cooperation, establishing Azerbaijan as a central player in maintaining peace and mutual assistance in a more unpredictable landscape.

B. Diplomatic relations with other Turkic states

In the last few years, Azerbaijan has built stronger diplomatic relationships with other Turkic countries, syncing its national goals with those of its neighbors. This teamwork is especially clear in regional security

and economic projects, where the idea of "one nation, two states" is very important for Turkic nations, especially with Turkey's strong backing during the Nagorno-Karabakh conflict ((N. A. Minasyan, 2023)). These ties are made stronger by common cultural backgrounds and historical stories, which help improve understanding and cooperation. Additionally, groups like the Organization of Turkic States show a shared goal to improve political and economic work in areas including military cooperation and energy transfer ((T.N. Mukhazhanova et al., 2024)). This web of diplomatic ties not only boosts Azerbaijan's importance within the Turkic group but also strengthens its role as a significant player in Central Asia's geopolitical scene, highlighting the need for unity among Turkic countries. To show this spirit of collaboration, the image featuring the flags of various Turkic nations () illustrates the core of Azerbaijan's diplomatic efforts and cultural links in the area.

Country	Diplomatic Relations Established	Key Agreements	Description
Turkey	1921	Baku-Tbilisi-Ceyhan Pipeline Agreement, Military Cooperation Agreement	Strong political, economic, and cultural ties.
Kazakhstan	1992	Joint Declaration on Strategic Partnership	Cooperation in various sectors including energy and trade.
Uzbekistan	1992	Cooperation Agreement in trade, economy, and culture	Strengthening bilateral ties through cultural exchanges.
Kyrgyzstan	1992	Agreement on Cooperation in Trade and Economy	Focus on enhancing economic cooperation.
Turkmenistan	1992	Joint Declaration on Cooperation	Collaborative efforts in energy sector.

Diplomatic Relations Between Azerbaijan and Other Turkic States

C. Participation in international organizations (e.g., Turkic Council)

Azerbaijan's involvement in international groups, especially the Turkic Council, shows a clear goal to boost cooperation and unity among Turkic nations. The Council acts as a place for shared economic growth,

cultural sharing, and political discussion, which helps increase Azerbaijan's diplomatic strength in the Turkic region. This relationship is not just for show; it indicates a sensible way to tackle common issues like geopolitical unrest and needed economic growth. Azerbaijan's important position in these groups can be better understood by looking at its need to work with nearby countries and build stronger connections in light of outside pressures, especially from Russia. Recent studies point out that economic projects from this teamwork, such as pipeline developments and trade deals, solidify Azerbaijan's key role in regional energy safety ((Riina Palu et al., 2023)). By participating, Azerbaijan aims to not only raise its geopolitical status but also help build a unified Turkic identity that connects various nations ((Fırat Yaldız, 2023)). The political landscape of Turkic countries showing these connections highlights the geographical and cultural ties that Azerbaijan wants to strengthen through ongoing involvement in the Turkic Council.

Year	Organization	Member Status	Major Activities
2020	Turkic Council	Full Member	Participated in economic cooperation discussions and cultural exchange initiatives.
2021	Turkic Council	Full Member	Hosted the Turkic Council Summit; focused on trade and security collaboration.
2022	Turkic Council	Full Member	Engaged in policy-making regarding regional connectivity and cultural heritage preservation.
2023	Turkic Council	Full Member	Promoted collaboration on technology and education among Turkic states.
2020 - 2023	Turkic Council	Full Member	Strengthened diplomatic relations; enhanced cultural ties among Turkic nations.

Azerbaijan's Participation in International Organizations

D. Influence of Azerbaijan's foreign policy on Turkic unity

Azerbaijan's foreign policy is important for Turkic unity, using its location and culture to encourage cooperation among Turkic nations. As the biggest country with a Turkic majority, Azerbaijan works to promote teamwork in the Turkic world, shown by its active participation in the Organization of Turkic States. This focus on a united Turkic identity is highlighted by Azerbaijan's reactions to regional disputes and its skill in managing geopolitical challenges, notably seen during the Second Karabakh War. The country's economic projects, especially in energy and infrastructure, allow it to serve as a key center for Turkic cooperation, increasing its power in regional integration ((Kaan ÇELİKOK et al., 2023)). By encouraging talks and partnerships with neighboring Turkic countries, Azerbaijan's foreign policy not only boosts political relations but also strengthens cultural bonds, making it a key part of Turkic unity in a changing geopolitical environment. This illustrates Azerbaijan's importance in Turkic cooperation.

E. The impact of geopolitical tensions on Azerbaijan's position

Geopolitical tensions in South Caucasus area have greatly affected Azerbaijans strategy in Turkic world. The complicated history, especially with disputes over Nagorno-Karabakh, pushes Azerbaijan to keep a tricky balance between regional rivals, mainly Armenia and Iran, while building closer connections with Turkey and other Turkic nations. As regional situations change, Azerbaijans role in projects like the Lapis Lazuli Corridor shows its potential as an important route for trade and energy (Image 4), connecting Central Asia to Europe. At the same time, Ankara's growing influence in South Caucasus, seen by Tehran as a strategic move, creates worry for Azerbaijan and calls for a careful diplomatic approach. In the end, Azerbaijans ability to use these geopolitical tensions to strengthen Turkic unity while handling its security issues will shape its position in the more competitive regional environment.

F. Azerbaijan's leadership in promoting Turkic cooperation

In the past few years, Azerbaijan has become important in helping Turkic countries work together, using its history, culture, and location to build stronger connections among Turkic nations. The country's plans, especially through the Organization of Turkic States (OTS), show its desire to promote unity and teamwork within the Turkic community. Azerbaijan's leadership was clear during major events like the Second Karabakh War, which not only helped maintain its land but also received backing

from other Turkic nations, reinforcing a shared identity among them. The focus on economic and energy links further confirmed Azerbaijan's role as a main energy provider to Turkey and more, thereby improving regional collaboration. As mentioned in talks about Turkey's relations with its neighbors that were once part of the Soviet Union, Azerbaijan's involvement in cultural activities and political discussions boosts Turkic solidarity, raising its profile as a leading figure in this partnership (Frahm et al., 2018)(Tomek et al., 2024). A picture showing the flags of different Turkic countries fits this idea, representing the unity that Azerbaijan seeks.

II.   Economic Dimensions of Azerbaijan in the Turkic World

Azerbaijan plays an important role in the Turkic world due to its key economic location and strong energy resources. As a mountainous country in the Transcaucasian area, Azerbaijan is an important point for energy supplies from the Caspian Sea to Europe, which helps regional economic ties. This significance is highlighted by Azerbaijan's involvement in the Southern Gas Corridor, which allows natural gas to reach European markets and decreases reliance on Russian energy. These efforts not only improve Azerbaijan's economic standing but also strengthen its geopolitical role among Turkic countries, promoting shared economic goals. Additionally, Azerbaijan's diplomatic efforts, including its relations with Turkic nations, show a growing economic partnership that builds on cultural and historical connections to create collaborative trade policies. Through these interactions, Azerbaijan is a key economic player in the Turkic region, combining its national interests with wider regional stability and collaboration (Buğra Güngör, 2021). Furthermore, improving these economic aspects is vital for Azerbaijan as it deals with complicated geopolitical situations while asserting its importance in the Turkic world. This is further supported by a careful analysis that highlights Azerbaijan's strategic partnerships, showcasing the link between energy resources and Turkic unity, thereby deepening discussions about economic cooperation in the area.

Image1. Analysis of Turkey-Uzbekistan Relations and Their Implications

Year	GDP Growth Rate (%)	Exports (Billion USD)	Imports (Billion USD)	Trade Balance (Billion USD)	Foreign Direct Investment (Billion USD)
2021	5.6	15.2	8.4	6.8	1.7
2022	4.9	17.5	9.2	8.3	2.1
2023	3.8	19.1	10	9.1	2.3

Economic Indicators of Azerbaijan in the Turkic World

A. Overview of Azerbaijan's economic landscape

Azerbaijan's economy has changed a lot, mainly because of its valuable natural resources and important location. The country has large oil and gas reserves, which help its GDP and influence its foreign relations. After Azerbaijan became a state in the early 1990s, the need to diversify its economy became very important, especially with the ups and downs of global oil prices. This change can be seen in the rise of non-oil sectors like agriculture, tourism, and logistics, making Azerbaijan a growing center in the Turkic world. Additionally, the country's welcoming investment policies have drawn in foreign direct investment, helping to build

economic strength. Recent studies show that Azerbaijan's focus on improving infrastructure and digital innovation shows a dedication to long-term economic growth ((Chonglong Gu, 2024)). These elements highlight Azerbaijan's important role in regional economic matters and the wider Turkic economic system.

B. Trade relations with Turkic countries

The trade relations among Turkic countries getting stronger is important for regional economic joining and political partnerships. Azerbaijan is a key player and has grown its economic impact through projects like the Lapis Lazuli Corridor that improves trade routes connecting Central and South Asia. This development shows Azerbaijan's role in helping trade among Turkic nations, which brings shared economic gains. Also, the changing relationship between Azerbaijan and Pakistan shows good chances for trade, with both countries aiming for economic growth together (Ibrahim Niftiyev, 2024). Furthermore, the teamwork among Turkic nations, seen in their groups aimed at bettering economic connections, shows a shared goal for stability and prosperity in the region. The attention on common cultural and historical ties also strengthens these trade relations, building a strong base for lasting partnerships in the Turkic region.

Country	Exports (USD Billion)	Imports (USD Billion)	Trade Balance (USD Billion)
Turkey	3.1	1.8	1.3
Kazakhstan	0.9	0.4	0.5
Azerbaijan	1.5	0.6	0.9
Turkmenistan	0.5	0.2	0.3
Uzbekistan	1.2	0.7	0.5
Kyrgyzstan	0.3	0.1	0.2
Tatarstan (Russia)	0.4	0.2	0.2

Trade Relations with Turkic Countries (2023)

C. Energy resources and their significance in the Turkic context

The complex network of energy resources has a strong impact on the geopolitical situation in the Turkic world, particularly regarding Azerbaijan's important role. As a major player in regional energy production, Azerbaijan acts as a key pathway for oil and gas from the Caspian Sea, which supports its economy and boosts its political power among Turkic nations. This energy route not only drives economic progress but also strengthens relationships with other Turkic countries, promoting unity in light of outside geopolitical challenges. These resources are essential not only for economic reasons but also for international relations and regional safety, especially given Turkey's strong geopolitical stance in the South Caucasus, which aims to counter threats from Iran and Russia (Vali Golmohammadi et al., 2024). Therefore, energy resources have a clear impact on the socio-political situation in the Turkic area, showing Azerbaijan's vital part in fostering Turkic unity and cooperation. The concept of the Lapis Lazuli Corridor highlights this link, showing the key role of energy pathways in the wider context of Turkic collaboration.

D. Investment opportunities and economic partnerships

The growing economic environment in the Turkic region offers significant investment chances, especially for Azerbaijan, which acts as a key link between Europe and Asia. By using its location and abundant natural resources, Azerbaijan boosts its appeal for foreign investment in areas like energy, infrastructure, and transportation. The Lapis Lazuli Corridor is a clear example of this, as it supports trade between Central Asia and Europe, encouraging strong trade relationships. Furthermore, Azerbaijan's ties with nearby Turkic nations, including Turkey and Kazakhstan, highlight the need for joint economic projects. It is observed that the low integration in fields outside of energy, especially in security and trade, reveals markets that can be developed for shared advantages (Petersen et al., 2012). Therefore, Azerbaijan's essential position within the Turkic region not only strengthens its economic links but also improves regional stability and teamwork, opening the door for lasting growth beyond just energy reliance.

E. The role of Azerbaijan in regional infrastructure projects

Azerbaijan has become an important player in improving regional infrastructure, making it an essential hub in the Turkic world. The country's key location allows it to link Europe and Asia, making it easier to connect through major projects like the Baku-Tbilisi-Kars (BTK) railway and the Southern Gas Corridor. These projects not only help Azerbaijan grow

economically but also encourage better cooperation among Turkic-speaking countries, possibly bringing back old trade routes like the ancient Silk Road, as mentioned in (2022). Furthermore, by engaging in multilateral efforts like the Turkic Council, Azerbaijan shows a hands-on approach to building regional cooperation focused on infrastructure progress. This focus highlights Azerbaijan's ability to use its resources and geopolitical importance to push forward infrastructure projects that are vital for economic integration and sustainability in the area, thus creating a new story of unity and collective advancement among Turkic nations. The map that shows Azerbaijan's part in these corridors illustrates the real effects of these infrastructure projects on regional dynamics.

F. Economic challenges and opportunities within the Turkic World

Looking at the economy in the Turkic World shows a mix of problems and chances that greatly affect the area. A major problem is the dependence on energy exports, especially for countries like Azerbaijan. Even with its rich natural resources, Azerbaijan deals with market changes and geopolitical issues that may upset its economy. However, this reliance also opens the door for economic growth, highlighted by projects like the Middle Corridor trade route, which seeks to improve connections and encourage trade between Asia and Europe (Riina Palu et al., 2023). Additionally, the rise of small traders, as noted in research, helps create informal networks that might shield against economic slumps by enabling cross-border trade and cultural sharing (Магнус Марсден, 2021). Therefore, while the Turkic World faces considerable economic problems, it also has the chance to gain from strategic plans and local business efforts that can stimulate growth. Understanding these factors is crucial to grasping Azerbaijan's key role in shaping the area's economic future.

III. Cultural Dimensions of Azerbaijan in the Turkic World

Azerbaijan's cultural setting is a mix that shows its historical connections and common identity in the Turkic world. Central to this cultural aspect is Azerbaijanism, which represents a distinct national identity while also highlighting the cultural and historical ties with other Turkic countries. This identity is shaped by a combination of Turkic background and the influences of the region's troubled past, as seen in Azerbaijan's art, literature, and music. Additionally, as (Ayça Ergun, 2021) points out, the discussions on nationalism and identity have been shaped by the ideas of Azerbaijanism and Turkism, stressing a dedication to multiculturalism and local cooperation. This complex relationship emphasizes Azerbaijan's role as a connector in the Turkic world, encouraging unity and cultural sharing. As a result, as Azerbaijan

enhances its cultural ties, it reaffirms its important role in supporting Turkic unity in a complicated geopolitical environment. An example of this cultural unity can be seen in , which shows the links between Turkic states through their flags, highlighting the common cultural heritage that connects these nations.

Image2. Map of Turkey with flags of Turkic countries

A. Historical and cultural ties among Turkic peoples

The connections among Turkic peoples are based on a shared past that includes language, culture, and traditions, which creates a strong identity for them. In the past, areas where Turkic groups lived showed similar political and social systems, shaped by migration and the rise of empires like the Seljuks and Ottomans. These empires encouraged cultural sharing that enhanced the arts, music, and literature in Turkic societies, as reflected in the respect for common authors and folklore. Furthermore, groups like the Organization of Turkic States show modern attempts to bring these historical links into today's political and economic contexts, aiming for unity and cooperation among member countries. Recognizing the importance of these cultural and historical bonds, especially regarding Azerbaijan's role, demonstrates how past stories influence current partnerships and geopolitical plans in the Turkic region (Emin Şihaliyev, 2023)(2022). This connection is visually shown in a piece that features the flags of Turkic nations, representing their shared identity and goals for working together.

B. The role of language and literature in cultural exchange

Language and literature are important for exchanging culture, enabling conversations, and building understanding between different peoples. Looking at Azerbaijan and its links with the Turkic world, the diverse range of Turkic languages and common literary traditions shows a deep connection that goes beyond borders. The Organization of Turkic States

(OTS) emphasizes this bond by supporting programs that lead to cultural partnerships celebrating language and art. One example is the growth of Turkic literature, which not only showcases similar historical stories but also strengthens the sense of identity among member countries. Additionally, the creation of cooperation organizations, as noted in (Fırat Yaldız, 2023), makes it easier to share language and literature resources, enhancing the cultural landscape of the area. Therefore, the importance of language and literature in this context is not just academic; it promotes unity and enriches the cultural identity of Turkic nations in a more connected world.

C. Azerbaijan's contributions to Turkic arts and music

Azerbaijan is a lively center for Turkic arts and music, showing the rich culture of the Turkic world. Its deep historical background is seen in the lasting traditions of Mugham, a detailed type of folk music known for its emotional richness and improvisation. This music style not only shows Azerbaijani identity but also connects with wider Turkic cultural traditions, showing the links among Turkic nations. The government and international groups like UNESCO have worked hard to keep and support these music traditions, strengthening national identity and promoting cultural exchange within the Turkic region. As pointed out by Lucas's study of Middle Eastern music history, the story of Azerbaijani music goes against the idea of unchanging heritage, showing its lively growth influenced by social and political changes ((Lucas et al.)). By recognizing these artistic works, Azerbaijan is essential in maintaining unity and leadership in Turkic cultural activities. Also, the image showing the flags of Turkic countries illustrates this unity in shared cultural traditions, highlighting Azerbaijan's important role in the Turkic arts scene.

D. Preservation of cultural heritage and identity

Azerbaijan faces the ongoing issue of keeping its cultural heritage and identity, which is closely tied to its place in the Turkic world. The Manas epos is a key part of Turkic culture and plays a big role in Azerbaijan's pursuit of a strong national identity and in boosting its cultural tourism (Bakieva et al., 2006). Additionally, the connection between historical stories and current political situations emphasizes the need to strengthen cultural bonds among Turkic nations. Research into Turkey's relations with Central Asian countries shows that social and cultural links greatly affect diplomatic and economic alliances (Akkoyunlu et al., 2008). This relationship is not just a political strategy; it reflects a rich history that

continues to influence modern identities. By promoting its cultural heritage, Azerbaijan respects its history while also building a common future with its Turkic neighbors, contributing to regional unity and cultural strength in a complicated geopolitical environment. A map of the Organization of Turkic States helps illustrate these connections and shows a shared acknowledgment of cultural heritage that supports these preservation efforts.

E.   Educational initiatives promoting Turkic culture

Education efforts that focus on Turkic culture are important for bringing Turkic nations together and boosting cultural identity. These programs usually include teaching languages, traditional art, and history that highlight common heritage and values of Turkic people. For example, the Turkish government has been involved in cultural exchanges and educational partnerships with countries like Azerbaijan and Uzbekistan, which shows their connections and shared goals globally. In this way, Azerbaijan's focus on maintaining its well-known carpet-weaving tradition, mentioned in (Boggs et al., 2021), highlights the lively parts of Turkic culture that these educational programs want to showcase. These programs not only enhance the culture of the region but also help Turkic countries establish a stronger presence internationally, promoting shared identity and unity in a changing geopolitical environment. The map showing the structures of the Organization of Turkic States, as seen in [extractedKnowledgeX], further demonstrates the goals and scope of these educational initiatives, representing a system designed to strengthen cultural bonds.

Image3. Map of the Organization of Turkic States (OTS) highlighting member and observer states.

F.   The impact of globalization on Azerbaijani culture

Globalization has changed Azerbaijani culture a lot, causing a mix of old values and new influences. The arrival of foreign ideas and customs has altered how culture is shown, with modern music styles blending with traditional Azerbaijani tunes. This produces a special cultural interaction that shows both local history and global trends. This change is clear in cities like Baku, where globalization has boosted a lively arts scene that draws international interest, using various influences while also refreshing local traditions. Additionally, as Azerbaijan aligns itself with the Turkic world, cultural exchanges grow due to increasing regional cooperation, which strengthens shared identities and experiences among Turkic nations (Basira Mir-Makhamad et al., 2021). However, the risk of losing traditional practices shows that it's important to carefully manage this cultural situation to keep real Azerbaijani culture alive during these changes (Buğra Güngör, 2021).

IV. Social Dimensions of Azerbaijan in the Turkic World

Azerbaijan's part in the Turkic world goes beyond just political and economic relations; it shows a lively mix of social aspects that promote cultural unity and identity. The idea of Azerbaijanism, explained by political leaders like M.A. Rasulzadeh, has played a key role in forming national awareness and unity among Turkic nations, coming at a time when Azerbaijanis aimed to assert their own cultural identity away from Russian influences (Sevda Sulaymanova, 2024). This national effort not only points to a shared Turkic background but also highlights the importance of working together on cultural projects, especially in education and media that support Turkic languages and literatures. Furthermore, the strengthening of relationships through social programs, like student exchanges and cultural festivals among Turkic countries, shows a dedication to mutual understanding and common values (Lilit Mayilyan). By fostering these social connections, Azerbaijan not only reinforces its role in the Turkic world but also aids in the larger story of cultural blending in a quickly changing geopolitical environment.

A.   Demographic trends and their implications

Demographic trends in Azerbaijan show important effects on its position in the Turkic world, especially as connections between Turkic-speaking countries grow. The population, mainly young, brings both chances and challenges in using human resources for economic growth and cultural sharing. Recent studies, especially the historical insights from M.A. Rasulzadeh, highlight how Azerbaijanism and a separate national

identity formed during a crucial time that influenced modern social and political feelings ((Sevda Sulaymanova, 2024)). At the same time, economic studies reveal a weak link between GDP growth and gender inequality, indicating a need for more inclusive strategies to empower all genders ((Volkan Işık, 2024)). Thus, tackling demographic shifts — such as gender dynamics and age distribution — is critical for Azerbaijan as it aims to boost its geopolitical position and strengthen cultural connections with other Turkic nations, promoting a unified regional identity. The map of Turkic nations clearly shows this linking, highlighting how demographic issues can affect wider political goals and cultural ties in the area.

Year	Population	Urban Population (%)	Population Growth Rate (%)	Fertility Rate (Children per Woman)
2020	10139177	53.8	1.1	2.1
2021	10139177	54.1	1.1	2
2022	10139177	54.3	1	1.9
2023	10180000	54.5	0.9	1.8

Azerbaijan Demographic Trends and Implications

B. Migration patterns within the Turkic World

Migration patterns in the Turkic World, both past and present, show how social and political factors affect people moving across borders. The end of the Soviet Union led to major changes in the demographics of the region; new Turkic states faced both outward and inward migration as people looked for jobs or returned to their homeland. For example, Azerbaijan, an important energy center, saw many Azerbaijani expatriates coming from Russia and Iran, eager to reconnect with their heritage while searching for better opportunities. Additionally, the historical connections among Turkic groups—highlighted by common language and culture—promote migration within the region, as families often keep ties across borders. Previous studies indicate that these movements impact national identity and economic relationships, increasing a sense of Turkic unity, which is vital for political and economic security in the area ((Alfred J. Rieber, 2014)). The current talks about pan-Turkic cooperation and the bonds created by migration are likely to influence future relations among Turkic countries, underlining Azerbaijan's key role in this changing situation ((Oana Borcan et al., 2017)). To represent these dynamics

and their political meanings, serves as a key study of cultural connections and migration stories in the Turkic region.

C. Social integration and community building

When looking at how social integration and community building work, it is clear that mutual recognition and shared identity among the Turkic nations are very important for creating strong societies. Azerbaijan's efforts to improve ties with other Turkic countries show an understanding of how cultural exchanges and partnerships help these communities connect. These efforts not only boost political relationships but also build social unity, evident through joint events and diplomatic efforts that honor their shared heritage. The development of groups like the Organization of Turkic States demonstrates this growing sense of collective awareness, allowing nations to deal with current issues together (Seçkin Köstem, 2016). As these countries work toward unity, they operate within a system that supports soft power and public diplomacy, which helps maintain their national identities while highlighting regional ties (Bahar Başer et al., 2020). In conclusion, social integration in this context shows the sensitive balance between shared history and modern governance, with Azerbaijan as a key player in the Turkic region. Furthermore, it showcases the flags of Turkic countries, representing this growing feeling of unity and purpose.

D. Role of civil society in fostering Turkic connections

In promoting ties among Turkic nations, civil society plays an important role, linking government actions with grassroots efforts. Groups that focus on cultural sharing and economic cooperation have come up, nurturing a sense of common identity and shared goals among Turkic people. For example, the Organization of Turkic States has helped create discussions among different civil society groups, which improves understanding and teamwork (cite64). This involvement is crucial for dealing with past issues and encouraging integration. This is evident in many cultural events and educational initiatives that showcase Turkic culture. Additionally, by focusing on building connections across regions, small traders and entrepreneurs have become key players in driving change, showcasing the dynamic traditions and economic strengths of their communities. Therefore, civil society not only encourages cultural connections but also establishes the foundation for ongoing economic partnerships among Turkic states, underlining Azerbaijan's key role as a unifying element in the area.

Image4. Flags of Turkic States with Accompanying Commentaries

E. Youth engagement and cultural diplomacy

In today's talks, talking between generations is very important for cultural diplomacy, especially in Turkic countries, where young people getting involved is key for teamwork. Helping young leaders through networks and platforms makes it easier for them to talk about common cultural backgrounds and political goals, which aids understanding between different groups. Additionally, programs aimed at getting youths involved raise awareness of cultural differences, strengthening connections between Turkic countries like Azerbaijan, Türkiye, and the Central Asian states. These efforts matter a lot because they help rethink historical stories, allowing for open discussions that go beyond previous conflicts ((Redaksiyanın Ünvanı et al., 2023)). The active relationship between culture and diplomacy not only helps maintain unique identities but also builds a feeling of togetherness among Turkic youth. By involving this age group in cultural exchanges and discussions, Azerbaijan can play a crucial role in fostering regional cooperation and peace within the Turkic area, highlighted through strategic engagement efforts ().

F. Challenges of social cohesion in a diverse region

Working through the complex situation of social unity in a diverse area like Azerbaijan, where many ethnic and cultural groups meet, brings many difficulties. The many identities—such as Moldovans, Gagauz,

Bulgarians, and Ukrainians, mentioned in recent studies—often result in competition instead of working together among the communities, making it hard to form a shared national identity (Dauro M. Zocchi et al., 2024). This division is worsened by past conflicts and different social and political goals, leading to breaks in community ties. Also, the growing role of media messages that highlight divisions can further skew views and create mistrust among ethnic groups. For example, the political map showing tensions in Nagorno-Karabakh demonstrates how land disputes can damage the sense of unity needed for social cohesion. Therefore, efforts aimed at encouraging discussion and understanding among these different groups are essential to creating a more peaceful society, making sure the possible advantages of diversity are acknowledged instead of pushed away.

Image5. Map illustrating the territorial disputes in Nagorno-Karabakh and surrounding regions.

V. Conclusion

The complex mix of Azerbaijan's political, economic, and cultural aspects in the Turkic world has brought forth important chances and difficulties in promoting regional togetherness and teamwork. The Organization of Turkic States (OTS) shows this growing partnership, with Azerbaijan standing out as an important player, especially after its historical fights and diplomatic ties with neighboring Turkic countries (Fırat Yaldız, 2023). Even though progress has been made, there are still challenges, especially in managing the

power dynamics among member states. Recent global events, like the ongoing consequences of the Ukraine conflict on energy routes and logistics, highlight how Azerbaijan's strategic location boosts its role as a key point for trade and energy links. Therefore, Azerbaijan's various contributions fit well within the larger Turkic identity, influencing not just its own national story but also the future vision for unity and cooperation in the area—an outlook that emphasizes collective strength against outside pressures. Looking into Azerbaijan's role in this context provides essential insights into the relationships that shape the Turkic world today.

A. Summary of key findings

Azerbaijan plays many roles in the Turkic world, impacting politics, economy, and culture in the area. The study shows that Azerbaijan acts as a key part of Turkic unity, promoting teamwork among member countries through groups like the Organization of Turkic States, which has improved relations and economic partnerships among these nations ((KOUHI-ESFAHANI et al., 2016)). Also, Azerbaijan's key location makes it vital for trade and energy, especially through the Lapis Lazuli Corridor, which links Central and South Asia. Furthermore, the research shows that Azerbaijan's cultural efforts help create a shared identity, leading to better understanding in Turkic communities. In conclusion, these linked aspects highlight Azerbaijan's crucial role in developing Turkic unity and political harmony in a more complicated global setting.

B. Implications for Azerbaijan's future role in the Turkic World

Azerbaijan's future role in the Turkic World will likely change a lot, influenced by its political and economic plans, as well as its cultural efforts. Located at the meeting point of Europe and Asia, Azerbaijan has used its geographic position to improve connections in the region, especially through projects like the Trans-Anatolian Natural Gas Pipeline, which makes it easier to send Azerbaijani energy to Europe. This move not only boosts Azerbaijan's economy but also highlights its significance in energy security for Turkic nations. According to (2022), the location of these countries is quite favorable, pointing out Azerbaijan's potential in re-establishing old trade routes. Additionally, a focus on working together among Turkic states might strengthen Azerbaijan's cultural relationships and political partnerships, making it a unifying force in the larger Turkic area. The changing nature of the Organization of Turkic States, especially its push for closer ties, indicates that Azerbaijan could become a key player in shaping the shared future of Turkic identity and collaboration.

C. Recommendations for policy and cooperation

Coordinating policies among Turkic countries is important for improving regional cooperation and solving shared problems. One useful method involves creating government frameworks that support trade and investment, which helps economic unity. A key part of this plan is to bring back old trade paths, like the Lapis Lazuli Corridor, which can greatly improve connections between member nations. Also, matching policies with the strategic goals set in summit declarations from the Turkic Council can provide a straightforward guide for reaching common targets. For instance, focusing on cultural unity and political conversation, as stated by Heydar Aliyev, should be crucial for diplomatic efforts that aim to foster trust and partnership (Baha Ahmet Yilmaz et al., 2024). Moreover, tackling infrastructure issues through joint investments will improve logistics and market access, strengthening the trade links necessary for a united Turkic community (2022). Putting these strategies first will create long-lasting policy systems that promote cooperation within the Turkic region.

Image6. Map of the Lapis Lazuli Corridor: A Key Trade Route in Central and South Asia

D. Reflection on the importance of cultural and political ties

The links between culture and politics are important in shaping international relations, especially in the Turkic world. This connection builds solidarity and unity among countries with shared languages, histories, and cultures. For Azerbaijan, these connections are key to improving its geopolitical status and promoting cooperation in areas like trade and se-

curity. The recent strengthening of Turkic unity, shown through initiatives like the Organization of Turkic States, shows how cultural and political partnerships can affect regional stability and cooperation. Additionally, the past events, such as the Second Karabakh War, highlight these associations' importance; Azerbaijan's victory boosted its position as a leader in the Turkic community (Abdurahmanzadə et al., 2023). Thus, combining cultural heritage with strategic political efforts not only bolsters national identity but also plays a vital role in the bigger geopolitical picture (Binnatli et al., 2023). The selected image best supporting this idea is , which visually represents the political connections among Turkic nations and their geographic importance. This aids the conversation on how Azerbaijan's cultural and political ties in the Turkic world are essential to its strategic goals and influence in the region.

E. Future research directions

Looking into future research directions regarding Azerbaijan's position in the Turkic world needs a varied approach that includes political, economic, and cultural aspects. Researchers should think about making comparisons between Azerbaijan's connections with other Turkic countries, especially given recent changes in regional cooperation, like those emphasized by the Organization of Turkic States (OTS). Studies could explore how Azerbaijan's economic policies affect the overall economic integration of Turkic nations and examine how cultural exchanges help create a shared Turkic identity despite geopolitical issues. Also, it is crucial to understand how outside influences impact these relationships. This research connects with earlier studies that recognize both friendship and conflict in regional settings (KOUHI-ESFAHANI et al., 2016)(Oskanian et al., 2010). In the end, understanding Azerbaijan's strategic actions and their effects on Turkic unity will be important for future research in this changing geopolitical situation. This context highlights the changing role of Azerbaijan in the wider framework of Turkic unity.

Image7. Commentary on Azerbaijan and Turkic Unity in International Relations

F. Final thoughts on Azerbaijan's influence in the Turkic World

Azerbaijan's key part in the Turkic world comes not just from where it is located but also from its active role in building cultural and political connections between Turkic countries. The nation's foreign policy, especially via groups like the Organization of Turkic States, shows a clear aim to encourage unity and shared growth among its members. This is highlighted by recent events like the Shusha Declaration, which represents a commitment to joint security and success within the Turkic community. Additionally, Azerbaijan's economic plans, mainly through major investments in vital projects like the Lapis Lazuli Corridor, improve regional links and trade. These efforts not only boost Azerbaijan's standing in the Turkic area but also broaden the economic environment, connecting Central and South Asia more closely. In the end, Azerbaijan is a key player in Turkic unity, bringing hope for a more connected future in the region, as noted by [citeX].

Image8. Map of Member and Observer States in a Regional Organization

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CHAPTER 14

Artificial Neural Networks (ANNs) and Use Examples

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1.INTRODUCTION

Today, technology is rapidly developing. One of these developments is experienced in artificial neural networks (ANNs) technology. Inspired by the way the human brain works, this technology represents an algorithmic structure with complex problem-solving and learning capabilities. ANNs offer more effective solutions than traditional methods in a wide variety of problems such as data analysis, prediction, classification and pattern recognition. Especially in the age of big data, the advantages provided by ANNs offer a wide range of applications from businesses to the healthcare sector, from engineering to social media.

ANNs exhibit the ability to learn, remember and adapt to new situations by working with a model that mimics the biological nervous system. These algorithms process information through the weights between neurons and connections and derive meaningful results from the input data. ANNs are a fundamental branch of machine learning technology. ANNs, which are effectively used in areas such as image processing, natural language processing and voice recognition, are becoming more important with the development of these technologies.

In this study, the historical development of artificial neural networks, their basic structure, their operating mechanism and their areas of use are discussed. In addition, examples of the use of neural networks in different sectors are examined. Thus, it is aimed to develop an understanding of both the theoretical basis and practical reflections of this technology.

2. HISTORICAL DEVELOPMENT OF ANN

Artificial Neural Networks (ANNs) emerged in the 1940s with the first theoretical studies aimed at imitating the functioning of the human brain. Walter Pitts and Warren McCulloch developed the first artificial neuron model in 1943. In this model, the aim was to explain the behaviors exhibited by nerve cells with a mathematical system. First, the information processing process was initiated by establishing connections between neurons. Although it was not a very comprehensive model, this structure was an important step for the future of artificial neural networks (McCulloch & Pitts, 1943).

In the 1960s, theoretical studies were carried out for more advanced ANNs. In 1969, Minsky and Papert emphasized the limited aspects of artificial neural networks and stated that single-layer perceptrons were not successful in complex problems. Although these criticisms caused the interest in artificial neural networks to decrease for a while, they paved the way for the development of

multilayer neural networks and became an important guide in the coming years (Öztemel, 2016).

In the late 1980s, ANNs gained popularity again and the developed backpropagation algorithm enabled the training of neural networks. This algorithm provided an opportunity for artificial neural networks to learn effectively with multilayer structures. Thus, ANNs gained the ability to work with more complex data sets and could be used in areas such as image processing and voice recognition (Rumelhart et al., 1986).

In the 1990s, ANNs found a wide range of applications. The developed Convolutional Neural Networks (CNN) algorithm created a major innovation in the field of image recognition. During this period, ANNs have begun to be applied practically in many sectors such as finance, health, automotive and industrial engineering, in addition to academic studies (LeCun et al., 2015).

Today, the widespread use of deep learning methods with developing technology has brought ANNs to an important role in processing large data sets and complex learning processes. Deep learning, which is performed using multi-layered neural networks, allows for high-accuracy predictions to be made on large data by imitating human-like learning processes (Goodfellow et al., 2016).

3. WHAT IS ANNs?

Artificial Neural Networks (ANNs) are computational structures that mimic the functioning of the human brain. They consist of a series of artificial neurons inspired by the functions of biological neurons. Each artificial neuron receives a specific input signal, processes it, and produces an output signal. The weights of the connections between neurons are important elements that determine the learning capacity and accuracy of the relevant network. ANNs are effective systems that can perform complex tasks such as analyzing big data, pattern recognition, clustering, and prediction (Haykin, 1998).

An ANN usually consists of three main components. These are; input layer, hidden layers, and output layer. The input layer is the first section that transmits unprocessed data to the network. This data is processed in the second section, the hidden layer, and the learning and analysis processes are carried out. The last section, the output layer, produces a usable result by using the learned information. Thanks to these structures, ANNs can create models from the available data, learn rules about them, and make predictions about new situations (Gupta, 2013).

In ANNs, each artificial neuron processes the information it receives and produces an output. This process is usually carried out through a non-linear mathematical function. The learning process progresses by updating the weights of the connections, and thus it can learn complex relationships in the data, recognize patterns, and make predictions (Emmert-Streib et al., 2020).

The learning ability of ANNs is increased by two basic methods: supervised learning and unsupervised learning. If the network is trained with labeled data sets and learns a specific target, supervised learning occurs, if the data is unlabeled and the network tries to discover hidden patterns in the data on its own, unsupervised learning occurs. These approaches allow ANNs to find a wide range of application areas (Yegnanarayana, 2009).

Today, ANNs are widely used in artificial intelligence fields such as machine learning and deep learning due to their ability to process large data sets. These are effectively applied in different fields such as image and sound recognition, natural language processing, autonomous vehicles and games. Deep learning methods have increased the rapid progress of ANNs today, as they allow ANNs to perform more complex analyses with multi-layered structures (Goodfellow et al., 2016).

4.BIOLOGICAL AND ARTIFICIAL NERVE CELLS

Neurons, in other words biological nerve cells, are the basic components of the human brain and central nervous system. They are in constant interaction to process and transmit information (Yazıcı et al., 2007). A healthy human brain processes information in three main stages. These are; input of data, synthesis and comparison of it, and then output of information in the final stage. This entire process is carried out by a complex network structure formed between neurons. The structure of neurons consists of the cell body, dendrites, axons and synapses (Askabiologist, 2024).

The cell body in the neuron structure is the functional center of the neuron and the area where metabolic activities are regulated. Genetic information is also stored here. They have important tasks such as producing energy and synthesizing proteins (Yazıcı et al., 2007). The task of dendrites is to transmit signals from neurons to the cell body. Afterwards, axons carry these signals to other neurons. Finally, synapses located at the ends of axons provide the transmission of signals between neurons via chemical neurotransmitters (Askabiologist, 2024).

In the design of ANNs, these features found in the structure of biological nerve cells were inspired (Gustineli, 2022). In other words, ANNs imitate the

information processing styles of biological neurons with a mathematical model. Artificial neurons that imitate electrical and chemical processes process numerical data and produce outputs (Haykin, 1998). Therefore, these cells are based on the working system of collecting, weighting and transforming inputs with activation functions (Öztemel, 2016).

As in a biological neuron, ANNs generally consist of an input layer, hidden layers and output layers. As in a biological neuron, while data received from the outside world is transmitted to the network in the input layer, hidden layers are the sections where the data is processed and analyzed. The output layer produces the final response of the network (Kim, 2017). On the other hand, in ANNs, many components of biological systems are taken as models. For example, while the axon of a biological neuron corresponds to the output of an artificial neuron; synapses are represented as weights in artificial networks. The function of dendrites to receive signals from other neurons is provided by the summation function (Eğrioğlu, 2009).

These similarities between biological and artificial neural networks have enabled artificial neural networks to be used effectively in complex tasks such as learning, pattern recognition and problem solving (Goodfellow et al., 2016). For this reason, artificial neural networks have become a powerful tool in many areas such as image processing, natural language processing, prediction and classification (Çelik, 2008).

5. ADVANTAGES AND DISADVANTAGES OF ANNs

ANNs have the ability to reveal patterns and meanings that cannot be detected by the human eye or traditional computer methods from large and raw data. Some of their features (Maind and Wankar, 2014):

• Adaptability: Artificial Neural Networks can learn from initial data and improve their tasks over time.

• Self-Organization: Using the information it acquires during the training process, the network can create its own structure and organization.

• Real-Time Processing: Artificial neural networks that can perform parallel calculations can be made more effective with special hardware thanks to this feature.

• Pattern Recognition: It allows deeper meanings to be derived by recognizing and generalizing patterns in data.

• Flexibility and Adaptation: Artificial Neural Networks can offer opportunities for various tasks since they work based on learning.

• Adaptability to Variable Environments: Artificial neural networks, which are flexible to environmental changes, can quickly adapt to changes in the data set.

• Complex Modeling Capability: It can more easily model complex data sets that other traditional methods have difficulty with.

• High Performance: Artificial Neural Networks generally perform better than traditional statistical models and create models that are more suitable for the structure of the data.

Unlike traditional computers, ANNs have more advanced capabilities in problem solving. While traditional computers solve a problem by following certain steps, ANNs learn from examples, similar to the human brain. In addition to many advantages, it also has some disadvantages. For example, due to the operation of the network and learning the solution to the problem, this process can be difficult for the researcher to predict exactly (Maind and Wankar, 2014).

6. STRUCTURE AND BASIC COMPONENTS OF ANNs

ANNs process and learn raw data and produce results from them. These networks acquire information through learning processes and store this information with synaptic weights (Haykin, 1998). ANNs work through a learning algorithm in which the weights are arranged (Gupta, 2013). They usually consist of three main layers. These are; input layer, hidden layers and output layer.

• Input Layer: This layer represents the data that the network receives from the outside world. Each neuron represents a data feature (Yıldız, 2001).

• Hidden Layers: It is located between the input and output layers and provides data processing. There may be more than one hidden layer and this improves the learning of the network (Heaton, 2015).

• Output Layer: This is the layer where the outputs of the network are obtained. The number of neurons in the output layer may vary depending on the problem addressed (Kim, 2017).

When looking at the basic components of ANN as a process;

• Inputs: These are the data coming from outside to ANN and no changes are made to them before they are transmitted to the input layer (Öztemel, 2016).

• Weights: They represent the strength of the connection between the inputs and the neurons in the network. These weights are adjusted during the learning process (Çakır, 2019).

• Summation Function: It affects the decision-making process by providing the sum of these values as a result of multiplying the inputs and the weights (Öztürk and Şahin, 2018).

• Activation Function: The collected values are processed with the activation function in the next step. This function allows a network to learn non-linear relationships (Godfrey, 2018).

• Output: In the last process, it is the output produced as a result of the processing of the network and is constantly updated (Epelbaum, 2017).

In addition, activation functions are the components that enable ANNs to learn non-linear relationships. It determines the output of each neuron and can be classified as follows:

• Sigmoid Function: It limits the output between 0 and 1. It causes difficulty in training in deep networks as it may experience gradient loss problem (Gustineli, 2022).

• Tanh Function: This function is an improved version of the Sigmoid function. It limits the output between -1 and 1. It offers better performance because it is zero-centered (Godfrey, 2018).

• ReLU (Rectified Linear Unit): This function provides direct output to positive inputs while zeroing out negative inputs. It reduces the gradient loss problem in deep networks (Gustineli, 2022).

7. LEARNING IN ANNs

The learning process of ANNs is usually carried out with the backpropagation algorithm. This algorithm starts by calculating the difference between the output of the network and the target value (i.e. the error). This error is propagated back to each layer of the network and the weights of each layer are updated according to the amount of error. This process enables the network to obtain more accurate results, making it possible to train multilayer networks effectively (Boué, 2018). The aim of training is to minimize the error function (Öztürk and Şahin, 2018). The training process is completed when the initial random weights become compatible with the outputs of the network, thus minimizing the error function (Öztemel, 2016).

ANNs can be divided into three main categories according to their learning types. These are; supervised learning, unsupervised learning and reinforcement learning (Gupta, 2013).

• Supervised Training: Here, the network is trained with external inputs and correct outputs. The error between the targeted outputs and the output produced by the network is updated with the backpropagation algorithm.

• Unsupervised Training: The network discovers possible relationships by analyzing the inputs given to it without correct outputs. This method is generally used in tasks such as pattern recognition.

• Reinforcement Learning; In this type, the behavior of the network is controlled by a control system and the weights are determined according to this system. This type of learning is different from supervised learning because there is no input and output mapping.

Each neuron in the ANN has an activation function that determines the data output. The activation function allows the neurons to work non-linearly and also allows complex relationships to be learned (Godfrey, 2018). Choosing the right activation function directly affects the accuracy and learning speed of the network. In other words, choosing the appropriate function for each layer ensures that the relevant network works more effectively. During the ANN training process, the weights of the network are updated at each iteration and the error rate is tried to be minimized (Epelbaum, 2017).

However, there are some learning rules that these networks use. The Hebb rule is based on the understanding that when a neuron is active, other connected neurons become active. On the other hand, with the Hopfield rule, when two neurons are active or passive at the same time, the connection between them is strengthened or weakened according to the learning coefficient. The Delta rule focuses on minimizing the difference between the produced outputs and the expected values. Finally, in the Kohenen rule, the neuron that produces the most appropriate output is selected as the winner and the learning process is carried out by changing the connection weights between this neuron and its neighbors (Öztemel, 2016).

8. ANNs ARCHITECTURES

ANNs are an effective tool that forms the basis of many artificial intelligence applications used today. ANNs offer the ability to generalize on previously unencountered data by abstracting data through hidden layers. These features make them effective solutions for large data sets and complex problems (Öztemel, 2016).In addition, different types of ANNs differ according to the structure and operation of the network. Among these types, models such as Feed Forward Networks, Multilayer Feed Forward Networks and Recurrent Networks stand out. Each model has a different network structure optimized for specific problems (Gupta, 2013).

Feed Forward Networks: Feed forward networks consist of neural networks with simple structural features. In these networks, information flows in only one direction, from the input layer to the output layer. Since there is no backward flow in this model, these structures work simpler and faster. In addition, since they cannot go back, their ability to make decisions by considering past data may be limited. Such networks are more effective for modeling and classifying linear relationships and are mostly used in basic classification tasks (Haykin, 1998).

Multilayer Feed Forward Networks: In multilayer feed forward networks, more than one hidden layer is used. Thus, more complex relationships can be learned. These layers process the data at a more abstract level and allow the network to learn more complex functions. In order to achieve high efficiency in this model, it is necessary to work with large data sets. Each layer in this model increases the learning capacity of the network and enables it to be successful in more difficult tasks (Haykin, 1998).

Recurrent Networks: Recurrent networks are designed to work with time series or sequential data. These networks can use past information in their memory and use it in future predictions. The outputs depend not only on the current input but also on the output of previous steps. With these features, they show strong performance in areas such as language processing and financial data analysis. However, traditional recurrent networks may have difficulty learning long-term dependencies. Advanced models such as LSTM (Long Short-Term Memory) and GRU (Closed-Term Neural Networks) have been developed to solve this problem and have increased the performance of the networks (Cherian et al., 2018; Çayıroğlu, 2019).

9. REAL WORLD USE EXAMPLES OF ANNs

The areas of use of neural networks are rapidly expanding. For example, Google Translate uses neural networks to automatically translate text in images. Thanks to this technology, when a photo of a street sign or a handwritten note is taken, the text is scanned and translated quickly and accurately. In addition, IBM Watson used neural networks to create personalized summaries according to users' preferences at the Masters golf tournament. Thus, it improved the user experience by allowing viewers to watch only the moments that interest them in a spoiler-free mode.

Neural networks are also frequently used in the healthcare field. IBM Watson developed individualized treatment recommendations by comparing the laboratory results of cancer patients with genetic tests and a large research library. These analyses greatly reduce the time spent by healthcare professionals and provide fast results. In addition, applications such as SkinVision offer neural network-based solutions that perform early diagnosis of skin cancer through photo analysis, thus supporting innovations in the healthcare field.

Neural networks also play an important role in many other sectors. For example, Tesla uses neural networks to optimize image processing and environmental analysis processes in the development of autonomous vehicles. In another example, Facebook uses artificial neural network technologies in areas such as analyzing user behavior, making content recommendations, and facial recognition systems. With these applications, social media platforms contribute to improving the experience of their users. Neural networks are also used in the entertainment and retail sectors. While Netflix uses neural networks to develop content recommendations in line with user preferences, Amazon uses this technology to analyze customer behavior, optimize logistics processes, and develop voice assistants such as Alexa. All of these applications allow companies to make more efficient, faster, and more accurate decisions in many sectors, from engineering to health, from finance to entertainment.

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CHAPTER 15

Digital Sustainability Practices of Global Businesses in the Context of the Circular Economy

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INTRODUCTION

The Industrial Revolution has gone through four stages to the present day. Although each stage is considered a unique or separate event, the Industrial Revolution as a whole is a series of events that built on the innovations of the previous revolution and gave rise to more advanced forms of production (Xu et al., 2018). In the early 18th century, economies were based on agriculture and handicrafts. With the invention of steam engines, the economy shifted to a market structure dominated by factories where mechanized production was carried out. This has been defined as the First Industrial Revolution. The Second Industrial Revolution, which took place in the late 19th century, saw major technological advances such as electrification, mass production, and new transportation methods (Colombo et al., 2021). The Third Industrial Revolution or the Digital Revolution, which describes the transition from analog electronic and mechanical technology to digital technology, began in the 1980s (Bajpai & Srivastava, 2023). The Third Industrial Revolution is characterized by green economy, network energy, and various socio-economic outcomes (Колин, 2021); economic development, business models in all industries, business operations, ways of doing business, technological innovations and the form of consumer services have begun to transform (Sharma & Shanmugaboopathi, 2022; Shiva & Khatri, 2023). The first three Industrial Revolutions have radically changed global production processes and balances of power through mechanization, technological innovations and digitalization, respectively, since the 18th century. It can be argued that the countries that prioritized these revolutions have become leaders. For example, England, which pioneered industrialization with the First Industrial Revolution, controlled the world order through colonization and became a hegemonic power in global trade and industry, strengthened its position by remaining at the center of technological innovations in the Second Industrial Revolution. The Third Industrial Revolution started in the USA; and the Fourth Industrial Revolution started in Asian countries such as China, South Korea and Singapore in the 21st century (Levente & Péter, 2023).

It is argued that today's economy and businesses are in the early stages of the Second Digital Revolution. It is claimed that the Second Digital Revolution will lead to the digitization of physical goods through desktop 3D printers, the expansion of consumer roles, and the challenge of consumers to the dominance of businesses (Rindfleisch, 2020). Andriole (2005), who approaches technology and business from a holistic perspective, emphasizes that these two elements should be considered together, how technologies and business models are combined, and that the Second Digital Revolution symbolizes the transition from

tactical information technology to strategic information technology in the business world.

The Concept and Scope of Digital Transformation

The concept of DT, which was introduced in 2000, has rapidly gained popularity in both industries and academia after 2014 (Van Veldhoven & Vanthienen, 2022). DT does not only concern digital start-ups, innovative businesses and high-tech giants such as Airbnb, Uber and Spotify; it covers businesses of all sizes in various sectors that want to use innovative business models based on advanced technologies (Bresciani et al., 2021).

DT is a continuous process that enables advanced information, automation, production techniques and optimization in all sectors or industries, including the public sector, private sector, etc. (Gray & Rumpe, 2017); It is a type of change that meets the adaptation and strategic renewal needs of businesses; It refers to the integration and use of digital technologies into organizations in order to radically change business models, operational processes and customer experiences (Warner & Wäger, 2019; Gong & Ribiere, 2021; Vial, 2021). In this context, the use of digital technologies such as smart facilities, cloud computing, the internet of things (IoT), autonomous systems and artificial intelligence (AI) has become increasingly widespread in businesses recently (Helbing & Hausladen, 2022). It is stated that both businesses and human resources are forced towards this transformation, as adapting to new techno-economic paradigms requires redefining systems and acquiring new mindsets and skills, beyond purchasing technology (Bojanova, 2014).

DT in businesses continues rapidly. Van Veldhoven & Vanthienen (2022) defined the common and major changes that have occurred in industries and sectors over time due to the effects of digital technologies and the digitalized society as the "business axis". These changes have been evaluated in five categories: (1) digitization or automation of internal business processes and isolated activities, (2) digitization of the connection between different business processes, customers, systems or suppliers, (3) digitization of products and services, (4) creation of more agile and innovative organizational structures with the effect of digital innovation, (5) development of new business models.

Although great progress has been made in many sectors, DT applications are still not sufficient and satisfactory. Difficulties such as regional digital inequality, workforce adaptation, sustainability of systems and data security in terms of the effectiveness of applications reduce the expected efficiency of DT. DT is still limited to implementing technology in many businesses; impressive results

cannot be achieved because it cannot be integrated with business strategies and culture (Schallmo et al., 2017; Reis et al., 2018; Vial, 2021). Digital sustainability in the business world emerges from the existence of ongoing DT. Managers and entrepreneurs aiming for digital sustainability should follow new multidigital tools and digital innovations, and choose and use the most appropriate ones among these technologies (Hıdıroğlu, 2022).

Within the framework of sustainability, digitalization and DT allow the adoption of sustainable business strategies, sustainable production cycle, energy saving, material recycling, development of sustainable products and solutions, promotion of innovation and entrepreneurship, strengthening the connection between the value chain, products, factories and customers, and thus increasing market share (Cricelli & Strazzullo, 2021; Rosário & Dias, 2023).

The Impacts of Digital Transformation on Environmental Sustainability

The concept of sustainability began to be associated with environmental concerns in the early 1980s and began to be used in its current meaning (Bradley, 2007); it was defined in the 1987 Brundtland Report as "meeting the needs of the present generation without ignoring the needs of future generations" (Stuermer, 2014). Sustainability consists of environmental, economic and social dimensions that interact with each other.

Environmental sustainability is a global issue that requires the cooperation of stakeholders such as individuals, businesses and governments, including activities such as preventing soil, water and air pollution; pollution control, preserving and reusing resources with renewable methods; reducing toxic substance use and waste production, water treatment, etc. (Elleuch et al., 2018; Asha et al., 2023). In recent years, many studies have focused on the connection between the environmental aspects of sustainability and Industry 4.0 technologies (Cricelli & Strazzullo, 2021).

Although DT has the potential to contribute to the environment, it has negative impacts on waste management, urban sustainability, pollution control and sustainable production:

- *Waste Management:* With the constant updating of digital devices and the transition to newer technologies, the amount of electronic waste (e-waste) containing chemicals harmful to the environment is rapidly increasing; waste management creates problems such as the difficulty and inadequacy of recycling (Geissdoerfer et al., 2017; Feroz et al., 2021). Less than 13% of the approximately 53.6 million tons of e-

waste generated globally in 2019 was recycled. The remaining waste was sent to landfills or incineration facilities due to the presence of hazardous substances. The United Nations Global E-Waste Report 2020 points out that many countries cannot adequately manage e-waste and that more efforts should be made for smarter and more sustainable e-waste management (Andeobu et al., 2021). For optimum sustainability, challenges such as e-waste, energy consumption and data protection should be addressed (Rosário & Dias, 2023). In developed countries, e-waste value recovery is carried out safely with advanced technologies in industrial central facilities; In developing countries, labor-intensive and environmentally harmful approaches are used (Ilankoon et al., 2018). In developed countries such as the USA and the UK, there are strict rules and regulations regarding e-waste management (Chatterjee & Abraham, 2017). The increase in e-waste production can be reduced by miniaturization and the development of more efficient cloud computing networks where computing services are provided over the Internet (Robinson, 2009: 183).

- *Urban Sustainability:* Urban resilience and sustainability in the face of environmental change are interrelated paradigms that emphasize social health and well-being. These two concepts need to be understood in order to combat the dangers of a rapidly urbanizing world (Zeng et al., 2022). In the context of sustainability, the potential benefits and challenges of urbanization need to be addressed with an interdisciplinary approach. Because cities host more than half of the world's population; account for approximately 80% of the world economy; cause more than 70% of global energy use and emissions (Seto et al., 2017); 90% of urban areas are located on coastlines; and the majority of the world's population is becoming more vulnerable to climate change (Elmqvist et al., 2019). Networked public administration and sustainable urbanism can play an important role in achieving the Sustainability Development Goals (SDGs) by making urban transformations sustainable and resilient. In this context, multifaceted sustainability and performance assessment, urban data infrastructure reveals the complex network structure in cities, affects decision-making processes related to resilience and contributes to a more equitable and sustainable urban development (Pera, 2020). Although sustainability and resilience are complementary concepts,

many sustainability goals contradict efforts to improve resilience (Elmqvist et al., 2019). For example, high data traffic and network infrastructure in smart cities that aim to provide energy efficiency can increase energy consumption and costs, making environmental sustainability goals difficult (Geissdoerfer et al., 2017; Feroz et al., 2021). Urban systems are expected to adapt to global changes such as climate change. Urban policy and implementation processes need to address these contradictions and new challenges (Elmqvist et al., 2019).

- *Sustainable Production:* Although DT and the use of digital technologies lead to efficiency in production processes, frequently renewed equipment and software systems can increase resource consumption and harm the achievement of sustainable production goals (Geissdoerfer et al., 2017; Feroz et al., 2021). Manufacturing enterprises, which contribute significantly to challenges such as marine pollution, air pollution, climate change, and social inequality against global sustainability, are responsible for environmental and social problems such as waste, greenhouse gases, etc. Despite warnings about the risk of ecosystem collapse due to this, enterprises have difficulty in making their production processes sustainable (Zarte et al., 2022). Unsustainable production and consumption activities in industrialized countries are considered the main cause of environmental damage. Sustainable development requires various changes in waste treatment, industrial processes, emission control, the types and quantities of inputs used in production, and the products themselves (Krajnc & Glavič, 2003). It is known that current methods in production planning focus on a single aspect of sustainability; It is emphasized that new technologies are needed to ensure environmental, economic and social sustainability of production processes; in this context, the use of fuzzy decision support systems can increase sustainability (Zarte et al., 2022). There are difficulties in measuring the sustainability level of enterprises. Since one of these is to determine which change directions are more sustainable, it is necessary to develop appropriate criteria (Krajnc & Glavič, 2003). Sustainable production has environmental, economic and social dimensions. However, the social dimension has received less attention compared to the economic dimension and is rarely taken into account in production planning. In particular, health and safety

aspects are given importance at certain levels in job rotation and assembly line balancing (Trost et al., 2022).

- *Pollution Control:* Digital technologies such as cloud computing, IoT, servers, data processing infrastructures, data centers can increase energy consumption and increase carbon footprint (Geissdoerfer et al., 2017; Feroz et al., 2021). Environmental and economic sustainability can be achieved with optimal pollution control. Optimal pollution control requires resources to be allocated to cleanup efforts and investment in man-made capital to balance the increasing damages of pollution (Hediger, 2009). The pollution prevention approach is seen as more cost-effective than control. Recently, the focus has been on controlling the source and waste management in reducing waste. The environmental problem caused by industrial air pollution has become an important issue in terms of science and technology worldwide; researchers continue their work to develop more energy-efficient and compact particle collector concepts that can meet future emission limits and operational requirements (Mukhopadhyay & Pandit, 2014). The level of environmental control and sustainability of countries is determined by the quality and effectiveness of the institutional framework. Achieving global sustainability and green growth goals is a significant challenge, especially for developing countries. For example, in Romania, regulatory quality, political stability and control of corruption have reduced pollution, but accountability and voice have contributed to the growth of greenhouse gas emissions (Simionescu et al., 2022).

A study that aims to relate DT to business sustainability and the SDGs in three leading companies in the Brazilian paper and pulp industry shows that the use of digital technologies in sustainability areas of businesses is still in its infancy (Costa et al., 2022). These issues also show that the environmental impacts of DT should be addressed strategically; circular economy principles should be adopted, low-energy devices should be used, e-waste management policies should be improved and renewable energy sources should be switched to.

The Impact of Digital Transformation on Economic Sustainability

Following the First Industrial Revolution, in economies that operated more efficiently and grew exponentially, concerns began to grow about the long-term impacts of growth on available resources and the environment. However, the business world focused on maximizing short-term profits, ignoring long-term

environmental and social impacts. This contradictory situation continued until the mid-20th century, when societies, governments, and businesses began to become aware of environmental degradation. Various international assessments and actions have been carried out to address economic sustainability since the publication of the Brundtland Report (1987) by the World Commission on Environment and Development (Elsawy & Youssef, 2023). For example, in order to achieve sustainable development, the United Nations has established 17 SDGs for countries and individuals (Boar et al., 2020). The global SDGs, which began in 2016, provide an evidence-based framework for sustainable development planning until 2030. Progress has been made in the early stages of the SDGs. However, there are significant gaps in assessing the connections, synergies, and compromises between the goals. Gaps in the adoption of integrated analytical approaches, models and systems thinking undermine the transformative potential. On the other hand, as more countries move towards these goals, there is a risk of adopting 'siloed' or 'linear' sustainable development strategies that have not achieved sufficient success in the past (Allen et al., 2018). Indeed, it is seen that none of the UN member states has achieved all sustainability-related goals; in this context, calls are being made to increase the participation of societies and DT (Seele & Lock, 2017).

Analyses of the global material extraction and trade dataset of the United Nations and the International Society for Research in Industrial Ecology, covering 40 years of global economic activity and natural resource use, have shown that material extraction, which was 22 billion tons in 1970, increased to 70 billion tons in 2010; that the increase was driven by wealth and consumption and accelerated trade; that the material footprint increased even in the richest regions of the world, and that this global trend caused a number of environmental and social problems (Schandl et al., 2018). Although manufacturing enterprises around the world play an important role in improving living standards; they have led to the emergence of unsustainable production and consumption patterns (Bjørnbet et al., 2021). The linear economic model based on the "take-make-throw" philosophy leads to an imbalance of supply and demand in the consumption of natural resources; creates socioeconomic and environmental risks; and affects the global supply chain, the sustainability of countries and businesses. Since global resource demand will require natural resources equivalent to two and three planets by 2030 and 2050 respectively, there is a need to implement the circular economy model instead of the linear economy model (Goyal et al., 2018). In the context of the circular economy in production, holistic approaches are needed in terms of environment, economy and society. The

prevalence of narrow approaches to sustainability is seen as a risk to produce useful solutions (Bjørnbet et al., 2021).

Circular economy and Industry 4.0 technologies can contribute to achieving SDGs such as Clean Water and Sanitation (6), Affordable and Clean Energy (7), Industry, Innovation and Infrastructure (9), Responsible Consumption and Production (12), Climate Action (13) (Patyal et al., 2022). In this mandate, the European Union Action Plan for the Circular Economy aims to transition to a less linear economy, where materials, resources and products are kept in the economic system for a long time and waste production is minimized (Rodriguez-Anton et al., 2019). Circular economy significantly reduces waste at all stages of the product life cycle by promoting rational use of produced goods rather than overproduction of new goods. As an environmentally friendly and sustainable solution, the sharing economy supports sustainable development by promoting rational use of produced goods (Atstaja et al., 2022).

In the digital economy based on knowledge redundancy, since economic power is concentrated in enterprises with practical knowledge, resources such as patents and know-how have become more critical and valuable (Hıdıroğlu, 2022). In the context of sustainable development, the use of digital technologies encourages innovative approaches, entrepreneurship, innovation, and strategic advances. Entrepreneurs address sustainability challenges by developing sustainable business models based on technological innovation (George, 2021) and structuring new versions of value components (Gregori & Holzmann, 2020). Indeed, the digital revolution is shaping a digitalized network society and global innovation networks with new ways of organizing networks (Knell, 2021); network effects are of great importance for the circular and synergistic organization of supply chains (Helbing & Hausladen, 2022). While all these developments offer various opportunities for a more collaborative and sustainable economy; they increase material recycling and market share; It supports economic sustainability by reducing energy waste (Rosário & Dias, 2023).

The Impact of Digital Transformation on Social Sustainability

Another dimension that needs to be addressed in the context of the SDGs is social sustainability (Lee & Jung, 2019). Although sustainability is thought to be an attempt to balance competing environmental, economic and social priorities, it can be better understood and implemented when social, environmental and economic sustainability are integrated (Boyer et al., 2016). Social sustainability, unlike environmental sustainability, is a concept that has not yet been fully clarified. Social sustainability in the workplace can be assessed at the levels of

job characteristics, human-centered structures, organization-centered structures and society-centered structures. At the level of job characteristics, sustainable job design and characteristics; at the level of human-centered structures, sustainable work behavior, work attitudes and motivation; at the level of organization-centered structures, sustainable organizational policies and practices; and at the level of society-centered structures, social mechanisms are addressed (Kobal Grum & Babnik, 2022). Social sustainability, which is of interdisciplinary importance, takes into account the human factor and social impacts in the product and service supply chain related to the quality of life in society (Lee & Jung, 2019). In the context of social sustainability in organizations, social structures are at the center of organizational life; they positively affect other environmentally and economically related structures (Prieto et al., 2022).

In terms of today's societies and living spaces, climate change-related risk conditions and uncertainties pose significant physical, spatial, social and structural threats. Social concerns can be addressed and these risks can be combated through social sustainability, which includes eco-consumption, equality, security and urban forms (Eizenberg & Jabareen, 2017). Sustainability is now being achieved in businesses through DT. With DT applications in SMEs, stakeholder participation and organizational culture change can be achieved; competitiveness can be increased; network relationships can be strengthened by attracting investors and customers who share similar values to the business (Martínez-Peláez et al., 2023).

Today, customer demands driven by digital needs have higher standards. In the center-edge DT where customers are digitally enabled, customers can interact directly with the business, thus becoming digital ambassadors and being empowered as community members. These customers, who are less forgiving of errors, are increasingly leading businesses to be more customer-centric. Digitized customers both create opportunities for innovative business models and require businesses to interact more strongly with their digital customer bases (Van Veldhoven & Vanthienen, 2022). Process improvements that can improve customer experience are being implemented with DT (Verhoef et al., 2019). Digital technologies such as location-based mobile applications, augmented reality, and video conferencing are used to provide personalized and immersive interaction between businesses and customers (Parise et al., 2016). In order to create and deliver value to customers, it is necessary to access digital assets and capabilities such as storage of new data and information infrastructure technologies. For this reason, businesses are increasingly making large-scale investments in the acquisition and development of Industry 4.0 technologies. For

example, by applying data analytics on big data, a digital asset, customer services and offers can be personalized (Verhoef et al., 2019).

Although the effects of digital technologies on environmental and economic sustainability have attracted considerable attention; social sustainability and societal impacts have not been sufficiently investigated. In the context of the effects of digital technologies on social sustainability, the focus has been on jobs as an area of influence; security and privacy impacts have not been taken into account (Szalkowski & Johansen, 2024). While digitalization and DT offer many new ways to improve social sustainability, it can be stated that all improvements have environmental and economic repercussions. Therefore, there is a need for conscious action in developing optimal solutions.

The Concept of Digital Sustainability in Businesses

"Digital Sustainability", a relatively new concept compared to the traditional concept of sustainability, was first put forward by a Swiss company, Born Green Technology (BGT-2012), by combining the concepts of sustainability and digitalization (Patnaik, 2018). While the concept of digital sustainability is narrowly associated with "digital products and resources" in some sources, it is discussed in connection with various elements of digitalization and DT in some sources. Indeed, in the digital protection literature, digital sustainability is used in the context of protecting data and information, while in the openness literature, it is evaluated in the legal context of accessing and changing source code and data (Stuermer, 2014). This concept covers "business processes, commercial activities, administrative and entrepreneurial activities" that are online in businesses and production processes integrated with advanced technology (Hıdıroğlu, 2022). The concept of digital sustainability is defined as "organizational activities aimed at advancing the SDGs through the creative deployment of technologies that create, use, transmit or source electronic data" (George, 2021). Based on the analysis and explanations in the literature, the concept of digital sustainability in businesses can be defined as "the performance of all activities of digitalized businesses concerning environmental, economic and social dimensions in a way that protects sustainability both within the business and in the context of the digital business ecosystem" (Asiltürk, 2024, definition belongs to the author).

Today, digital sustainability depends on existing businesses and new businesses developing value-added innovations in the digital sector. In fact, most of the projects developed with innovative approaches are digital-based. In this context, ensuring digital sustainability in businesses is possible by "establishing

mechanisms to support R&D activities, developing existing technologies, producing new technologies, following digital technologies, adapting them to business processes and activities, and providing venture capital financing support" (Hıdıroğlu, 2022). The activities carried out by entrepreneurs adopting innovative approaches based on the use of digital technologies to cope with seemingly intractable societal challenges related to sustainable development are called "digital sustainability activities". The aim of these activities is to create highly scalable market offerings characterized by ecosystem coordination that directly improve socio-ecological outcomes (George et al., 2021).

DT has various positive and negative effects in the context of corporate sustainability. Positive effects include "reducing information flow barriers and making information accessible; attracting more talented human resources to the business; increasing board diversity by including women and older members in the board". Negative effects include "increasing management costs, causing talent barriers in the market, and worsening industry monopoly" (Zhang et al., 2022). The success of ecosystems and businesses depends on the low-cost scalability of exponential technologies. The open-source and collaborative nature of initiatives further accelerates the scaling of coordination and trust. For example, blockchain applications can be used to address a global sustainability problem by supporting the maintenance of value and exchange systems regardless of location. Thus, material resources can be shared and exchanged in the work of networks in various parts of the world (George et al., 2021).

The Examples of Digital Sustainability Practices of Global Businesses

In the context of *environmental sustainability*, DT covers applications based on the use of digital technologies such as big data analytics, mobile technologies, the IoT, and AI to develop sustainability solutions in areas such as urban development, pollution control, production, etc. (Rosário & Dias, 2022). Digital technologies are important tools for achieving environmental sustainability goals. DT supports the reduction of material use and the increase of recycling rates through circular economy practices. For example, the use of sensors and the IoT is used to save water and energy consumption by collecting environmental data; big data analytics and AI are used in waste management, energy consumption optimization, and air quality monitoring (Geissdoerfer et al., 2017). With digital twin technology, a virtual model of a product or process is created, making the production process more efficient; energy and material savings are achieved in industrial facilities, and the amount of waste is reduced (Qi & Tao, 2018). The UN's SDGs have emphasized the implementation of sustainability in order to ensure environmental security for the future. For example, digital technologies

have a significant capacity to achieve sustainability goals such as infrastructure innovation, clean energy, and affordable energy in the energy sector, and can significantly increase sustainability (Singh et al., 2022). With the potential to improve food production, access to water, and green energy, digitalization can support the achievement of the SDGs, improve public health, and solve problems related to biodiversity and climate change (Mondejar et al., 2021). For example, in the agricultural sector, by collecting field data with satellites and drones, operations such as irrigation and fertilization can be done in the right amount and at the right time, increasing efficiency, preventing resource waste, and supporting sustainability in agriculture (Walter et al., 2017).

In the context of *economic sustainability*, DT refers to being sustainable from production to consumption, and the transition to a circular and digital sharing economy (Rosário & Dias, 2022). It is emphasized that there are six groups of administrative problems (knowledge problems, valuation problems, communication problems, coordination and trust problems, access problems, institutional problems) that undermine attempts to achieve sustainability. Digital technologies that support new business models can be used to solve these problems. In this context, some implications are as follows (George et al., 2021):

- More sustainable goods and services must be produced to prevent industries from continuing to create large, negative footprints in water, land and other forms of natural capital.

- The real impacts of consumption and production choices must be included in decision-making processes. If valuable information can be generated and disseminated on this issue, prices can be adjusted to reflect the true costs of unsustainability.

- New ways of marketing investments that will create socioeconomic value to a wider audience must be found.

- Donations, volunteers and subsidies should not be relied upon to cover the costs of coordinating economic behavior to create and market socioecological value.

- Barriers to access should be addressed to make sustainable goods and services accessible to more people.

- Since institutional failures and management weaknesses can lead to loss of customers, businesses that want to capture socioecological value must improve their management skills.

In the context of *social sustainability*, DT involves using digital technologies to promote innovation and increase productivity in line with SDGs. However, a multidimensional political approach is needed to address the existing digital divide in society (Rosário & Dias, 2022). The digital divide is the difference between those who can access and use digital technologies effectively and those who cannot; it is affected by factors such as geographical location, education, socioeconomic status, age. There is a significant digital gap between developed and underdeveloped countries in the adoption of technology (Cullen, 2001).

Literature suggests that the use of digital technology in the context of sustainable entrepreneurship leads to broader stakeholder integration by increasing connectivity, encouraging social participation and stakeholder integration, and thus solutions to social and environmental challenges can be produced (Fuerst et al., 2023). However, sustainability is not yet measurable for all businesses. Although small and medium-sized enterprises represent 90% of total businesses globally, SMEs have more limited resources and specialization capabilities in terms of DT. It has been found that the performance of SMEs in the DT process is often measured without considering environmental and social sustainability dimensions (Costa Melo et al., 2023).

There is still less research on evidence on sustainability in business (Burinskienė & Seržantė, 2022). Sustainability practices in businesses vary by geography, sector, and company size. Businesses invest in environmentally friendly technologies to reduce waste, increase energy efficiency, and reduce their carbon footprint (Grewatsch & Kleindienst, 2017). Achieving carbon neutrality targets requires investing in environmental R&D, improving supply chain practices, leveraging AI-enabled innovations, and embracing renewable energy. An AI-enabled business model will support innovation, technological and strategic enablers, and the promotion of a low-carbon economy and sustainable practices (Shaik et al., 2024).

In line with corporate governance principles, businesses report sustainability in line with standards such as the Global Reporting Initiative and Sustainability Accounting Standards Board, providing reliable evidence in terms of environmental and social sustainability (Threlfall et al., 2020). Businesses that adopt sustainability practices attract the attention of investors; gain advantage in risk management and increase their long-term financial performance (Eccles et al., 2014). With the circular economy, digital sustainability practices are becoming increasingly widespread in businesses. As seen in Table 1 below, the results of these practices are related to different SDGs.

Table 1. Examples and Results of Digital Sustainability Practices of Global Companies in the Context of SDGs

Sustainable Development Goals	Company Name	Digital Sustainability Application Examples and Results
SDG 1	Unilever Heineken	Establishing recycling programs in underdeveloped regions New job opportunities with collected waste Increasing income levels
SDG 2	Danone Nestlé	Adopting sustainable farming techniques Improving soil health Increasing yields Contributing to food security
SDG 3	GE Healthcare	Recycled medical devices Safe waste management in the healthcare sector Extending device life Reducing healthcare costs
SDG 4	HP Cisco	Training programs on recycling and repair Increasing skills to contribute to the circular economy Supporting sustainable skills development
SDG 5	Thread International	Recycled textile materials Promoting female entrepreneurship
SDG 6	Nestlé Waters	Adopting water recycling technologies Reducing water consumption Protecting water resources Promoting wastewater treatment
SDG 7	Tesla First Solar Philips	Solar panel recycling programs Making renewable energy more accessible Creating circular energy systems Light as a Service (LaaS) Model Optimizing lighting system rental and maintenance
SDG 8		Recycling and Rental Program

Sustainable Development Goals	Company Name	Digital Sustainability Application Examples and Results
	WasteAid Patagonia	Rental and Returnable Product Model
		Recycling-based business models
		E-waste recycling
		Renting and recycling of clothing
		Creating safe business opportunities while reducing environmental damage
		Economic sustainability with recycled products
		Contributing to the circular economy
		Reducing waste in the fashion industry
		Reducing carbon emissions
		Extending product life
SDG 9	IBM Xerox Suez	Circular business models
		Developing modular designs
		Reducing resource consumption by repurposing devices
		Circular Chain Blockchain
		Traceability and reliability in waste management
		Efficient use of resources
		Managed print services for printers
		Reducing resource consumption
		Extending device life
SDG 10	Fairphone	Recyclable electronics
		Affordable prices
		Access to disadvantaged groups
SDG 11	Veolia Suez Re-Match	Establishing sustainable waste management systems in cities
		Reducing waste
		Optimizing resource use
		Recycling artificial turf
		Saving 400 tons of CO2 per pitch
		Reducing plastic waste

Sustainable Development Goals	Company Name	Digital Sustainability Application Examples and Results
		Lower carbon emissions
SDG 12	H&M IKEA	Autonomous and Recycling-Based Delivery Vehicles Reuse and recycling programs in textiles and furniture Re-offering old furniture to customers Resale and Rental Platforms Tracking with digital applications Digital sustainability in logistics processes Reducing waste and carbon footprint More efficient use of resources
	Adidas Nike	Products that encourage circular economy Futurecraft Loop Shoe Model Recyclable shoe production Return to consumer Monitoring the recycling process with a digital tracking system Facilitating waste management Accelerating the reuse cycle
	Plus Pack Circqle	Circular Models in Food Packaging Tracking packaging for reuse Up to 60% CO2 reduction compared to single-use packaging Reducing packaging waste
	Michelin	Tire service model Charge tires per use system Longer tire life Optimizing maintenance services Promoting circularity
SDG 13		Investing in circular energy solutions Using smart sensors and data analytics systems, smart monitoring systems Reducing energy consumption in factories

Sustainable Development Goals	Company Name	Digital Sustainability Application Examples and Results
	Philips Schneider Electric	Increasing resource efficiency Contributing to the circular economy Reducing carbon footprint Optimizing product life cycle
SDG 14	Plastic Bank	Recycling plastic from the oceans Protecting the marine ecosystem
SDG 15	Interface	Using renewable materials and environmentally friendly production methods Supporting biodiversity Improving soil health
SDG 16	Ellen MacArthur Foundation	Creating transparency and standards for the circular economy Contributing to the establishment of fair trade and circular standards in international platforms
SDG 17	Apple Google	Carrying out joint projects Developing circular economy standards Promoting sustainable technological transformation

Reference: (Ellen MacArthur Foundation, 2021; 2022; World Economic Forum, 2022;2023; State of Green, 2024; Chatham House, 2024).

Digital Sustainability Development of Türkiye's Big 3 Companies

In this section, an assessment of the digital sustainability development of three major companies in Türkiye, one banking, the other white goods and telecommunications, their digital sustainability performance for 2023 and their future goals will be presented.

Digital Sustainability Development of Arçelik Company

Arçelik, a global home appliance manufacturer headquartered in Türkiye, was founded in 1955 and has more than 30 global brands and manufactures in 14 countries.

Table 2. Arçelik Company's 2023 Digital Sustainability Performance and Future Goals

	Performance in 2023	Future Goals
Energy Efficiency	95,680 GJ of energy was saved with 373 energy saving projects	100% renewable energy use in all countries of operation (by 2030)
Carbon Footprint Reduction	6,983 tons of CO2e emissions were saved	Achieving net zero emissions by 2050
Renewable Energy	Solar energy installed capacity increased to 20.3 MW	100% green electricity use by 2030
Digitalization	Nearly 400 million TL savings were achieved with DT projects	Increasing operational efficiency with DT projects
Green Innovation Projects	EnergySpin technology saves 35% energy; 16,543 tons of recycled plastic usage was achieved	Strengthening the leading position in the sector by continuing sustainable product innovations
Water Management	288,973 m³ of water was saved; 1.75 million WEEE were recycled in WEEE recycling facilities	Continuing water efficiency and rainwater harvesting projects
Social Responsibility	Support for earthquake zones, providing safe water to over 7,300 people in partnership with Water.org	Providing education to 100,000 girls between the ages of 10-14 in 81 provinces of Türkiye (2026)
Environmental Supplier Management	Environmental reporting of 253 suppliers has been completed, commitment to setting environmental targets has been received from 166 suppliers	Increasing environmental and social sustainability practices in the supply chain
Diversity and Inclusion	Global WE-inTech Program Reached 105 Female Engineering Students in Four Countries	Empowering women engineers in R&D and innovation areas and increasing their participation in work
Awards and Achievements	S&P Global Corporate Sustainability Index, Bloomberg Gender Equality Index, EcoVadis Gold Medal	Maintaining industry leadership by improving sustainability performance in global rankings

Reference: Arçelik. (2023). Sürdürülebilirlik Raporu 2023. https://www.arcelikglobal.com/surdurulebilirlik

Arçelik has a wide range of products in the fields of white goods, air conditioning systems, small household appliances and digital solutions. Arçelik is known for its environmentally friendly production processes, strong R&D infrastructure and innovative technologies. Digital sustainability is one of the long-term strategies of Arçelik and it has taken important steps in the digitalization process. Some of these steps are as follows:

- digitalizing production processes with industry 4.0 applications such as IoT or AI,

- placing sustainability at the center of the business model,

- using digital technologies effectively in the production process (sustainable production processes) and developing products equipped with digital technologies (such as smart home systems and energy-saving devices) in order to reduce environmental impacts, increase energy efficiency and minimize carbon footprint,

- making significant investments to reduce carbon emissions in production processes,

- using digital monitoring systems to increase the use of renewable energy, monitoring energy consumption and emission levels in real time,

- implementing green innovation projects (developing technologies that increase the use of environmentally friendly materials, reduce waste and increase recycling rates),

- production lines supported by digitalization become more efficient and sustainable,

- becomes more efficient and sustainable thanks to the supported production lines.

Digital Sustainability Development of Turkcell Company

Turkcell, Türkiye's largest mobile communication services provider, started its operations in 1994. Turkcell has a wide range of services in areas such as cloud services, digital media, financial technologies, internet and mobile communication. Turkcell, one of the leading companies in the mobile communication sector, positions itself in the market as a technology company that directs DT processes with its investments in digitalization and innovative

technologies. Turkcell meets the digital needs of both individuals and businesses with its digital solutions and contributes to the development of digital economy and innovation in Türkiye. Turkcell has made significant progress in the field of digital sustainability. Some of these steps are as follows:

- has built digital sustainability strategies on reducing environmental impacts and adding value to society,

- has developed a strong vision on how digital technologies will be used to achieve the SDGs,

- the basis of the vision is the use of technologies that increase energy efficiency and reduce carbon footprint,

- the company's digital infrastructure plays an important role in energy efficiency and reducing environmental impacts,

- has managed to create an environmentally friendly infrastructure with energy efficient network solutions, innovative data centers and the use of renewable energy,

- uses digital monitoring and analysis systems to monitor the environmental impacts of its digital solutions and optimize these processes,

- attaches importance to the integration of digitalization with social sustainability and carries out various social responsibility projects to ensure that digital technologies are accessible to all segments of society,

- creates social benefits in areas such as education, health and financial access with the services provided through digital platforms,

- increases its investments in digital innovation and green projects, develops environmentally sensitive technologies and uses them in business processes, products and services.

Table 3. Turkcell Company's 2023 Digital Sustainability Performance and Future Goals

	Performance in 2023	Future Goals
Energy Efficiency	99,900 MWh of energy saved in 2023; total energy consumption reduced by 10%	Increase energy efficiency by 20% and increase renewable energy use to 50% by 2030
Carbon Footprint Reduction	50,000 tonnes of CO2e emissions reduction achieved; company-wide carbon footprint calculations completed	Zeroing out carbon footprint by 2050 and taking action towards net zero target
Renewable Energy	Renewable energy usage rate increased to 40%; 6.5 MW solar power plant established in 2023	Target of 100% renewable energy use by 2030
Digitalization	Expansion of 5G infrastructure across Türkiye; operational efficiency increased with DT projects	Improving customer experience and increasing the number of digital services through digitalization by 2026
Green Innovation Projects	1,500 tons of recycled plastic were used; new products aimed at energy efficiency and sustainability were developed	Reducing carbon footprint with environmentally friendly products and innovation projects
Water Management	Water consumption was reduced by 15%, 500,000 liters of water were saved within the scope of water recycling projects	Reducing water consumption by 20% through water efficiency projects by 2025
Social Responsibility	1 million people received digital literacy training, 500,000 people were supported in the fields of health, education and sustainability in 2023	To reduce social inequality by providing digital literacy training in all 81 provinces of Türkiye by 2026.
Environmental Supplier Management	Increased participation in environmental assessments and sustainability certification programs with suppliers	Integrating sustainability and environmentally friendly practices across the entire supply chain by 2030
Diversity and Inclusion	The female employee ratio is 34%; programs promoting diversity and equality were implemented	Increasing the ratio of women in management positions to 40% and increasing diversity by 2026
Awards and Achievements	Worldwide Environmental Initiatives awards top Sustainability Index	To consolidate leadership in the sector by increasing our sustainability awards and to be a pioneer in global rankings.

Reference: Turkcell. (2023)**.** Sürdürülebilirlik Raporu 2023. https://www.turkcell.com.tr/surdurulebilirlik

Digital Sustainability Development of Garanti BBVA Company

Garanti BBVA, one of Türkiye's leading private banks, was founded in 1946. Garanti BBVA is a large financial institution that offers banking and digital banking solutions, credit and investment products. Offering accessible, secure and innovative banking services, Garanti BBVA is known for its investments in financial technologies and digitalization strategies; It integrates sustainability

principles into its business processes. Garanti BBVA follows a pioneering approach in the field of digital sustainability. Some of these steps are as follows:

- develops and offers digital solutions that aim to minimize environmental impacts,

- increases investments in environmentally friendly technologies as it believes that digitalization is a critical tool in promoting environmental sustainability,

- reduces paper consumption with digital banking opportunities,

- ensures faster and more efficient transactions with mobile banking and digital payment systems; reduces operational costs,

- encourages its customers to conduct banking transactions more sustainably with its digital products and services,

- develops various strategies to reduce carbon footprint through digitalization,

- optimizes energy consumption by using energy-efficient data centers and digital infrastructures.

- indirectly reduces emissions from transportation and energy consumption by reducing branch visits of its customers through digital banking solutions,

- provides sustainable financial products and services; supports sustainable development by offering financial instruments that provide environmental benefits such as green bonds and sustainable investment products to its customers.

- aims to create social benefit by utilizing the power of digital technologies in social responsibility projects.

Table 4. Garanti BBVA 2023 Digital Sustainability Performance and Future Goal

	Performance in 2023	**Future Goals**
Energy Efficiency	As of 2023, 12,000 MWh of energy was saved; energy efficiency projects were implemented in the bank's operational buildings	To achieve a 15% reduction in total energy consumption by 2025 and to take steps towards energy efficiency targets in all operations.
Carbon Footprint Reduction	15,000 tons of CO_2 emissions reduced; carbon footprint calculations and improvement projects initiated across the bank	Reducing carbon footprint by 40% by 2030 and creating sustainability plans for all operations in line with net zero target
Renewable Energy	50% renewable energy usage achieved in the bank's buildings; solar power plant installation continues	Ensuring 100% renewable energy use in all operations by 2030 and operating branch buildings with green energy
Digitalization	20% increase in the number of digital banking service users in 2023; the transition to non-branch digital services accelerated	Increasing the usage rate of digital banking services by 40% by 2025 and ensuring operational efficiency through digitalization projects
Green Finance	1 billion TL worth of green bonds issued; financing provided for sustainable projects	Increase total green financing by 30% by 2030 and provide more funding for sustainable projects
Water Management	Water consumption across the bank decreased by 10%, water recycling projects continued	Reducing water consumption by 15% by 2025 and expanding water efficiency projects
Social Responsibility	200,000 people attended digital literacy training; financial literacy and social responsibility projects continued	Providing digital literacy training to 1 million people by 2025 and increasing sustainability awareness
Environmental Supplier Management	Sustainable supply chain management was developed, environmental and social responsibility training was provided for suppliers	Integrate environmental and social responsibility standards across all business partners in the supply chain by 2030
Diversity and Inclusion	The female employee ratio is 40%, the disabled employee ratio is 3%, and diversity-focused projects were carried out.	Creating an inclusive workforce and improving equality goals by increasing the proportion of female employees to 45% by 2026
Awards and Achievements	Included in the Sustainability Index, won the Environmentally Friendly Bank Award	To increase industry awards for environmental and social sustainability and to rank higher in global rankings by 2025

Reference: Garanti BBVA. (2023). Sürdürülebilirlik Raporu 2023. https://www.garanti.com.tr/surdurulebilirlik

CONCLUSION

In the context of the circular economy, digital sustainability practices are becoming increasingly widespread in businesses. It is possible to say that this prevalence is due to both digitalization and sustainability pressures on businesses. Digitalization and DT have almost become a necessity, affecting businesses operating in almost every sector today. Another new necessity for businesses that are digitalizing and in various stages of DT is to be sustainable. Sustainability in the traditional sense has been used to mean that businesses are sustainable in environmental, economic and social dimensions. Digitalization offers new approaches, techniques and products in solving sustainability problems, changing expectations from sustainability.

When examined historically, it is seen that both sustainability and digitalization concepts are relatively new concepts. The Digital Revolution, which marks the beginning of the Third Industrial Revolution or the Information Age, began in the 1980s. The digital revolution has brought about digital technologies, digital competition, digital businesses and digital customers. Businesses are going through the stages of digitalization, digitalization and DT.

Following the publication of the Brundtland Report by the World Commission on Environment and Development (1987), the United Nations announced the 2030 Agenda for Sustainable Development and the SDGs (2015). Thus, responsibilities concerning businesses in the context of the SDGs have come to the fore. Businesses are an important stakeholder and actor of the SDGs globally.

As businesses become digital, they change their business models, business processes and organizational culture depending on the changing technological environment and competition. The DT, which occurs from the outside to the inside and from the inside to the outside, leads to the digitalization of operations, the use of digital production and innovation techniques, the development of digital capabilities compatible with the digital competitive environment, the production of digital goods and services, digital marketing and management activities, and the use of appropriate performance metrics and targets.

Various digital sustainability activities, both online and offline, are based on the use of digital technologies to address challenges related to sustainable development and emerge through the adoption of innovative approaches. Digital sustainability in businesses covers issues related to online business processes, online commercial activities, online managerial and entrepreneurial activities, and advanced technology-integrated production processes. Advanced information, automation, and production techniques driven by information

technologies in various industries enable optimization. DT directs businesses to flexible organizational structures that are capable of continuous adaptation within digital business ecosystems. The use of digital technologies in businesses enables the adoption of sustainable business strategies and the development of sustainable products and solutions.

In the literature addressing the concept of digital sustainability, narrow and broad definitions and explanations have been encountered. While the concept of digital sustainability is associated with "digital products and resources" in a narrow sense in some sources, it is addressed in connection with various elements of digitalization and DT in some sources. However, due to the fact that the concept of digital sustainability is relatively new, it is seen that there are few studies that address digital sustainability in businesses in all its aspects and in an explanatory manner. Based on the analyses and explanations in the literature, the concept of digital sustainability in businesses can be defined as "the performance of all activities of digitalized businesses concerning environmental, economic and social dimensions in a way that protects sustainability both within the business and in the context of the digital business ecosystem".

Due to these features, it can be argued that DT will take businesses to a new level in solving sustainability-related problems. This situation results in existing businesses that are becoming digital and businesses that are born digital addressing sustainability issues with a new lens. Many businesses born digital can position themselves closer to sustainability issues compared to existing businesses that operate in traditional ways in the sectors.

This study includes the concept and scope of DT, the effects of DT on environmental sustainability, economic sustainability and social sustainability, what digital sustainability is in businesses and examples of digital sustainability applications. As can be seen in the examples, many businesses operating globally are leading digital sustainability activities. The dissemination of these activities depends on many factors such as societies and businesses accessing and using digital technologies, increasing investments in sustainability R&D studies; and the fact that there are many start-up businesses that set out to solve sustainability problems is promising for the future.

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CHAPTER 16

Poverty and Institutional Quality Nexus: A Case Study of Selected Eastern Mediterranean Countries[*]

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Introduction

Poverty emerges as a sociological, economic, and social problem with multidimensional consequences, posing significant challenges for nations. It adversely affects individuals socioeconomically and restricts their access to essential resources. The fundamental thesis introduced by Nurkse (1953) suggests a vicious cycle wherein poor individuals are impoverished because they are undernourished and illiterate, and simultaneously, they remain undernourished and illiterate because they are poor. This perspective emphasizes the reciprocal relationship between poverty and the socio-economic conditions of both individuals and countries. Similarly, nations are impoverished due to low levels of savings and investment, and this poverty perpetuates their inability to improve these levels. In this context, numerous researchers in the literature strive to identify solutions to the poverty issue. Various economic, social, and institutional policies have been proposed to mitigate the effects of poverty and achieve sustainable development.

Among the solutions proposed by researchers to address poverty in nations, economic growth holds a significant position. The literature commonly supports the hypothesis that as per capita income increases, poverty diminishes (Adams, 2004; Balisacan et al., 2003; Deininger & Squire, 1996; Dollar & Kraay, 2002; Kraay, 2006; Roemer & Gugerty, 1997). Bourguignon (2003), however, argues that international comparisons of poverty should employ a methodology grounded in the relationship between poverty, average income, and income distribution. According to Bourguignon, a permanent redistribution of income, referred to as the "distribution effect," not only reduces poverty but also highlights how the level of development and inequality influence the pace at which economic growth alleviates poverty. Fosu (2010) highlights that in developing economies, the relationship between economic growth and poverty is influenced by the level of income inequality. However, the assertion that economic growth leads to a reduction in poverty continues to be a contested issue in the literature. Counterarguments suggest that economic growth, driven by globalization, often results in an uneven distribution of income, which exacerbates poverty (Ravallion & Chen, 2003, 2007; Salvatore, 2004). In economies with high levels of inequality, the poor receive a smaller share of the benefits from economic growth (Ravallion, 2011). Beyond its economic implications, income inequality also has profound social effects. A widening income gap can drive the poor toward activities such as crime, rebellion, and other disruptive behaviors, thereby fostering social unrest and disorder (Barro, 2000). In this context, the literature frequently underscores the necessity of transforming

the share of welfare received by the poor into a more equitable structure as a solution to poverty. Furthermore, the relationship between poverty and economic growth is complex and differs based on the time period and country under analysis. This complexity underscores the need for new approaches to addressing poverty, which is the primary objective of this study. Accordingly, drawing from North's (1990) foundational concept of the "rules of the game," this research investigates the thesis that institutions can offer a viable solution to the problem of poverty.

The connection between institutional quality and poverty indicates that market inefficiencies and resource misallocation are the primary factors driving the impact of institutional quality on poverty (Tebaldi & Mohan, 2010). In economies with underdeveloped institutional frameworks, government decision-making processes become less predictable, and the security of property and contract rights is undermined. In countries where property rights are neither fully developed nor adequately protected, existing foreign investments often exit, and potential new investments are deterred due to the risky environment. This scenario leads to lower economic growth and exacerbates poverty within the country (Keefer & Knack, 1997). Institutions influence the distribution of wealth generated by economic growth across various political and social groups. This, in turn, results in differences in the degree to which poverty is alleviated in countries with comparable economic performance (Lopez, 2004). Therefore, considering the inherent regional and cultural variations in institutions, analyzing specific regions becomes crucial (Perera & Lee, 2013, p. 72). Despite numerous studies on the relationship between institutional quality and poverty, this issue has not been adequately addressed in the context of Eastern Mediterranean countries.

In recent years, the Eastern Mediterranean countries, namely Cyprus, Greece, Israel, and Turkey, have exhibited notable economic growth trends. However, despite this growth, an alarming increase in the number of individuals earning less than $2.15 per day has been observed (World Bank, 2024). This underscores the persistent and significant issue of poverty in these countries. Numerous approaches to combating poverty have been presented in the literature, and this study intends to assess a potential solution by focusing on the role of institutional quality. To this end, a long-term analysis is conducted for the selected four Eastern Mediterranean countries over the period 2004–2021, employing FMOLS and DOLS techniques. This model makes several significant contributions to the literature. Firstly, it represents the pioneering study to empirically model the relationship between poverty and institutional quality in the context of the Eastern Mediterranean region. Secondly, it utilizes FMOLS and DOLS techniques,

enabling robust long-term analysis. Lastly, the inclusion of income inequality and economic growth variables in the model provides a broader and more comprehensive perspective on the factors influencing poverty.

This study is structured into five chapters. The first chapter presents the topic, while the second chapter reviews the literature on the relationship between institutional quality and poverty. The third chapter outlines the model, data, and methodology developed to align with the study's objectives. The fourth chapter presents the results derived from the model and offers an interpretation of these findings. Finally, the fifth chapter discusses the conclusions drawn from the results and provides policy recommendations.

Literature Review

The literature suggests that the effect of institutions on poverty generally operates through market inefficiencies and misallocation of resources. When reviewing theoretical studies on the relationship between institutional quality and poverty, North (1990) argued that the fundamental driver of economic development is found in institutions and policies. This thesis was supported by Olson (1996), who emphasized that there is an indirect relationship between institutions and poverty. Olson stated that in economies where institutional quality is underdeveloped, institutions tend to make decisions in favor of certain groups, supporting special interest groups. In such economies, where property rights are not fully secured, poor groups are subjected to discrimination, leading to increased income inequality. In this context, he highlighted how wealth becomes concentrated in the hands of a narrow elite, while the income levels of the broader society decrease. Olson argued that this mechanism not only disrupts income distribution fairness but also contributes to the creation of absolute poverty in the lower segments of society.In his study, Pedersen (1997) emphasizes that there is a mechanism in which capitalists in the private sector and the bureaucracy exploit agricultural workers, using the benefits of foreign investments to serve their own interests, thus marginalizing the poor. In this context, Pedersen emphasized that when interest groups have the power to exert political influence to maximize their rents, income inequality increases, and poverty deepens. In contrast to the approaches of Pedersen (1997) and Olson (1996), Chong and Calderón (2000) presented a different perspective in their work on the relationship between institutional quality and poverty. The researchers argued that reform activities aimed at strengthening institutional quality could initially deepen poverty due to high transaction costs. However, they contended that, in the long run, institutional quality would reduce poverty. They emphasized that with increased institutional quality, a lower uncertainty

environment would emerge, and public services in rural areas and marginalized urban regions would become more efficient, effective, and sustainable.

The notion that the primary drivers of economic growth in an economy are institutions, economic policies, and geographical factors is extensively discussed in the literature (Acemoglu et al., 2001; Easterly and Levine, 2003; Glaeser et al., 2004; Rodrik, 1999). In this context, it is argued that the relationship between institutions and poverty is shaped through the channel of economic growth, and that poverty can be reduced through economic growth in an environment with developed institutional quality (Dollar & Kraay, 2000; Ravallion & Chen, 2007). To explain this indirect effect, it is predicted that countries with more efficient institutions will have a wealthier economy. On the other hand, in an economic environment where institutions are ineffective, individuals are likely to avoid productive activities, leading to a decrease in welfare. This situation also brings about fundamental economic issues such as poverty and income inequality (Acemoglu et al., 2004).

Empirical evidence on the relationship between institutional quality and poverty consistently demonstrates that higher institutional quality contributes positively to poverty reduction. Assadzadeh and Pourqoly (2013) used a random effect model to analyze the period from 2000 to 2009 for MENA countries and found that institutional quality reduces poverty. Similarly, Perera and Lee (2013) conducted a study on East and Southeast Asian countries for the period from 1985 to 2009 using the GMM technique, and observed that institutional quality has a poverty-reducing effect. This study emphasizes that particularly ensuring government stability and establishing the rule of law are decisive factors in reducing poverty. A more recent study by Dwumfour (2020) focused on 40 Sub-Saharan African countries during the 2005-2015 period using the GMM technique, finding that institutional quality reduces poverty through sound policies. Likewise, Singh (2021), using the FMOLS technique in a study of BRICS countries from 1997 to 2011, demonstrated that the rule of law reduces poverty. The study also highlighted that other governance indicators used in the model reduce poverty through the income inequality channel. Ochi et al. (2024), in their the dynamic threshold panel model analysis of 57 South Asian and Sub-Saharan African countries from 2010 to 2019, examined the non-linear threshold effects of governance quality on poverty. They found that the relationship between governance quality and poverty is not linear, but observed that governance quality still reduces poverty.

Model, Data and Methodology

This section presents the model developed for the study, explains the variables included in the model, and outlines the methods employed in the analysis. The analysis begins with an examination of the stationarity levels of the variables in the model. The study, which aims to explore the relationship between institutional quality and poverty, conducts an empirical analysis of four Eastern Mediterranean countries (Cyprus, Greece, Israel, and Turkey) over the period 2004-2021. The primary limitations of the study stem from the country and time dimensions. The exclusion of other countries in the Eastern Mediterranean from the model is mainly due to the unavailability of data on poverty rates and institutional quality for these countries. The time limitation stems from the fact that the data spans from 2004 to 2021, offering the most recent available information. Based on the work of Singh (2021), the model developed is presented with its functional form in Equation 1.

$$POV_{i,t} = \delta_{1_{i,t}} + \delta_2 IQ_{i,t} + \delta_3 GINI_{i,t} + \delta_4 \ln Y_{i,t} + \varepsilon_{i,t} \qquad (1)$$

The variables in Equation 1 are described as follows: The dependent variable, POV, represents the poverty rate. The independent variable, IQ, represents institutional quality; GINI refers to changes in income distribution; and lnY represents economic growth. In the model, the coefficient δ reflects both the direction and the size of the relationship between the dependent and independent variables. The subscripts i, t, and ε denote the cross-sectional units (countries), the time dimension, and the error term, respectively.

Table 1: Data Specification

Indicator	Explanation	Acronym	Measure	Source
Poverty	Poverty headcount ratio	POV	%	World Bank (PIP)
Institutional Quality	It reflects the extent to which the rule of law is enforced in the country.	IQ	Index -2.5 ile 2.5	World Bank (WGI)
Income Inequality	The data illustrates the alteration in income distribution.	GINI	Index (0-1)	The World Inequality Database (WID)
Economic Growth	Per capita GDP	lnY	PPP, constant 2017 international US dollar $	World Bank (WDI)

The variables utilized in the empirical analysis of this study are outlined in Table 1. The dependent variable, poverty rate (POV), is based on the threshold of $2.15 per day (the International Extreme Poverty Line) and represents the percentage of the population living in households with income below this threshold, adjusted for Purchasing Power Parity (PPP) as of 2017. The data was obtained from the World Bank's Poverty and Inequality Platform database. One of the independent variables, rule of law (IQ), is employed as an indicator of institutional quality. It is an indicator of the degree to which a society upholds the principles of contract rights, protects property rights, ensures security against crime and violence, and instills trust in the judicial system. The rule of law index ranges from -2.5 to +2.5, with values closer to -2.5 signifying a weaker rule of law and values closer to +2.5 indicating a stronger rule of law. The data provided has been sourced from the World Bank's Worldwide Governance Indicators database. The GINI index, which indicates changes in income distribution, ranges from 0 to 1. A GINI value closer to 0 indicates a more equitable income distribution, whereas values closer to 1 suggest that income is concentrated in a specific segment of the population. The data presented here has been obtained from the World Inequality Database (WID). The economic growth variable represents GDP per capita, adjusted for purchasing power parity (PPP), in U.S. dollars as of 2017. The data is included in its natural logarithmic form in the model and is sourced from the World Development Indicators (WDI) database.

In the literature on panel data analysis, several techniques have been developed for conducting unit root tests. Levin et al. (2002) propose the Levin, Lin, and Chu (LLC) panel unit root test, which is based on the Augmented Dickey-Fuller (ADF) test.

$$\Delta y_{it} = \theta_{it}\omega_i + \vartheta y_{it-1} + \sum_{j=1}^{n_i} \tau_{ij} y_{i,t-j} + \mu_{it} \tag{2}$$

In Equation 2, θ represents the deterministic components (such as constant, trend, or a combination), ϑ is the autoregressive coefficient, n denotes the lag length, and μ is the error term. The LLC technique assumes that the value of ϑ is constant across panels. This assumption is considered to reduce the effectiveness and power of the test in the literature (Zoundi, 2017, p. 1072).

In equation 2, the variable θ represents the deterministic components, which may include the intercept, trend, or both. The variable ϑ denotes the autoregressive coefficient, while n indicates the lag length. Finally, μ refers to the error term. The LLC technique is predicated on the assumption that the value of

ϑ remains constant across panels. This assumption is frequently interpreted in the literature as a reduction in the effectiveness and power of the test (Zoundi, 2017, p. 1072). In their study, Im et al. (2003) further developed the LLC test by introducing the Im, Pesaran, and Shin (IPS) panel unit root test, which allows for the ϑ coefficient to vary across panels. The functional form of this method is presented in equation 3.

$$\Delta y_{it} = \theta_{it}\omega_i + \vartheta_i y_{it-1} + \sum_{j=1}^{n_i} \tau_{ij} y_{i,t-j} + \mu_{it} \qquad (3)$$

Breitung (2001) highlights that the LLC and IPS tests produce more robust results in panels where the time dimension (T) exceeds the cross-sectional dimension (N). Therefore, in this study, considering the condition $T > N$, it has been decided to apply the LLC and IPS unit root test techniques. Both unit root tests have similar null and alternative hypotheses. The null hypothesis posits the absence of a unit root, while the alternative hypothesis asserts the presence of a unit root.

The existence of a cointegration relationship between poverty, institutional quality, income inequality, and economic growth is examined using the cointegration tests developed by Kao (1999) and Pedroni (1999, 2004). The primary advantage of the Pedroni (1999, 2004) test is that it delivers consistent results in the absence of cross-sectional dependence. On the other hand, the main advantage of the Kao (1999) test is its ability to generate reliable results in homogeneous panels (Kostakis et al., 2023, p. 4). The null hypothesis of both tests suggests the absence of a cointegration relationship.

In line with the primary aim of the study, the FMOLS and DOLS techniques are utilized to derive long-term reliable results. The FMOLS method, developed by Phillips and Hansen (1990), offers the key benefit of producing consistent results even when endogeneity and serial correlation are present in heterogeneous panels. On the other hand, the DOLS estimator, introduced by Saikkonen (1991) and Stock and Watson (1993), is applied to dynamic panel models with small cross-sectional units, providing dependable results (Kostakis et al., 2023, p. 4). Furthermore, the DOLS technique addresses the issues of endogeneity and serial correlation (Saidi, 2023, p. 9331).

Empirical Results

This section presents an evaluation of the empirical findings of the study. It begins with the descriptive statistics of the variables, followed by an analysis of

multicollinearity among the independent variables. Subsequently, the results of long-term estimations obtained using LLC and IPS unit root analyses, Kao and Pedroni cointegration tests, and FMOLS and DOLS techniques are discussed.

Table 2: Descriptive Statistics

Stats	POV	IQ	GINI	lnY
Mean	0.00498	0.55853	0.53558	10.35622
Max	0.02340	1.20960	0.62667	11.97337
Min	0.00004	-0.43259	0.42196	9.44435
Median	0.00454	0.75599	0.55001	9.98097
Standart Dev.	0.00491	0.00491	0.07137	0.86232
Standart Eror	0.00057	0.05757	0.00841	0.10162
Observation	72	72	72	72

The descriptive statistics for the variables included in the model constructed in the study—poverty, institutional quality, income inequality, and economic growth—are presented in Table 2. This table includes the mean, maximum, minimum, median, standard deviation, and the number of observations in the panel for each variable.

Table 3: VIF Test Results

Variable	VIF	1/VIF
IQ	3.19	0.313
GINI	3.16	0.316
lnY	4.12	0.242
Mean VIF	3.49	

To assess multicollinearity among the independent variables in the model, the Variance Inflation Factor (VIF) test was performed, and the results are presented in Table 3. The findings indicate that the average VIF value and the VIF values

for all variables are below 5. This suggests that there is no multicollinearity issue in the model (Salahuddin et al., 2016; Majeed and Khan, 2019).

Table 4: Unit Root Test

Variable	LLC		IPS	
	Level			
	Intercept	Intercept and trend	Intercept	Intercept and trend
	t-Stat.	t-Stat.	t-Stat.	t-Stat.
POV	-4.065^a	-2.209^b	-2.705^b	-2.197^b
	[0.000]	[0.013]	[0.003]	[0.014]
IQ	-0.078	-1.242	1.134	-0.112
	[0.468]	[0.107]	[0.871]	[0.455]
GINI	-1.581^c	-1.161	-0.171	-1.299^c
	[0.056]	[0.122]	[0.431]	[0.096]
lnY	-0.946	-0.884	1.649	-0.819
	[0.056]	[0.188]	[0.950]	[0.206]
	1st difference			
POV	-2.994^a	-2.541^a	-4.477^a	-4.784^a
	[0.001]	[0.005]	[0.000]	[0.000]
IQ	-2.645^a	-2.193^b	-3.843^a	-4.130^a
	[0.004]	[0.014]	[0.000]	[0.000]
GINI	-1.492^c	-1.424^c	-3.042^a	-2.942^a
	[0.067]	[0.077]	[0.001]	[0.001]
lnY	-1.825^b	-1.879^b	-2.927^a	-2.851^a
	[0.034]	[0.030]	[0.001]	[0.002]

Note: In the table, the symbols *a*, *b*, and *c* denote the rejection of the null hypothesis at the 1%, 5%, and 10% significance levels, respectively. In addition, the value in the square brackets indicates the p-value.

The LLC and IPS techniques were employed to analyze the integration order of the variables, with the results provided in Table 4. The findings suggest that the POV variable is stationary at the level, as the null hypothesis is not rejected in both the intercept and intercept-and-trend models based on the LLC and IPS tests. Additionally, it is observed that the first difference of the POV variable is stationary. For the IQ and lnY variables, the unit root hypothesis is rejected in both tests. When these variables are analyzed in their difference forms, they are found to become stationary. Regarding the GINI variable, the null hypothesis is rejected under the intercept model for the LLC test and under the intercept-and-trend model for the IPS test, while it is accepted for other models. As the null

hypothesis is not strongly rejected in the LLC and IPS tests, the GINI variable is concluded to be stationary at its first difference. Consequently, all variables in the sample are stationary at their first differences. Based on this finding, cointegration tests presented in Table 5 were conducted to examine the potential long-term relationships among the variables.

Table 5: Panel Cointegration Test Results

Kao Test	Statistics		p-values	
Modified Dickey	-2.069^b		0.019	
Dickey	-3.014^a		0.001	
Augmented Dickey	-2.061^b		0.019	
Unadjusted Modified Dickey	-2.619^a		0.004	
Unadjusted Dickey	-3.188^a		0.000	
Pedroni test	Intercept		Intercept and trend	
	Statistics	p-values	Statistics	Statistics
Modified Phillips	0.9781	0.164	1.667^b	0.047
Phillips	-3.421^a	0.000	-6.442^a	0.000
Augmented Dickey	-3.618^a	0.000	-3.366^a	0.000

Note: The symbols 'a', 'b', and 'c' in the table show the null hypothesis is rejected at 1%, 5%, and 10% respectively.

Table 5 presents the results from the Kao (1999) and Pedroni (1999, 2004) cointegration tests. For the five test statistics of the Kao cointegration technique, the null hypothesis of no cointegration relationship was rejected for the variables under examination. Therefore, it has been determined that the variables tend to approach equilibrium in the long term. This finding is further supported and reinforced by the Pedroni test. For two of the three test statistics in the Pedroni technique, the null hypothesis was rejected. Consequently, as a common result of both cointegration tests, a long-term relationship between poverty, institutional quality, income distribution, and economic growth was found in the four selected Eastern Mediterranean countries between 2004 and 2021.

Table 6: Long run estimation of FMOLS and DOLS models

Variables	FMOLS			DOLS		
	Coeff.	t-Stat.	P-valuse	Coeff.	t-Stat.	P-values
IQ	-0.037^a	-12.57	0.000	-0.073^a	-14.21	0.000
GINI	-1.866^a	-7.11	0.000	-0.352^a	-6.27	0.000
lnY	-0.049^a	-16.86	0.000	-0.078^a	-16.86	0.000

Note: The "a" symbol denotes the level of statistical significance at the 1% level.

In this study, the long-term effects of factors such as institutional quality, income inequality, and economic growth on poverty were analyzed using the FMOLS and DOLS methods, with the results presented in Table 6. The findings show that the estimates obtained from both methods are statistically very similar. In both FMOLS and DOLS model specifications, all explanatory variables are found to have a poverty-reducing effect at the 1% significance level. Firstly, an investigation into the relationship between institutional quality and poverty, a 1-unit increase in institutional quality was found to reduce poverty by 0.037% in the FMOLS model and 0.073% in the DOLS model. This result is in accordance with the results presented by Perera and Lee (2013) and Singh (2021). Secondly, when examining the relationship between poverty and income inequality, a 1-unit increase in the GINI index was found to reduce poverty by 1.866% in the FMOLS model and 0.352% in the DOLS model. This finding is supported by the study of Breunig and Majeed (2020). Thirdly, when examining the effect of economic growth on poverty, a 1% increase in economic growth was found to reduce poverty by 0.049% in the FMOLS model and 0.078% in the DOLS model. This result aligns with the findings of Mogess et al. (2023). In conclusion, the findings of this study suggest that in the long run, developing and improving the legal system, modeling welfare in a way to distribute it more equitably to all segments of society, and increasing economic growth will reduce poverty in the four Eastern Mediterranean countries selected within the framework of the established model.

Conclusion and Policy Recommendations

This study examines the relationship between poverty and institutional quality in four Eastern Mediterranean countries over the period 2004-2021. In the constructed model, the first step was to investigate the multicollinearity among the variables, followed by unit root analysis. The findings were used to examine the existence of a long-term relationship among the series. The long-term estimation results obtained through FMOLS and DOLS techniques were then interpreted.

The study's findings indicate that institutional quality is a crucial factor in the long-term reduction of poverty in the four Eastern Mediterranean countries. It has been observed that ensuring the rule of law can prevent poverty. In this context, improvements in institutional quality contribute to increasing the share of welfare received by the impoverished segments of society. The development of stronger and more effective institutions will reduce the depth and prevalence of poverty. Another finding is that the reduction in income inequality leads to a decrease in poverty rates. A more widespread distribution of welfare will reduce the number of impoverished individuals in society. Furthermore, the study found that economic growth reduces poverty. This result indicates that in periods of increased economic growth, welfare is more evenly distributed, and poverty decreases.

In consideration of the aforementioned findings, a number of policy recommendations can be proposed for policymakers seeking to diminish poverty. First, improving institutional quality should be a priority. This is because institutions not only directly affect poverty but also influence economic growth, which in turn indirectly reduces poverty. Studies by Acemoglu et al. (2001) and Rodrik (1999) suggest that building strong institutions fosters economic growth. Therefore, institutions do not merely reduce poverty rates directly, but also promote economic growth, which, according to our findings, further reduces poverty and creates an indirect effect. Finally, policymakers should develop social policies that will ensure the broader distribution of welfare. Such policies will allow all segments of society to benefit more from welfare, thereby contributing to a reduction in poverty rates.

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CHAPTER 17

The Effects of Negative Stereotypes Against Women on Workplace Conflict and Employee Performance

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1. INTRODUCTION

Despite the increasing participation of women in the business world, "gender-based discrimination" remains an ongoing concern that has not been adequately addressed globally. Although legal frameworks are being established to decrease this tendency, women often face obstacles in gaining acceptance in the workforce, and even when they succeed, their roles are frequently limited to specific sectors. They generally earn lower wages, occupy less prestigious positions, and have fewer opportunities for advancement than their male counterparts. These challenges are prevalent in both developed and developing nations.

Management literature highlights "invisible barriers that prevent women from reaching top managerial roles, despite having equal access to education and merit," a phenomenon referred to as the glass ceiling (Robbins and Judge). According to the United Nations Millennium Development Goals Report (2012:22), women typically hold less lucrative positions compared to men, with only 25 percent of senior roles globally occupied by women. Furthermore, the report states that the global employment rate for women in paid jobs outside the agricultural sector is only 35 percent, dropping to 15-20 percent in Asian and African nations. The International Labor Organization (ILO) Report on Women in Business and Management (2015:21) notes that a mere 2.8 percent of senior managers in public companies in the EU—where robust human rights laws exist—are women. In Turkey, women constitute only 12.22 percent of all managerial roles, placing the country 95th out of 126 nations (ILO, 2015:19). TÜİK Household Labor Force Surveys (2021) show that while the labor force participation rate for individuals aged 15 and older in Turkey is 51.4%, it is 70.3% for men and only 32.8% for women.

Overall, about half of the working-age population in Turkey is either employed or actively seeking work. However, when comparing workforce participation rates, it becomes clear that women's involvement significantly lags the OECD average. Furthermore, overall unemployment rates reveal that women experience higher unemployment levels than men. While the gender gap remained relatively narrow until 2009, it began to widen thereafter, reaching a four-percentage-point difference by 2021. Analyzing these statistics clearly indicates the limited role of women in decision-making processes, particularly in senior management roles.

Individuals categorize others into social groups. Stereotypes represent the inclination to evaluate individuals based on the groups to which they belong

(Robbins and Judge, 2010: 173) and are recognized as distortions in the perception process (Buchanan and Huczynski, 2004: 228). Since these assessments are cognitive, emotional, and behavioral, they influence how we perceive others based on characteristics often associated with their respective groups. Stereotypes forms a cognitive framework about knowledge, beliefs, and expectations of people as they are member of these groups.

Unseen challenges for women in the workplace include additional familial responsibilities (such as femininity, motherhood, and caregiving), societal expectations, a patriarchal corporate culture, the perception of management as a male-dominated field, a lack of female role models, inflexible work conditions, poor enforcement of equality regulations, insufficient leadership training, and prevalent stereotypes against women (ILO, 2015:16). The stereotypes against women as highlighted in this report distort our perceptions of women, hindering their success in the workplace.

2. ORIGIN OF STEREOTYPES: SOCIAL CATEGORIZATION

Our perceptions—the meanings we attach to the information available to us—shape our behaviors. Concepts such as perceptual bias and perceptual expectation illustrate how we understand other people, events, and objects. To navigate our surroundings, we need to define the situations and individuals around us, creating a framework based on these definitions to foresee dangers and reduce uncertainty. One common method we use to make sense of our environment and the people within it is social categorization. This occurs when we perceive individuals as members of social groups rather than as unique individuals. For example, we might refer to someone as a "man" or "woman," or use derogatory terms, instead of simply calling them a "person." Social classifications often revolve around gender, age, and ethnicity (Bilgin, 1996: 46; Mackie et al., 1996: 44; cited in Demirtaş, 2004).

Social classification helps us perceive our environment more easily and systematically. The most prevalent way to categorize people is by dividing the world into groups of those who are like us and those who are not (Kağıtçıbaşı, 2005:250-251). This behavior of categorization results in viewing our social world as divided into two distinct groups: 'We'—referring to our ingroup—and 'Others'—referring to outgroups (Billig and Tajfel, 1973). There are two significant consequences of this division: the belief that "they are all the same" and the tendency to "favor the ingroup." We often perceive outgroup members as homogeneous (Hortaçsu, 1997: 272). One reason for this is that people generally have more knowledge about their group and categorize the opposing group based

on limited dimensions, such as gender, education, profession, race, religion, or language. This tendency simplifies our understanding and decision-making, allowing us to predict the behavior of others more easily by viewing opposing group members as similar.

Through classification, people divide the world into various social groups and create a cognitive structure encompassing their knowledge, beliefs, and expectations about these groups. This cognitive structure is known as a stereotype (Demirtaş, 2004). In this context, stereotypes emerge from the social categorization process, serving to favor one's ingroup while discriminating against the other group, thereby fulfilling the need to demonstrate positive behavior. The inclination to favor one's group, known as ingroup favoritism, leads us to perceive the groups we belong to as superior to others. This often results in allocating more resources to our group than it deserves during distributions (Kağıtçıbaşı, 2005:256). While individuals differentiate their ingroup from the outgroup, they simultaneously develop stereotypes about both groups (Hortaçsu, 1998:249).

Stereotypes are mental images formed in our minds that serve as a set of pre-established impressions and references, helping to fill gaps in our knowledge about a particular group or object. These images function similarly to the actual features of objects in the real world. Walter Lippmann (1922, in Buchanan and Huczynski, 2004:228), who popularized the term stereotype, describes them as "pictures in the head." Although stereotypes represent a cognitive pattern, they often lead to behavioral consequences and can result in discrimination against individuals from different social groups (Hortaçsu, 1998:230). Stereotypes involve perceiving a person based on their group affiliation (Robbins and Judge, 2010:173). These evaluations are informed by beliefs and the characteristics associated with that social group, and these characteristics—whether cognitive, emotional, or behavioral. In this regard, stereotypes are often seen as errors in our understanding of others that may contain incorrect information about people. may not accurately reflect reality (Buchanan and Huczynski, 2004:228).

2.1. Negative Stereotypes Against Women

Numerous studies conducted in academic literature (Goldin and Rouse, 2000; Moss-Racusin et al., 2012; Baron et al., 2014) and by international institutions (ILO, UNDP, World Economic Forum, etc.) reveal that gender-related perceptions negatively impact women in various ways, often placing them at a disadvantage in their professions. Traditionally, women have been expected to be the caretakers of the home, while men assumed the role of providers. This led to

the emergence of the "breadwinner" male alongside the "housewife" female (Bora, 2012).

Gender stereotypes arise when employees are evaluated based on conventional beliefs about their gender. These stereotypes can take multiple forms, reflecting cultural norms regarding gender behavior (Kelly et al., 1993). Individuals who hold these stereotypes often rely on biological differences in interpreting and organizing their perceptions (Dobbins et al., 1988, cited in Dorio, 2005).

Negative gender stereotypes frequently result in workplace discrimination, which can manifest in various ways, including inappropriate jokes about women (Fisher, 1984). Many individuals engage in this behavior while believing they are not discriminatory. Additionally, discrimination is evident when women are treated differently from men. This differential treatment, driven by negative stereotypes, may appear logical to those who hold these views (Owen and Todor, 1993). Prejudice and hostility towards those who do not conform to these stereotypes are also prevalent (Kelly et al., 1993).

One landmark case highlighting gender stereotypes in the workplace is the Ann Hopkins case. In her lawsuit against Price Waterhouse, the court recognized that gender-based stereotypes influenced the decision to deny Hopkins a partnership position, thereby establishing that discrimination had occurred (Fiske et al., 1991). Owen and Todor (1989) identified several common negative stereotypes against women in the workplace:

- Women prioritize family responsibilities over work, which can lead to divided attention.

- Women are often seen as working primarily for supplementary income, resulting in the perception that they are less committed to success.

- Women may take criticism personally rather than professionally, potentially reacting emotionally.

- Women are viewed as overly emotional and insufficiently aggressive, making them appear unsuitable for managerial roles.

These stereotypes can significantly hinder women's opportunities for promotion. For instance, Owen and Todor (1993) provides an example of a female employee who received excellent performance evaluations but was not promoted because her boss believed she would likely not remain with the company long-term and might eventually have children, leading to her departure. A study reported in the Wall Street Journal in 1992 indicated that the most

persistent stereotype against women is that they are responsible for family duties, which is often cited as a reason for their underrepresentation in top positions (Kelly et al., 1993).

Baum (1987) found that nearly half of top-level female managers were either never married or divorced, with one in three married women not having children. While some qualified professional mothers may choose to avoid the pressures of a corporate career, this is not true for most female professionals (Owen and Todor, 1993).

Fiske (1989 cited in Kelly et al., 1993) notes that gender stereotypes often emerge in the workplace under certain conditions:

- When an individual is isolated or unique in a non-homogeneous environment, their distinct characteristics may heavily influence decision-making.

- When a previously excluded group (whether by gender or ethnicity) enters a non-traditional profession, there is a tendency for individuals to align with their group identity rather than be evaluated based on performance.

- When information and criteria are ambiguous, stereotypes can shape perceptions and provide meaning, especially in situations open to interpretation.

Owen and Todor (1993), along with Heilman (1991), argue that the scarcity of female managers in senior roles is largely due to negative stereotypes about women. They emphasize that although women's societal roles have evolved significantly, a prevailing belief persists that women are less suited for managerial positions than men.

Many studies in academic literature (Goldin and Rouse, 2000; Moss-Racusin et al., 2012; Baron et al., 2014) and from international institutions (ILO, UNDP, World Economic Forum, etc.) demonstrate that gender-related perceptions negatively impact women, putting them at a disadvantage in their professions. Traditionally, women have been assigned the role of caretakers of the home, while men are seen as providers. These dynamic positions the breadwinner type of man alongside the housewife type of woman (Bora, 2012).

Gender stereotypes manifest when employees are judged based on traditional views of gender roles. These stereotypes can take various forms, generally rooted in cultural expectations regarding appropriate gender behavior (Kelly, Young, & Clark, 1993). Individuals who hold these gender-based stereotypes are more likely to rely on someone's biological sex to interpret and organize their perceptions (Dobbins et al., 1988, as cited in Dorio, 2005).

Negative gender stereotypes can lead to workplace discrimination, which may manifest as "rude jokes about women" (Fisher, 1984). Many individuals exhibit this behavior while believing they do not discriminate. Moreover, discrimination can occur through differential treatment of women compared to men. This tendency for men with negative stereotypes about women to behave differently seems logical to them (Owen and Todor, 1993). Prejudice and hostility toward individuals who do not conform to these stereotypes also form another type of discrimination (Kelly, Young, & Clark, 1993).

Fiske (1989) outlines conditions under which gender stereotypes emerge in the workplace (as cited in Kelly, Young, & Clark, 1993):

- If an individual is isolated or unique and the environment is non-homogeneous, their distinctive characteristics may dominate decision-making.

- If a previously excluded group (based on gender or ethnicity) enters a traditional profession, members of that group may be evaluated more based on group membership than performance.

- When information and criteria are ambiguous, stereotypes create structure and meaning, shaping subjective perceptions when the data is open to interpretation.

Owen and Todor (1989) identify common negative stereotypes against women in the workplace, including:

- Women prioritize family demands over work, making them less dedicated to their jobs.

- Women seek jobs primarily for additional income, resulting in less motivation to succeed.

- Women take negative feedback personally, which may affect their professional demeanor.

- Women are perceived as overly emotional and not aggressive enough, rendering them unsuitable for managerial positions.

These stereotypes can significantly impact women's promotion to high-level positions. For instance, a well-performing female employee might not be promoted because her boss doubts her commitment, assuming she will leave for family reasons (Wentling, 1992, as cited in Owen and Todor, 1993). The Wall Street Journal's study on flexible policies (1992) indicated that the enduring stereotype is that women should manage family responsibilities, which explains their rarity in top positions (cited in Kelly, Young, & Clark, 1993).

Additionally, a study by Baum (1987) revealed that nearly half of top-level female managers were either never married or divorced, and one in three married women did not have children. While some qualified professional women who are mothers may choose to avoid corporate pressures, this does not represent the majority of female professionals (Owen and Todor, 1993).

Owen and Todor (1993), along with Heilman (1991), argue that the scarcity of female managers in senior positions largely results from negative stereotypes about women. They emphasize that although women's roles in society have evolved significantly, a prevailing belief still exists suggesting that women are less suited for managerial roles than men.

Ardak et al. (1994) point out that while women's roles in social life have changed dramatically, there is still a perception that they are less suitable for managerial positions than men. In a study conducted at 9 Eylül University on the profile of executive women, they found that women are combative, ambitious, often take work home, and set challenging goals for themselves. Despite these important traits, only 8% of the participants in the study viewed women positively in managerial roles (cited in Örücü, Kılıç, & Kılıç, 2007).

Research has demonstrated that managerial positions in organizations often align with characteristics traditionally viewed as masculine (Heilman, 2001). As a result, women are expected to struggle at higher levels of management due to their perceived lack of these masculine traits. For instance, while the quality of products is assessed fairly among men, a woman's equivalent performance may be undervalued due to gender stereotypes. A productive phone conversation by a man may be viewed favorably, while the same effort by a woman might be described as "sloppy." Moreover, decision-making behavior may be labeled as "passivity" for women but as "caution" for men. Heilman (1991) argues that the criteria for performance evaluation at higher levels are often vague and subject to bias, with terms like "charismatic," "courageous," and "resilient" exacerbating gender stereotypes.

Unlike their male counterparts, women's job performance may not facilitate their rise within organizations. These stereotypes are perpetuated through two frameworks: how women are perceived and the expectations tied to those perceptions. Even undeniable successes of women are often seen as exceptions and attributed to external factors like luck, rather than their skills or hard work, as exemplified by the case of Ann Hopkins, who was viewed negatively for adopting traditionally masculine traits.

Another stereotype is that women exhibit hostility towards one another, complicating their advancement in the workplace. Örücü, Kılıç, and Kılıç (2007) found that there is a perception that women cannot support each other in business, a phenomenon they termed the "queen bee syndrome." They also identified beliefs that women struggle to remain calm in crises as obstacles to reaching higher positions.

2.2. Stereotypes and Conflict in the Workplace

Social categorization and stereotypes about others can lead to task and relationship conflicts in the workplace (Gibson et al., 2012; Randel, 2002; Jehn et al., 1999; Pelled et al., 1999). Conflicts can be classified into several types: intrapersonal conflict, interpersonal conflict, conflicts between individuals and groups, conflicts within groups, and conflicts between organizations. Interpersonal conflict occurs when two or more people disagree on various issues. Significant reasons for this include differing goals, methods, information, and values, as well as the roles individuals play within the organization.

In the workplace, negative stereotypes contribute to the deterioration of relationships and the onset of conflict (Gibson et al., 2012). Research has divided conflict into two categories: *interpersonal-relationship conflict and task-related conflict* (O'Neil, 2011). According to Jehn (1995), *relationship conflict* manifests as tension, opposition, dislike, and anger arising from interpersonal incompatibilities. *Task conflict,* on the other hand, involves disagreements about the task at hand, including differing perspectives and ideas. Jehn (1995) found that both relationship and task conflicts negatively impact satisfaction, group cohesion, and members' desire to remain in the group (cited in Zorn-Aguirre, 2013).

Randel (2002) noted that diversity within a group, which consists of individuals from different backgrounds with often varying perspectives, can frequently lead to conflict. Jehn, Northcraft, and Neale (1999) discovered a positive relationship between gender diversity and relationship conflict, emphasizing that discrimination and favoritism due to social categorization can disrupt group interactions. Billig and Tajfel (1973) stated that individuals tend to favor those within their social category while discriminating against those who are not like them, which can lead to disruptive stereotypes. This inclination to categorize people into different groups fosters hostility and opposition within the group, often manifesting in non-work-related gossip and social activities, thereby contributing to relationship conflict. Such conflicts can arise from personal preferences linked to social categories or disagreements in personal interactions

(Jehn, Northcraft, and Neale, 1999). These hostile interactions give rise to relationship conflict, characterized by anger, resentment, and other negative emotions. As diversity within a group increases, individuals tend to interact more with those from different backgrounds, which can heighten exposure to stereotypes and prejudices, making relationship conflict more apparent (Pelled, Eisenhardt and Xin, 1999).

Randel (2002) examined the relationship between group gender composition and conflict, finding that as the numerical presence of a gender increases within the group, that gender becomes more salient, which is particularly true for men. His research indicated that the gender composition of the group is positively related to relationship conflict among men. Moreover, members of the majority gender (in this case, men) are more likely to feel the impacts of group heterogeneity than minority members. Randel (2002) attributes this phenomenon to the greater salience of dominant identity characteristics within the group, suggesting that negative effects become more pronounced as diversity increases.

Research further supports those managerial levels in organizations (Heilman, Block, Martell, & Simon, 1989; Powell & Butterfield, 1989) and the characteristics associated with a "good manager" (Martell, Parker, Emrich, & Crawford, 1998) are often defined by masculine traits, typically attributed to men (cited in Heilman, 2001). In this context, Randel's (2002) research confirms that men in managerial roles—who are generally in the majority—experience more relationship conflicts with their female colleagues.

Task and relationship conflicts can arise from group diversity. While task-related differences—such as an employee's previous work experience, age, seniority, and education—tend to influence task conflict more significantly, relationship conflict is often impacted by forms of diversity like gender, race, and ethnicity. These aspects can trigger stereotypes that lead to increased emotional conflict. Factors like functional background and seniority are closely tied to job performance. Since cognitive tasks in the workplace generally require more experience and knowledge, they are particularly influenced by an individual's seniority and functional background.

Conversely, attributes such as age, gender, and race are less relevant to job performance (Pelled, Eisenhardt, and Xin, 1999). Conflict research often categorizes conflict into two types: interpersonal relationship conflict and task-related conflict (Jehn, 1995). This literature suggests that while relationship conflict usually hinders work performance, task conflict can be beneficial in certain situations, especially in complex jobs (O'Neil, 2011). In roles that are

more complex than routine, task conflict can enhance performance. However, in simple, routine jobs, task conflict may negatively affect performance (Jehn, 1995; cited in O'Neil, 2011).

For instance, in environments where goals are clear and established routines are followed, such as in mass production, task conflict can adversely impact performance. In contrast, for tasks that involve creativity and critical thinking—like developing a new product—task conflict may encourage creative thinking and allow individuals to contribute diverse perspectives (Zorn-Aguirre, 2013). Although both task and relationship conflicts can be negatively influenced by group diversity and thus affect overall performance, task conflict might be beneficial in cognitive tasks, as previously mentioned.

It's important to note that these two types of conflict can coexist and exacerbate each other. Task conflict can be misinterpreted personally by team members, potentially leading to relationship conflict. Conversely, existing relationship conflict may intensify task conflict by causing members to criticize each other's ideas more (Pelled, Eisenhardt, and Xin, 1999). Within this research context, it is predicted that both types of conflict could negatively impact performance.

Moreover, research indicates that women are more susceptible to the negative effects of stress than men. Women often face additional stressors, both at home and in the workplace. Besides workload, factors such as prejudice, role-related issues, gender differences, and feelings of alienation contribute to women experiencing stress more acutely (Ertekin, 1993: 145–157).

3. RESEARCH METHOD

This study predicts that the adoption of negative gender stereotypes, often directed against women in the workplace, may adversely impact employee performance in tasks conducted alongside female colleagues. This influence could lead to both task-related and relationship conflicts with female colleagues. According to research published by Capital magazine (November 2013:92), the study is classified as 'Women-Friendly' since seven banks are among the top ten employers of women in Turkey, with the banking sector having the highest number of female managers.

The research was conducted in the banking sector, focusing on a population of 253 employees at the Izmir Regional Directorate of a bank. Survey questions were distributed to 70 individuals selected via simple random sampling, and

responses were received from 53 participants, resulting in a response rate of 75.6%.

The survey consists of five sections. The first section includes eight statements regarding the negative stereotypes that participants may hold towards women. These statements were developed through a literature review, drawing on the works of Örücü, Kılıç, and Kılıç (2007), Owen and Todor (1993), and Heilman (2001). The second section includes four items measuring task conflict adapted from the task conflict scale used by O'Neill (2011), which references Jehn (1995, 1999). The third section employs the relationship conflict scale from O'Neill (2011), which also cites Jehn (1995, 1999). The fourth section utilizes the "Employee Performance Scale" developed by Kirkman and Rosen (1999). This scale evaluates individual performance in tasks conducted with female colleagues. It was adapted to Turkish by Çöl (2008). The final section of the survey includes four statements to identify the demographic characteristics of the participants.

3.1 Research Model

This research is based on the assumption that negative stereotypes about women lead to conflicts—both task-related and relational—among female colleagues. Such conflicts are expected to negatively impact the performance of individuals collaborating with these colleagues. The main premise of the study is that these negative stereotypes will adversely influence a person's performance in their work with female peers. Figure 1 illustrates the research model.

The data for this study were analyzed using the SPSS 15 software package. The analysis included frequency distributions, cross-tabulations, chi-square tests, factor analysis, t-tests, and correlation analysis. Furthermore, simple linear regression analysis was used to test the correlation coefficients for significant relationships.
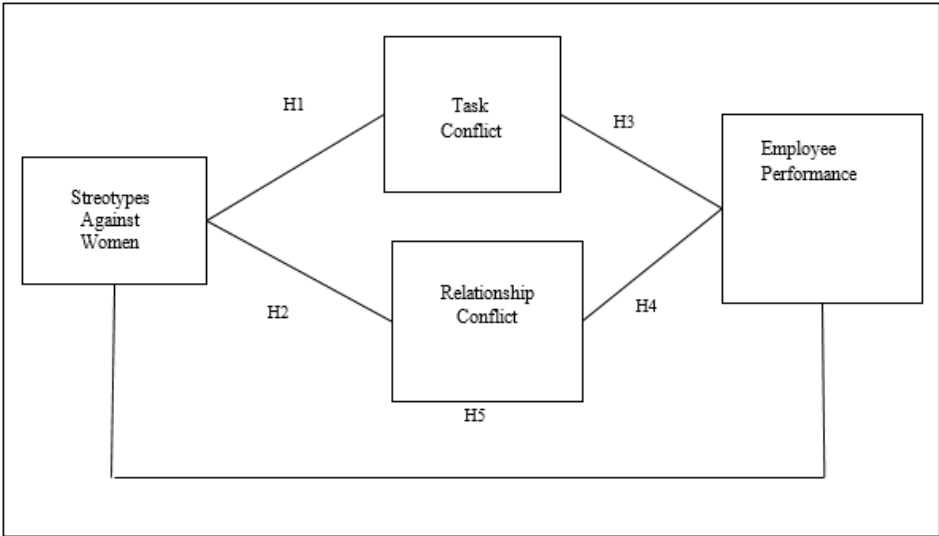
Figure 1. Research Model

3.2. Findings

Table 1 gives frequency and percentage distributions regarding the participants' socio-demographic characteristics. According to the results, 27 (49.1%) are female, 28 (52.8%) are single, 43 (81.1%) are university graduates, and 21 (39.6%) are between the ages of 36 and 42.

To evaluate the reliability of the scale measuring stereotypes about women, Cronbach's alpha values were examined at a 95% confidence interval. Upon reviewing these values, the scale was deemed reliable. Subsequently, an explanatory factor analysis was conducted to identify the relationships among variables related to negative stereotypes about women, task and relationship conflicts with female co-workers, and performance in tasks executed with female colleagues. Before this analysis, negative statements were reversed and coded positively.

When the statements regarding negative stereotypes towards women in Table 2 are examined, the statements that the participants agreed with the most are listed as "Women act emotionally when making decisions" (54.7%); "Women panic more easily when faced with difficulties" (49%) and "If you give negative criticism to women personally, they will react negatively" (47.1%).

The results of the factor analysis are presented in Table 3 below. It was found that the statements measuring negative stereotypes about women were categorized into three factors. The first factor, which reflects attitudes about women being more emotional, was labeled "Negative Stereotypes About Women's Emotional Responses." The second factor was named "Negative Stereotypes About Women Not Getting Along With Each Other" due to its focus on stereotypes regarding women's interpersonal challenges. The third factor was titled "Negative Stereotypes About Women's Managerial Qualities," as it included stereotypes questioning women's managerial abilities.

Table 1. Socio-Demographic Characteristics of Participants

Gender	n	%	Marital status	n	%
Male	27	50.9	Single	28	52.8
Woman	26	49.1	Married	25	47.2
Total	53	100	Total	53	100
Educational Status	**n**	**%**	**Age**	**n**	**%**
High school	4	7.5	20-27	13	24.5
University	43	81.1	28-35	19	35.8
Degree	6	11.3	36-42	21	39.6
Total	53	100	Total	53	100

Table 2. Frequency Analysis of Tendency to Adopt Negative Stereotypes Against Women

Expressions	1		2		3		4		5	
	n	%	n	%	N	%	n	%	n	%
1. Women act emotionally when making decisions	1	1.9	11	20.8	12	22.6	23	43.4	6	11.3
2. Women panic more easily when faced with difficulties.	2	3.8	17	32.1	8	15.1	21	39.6	4	9.4
3. They cannot give their work the necessary time and attention because their family responsibilities take priority.	7	13.2	25	47.2	10	18.9	8	15.1	3	5.7
4. If you give negative criticism to women personally, they will react negatively.	2	3.8	17	32.1	9	17	20	37.7	5	9.4
5. 5. Women are slow to make decisions.	6	11.3	25	47.2	8	15.1	11	20.8	3	5.7
6. Women's management and leadership skills are not sufficient	26	49.1	20	37.7	4	7.5	3	5.7	-	-
7. Women gossip and increase conflicts at work.	1	1.9	17	32.1	12	22.6	17	32.1	6	11.3
8. Women cause conflict in the workplace because they envy each other.	1	1.9	18	34	15	28.3	18	34	1	1.9

For assessing task and relationship conflict, statements were adapted from the scales used by O'Neill (2011), cited from Jehn (1995, 1999). The factor analysis revealed that these statements clustered into two factors: the first, labeled "Relationship Conflict," pertains to conflicts in employees' personal relationships, while the second, termed "Task Conflict," focuses on conflicts related to specific tasks.

The statements assessing employee performance concerning tasks carried out with female colleagues were grouped into a single dimension. It was confirmed that all dimensions were reliably measured using the existing statements. Consequently, sub-hypotheses were incorporated into hypotheses H1, H2, and H6 based on the results of the factor analysis.

Table 3: Results of Rotational Factor Analysis

Factor		Cronbach Alpha	Variables	Factor Loadings
Negative Stereotypes Against Women KMO=0.65 Bartlett=117,894 p<0.05	Negative Stereotypes About Women's Emotional Responses Explanation Percentage=28.12	0.744	Women panic more easily in the face of difficulties.	,791
			If you criticize women negatively, they will react negatively.	,732
			Women act emotionally when making decisions.	,711
			Since their family responsibilities take priority, they cannot give their work the time and attention they need.	,699
	Negative Stereotypes About Women Not Getting Along With Each Other Explanation Percentage=22.18	0.804	Women cause conflict in the workplace because they envy each other.	,884
			Women increase conflicts in the workplace by gossiping.	,874
	Negative Stereotypes About Women's Managerial Qualifications Explanation Percentage=18.69	0.564	Women's management and leadership skills are not sufficient.	,884
			Women are slow to make decisions.	,718
Conflict	Relationship Conflict	**0.835**	How much tension do you experience with your female colleagues when it comes to work-related decisions?	,814

KMO=0.674 Bartlett=197,879 p<0.05	Explanation Percentage=34.67		How much friction do you experience with your female colleagues on work-related decisions?	,813
			How much conflict do you experience with your female colleagues due to your different personality traits?	,772
			What is your level of anger when working with your female colleagues?	,720
	Task Conflict	**0.716**	To what extent are you able to overcome conflicts in business decisions?	,793
	Explanation Percentage=28.19		How much difference is there between your views and those of your female colleagues?	,716
			How intensely do you disagree with the ideas of your female colleagues?	,677
			How often do you disagree with the ideas of your female colleagues?	,617
Performance KMO=0.67 Bartlett=99,717 p<0.05	Explanation Percentage=65.83	0.808	I more than achieve my business goals.	,943
			When a problem arises, I produce a solution as quickly as possible.	,874
			I am sure that I have exceeded the standards in the quality of my work.	,765
			I complete my tasks on time.	,628

When evaluating the performance of employees in tasks carried out with female colleagues, it is observed that employees tend to rate their own performance highly. They report completing their work on time, quickly finding solutions to any problems that arise, achieving their work goals, and being satisfied with the quality of their output. While overall performance does not significantly differ when collaborating with female colleagues, it is noteworthy

that 53% of women express satisfaction with the quality of work performed, compared to 82% of men.

Table 4: Performance Level in Tasks Performed with Female Colleagues

Expressions	Definitely I disagree		I disagree		I'm unde-cided		I agree		Definitely I agree	
	n	%	n	%	N	%	n	%	n	%
1. I complete my tasks on time.	1	1.9	3	5.7	5	9.4	26	**49.1**	18	34.0
2. I exceed my work goals.	-	-	6	11.3	5	9.4	33	**62.3**	9	17.0
3. I am sure that I have more than reached the standards in the quality of my work.	2	3.8	7	13.2	5	9.4	28	**52.8**	11	20.8
4. When a problem arises, I produce a solution as quickly as possible.	-	-	5	9.4	9	17.0	26	**49.1**	13	24.5

The quality of work varies according to gender, with a significance level of $p=0.033$, which is less than the threshold of 0.05. This difference is believed to be linked to women being more confident and self-critical on a task-by-task basis, rather than the influence of collaborating with female colleagues.

According to the results of the chi-square analysis, it was found that the stereotypes that women act emotionally when making decisions ($p=0.016$, $p< 0.05$), panic more easily in the face of difficulties ($p= 0.05$, $p<0.05$), cannot handle negative criticism ($p= 0.018$, $p<0.05$) and do not have sufficient managerial and leadership skills ($p= 0.013$, $p<0.05$) showed a significant difference according to gender.

However, the frequency of disagreement with female colleagues and the frequency of tension with female employees show a significant difference by gender. While 44% of male participants stated that they agreed with their female colleagues, they still felt tension in general (51%). In contrast, 76% of female participants stated that they had a disagreement with their gender regarding work-related decisions. The rate of women who stated that they experienced tension with each other was 37%, and the majority stated that they did not experience such tension (60%).

Table 5: Cross-Table of Task and Relationship Conflict of Employees with Female Colleagues and Gender

Expression	Gender		Very little	Little	A little	A lot	Too much	Total
Mission Conflict: p<0.05 p=0.007	Male	N	6	12	8	1	-	27
		%	22.2%	44.4%	29.6%	3.7%	-	100
	Woman	N	3	3	13	7	-	26
		%	11.5%	11.5%	50.0%	26.9%	-	100
	Total	N	9	15	21	8	-	53
		%	17.0%	28.3%	39.6%	15.1%	-	100
Relationship Conflict: How much tension do you experience with your female co-workers? p<0.05 p=0.015	Male	N	9	4	13	1	0	27
		%	33.3%	14.8%	48.1%	3.7%	,0%	100
	Woman	N	8	8	3	5	2	26
		%	30.8%	30.8%	11.5%	19.2%	7.7%	100
	Total	N	17	12	16	6	2	53
		%	32.1%	22.6%	30.2%	11.3%	3.8%	100

Research suggests that the conflict arising from the tasks employees perform, known as 'task conflict,' and the personal conflicts with female colleagues, referred to as 'relationship conflict,' can influence each other (Pelled, Eisenhardt, and Xin, 1999). In this context, there is a significant relationship between these two types of conflict, as indicated by the findings (r = 0.577, p < 0.001). Therefore, hypothesis H3 is confirmed.

It has been observed that the tendency to adopt negative stereotypes towards women does not affect two specific types of conflict. Literature suggests that social categorization can disrupt group interaction, leading to hostility and opposition, which in turn may result in relationship conflict characterized by tension, friction, and anger stemming from interpersonal incompatibilities (Jehn, 1995, as cited in Zorn-Aguirre, 2013; Jehn, Northcraft, & Neale, 1999; Pelled, Eisenhardt, & Xin, 1999). However, this research assumed that both types of conflict could still be influential.

Contrary to predictions, no significant relationships were found between negative stereotypes towards women and either relationship conflict (r=0.137) or

task conflict (r=0.071), leading to the conclusion that Hypotheses H1 and H2 were not supported. The correlation analysis further revealed no significant relationships between sub-hypotheses: negative stereotypes related to women's emotional reactions and task conflict (r=0.143), and negative stereotypes regarding women not getting along with each other and task conflict (r=0.169), resulting in the rejection of H1a and H1b.

Table 6: Hypotheses and Correlation Coefficients

Hypotheses	Support	Correlation Coefficient
H1: As the tendency to adopt negative stereotypes against women increases, task conflict with female colleagues increases.	Not supported	r= 0.071
H1 a: As the tendency to adopt negative stereotypes about women's emotional responses increases, task conflict with female colleagues increases.	Not supported	r= 0.143
H1b : As the tendency to adopt negative stereotypes about women not getting along with each other increases, task conflict with female colleagues increases.	Not supported	r= 0.169
H1c : As the tendency to adopt negative stereotypes about women's managerial and leadership qualities increases, task conflict with female colleagues increases.	**Supported**	**r= 0.266***
H2: As the tendency to adopt negative stereotypes towards women increases, relationship conflict with female colleagues increases.	Not supported	r= 0.137
H2a : As the level of agreement with negative stereotypes about women's emotional responses increases, relationship conflict with female colleagues increases.	Not supported	r= 0.192
H2b : Relationship conflict with female colleagues increases as the level of agreement with negative stereotypes about women not getting along with each other increases.	Not supported	r= 0.041
H2c : As the level of agreement with negative stereotypes about women's managerial and leadership qualities increases, relationship conflict with female colleagues increases.	Not supported	r= 0.078
H3: There is a positive relationship between task conflict and relationship conflict.	**Supported**	**r= 0.577****
H4 : As task conflict with female colleagues increases, individual performance decreases in tasks performed with female colleagues.	Not supported	r= -0.059
H5 : As relationship conflict with female colleagues increases, individual performance decreases in tasks performed with female colleagues.	Not supported.	r= -0.041
H6: As the tendency to adopt negative stereotypes against women increases, an individual's performance in tasks with female colleagues decreases.	Not supported.	r= 0.273

H6a : As the tendency to adopt negative stereotypes about women's emotional responses increases, one's performance on tasks with female colleagues decreases.	Not supported	r= 0.378
H6b : As the tendency to adopt negative stereotypes about women not getting along with each other increases, one's performance on tasks with female colleagues decreases.	Not supported	r= 0.275
H6c : As the tendency to adopt negative stereotypes about women's managerial and leadership qualities increases, an individual's performance decreases in tasks with female colleagues.	**Supported**	**r= -0.308***

* Correlation is significant at 1% significance level. ** Correlation is significant at 5% significance level.

Nonetheless, it was confirmed that the tendency to adopt negative stereotypes about women's inadequate managerial and leadership skills led to task conflict (r=0.266, p<0.01), supporting H1c. The direct regression analysis indicated that perceptions of women's inadequate managerial and leadership skills significantly predicted poor performance in tasks conducted alongside female colleagues (F=5.363, p<0.05). However, this tendency explained only a very small portion of the variance in poor performance, at just 0.09% (R²=0.095). Pelled, Eisenhardt, and Xin (1999) noted that individual characteristics directly related to the task tend to have a greater impact on task conflict, emphasizing that qualifications gained from experience and knowledge are paramount in workplace tasks.

Research suggests that managerial levels (Heilman, Block, Martell, & Simon, 1989; Powell & Butterfield, 1989, as cited in Heilman, 2001) and traits associated with a "good manager" (Martell, Parker, Emrich, & Crawford, 1998, as cited in Heilman, 2001) are often defined by masculine characteristics typically attributed to men. Consequently, women may be perceived as less successful in these roles due to these traits being inextricably linked to masculinity. It follows that perceptions concerning women's managerial and leadership capabilities may influence conflict more than other negative stereotypes because they are closely related to the actual tasks at hand.

In terms of relationship conflict, there was no significant association with the sub-dimensions of stereotypes. Correlation analysis revealed no significant relationships between relationship conflict and negative stereotypes regarding women's inadequate managerial qualifications (r=0.078), emotional reactions (r=0.192), or interpersonal compatibility (r=0.041), resulting in unsupported sub-hypotheses H2a, H2b, and H2c.

Interestingly, a weak but positive relationship was found between negative stereotypes towards women and the performance variable (r=0.273), indicating

support for the main hypothesis H6. This outcome suggests that higher-than-average performance evaluations may be misleading. When examining sub-hypotheses, a weak positive relationship emerged between negative stereotypes about women's emotional responses and performance (r=0.378), as well as between stereotypes regarding women's compatibility with each other and performance (r=0.275). Consequently, sub-hypotheses H6a and H6b were not supported. It is believed that these positive correlations stem from inadequacies in the performance evaluation scale used; participants may have biased their responses by overestimating their performance.

However, a significant negative relationship arose between negative stereotypes about women's managerial capabilities and performance (r=-0.308), supporting hypothesis H6c. This indicates that as the perception of women's inadequacies in management and leadership skills increases, their performance in tasks with female colleagues is negatively impacted. In conclusion, further analysis demonstrated the importance of understanding how these stereotypes intersect with performance dynamics in workplace settings.

4. CONCLUSION AND DISCUSSION

In this research, the primary focus was on the prevalence of negative stereotypes against women in Turkey's banking sector, which is generally considered to be women-friendly. Specifically, the study examined how these stereotypes impact conflicts with female colleagues and the performance of tasks carried out together.

Our perception of the world and other people rely heavily on social categorization. This process involves dividing individuals into various social groups and forming stereotypes that reflect our beliefs and expectations about those groups. These stereotypes may be positive or negative. Gender is one of the most common categories we use to classify people, leading us to interpret behaviors based on preconceived notions associated with male or female identities. This categorization often results in individuals viewing their own group as superior and discriminating against the opposing group. Furthermore, people from the outgroup are frequently perceived as more similar to each other, reinforcing the stereotypes that inform our beliefs about them. Such negative stereotypes are fundamental to gender discrimination in the workplace and can damage professional relationships, leading to conflicts.

Social categorization is a primary method to perceive our environment and the people within it. In this process, we classify individuals into various social groups and develop stereotypes that encompass our beliefs and expectations about these

groups. Stereotypes can be either positive or negative, and gender is one of the most frequently used categories in our classifications. The stereotypes we form about male or female characteristics influence how we perceive and interpret the behavior of individuals based on their gender. This categorization can lead individuals to view their group as superior while discriminating against those in the opposite group. Moreover, people from the outgroup tend to be viewed as similar, reinforcing stereotypes and beliefs about that group. Such negative stereotypes, which are the foundation of gender discrimination in the workplace, can harm relationships and provoke conflict.

Owen and Todor (1989) and Kelly, Young, and Clark (1993) identified a stereotype suggesting that women cannot dedicate the necessary time and attention to their jobs due to family responsibilities. This perception adversely affects women's promotions to high-level positions that require considerable time investment. Owen and Todor also pointed out that despite significant changes in women's roles in society, the belief persists that women are less suitable for managerial positions than men. Traditionally, attributes associated with successful managers are linked to masculine qualities (Heilman, 2001; Brenner, Tomkiewicz, and Schein, 1989; Dorio, 2005), leading to expectations that women will be unsuccessful in these roles (Heilman, 2001).

Owen and Todor (1989), as well as Kelly, Young, and Clark (1993), highlight a stereotype suggesting that women cannot dedicate the necessary time and attention to their jobs due to family responsibilities. This belief negatively impacts women's promotions, particularly for high-level positions that demand considerable time investment. Owen and Todor also note that despite significant shifts in women's social roles, there persists a perception that women are less suited for managerial roles compared to men. Successful managerial traits are traditionally viewed as masculine, and it is often assumed that women will struggle in such positions (Heilman, 2001; Brenner, Tomkiewicz, and Schein, 1989; Dorio, 2005).

In contrast, a study conducted in Turkey by Örücü, Kılıç, and Kılıç (2007) found a low adoption rate of these stereotypes among women. Importantly, it appears unacceptable for women to question other women's management and leadership abilities. The observed differences arise from varying country-specific and sectoral contexts. A report by the Organization for Economic Co-operation and Development in 2012 indicated that Turkey has a poor women's employment rate, with only 28% of the female population aged 15-65 participating in the workforce. In comparison, a European Commission study in 2009 revealed that only 3% of chairs of the boards of publicly held companies in 27 EU countries

are women, while the figure is 6% for Turkey. The banking sector ranks among the top ten for both female employees and managers in Turkey (Capital, 2013: 92). This environment appears to have mitigated some stereotypes regarding women's capabilities, particularly regarding time-consuming and high-level positions.

However, a significant number of employees, mainly men, still hold the stereotype that women make decisions emotionally. This finding aligns with the studies of Owen and Todor (1989) and Örücü, Kılıç, and Kılıç (2007), suggesting that this stereotype is more persistent. Furthermore, stereotypes claiming women panic under pressure and react negatively to criticism are common. Male employees predominantly hold these beliefs, while many female employees strongly oppose such perceptions regarding their female colleagues. Nevertheless, overall, employees did not subscribe to negative stereotypes about women.

As a result, in tasks performed with female colleagues, conflicts—whether personal or task-related—were less frequent, and performance tended to be above average. The relationships between these variables will be examined further to provide a more comprehensive understanding of the topic.

In the study, it was predicted that negative stereotypes about women could lead to task and relationship conflicts among female colleagues. The literature suggests that the tendency for social categorization can disrupt group interactions, create hostility and opposition, and result in relationship conflicts characterized by tension, friction, and anger due to interpersonal incompatibilities (Jehn, 1995; Zorn-Aguirre, 2013; Jehn, Northcraft, & Neale, 1999; Pelled, Eisenhardt, & Xin, 1999). However, this study found that the negative stereotypes against women did not result in relationship conflict or task conflict, the latter comprising disagreements about tasks and differing perspectives. Nevertheless, the stereotype suggesting that women are inadequate in management and leadership skills does trigger task conflict.

Pelled, Eisenhardt, and Xin (1999) emphasized that individual characteristics related to the task have a greater impact on task conflict. This is because, for workplace tasks, qualifications derived from experience and knowledge are more crucial. Research indicates that managerial roles (Heilman, Block, Martell, & Simon, 1989; Powell & Butterfield, 1989; Heilman, 2001) and the traits of a "good manager" (Martell, Parker, Emrich, & Crawford, 1998; Heilman, 2001) are often defined using masculine characteristics believed to be inherent to men. Consequently, women are often perceived as less likely to succeed in these roles

due to the association of management qualities with masculine traits. This perception negatively impacts views of women's managerial and leadership competencies, subsequently influencing task conflict.

The study found that conflicts with female colleagues did not affect task performance. While conflict is commonly thought to generate discontent among individuals, it did not impact performance as anticipated. However, employees' stereotypes regarding women being slow in decision-making and lacking leadership qualities did trigger task conflict and negatively affected performance in tasks involving female employees. This aspect of prevalent stereotypes, unlike others, was directly related to task-related abilities. Such stereotypes often bias performance evaluations (Owen & Todor, 1993; Heilman, 2001). Individuals doubting the competence of women in decision-making or management are likely to form expectations of failure and inadequacy, which can distort their perceptions. This lack of confidence in colleagues can lead to decreased performance and job satisfaction (Gibson et al., 2012).

The research identified eight prevalent negative stereotypes regarding women. It was noted that negative stereotypes, particularly those concerning women's perceived inadequacy in management and leadership skills, can diminish performance in collaborative tasks and induce task conflict. However, correlation and regression analyses indicated that while this negative effect exists, it is relatively weak. The small sample size is considered a factor in these weak relationships and is one limitation of the research. Therefore, it is recommended that further investigation into negative stereotypes affecting women be conducted with a larger sample, focusing more on the impacts and repercussions associated with these stereotypes in relation to women's management abilities and work-related competencies.

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CHAPTER 18

Importance and Environmental Impacts of Maritime Tranportation in the Arctic Sea Region

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1. INTRODUCTION

The effects of global climate change are resulting in regional variations. The melting of glaciers has resulted in a shift in the ecosystem balance, thereby creating new routes of navigation. Figure 1 illustrates the transformation of glaciers in the Arctic from 1979 to 2021.
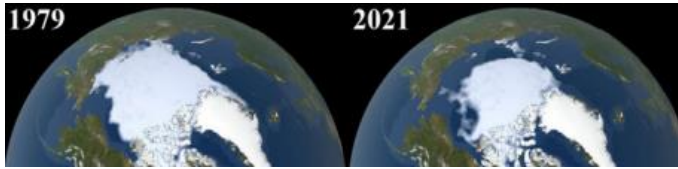

Figure 1. Arctic Glacier Melting 1979- 2021 (Kanat, S., Kilinç, S., & Gürkaynak, M., 2022).

The ongoing melting of glaciers has prompted a reassessment of the route between the Atlantic and Pacific in the northern region as a potential corridor for commercial shipping (Zhu et al., 2018; Sevgili and Türkistanlı, 2019).

Approximately 70% of the world's population resides in coastal areas adjacent to seas and oceans. These bodies of water play a pivotal role in the transportation of goods and people, as well as in the employment of personnel (Ünal, 2024). Moreover, the maritime sector occupies a significant position relative to other sectors in terms of its contribution to global trade (Arıcan and Ünal, 2023). In light of the competitive landscape of global trade, it is crucial for countries to diversify their transportation networks by establishing alternative routes. The dominance of maritime trade in global commerce underscores the strategic significance of sea routes.

There are two principal routes for maritime transportation between Asia and Europe. The first is to reach Asia via the Red Sea, utilizing the Suez Canal. The second is to follow the West African coastline, traversing the Cape of Good Hope, and ultimately reaching Asia by a more circuitous route. The Arctic Sea Route, particularly between Northwest Europe and Far East ports, is purported to offer a 40% reduction in distance and a time advantage of up to 10 days compared to the two existing routes. The implementation of alternative maritime routes would effectively address the issues of channel congestion and traffic congestion on existing sea routes, thereby reducing transit times, fuel consumption, costs, and environmental impacts. Furthermore, Europe-Asia container trade via the Suez Canal represents approximately 25% of global container trade, which illustrates the magnitude of the trade volume between the two continents and the potential

of new sea routes to influence global trade patterns (Schøyen and Bråthen, 2011; Sevgili and Türkistanlı, 2019).

In light of the aforementioned factors, it can be posited that the countries that are most effective in the maritime trade route of the region will be affected in a positive or negative manner by the current situation, given the growing activity along the Arctic Sea Route. The growing interest in the region has resulted in an increase in the number of studies addressing its economic, legal, geographical and environmental dimensions. Nevertheless, this advancement has given rise to mounting concerns among numerous researchers and the global community regarding the environmental implications of maritime activities in the region (Svavarsson et al., 2021; Sweeney et al., 2022; Zhang et al., 2019).

The initial section of the study assesses the current state of the Arctic Sea. The subsequent section presents information about the Arctic Sea. The third section elucidates the perspectives of the countries with regard to the Arctic Sea. The primary focus of Chapter Four is the examination of the environmental consequences of maritime transportation activities within the region. This chapter presents a concise overview of these consequences. The concluding section presents the conclusion.

2. THE ARCTIC SEA

2.1. Definition of the Arctic Region

The Arctic Region is defined as a region that encompasses the North Pole and the Arctic Ocean and is situated within the Arctic Circle (Prohorov, 1970; Yıldız and Çelik, 2019).

Despite the Arctic being acknowledged as a discrete geographical entity, the delineation of its boundaries is not a straightforward process. In general, however, the boundaries of the region are determined on the basis of its vegetation and climatic characteristics. From a climatological perspective, the Arctic region is delineated by the convergence of areas where temperatures do not exceed 10°C in July. The vegetation boundary, which largely coincides with this climatic boundary, is demarcated by the transition from boreal forests to tundra, a tree boundary, and the area north of this boundary where trees do not grow is designated as Arctica (Demirkılınç, 2015).

The Arctic Region, delineated on the basis of these boundaries, is illustrated in Figure 2.

Figure 2. Arctic Region (Yildiz and Celik, 2019).

The Arctic Circle encompasses an area of approximately 30 million km². Its dimensions are approximately three times those of Europe and approximately one and a half times those of Russia. The Arctic Circle encompasses the North Pole and includes both terrestrial and marine areas covered by snow. Additionally, the northern extremities of the European, American, and Asian continents are encompassed within the Arctic region (Prohorov et al., 1970; Yıldız et al., 2019).

The Arctic Sea is circumscribed by extensive and relatively shallow continental plates, which are partitioned into two principal basins by submerged mountain ranges. These mountain ranges are designated the Lomonosov Ridges and extend in close proximity to the North Pole, ultimately converging with the New Siberian Islands situated to the north of Greenland (Akpınar, 2017).

The Arctic Region is defined as a circle encompassing Russia, Norway, Sweden, the United States, Finland, Canada, Denmark, and parts of Iceland. This area is considered the wider Arctic region. Nevertheless, research and discourse tend to be primarily focused on the Arctic Sea coast. The countries that border the region are Denmark, the United States of America, the Russian Federation, Canada and Norway (Akpınar, 2017).

2.2. The Importance of the Arctic Sea

Prior to the strategic and economic value that the Arctic Region acquired as a consequence of global warming and technological advancement, it was an isolated region where exploration activities were conducted and regarded as relatively inconsequential (Ingenfald, 2010; Erkan and Eminoğlu, 2019). Following the discovery of new territories until the 20th century, the states in the region began to assert their sovereignty. The aforementioned claims were not acknowledged by the claimant states in the region, resulting in the region remaining unclaimed (Yıldız and Çelik, 2019). During the Second World War, the region was of significant strategic importance in the context of the Allied

campaign against Germany and Japan (Yıldız et al., 2019). During the Cold War, the region assumed a pivotal role as the shortest route for nuclear warfare and aerial bombardment between the USSR and the USA (Mikkola, 2019). In the aftermath of the conflict, Gorbachev put forth the proposition that the region should be designated as a zone of peace, with the objective of limiting the scope of defence activities within its borders. The moderate approach proposed by Gorbachev proved instrumental in facilitating the region's transformation into a centre of cooperation in the post-Cold War era (Altunkaya, 2019; Kanat et al., 2022).

The melting of glaciers at an accelerating rate every year is transforming the Arctic into a field of competition, both politically and economically. As a consequence of the continuous increase in accessible areas in the region, the military and economic activities of the countries in the region are also increasing rapidly (İnan Şimşek, 2019).

The proposed new sea route is approximately 40% shorter than the existing routes between Europe and East Asia. As the shortest sea route between the continents, it has the potential to provide a valuable alternative to existing sea routes for these continents, which are the focus of global trade (Kefferpütz, 2010). The substitution of a novel maritime route between Yokohama, Japan, and London, United Kingdom, for the Suez Canal has been demonstrated to diminish the overall distance by approximately 7,000 kilometers (Örnek and Mızrak, 2015). Similarly, the sea route between Shanghai, China, and Hamburg, Germany, via the Suez Canal, is approximately 20,000 kilometres in length. In comparison, the Arctic route reduces this distance to approximately 14,000 kilometres (Yıldız et al., 2019). A maritime route from the west coast of the USA to Europe via the Bering Strait and the Northwest Passage has been demonstrated to reduce the distance by approximately 7,000 kilometres in comparison to the Panama Canal (Seval, 2019). Figure 3: illustrates the various sea routes in the Arctic region.
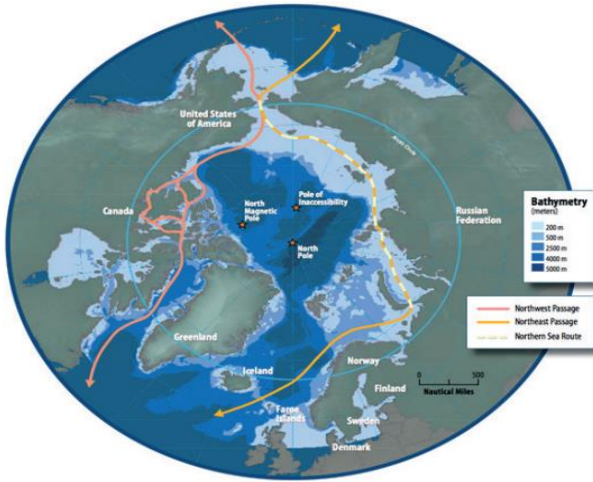
Figure 3. Sea Routes in the Arctic (Yıldız and Çelik, 2019).

The region has recently garnered significant attention due to its vast hydrocarbon resources and its potential to facilitate the creation of alternative trade routes. It is beyond doubt that these resources are the primary factor contributing to the growing interest in the region (Yıldız et al., 2019). The melting of glaciers in the region has facilitated greater accessibility to subterranean resources (Güçlü Akpınar, 2017). In 2008, the US Geological Survey (USGS) published data indicating the existence of substantial oil, liquid natural gas, and natural gas reserves in the Arctic. The majority of these reserves are situated in offshore regions (USGS Fact Sheet, 2008; Kanat et al., 2022). The data indicates that the region encompasses 5.19% of the world's oil reserves, amounting to 1,734 billion barrels, and 22.19% of global natural gas reserves, which total 198.8 trillion cubic metres (Boyd et al., 2016; Schönfeldt, 2017; Kanat et al., 2022). In other words, the natural resources in the region have the potential to meet Turkey's oil and natural gas needs for approximately 300 years and 1,000 years, respectively (Kazokoğlu, 2014). Over the past 300 years, research has led to the discovery of a range of valuable minerals in the Arctic, including gold, copper, zinc, diamonds, tin, palladium, chromium, manganese, nickel, coal, titanium, platinum, and uranium (Boyd et al., 2016; Schönfeldt, 2017; Kanat et al., 2022). In addition, about 70% of the world's remaining undiscovered oil reserves and 30% of natural gas reserves are thought to be located in the region (UNEP, 2013; Kanat et al., 2022).

A considerable number of oil, natural gas, and mineral deposits have been identified in the vicinity of the Arctic Sea. Russia, which possesses the largest coastal area in the Arctic, has identified 200 new regions with oil and natural gas

reserves through its research in these regions (Güçlü Akpınar, 2017). Russia and the United States each claim sovereignty over approximately 20% of the Arctic's resources. Nevertheless, the valuable resources discovered in the Arctic have also captured the attention of countries such as the United States of America and the People's Republic of China, which import these resources (Sancak, 2019; Yıldız, et al., 2019). Furthermore, a multitude of disputes have arisen among the countries in the region concerning the extraction of these energy resources (Güçlü Akpınar, 2017).

3. ARCTIC POLICIS OF COUNTRIES

Maritime trade has constituted a fundamental dynamic of international relations and the global economy throughout history. This activity, which facilitates the expansion of trade networks between countries and enhances cultural interaction, has played a pivotal role in ensuring economic growth, development, and prosperity (Arıcan and Kara, 2023). Given that 90% of international trade is conducted via maritime routes, it is evident that maritime transportation represents a pivotal aspect of global trade (Çevik &Durukan, 2020). The melting of glaciers in the region has twofold consequences: firstly, it provides access to hitherto untapped energy resources, and secondly, it shortens transport routes. This makes the region an important hub for countries (Chen, 2012; Çevik et al., 2020). China is a significant actor in this region. Three intrinsic motivational factors underpin China's Arctic policies. The first of these is related to national strategies, including the "China Dream" and the "Belt and Road" initiative (Korkmaz, 2021; Kobzeva, 2019). China plays an active role in addressing global challenges, including environmental concerns, scientific research, climate change, resource exploration and utilization, security, and collaborative management in the Arctic (Kartal & Dağıstan, 2020). Given that China's economy is based on trade, it is of paramount importance for the country to conserve fuel and time, as well as to guarantee the security of its trade routes. China has identified piracy on traditional trade routes, congestion, and bottlenecks in the Strait of Malacca as significant concerns. In response to these challenges, China has pursued the development of alternative transportation routes between China and Europe, its largest trading partner (Çevik et al., 2020).

Russia is the most significant Arctic state. Consequently, the policies implemented in the region are characterised by a complex structure, whereby strategic and economic objectives are pursued concurrently and represent a central aspect of global competition. Russia's military and economic strategies in the region have considerable implications for international competition and regional security. An augmented military presence in the region has the potential

to engender geopolitical tensions and intensify the competitive stance with other states. Russia's endeavors to exploit and explore energy resources in the Arctic, in addition to its strategies to enhance military capabilities in the region, are significant factors that influence international cooperation and national security. The intensifying global competition and interest in the Arctic region demonstrate that it exerts a significant influence not only on economic prospects but also on regional stability. In this context, it is of great consequence that Russia exercises strategic caution in its diplomatic and military actions, as this will have a significant impact on the future geopolitical balance in the region (Babahanoğlu, 2024).

The United States is not situated in a geographically advantageous position in the region, and its relations with various countries in the region, notably Russia and Canada, have been marked by difficulties. The United States has historically prioritised the protection of transit routes in the region, particularly in light of its ongoing challenges with Russia in the Bering Strait (Dal, 2020; Kaya, 2024). In its Arctic Nations Strategy, the United States presents itself as a proponent of collaboration and stability, while portraying China and Russia as assertive actors (Paul, 2023; Kaya, 2024).

In the forthcoming years, the Arctic will become an area of intense economic and geopolitical competitionThe opportunities afforded by the region are prompting an intensification of interest on the part of coastal states, which is in turn giving rise to the region becoming an area of international concern.

4. THE ENVIRONMENTAL IMPACT OF MARITIME TRANSPORTATION ACTIVITIES IN THE ARCTIC REGION

A maritime journey from London to Yokohama, spanning the North Atlantic and the North Pacific, would traverse 23,300 kilometers via the Northwest Passage in the Arctic, 21,200 kilometers via the Suez Canal, and 15,700 kilometers via the Northwest Passage. In comparison, a route through the Northeast Passage would span 13,841 kilometers. The situation becomes even more advantageous for tankers that are unable to traverse the Panama Canal. To illustrate, the Nordic Orion, transporting cargo from Europe to Asia, completed its voyage in four days less than the Panama Canal would have taken had it been used, by opting for the Northwest Passage and incurring total costs of $200,000 less (Vardar Tutan and Arpalıer, 2020). These developments have resulted in a number of advantages, including reduced maintenance costs, a more efficient fuel budget, and the more effective utilisation of resources.

The Maersk Group, a prominent global entity in the domains of maritime transportation and logistics, has devised a route for the conveyance of seafood from the Port of Vladivostok and technological materials from the Port of Busan in South Korea to the Port of Bremerhaven in Germany and subsequently to St. Petersburg. This route is traversed by the "Venta Maersk," a vessel equipped with glacier-resistant capabilities. The total duration of the journey was 37 days, while the non-stop route from Busan to Bremerhaven required 23 days. If the Suez Canal had been utilized, the journey would have required 34 days, whereas the Cape of Good Hope route would have necessitated 46 days. The selected route resulted in a notable reduction in distance, with a total reduction of 8,000 km, thereby leading to considerable savings in terms of time and energy (Vardar et al., 2020). It seems probable that maritime activities will continue to expand in the coming period, and it is anticipated that the route will undergo further development and utilisation (Peters et al., 2011; Qi et al., 2024). Furthermore, it has prompted concerns within the scientific community regarding the potential environmental impact in the region (Svavarsson et al., 2021; Sweeney et al., 2022; Zhang et al., 2019; Qi et al., 2024). The region's natural structure and limited adaptive capacity render it susceptible to the deleterious effects of maritime activities (O'Rourke, 2011; Qi et al., 2024).

The environmental impact of maritime activities in the region has been the subject of rigorous examination. As an illustration, the combustion of fossil fuels on ships will result in the production of black carbon (BC), sulfur dioxide (SO_2), methane (CH_4), carbon dioxide (CO_2), and other pollutants (Jagerbrand et al., 2019). The detrimental effects of noise pollution and fossil fuel leakage on environmental integrity are a significant concern (Qi et al., 2024). The Arctic, whose natural and ecological environment is particularly susceptible to contamination, is approaching a critical threshold (Varotsos and Krapivin, 2018).

In light of the pressing environmental concerns currently facing the Arctic region, it is imperative to conduct a comprehensive examination of the various maritime transportation activities that are taking place in the area.

4.1. Ship-Sourced Marine Pollution in the Arctic Region

The heightened level of maritime activity in the region gives rise to an elevated risk of oil spills (Afenyo et al., 2016; Chen et al., 2022b; Qi et al., 2024). These anticipated incidents have been projected to inflict catastrophic and irreparable damage to the already vulnerable region (Afenyo et al., 2016; Kelly et al., 2018).

From an environmental standpoint, oil spills have the potential to result in contamination of an area and to exert detrimental effects on marine life. Such impacts have the potential to disrupt the reproductive cycle and interfere with the development of marine organisms (Afenyo et al., 2016; Helm et al., 2015). The presence of oil in the fur of creatures in the region has been observed to impair their ability to fly and swim, which may in turn lead to the development of diseases such as lung, respiratory, and reproductive disorders (Helm et al., 2015; Ruberg et al., 2021). Furthermore, oil spills have been demonstrated to induce aberrant cell division in fish (Sindermann, 1982; Takeshita et al., 2021). A number of minor ship-borne oil spills have occurred in the Arctic (Hop and Gjøsæter, 2013).

Despite the absence of documented oil spills in the Arctic region (Afenyo et al., 2016), evidence from the Exxon Valdez oil spill indicates that, following over three decades of natural degradation and remediation, substantial quantities of oil persist in coastal waters (Nixon and Michel, 2018; Qi et al., 2024). The dispersion of oil spills is a challenging process, compounded by their tendency to migrate beneath and between ice formations. Once absorbed by the snow or concealed beneath the ice, the cleanup of oil spills in these areas becomes significantly more complex (Afenyo et al., 2016; Dickins, 2011).

Following a period of time spent at sea, a vessel may exhibit the presence of marine organisms adhering to the underwater hull, a phenomenon known as hull fouling. An increase in the weight of the vessel has the effect of increasing fuel consumption, as well as increasing the likelihood of breakdown and other negative effects (Lindholdt et al., 2015; Townsin, 2003; Qi et al., 2024). The use of anti-fouling paints on ships to prevent the adhesion of marine organisms has emerged as the most cost-effective method of protection (Atlar and Callow, 2003). Nevertheless, marine pollution resulting from the use of ship anti-fouling paints represents a significant threat to the integrity of marine ecosystems (Cari'c et al., 2016).

The advent of anti-fouling paints in the mid-twentieth century was a significant development in marine coating technology, largely due to their extended lifespan (Alum et al., 2008; Qi et al., 2024). In 2008, the International Maritime Organization (IMO) prohibited the use of anti-fouling paints (Pedersen et al., 2015). It is also noteworthy that, despite the prohibition, the manufacture and distribution of anti-fouling paints persisted in the United States and other countries. This could potentially give rise to an environmental threat to the Arctic marine ecosystem in the future (Uc-Peraza and Castro, 2022).

The maritime sector is subject to a plethora of national and international legal regulations (Arıcan and Ünal, 2023). Despite these legal constraints, copper-based paints have been widely utilized following the prohibition of anti-fouling paints. Although these dyes are less toxic than other anti-fouling dyes, they have the potential to exert a detrimental impact on marine ecosystems (Guardiola et al., 2012; Kiaune and Singhasemanon, 2011; Qi et al., 2024).

The use of anti-fouling coatings on ships represents a significant potential source of marine pollution, necessitating a comprehensive investigation into the environmental impact of these microplastics (MPs) (Gaylarde et al., 2021). The release of ship coatings into the water is greater during navigation due to the increased friction experienced by ships moving in icy areas (Turner, 2010). The presence of microplastics in various locations worldwide has been confirmed in samples taken from ship anti-fouling coatings. It is hypothesized that this phenomenon is associated with the growing maritime traffic in the region (Peeken et al., 2018; Qi et al., 2024).

As the volume of maritime transport in the region increases in the future, the spread of pollutants from anti-fouling paints used on ships will persist, resulting in adverse effects on the health of the ecosystem. Nevertheless, the currently available data on this issue are insufficient to permit a comprehensive understanding of the environmental impacts. Additional research is therefore required.

The transfer of microorganisms and pollutants from one region to another occurs as ships take on and discharge ballast water during their voyages. This process has an impact on biodiversity, resulting in the introduction of new species into ecosystems (Cabrini et al., 2019). The ballast water transported by ships establishes a conduit for the introduction of novel species into the region. This process has the potential to disrupt the regional ecosystem balance, thereby threatening the survival of local species and negatively affecting biodiversity (Dhifallah et al., 2022; Jing et al., 2012).

4.2. Ship-Sourced Air Pollution in the Arctic Region

The fuel utilized in marine vessels is crude oil, which results in a multitude of emissions following combustion. These include carbon dioxide (CO_2), methane (CH_4), nitric oxide (NOx), sulfur oxide (SOx), carbon monoxide (CO), hydrocarbons (HC), volatile organic compounds (VOC), and particulate matter (PM) (Sun, 2020; Qi et al., 2024). The growth of transportation activities in the region has resulted in an increase in emissions, which has contributed to

alterations in the atmospheric composition of the region, exerting a considerable influence on the natural environment.

The United Nations has established significant initiatives and objectives at the global level with the aim of reducing carbon emissions worldwide (Demirci et al., 2024). In recent years, there has been a notable rise in the concentration of airborne pollutants emanating from maritime transportation in the region (Mjelde et al., 2014). There is a growing body of evidence indicating that emissions from ships in the region are having an adverse impact on the region's air quality (Law et al., 2017; Winther et al., 2014; Qi et al., 2024). Such consequences have a deleterious effect on the Arctic and its surrounding environment.

Furthermore, the emissions from ships in the region contribute to elevated levels of atmospheric aerosols, which can have adverse effects on regional pollution levels and climate (Dalsøren et al., 2007). A review of existing literature reveals that polycyclic aromatic hydrocarbons (PAHs) in the region during the summer months are primarily attributable to fuel consumption by ships operating in the ocean and ports. A positive correlation has been observed between the concentration of polycyclic aromatic hydrocarbons (PAHs) and the level of human activity and marine transportation in a given region (Drotikova et al., 2020; Svavarsson et al., 2021; Qi et al., 2024). Nevertheless, PAHs have been demonstrated to elevate the risks of cancer and mutation in biological systems (Abdel-Shafy and Mansour, 2016). This presents a considerable risk to the wellbeing of animals in the region.

The term "radiative forcing" (RF) is used to describe external interference with the energy budget of the Earth's climate system. These degradation processes are the result of long-term alterations in radiatively active substances, including aerosols and CO_2 emissions (IPCC, 2001; Qi et al., 2024). The concept of radiative forcing (RF) is employed as a pivotal indicator for elucidating the underlying mechanisms of climate change. The temperature increase in the region is approximately twice the global temperature increase attributable to elevated greenhouse gas concentrations (Serreze and Barry, 2011). Maritime activities in the Arctic region represent a significant factor influencing radiative forcing (Marelle et al., 2016). In addition to CO_2 emissions from maritime activities that will result in positive radiative forcing, emissions of short-lived compounds (SLCFs) will affect the concentration levels of gases and aerosols and contribute to radiative forcing (Ødemark et al., 2012; Qi et al., 2024).

The emission of ship exhaust plumes in the Arctic has been demonstrated to enhance ice nucleation, consequently exerting a direct influence on the

microscopic physical attributes of precipitation and clouds in polar regions (Thomson et al., 2018). The combustion of exhaust gases from ship engines in the Arctic produces two distinct forms of carbon: "tar-brown carbon" and black carbon (BC). The deposition of these pollutants on the snow surface results in its darkening and a concomitant reduction in reflectivity. Consequently, the snow is subjected to an increase in temperature in the region, which may accelerate the melting of the ice. This effect may become more pronounced in the future, potentially leading to further negative impacts on regional climate change (Corbin et al., 2019; Qi et al., 2024).

4.3. Other Environmental Impacts in the Arctic Region

The noise naturally found in the oceans is exposed to an increasing amount of anthropogenic noise pollution, which has the potential to negatively affect marine animals by altering their behavior (Richardson et al., 2013). Moreover, marine transportation can result in both permanent and temporary hearing impairment in animals in the environment. Furthermore, it represents a pervasive and pernicious source of noise pollution (Hildebrand, 2009).

The use of artificial lighting in the interiors and decks of ships will result in the phenomenon of light pollution, particularly in areas with low light levels, in offshore locations, and in waters in close proximity to coastal areas. Such effects could have a detrimental impact on marine ecosystems, as numerous marine species have evolved to align their migration and behavioral patterns with the natural light cycle. The disruption of marine species' navigation and life cycles caused by artificial light can lead to imbalances in the ecosystem (Davies et al., 2014; Qi et al., 2024).

The decline in ice levels in the region has enabled exploration by creating new access routes to previously inaccessible areas, which has in turn driven the rapid expansion of the cruise industry in the region (Dawson et al., 2014). The use of artificial lighting by cruise ships for interior and deck illumination has the potential to impact the natural light cycles that regulate fish migration patterns in the region. This gives rise to the possibility that the utilisation of artificial illumination may have an adverse impact on the natural equilibrium and potentially lead to confusion in fish migratory patterns (Qi et al., 2024; Berge et al., 2020).

One of the most significant threats to the marine ecosystem is the risk of collisions between ships and marine species. This increases the probability of species extinction, and the intensification of shipping activities could exacerbate this threat (Pirotta et al., 2018; Qi et al., 2024).

5. CONCLUSION

The phenomenon of global warming first came to prominence in the early twentieth century. Similarly, the continued melting of glaciers, increased access to energy resources, and the opening of new trade routes have contributed to the growing interest in the region from an academic perspective. It is evident that the advantages of shorter distances and lower fuel consumption are significant in the context of maritime transportation. Nevertheless, it is evident that the escalation of maritime transportation activities in the region will inevitably result in adverse environmental impacts, including but not limited to sea and oil spills, noise pollution, air pollution, light pollution and collisions with marine life. As a consequence of the melting of sea ice, the region will become more accessible, which will have a considerable effect on the surrounding environment and ecology. Consequently, augmented activity within the region will necessitate the implementation of measures to safeguard the environment. The aforementioned measures are currently being implemented by international organizations as regulations pertaining to ship design, reduced emissions, operational efficiency, technological advancements, and ship-borne marine pollution. Furthermore, it would be prudent for the countries in the Arctic region to establish an organization dedicated to ensuring the security and navigational safety of the region. It is imperative that regional and global standards be established without delay to facilitate the participation of non-Arctic countries in transportation activities in this region.

A considerable number of countries are accountable for the emission of SO_2, NOx, PM and other pollutants at the local level from ships engaged in maritime activities within the region. Such emissions pose a threat to marine ecosystems, increasing ocean acidification and adversely affecting animal health, while also contributing to local radiative emissions. Furthermore, the occurrence of oil spills and other forms of pollution represents a significant environmental challenge associated with Arctic shipping.

The persistence of marine activities in the region will continue to present a considerable environmental threat, largely due to the inadequacy of existing regulatory frameworks and standards. In order to mitigate these risks, it is necessary to pursue technological advancements that enhance the efficiency of ship design and operations, while concurrently developing rigorous regulations that are tailored to the specific demands of Arctic maritime activities. It is anticipated that the growing interest and competition for maritime transportation and energy resources in the region will become a more prominent feature of the international political and economic agenda in the coming years. In light of these developments, it will be of paramount importance to develop and implement a comprehensive global strategy for the protection of the environment and the sustainable use of the region.

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CHAPTER 19

The Relationship Between the Turkish Code of Obligations, the Labour Code, The Maritime Labour Code and the Press Labour Code

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INTRODUCTION

When we examine the regulations in the Turkish legal system, the primary law governing mutual Obligations is the Turkish Code of Obligations (6098) enacted in 2011. This Code replaced the previous Turkish Code of Obligations (818), which was abrogated. As for the basic legal sources regulating labour relations, the first law we must address is the Labour Law (4857), enacted in 2003. However, there are legal regulations for certain areas that are not covered by the Labour Law. These include the Maritime Labour Law (854) and the Press Labour Law (5953). It should also be explicitly stated that the laws regulating working life are not limited to these alone. Several other laws have been enacted to regulate certain rights of workers. Examples of such laws include the Occupational Health and Safety Law (6331), the Weekly Rest Law (394), and the Law on National Holidays and General Holidays (2429).

The Turkish Code of Obligations, based on principles such as freedom of contract and equality between the parties, has proven insufficient in regulating the rights and Obligations of workers in working life. This has led to an increasing need for additional legal sources that specifically address labour relations. Undoubtedly, the liberal approach of the 818 Code of Obligations to working life and its insufficient provisions in favor of workers played a significant role in the enactment of the Turkish Code of Obligations (6098). However, it should first be noted that the Code of Obligations's role in relation to the Labour Laws is to fill in the gaps. The Turkish Code of Obligations, in addition to its innovations compared to the old Code, also contains new rights that are not found within the Labour Law itself. This raises the question of whether employees subject to the Labour Law can benefit from these new rights. To answer this question, it is necessary to examine the relationship between these two laws. Therefore, this study aims to explore the relationship between the Turkish Code of Obligations, the Labour Law, the Maritime Labour Law, and the Press Labour Law, and provide answers to such questions.

1. THE RELATIONSHIP BETWEEN THE TURKISH CODE OF OBLIGATIONS AND THE LABOUR CODE

Obligations law is a branch of civil law that regulates the legal relationships between individuals. The legal Obligations related to Obligations law arise from contracts, torts, and unjust enrichment. Labour law, on the other hand, is a branch of private law that regulates the employment relationships between employees and employers. The fundamental principle in labour law is the protection of the employee. This principle exists because of the economic vulnerability and

dependency of the employee on the employer, which may lead to the employee being subjected to unfavorable conditions by the employer (Akyigit, 2024: 43-44; Celik et al., 2021: 23).

In the Turkish legal system, there is a hierarchy among laws, and there is also a relationship between general laws and special laws. A law that regulates legal events in a broad area of social relations is a general law, while a law regulating specific legal events in a narrower and more specialized field is considered a special law. As a rule, in our legal system, the provisions of general laws are applied after special laws (Kar, 2014: 167). For instance, if a legal issue concerning employees arises, the Labour Code should be referred to first. However, if there is a gap in the Labour Code, the provisions of the Turkish Code of Obligations should be considered. This is because Article 5 of the Turkish Code of Obligations (Law No. 4721) states: "This law and the provisions of the Code of Obligations apply to all private law relationships to the extent that their general principles are appropriate." Therefore, when the relationship between the Turkish Code of Obligations and the Labour Code is examined, in the absence of specific provisions in the Labour Code, the provisions of the Turkish Code of Obligations can be applied as a general law, provided that they are consistent with the nature of labour law (Caniklioglu, 2012: 85; Celik et al., 2021: 19).

In cases where there is no gap in the special law but a conflict exists between the provisions of the general law and the special law, for example, in the case of a conflict between the Labour Code and the Turkish Code of Obligations, the dominant view in the literature is that the provisions of the Turkish Code of Obligations should be applied in filling gaps in the Labour Code, but only to the extent that they do not contradict the "special character" of the Labour Code and are in line with the "social aspect" of the employee-employer relationship. This is because any decision made in a specific case must be in harmony with the fundamental goals and principles of the special legal field and the internal coherence of that field (Suzek, 1993: 132; Suzek, 2020: 35; Cenberci, 1984: 38; Gunay, 2005: 57-58; Esener, 1978: 4; Mollamahmutoglu et al., 2014: 60-61).

2. THE RELATIONSHIP BETWEEN THE TURKISH CODE OF OBLIGATIONS AND THE MARITIME LABOUR CODE

The law regulating working life is not limited to the Turkish Labour Code, No. 4857, and there are other legal regulations covering areas not encompassed by this law. One of these regulations is the Maritime Labour Law, No. 854. Article 1 of the Maritime Labour Law states: 'This law applies to seafarers and

their employers working under a service contract on ships carrying the Turkish flag, with a gross tonnage of fifty or more, in the seas, lakes, and rivers.' When examining the working life in maritime occupations, it is clear that it has a distinct structure, involves challenging working conditions, and presents various issues that necessitate a specific legal framework. Looking at the history of the Maritime Labour Law, the first law was the Maritime Labour Law No. 6379, enacted in 1954. However, this law was repealed by the enactment of Law No. 854, which came into force in 1967. Today, Law No. 854 remains in effect, incorporating numerous amendments.

When explaining the relationship between the Labour Code and the Turkish Code of Obligations, we focused on the distinction between special laws and general laws. In cases where the Labour Code does not contain a provision, the relevant provisions of the Turkish Code of Obligations are applied. However, when there is no provision in the Maritime Labour Code, there is debate over whether the provisions of the Labour Code or the Turkish Code of Obligations should apply. An analysis of a decision[2] by the 9th Civil Chamber of the Court of Cassation in 1967 revealed that the Labour Code is considered the "primary" law, and in cases where the Maritime Labour Code lacks a provision, the provisions of the Labour Code should be applied. In contrast, the prevailing opinion in the literature is that there is no special law-general law relationship between the Maritime Labour Code, the Press Labour Code, and the Labour Code, and that the Turkish Code of Obligations is the general law applicable to all these laws (Yenisey, 2014: 91; Gunay, 2005: 87-89; Cil, 2007: 4). In this context, in a 2013 decision[3] by the 9th Civil Chamber of the Court of Cassation,

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[2] 9th Civil Chamber of the Court of Cassation, 04.05.1967, E. 4311, K. 377

[3] The dispute centers on whether the plaintiff, a maritime worker employed on a ship operated by the other defendant, is entitled to benefit from the Collective Labor Agreement to which the defendant ... is a party, whether the contract between the defendants is based on concealment (muvazaa), and which normative regulations should be used to determine whether muvazaa exists. The Maritime Labor Code does not include any provision regarding the concepts of principal employer-subcontractor. On the other hand, the Turkish Labor Code No. 4857 regulates the responsibility of both the principal employer and the subcontractor in the principal-subcontractor relationship and includes certain criteria for muvazaa. The application of the subcontractor regulation in the Turkish Labor Code cannot be directly and analogously applied in Maritime Labor Law. However, considering the social security aspect, the definition of principal and subcontractor in Article 12 of the Social Insurance and General Health Insurance Law No. 5510, as a general law, should be accepted in the context of the Maritime Labor Code. According to the last paragraph of this article: "A subcontractor is a third party who, in relation to the production of goods or services carried out at a workplace or in a part or appendage of such work, employs insured individuals to perform the job for which they were assigned. Even if the insured individuals have entered into employment through a third party and made a contract with them, the principal employer is jointly responsible with the subcontractor for the obligations imposed on the employer by this law." Muvazaa is regulated in the Turkish Code of Obligations and can be defined as an agreement between the parties made to deceive third parties, which does not reflect their true intention and does not generate effects as intended. There is an intent to deceive third parties, and the real purpose of the agreement is hidden. The proof of muvazaa is subject to general rules of evidence. In this context, if a subcontractor does not have the organization, expertise, or legal independence to undertake the production or service provision, and has not

the Court ruled in accordance with the prevailing opinion in the literature, stating that no "special law-general law" relationship exists between the two Codes. The Court annulled the lower court's decision, which had filled the gap in the Maritime Labour Code by applying the relevant provision of the Labour Code. The reasoning for the Court's annulment was that the judgment should have been based on the relevant provisions of the Turkish Code of Obligations, which, in this case, is considered the general law regarding fraudulent transactions (Celik et al., 2021: 20). When we examine Law No. 4857 on the Labour Code and Law No. 854 on the Maritime Labour Code, it is clear that both have distinct structures, scopes, and systems, and both are special laws. The provisions regarding job security are explicitly regulated in Articles 17, 18, 19, 20, and 21 of Law No. 4857. Additionally, Article 6 of the Press Labour Law stipulates that Articles 18, 19, 20, 21, and 29 of Law No. 4857 shall apply by analogy. However, since there is no such provision in the Maritime Labour Code, the job security provisions of Law No. 4857 cannot be applied to Law No. 6379. Considering this, in the event of a gap in the Maritime Labour Code, the provisions of the Turkish Code of Obligations must be applied based on the special-general law relationship[4].

3. THE RELATIONSHIP BETWEEN THE TURKISH CODE OF OBLIGATIONS AND THE PRESS LABOUR CODE

After the legislative, executive, and judicial powers, the press is considered the fourth power, fulfilling significant responsibilities such as shaping public opinion and disseminating the truth to the public (Karahisar, 2008: 67). Those working in the press profession, who are not covered by the provisions of the Turkish Labour Law No. 4857, are subject to the legal regulation known as the Press Labour Law, numbered 212, which is formally titled the Law on the Regulation of Relations Between Employers and Employees in the Press Profession, enacted in 1952 under Law No. 5953. According to Article 1 of Law No. 5953, the provisions of this law apply to individuals working in all fields of

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assumed independent management of the economic activity related to the production or service, then the situation in the case will not be considered a principal-subcontractor relationship but rather a case of labor supply from the principal employer to the subcontractor (9th Civil Chamber of the Court of Cassation, 25.02.2013, E. 2010/46245, K.2013/6661).

[4] On the contrary, by demonstrating that a provision in one law may be applied to others through certain exceptional provisions, Article 39 of the Labor Code states that the minimum wage provision in the Labour Code shall also apply to those in other labor-related laws. Additionally, it is stipulated that the provisions of the Labor Code regarding the supervision and inspection of labor life shall apply to the Maritime Labor Law. According to the Supreme Court's Civil General Assembly, when a matter is regulated in both general and special laws, as a rule, the special law takes precedence. The provisions of the general law will only come into play in the absence of relevant provisions in the special law.

thought and art in newspapers, periodicals, and news and photo agencies published in Turkey, excluding those who fall under the definition of "employee" as per the Labour Law, and to their employers.

There are differing views in legal doctrine regarding the relationship between the Labour Law Code and the Press Labour Code, particularly in terms of the general law-special law relationship. If it is accepted that there is a general law-special law relationship between the Labour Law and the Press Labour Code, then the provisions of the Labour Code should be applied to fill any gaps in the Press Labour Code (Sumer, 2016: 16). However, if both the Labour Code and the Press Labour Code are considered special laws, in the event of a gap in the Press Labour Code, the provisions of the Turkish Code of Obligations will be applied based on the special law-general law relationship (Yilmaz, 2011: 22).

Although there are differing views in Labour Law doctrine, the prevailing opinion is that there is no special law-general law relationship between the Labour Code and the Press Labour Code. Due to the differing scopes of application of these two laws, both are considered special laws. In the event of a gap in the Press Labour Code, the dominant view is that the provisions of the Turkish Code of Obligations should be applied, based on the special law-general law relationship (Ucum and Karatas, 2007: 577).

CONCLUSION

In order to regulate working life and, in particular, to protect the rights and guarantees of workers, it is necessary to have specific legal regulations in this area. In the Turkish legal system, Law No. 4857 on Labour is the primary law regulating working life. In addition to this, there are other legal frameworks created with a different system and technique, such as the Maritime Labour Code and the Press Labour Code, which do not fall under the scope of the Labour Code.

Although Law No. 4857 provides comprehensive regulations, in the case of a gap, it is necessary to refer to the Turkish Code of Obligations (Law No. 6098) to fill this gap. This is because Article 5 of the Turkish Code of Obligations explicitly states that the general provisions of the Code of Obligations can be applied to private law relationships to an appropriate extent. Therefore, when there is a special-general law relationship between the Labour Code and the Code of Obligations, in the absence of a provision in the Labour Code, the provisions of the Code of Obligations are applied.

The relationship between the Press Labour Code, the Maritime Labour Code, and the Code of Obligations is a subject of debate in legal doctrine. The decisions

made by the Court of Cassation at different times have been inconsistent. For instance, in a decision from 1967, the Court of Cassation applied the provisions of the Code of Obligations based on the special law-general law relationship in cases where there was a gap in the Press Labour Code. However, in a decision from 2013, this relationship was disregarded, and it was stated that the provisions of the Labour Code would apply. Although this issue is widely debated in legal doctrine, the dominant view is that, based on the special-general law relationship, in the absence of provisions in the Press Labour Code and the Maritime Labour Code, the Code of Obligations should be applied.

In our opinion, due to the special-general law relationship, when there is a gap in the Press Labour Code or the Maritime Labour Code, it would be more appropriate to refer to the Turkish Code of Obligations, which is considered a general law, rather than referring to the Labour Code, which is another special law. This approach would be consistent with the logic of Labour Code, provided it does not contradict its principles.

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CHAPTER 20

The Armenian Uprisings Revisited: Intervention, Propaganda, and Escalating Violence (1890–1905)

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Introduction

The 19th century witnessed a surge in nationalist movements within the sprawling, multi-ethnic empires of the era. Among these, the Ottoman Empire - often referred to as the "Sick Man of Europe" - emerged as a focal point due to its internal struggles with dissent, ethnic tensions, and the persistent interference of European powers. Within this complex tapestry, the Armenian uprisings stand out for their calculated strategy of leveraging international diplomacy to achieve political objectives.

The Armenian Question[2] became a pressing issue for the Ottoman Empire in the aftermath of the Treaty of Berlin (1878). This period witnessed the emergence of two influential revolutionary organisations: the Social Democrat Hunchakian Party (Hunchaks) and the Armenian Revolutionary Federation (Dashnaks).[3] Despite their ideological differences, these groups were united in their nationalist aspirations to establish an independent Armenia. To realise this aim, they orchestrated a series of uprisings, demonstrations, and violent acts designed to undermine Ottoman authority and provoke European intervention on their behalf.

The activities of the Hunchak and Dashnak committees were not isolated phenomena but part of a broader global trend described by David Rapoport as the "anarchist wave" (Rapoport, 2004, pp. 46-74). This era, recognised as the first wave of modern terrorism, saw revolutionary movements inspired by anarchist ideologies gain prominence, particularly in Russia. These movements popularised tactics such as assassinations, bombings, and indiscriminate urban violence, which rapidly spread across Europe and influenced nationalist and separatist groups within multi-ethnic empires, including the Ottoman Empire (Deal, 2021, pp. 318-319).[4] The Hunchak and Dashnak committees exemplified the influence of this wave, drawing ideological and tactical inspiration from transnational revolutionary movements. The Hunchak committee[5], established in Geneva in 1887 by a group of young Armenians, drew ideological inspiration from Marxism. The Dashnak committee, founded in Tiflis in 1890, was similarly influenced by revolutionary groups like Russia's *Narodnaya Volya*, with some of its founding members active in the anarchist struggle against Tsarist rule (Nalbandian, 1967, pp. 104, 151, 153). These connections shaped the committees,

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[2] The "Armenian Question" refers to diplomatic and political issues concerning the rights and treatment of the Armenian population of the Ottoman Empire during the late 19th and early 20th centuries. For a comparative analysis, see. (Hovannisian, 1967), (Gürün, 2001).

[3] For detailed and comparative accounts of the histories of the committees, see. (Mattei, 2008, pp. 116-128, 144-160; Nalbandian, 1967, pp. 104-118, 151,179; Dasnabedian, 1990. pp. 29-57).

[4] For a broad study on the evaluation of terrorism, see. (*The History of Terrorism,* 2016).

[5] For the latest scholarship on the history of Hunchak, see. (*The Armenian Social Democrat Party,* 2024).

which placed great emphasis on armament (İskefiyeli, 2017, pp. 95-97), and their reliance on terrorism as a tool to destabilise the Ottoman Empire and amplify their demands on the international stage.

The Armenian uprisings were not spontaneous outbursts of discontent but rather part of a meticulously devised strategy. By orchestrating violent demonstrations and uprisings, the committees sought to attract the attention of Western diplomats and the international press. Their ultimate objective was to provoke foreign powers into imposing reforms on the Ottoman Empire or directly supporting Armenian independence (Yavuz, 2015, pp. 62-73). This strategy is evident in key events such as the relatively small-scale Erzurum Incident of 1890, the audacious Ottoman Bank Raid of 1896, and the ambitious Yıldız Assassination Attempt of 1905.[6]

The Ottoman government faced immense challenges in responding to these uprisings, grappling with both internal and external pressures. Domestically, ethnic and religious tensions frequently escalated into open conflict, posing a significant threat to stability in both the capital and the provinces. Externally, European powers—most notably Britain, France, and Russia—leveraged the uprisings as a means of exerting pressure on the Empire, ostensibly to protect Armenian subjects. Paradoxically, this external intervention often emboldened the revolutionary committees, who saw European diplomacy as a potential pathway to achieving their objectives.

This study examines the intricate dynamics of the Armenian uprisings through three interrelated themes: the pursuit of international intervention, the use of propaganda, and the escalation of violence. By analysing pivotal events such as the Erzurum Incident, the Sasun Rebellion, the Ottoman Bank Raid, and the Zeytun Rebellion, this work aims to provide a nuanced understanding of the strategies employed by Armenian revolutionary committees, the challenges faced by the Ottoman state, and the broader historical context of nationalist movements in the late 19th century.

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[6] For a comparative analysis of these events, see: (Uras, 1976; Gürün, 2001; Hocaoğlu, 1976; Nalbandian, 1967; Dadrian, 2003; Balakian, 2003; *The Armenian Massacres,* 2008).

1. Seeking International Intervention

The strategy of seeking international intervention was central to the activities of the Armenian revolutionary committees during the late 19th century. Recognising their limited military and political capacity to achieve autonomy or independence, the Hunchak and Dashnak committees sought to leverage the geopolitical rivalries of European powers. By orchestrating uprisings and demonstrations designed to expose the Ottoman Empire to international criticism, they aimed to provoke foreign intervention as a means to achieve their objectives.

The Armenian committees were acutely aware of the diplomatic significance of the Treaty of Berlin (1878), which had introduced Article 61, requiring the Ottoman Empire to implement reforms in the eastern provinces inhabited by Armenians (Güllü, 2015, p. 72). This provision became a cornerstone of the committees' efforts, as they sought to portray the Ottoman government as either unwilling or incapable of fulfilling its obligations. By positioning themselves as the legitimate advocates of the Armenian people, the committees hoped to compel European powers - notably Britain, France, and Russia - to enforce the treaty's provisions.

The Erzurum Incident of 1890 serves as an early example of this strategy in action.[7] The incident was calculated to draw European attention, though Turkish and Armenian sources depict the event differently. It was triggered by a search conducted following reports that weapons were being manufactured and stored in the Saint Asalian Church and the Sanasarian Armenian School. However, the underlying objective of this event was to pressure the government to address key demands, including the reduction of taxes, the abolition of the military exemption fee system, the reconstruction of desecrated churches, and the prompt implementation of reforms stipulated under Article 61 of the Berlin Treaty (Uras, 1976, pp. 458-459; Gürün, 2001, pp. 132-134; Sakarya, 1984, p. 94). By framing these issues within the context of international diplomacy, the committees sought to pressure European powers into intervening on behalf of the Armenians.

This tactic of engineering crises to attract external involvement is perhaps most evident in the Sasun Rebellion of 1894.[8] Led by figures such as Hamparsum Boyadjian and Mihran Damadian, the rebellion was deliberately orchestrated to provoke clashes between Kurdish tribes and Armenian villagers, with the expectation that Ottoman military intervention would follow (Hovanissian, 1967,

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[7] For details, see. (İskefiyeli, 2005, pp. 103-123).
[8] Both Ottoman and Armenian sources acknowledge Boyadjian as a persuasive advocate for rebellion, assuring the Sasun Armenians of European support should they rise against the state. (McCarthy, 2014, p. 23).

p. 219, Nalbandian, 1967, pp. 120-121; Şimşir, 1989, p. 479). Reports of atrocities during the suppression of the rebellion were seized upon by Britain and other European powers, leading to demands for an international investigation (Gürün, 2001, p. 141). Although the subsequent commission, which included foreign representatives, did not substantiate the claims of large-scale massacres, the incident succeeded in keeping the Armenian Question at the forefront of European diplomacy. A similar pattern can be observed in the Armenian events in Trabzon in 1895, which likewise drew significant international attention and diplomatic pressure (Şahin, 2006, p. 139). This marked a significant triumph for the committees, demonstrating the effectiveness of their strategy in mobilising international pressure against the Ottoman government.

The Zeytun Rebellion of 1895–96 further illustrates this approach. Like Sasun, the rebellion was carefully planned to provoke an Ottoman response and attract foreign intervention. The involvement of European consuls in negotiating the resolution of the rebellion underscored the committees' success in undermining Ottoman sovereignty. The resulting agreement, which included tax reductions, a general amnesty, and safe passage for rebel leaders to Europe, emboldened the Armenian committees and set a precedent for future uprisings (Gürün, 2001, p. 153; Balakian, 2003, p. 60).[9] This demonstrated the committees' reliance on the expectation of foreign protection as a key factor in their planning.

Western powers played a dual role in shaping the trajectory of these uprisings. On the one hand, their diplomatic pressure lent international legitimacy to Armenian grievances, enabling the committees to present themselves as defenders of Armenian rights. On the other hand, such interventions often emboldened revolutionary leaders, as seen in cases where foreign diplomats ensured their safety and facilitated their escape. For instance, during the Zeytun Rebellion, the rebel leaders were escorted to Europe under the protection of foreign representatives, with their expenses covered (Hovannisian, 1997, p. 223; Gürün, 2001, p. 153). These actions undermined the Ottoman government's authority and encouraged further uprisings, reinforcing the committees' belief that international intervention was their most viable pathway to achieving autonomy or independence.

The reliance on international intervention was not without its risks. While it amplified the Armenian committees' cause on the global stage, it also deepened internal tensions within the Ottoman Empire and heightened inter-communal mistrust. Furthermore, it rendered the committees dependent on the fluctuating

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[9] For the details of the agreement, see. (Uras, 1976, pp. 492-493).

interests of European powers, whose priorities often shifted in response to broader geopolitical considerations. Nonetheless, the pursuit of foreign involvement remained a cornerstone of their strategy, reflecting both their ambitions and the limitations of their position within the Ottoman Empire.

2. Propaganda Mechanisms

Propaganda played a pivotal role in the Armenian revolutionary committees' strategy, serving as a powerful tool to shape public opinion, galvanise Armenian communities, and delegitimise the Ottoman government on the international stage. By curating narratives of victimhood and resilience, the Hunchak and Dashnak committees effectively mobilised their base and garnered sympathy from Western audiences. This section examines the committees' use of demonstrations, media manipulation, symbolic actions, and diaspora mobilisation to advance their nationalist objectives.

One of the most prominent propaganda methods employed by the committees was the orchestration of public demonstrations. These events were meticulously planned to coincide with significant political moments, ensuring maximum visibility and impact. The Kumkapı Demonstration of 1890, organised by the Hunchak committee, exemplifies this approach.[10] Designed to bring the Armenian Question to the forefront of international attention, the demonstration targeted Patriarch Horen Ashikian, a figure viewed by the committees as too conciliatory towards the Ottoman government (Nalbandian, 1967, p. 118). During a church service, revolutionary leaders, Artin Cangulian, with Mihran Damadian and Hamparsum Boyadjian, disrupted proceedings, vandalised the Patriarchate building, and threatened the Patriarch himself. Although Ottoman forces intervened to restore order, the incident resulted in casualties and heightened tensions (Uras, 1976, pp. 463-463; Gürün, 2001, pp. 134-135). By provoking such clashes, the committees sought to portray Armenians as victims of state repression, appealing to European sympathies.

A similar strategy was evident in the Babıâli Demonstration of 1895. Framed as a peaceful protest against alleged massacres in Sasun, the demonstration drew large crowds to Istanbul and garnered significant attention from foreign diplomats and journalists. Armenian sources described the participants as peaceful protestors, singing nationalist songs and carrying banners demanding justice (Walker, 1990, p. 154). However,

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[10] For details, see. (Şaşmaz, 2004, pp. 101-118).

when violence erupted, the committees capitalised on the narrative of victimisation, ensuring that European media focused on the perceived brutality of Ottoman officials rather than the underlying provocations. This selective framing reinforced international perceptions of Armenians as a persecuted minority and amplified calls for intervention (Dadrian, 2003, pp. 119-120).

The manipulation of the press was another cornerstone of the committees' propaganda efforts. Recognising the power of media in shaping international opinion, they cultivated relationships with foreign journalists and disseminated accounts that emphasised Armenian suffering while downplaying revolutionary violence.[11] Publications in influential Western outlets such as *The Times*, *Daily News*, and *Pall Mall Gazette* often relied on information provided by Armenian and missionary sources, which depicted Armenians as victims of Ottoman oppression. In addition, the committees established their own newspapers to further their cause. For instance, Karabet Hagopian's[12] and Minas Cheraz's (Yavuz, 2019, pp. 719-745) early publications in London inspired subsequent anti-Ottoman newspapers such as *Armenia* in Marseille (Mattei, 2012, pp. 47-77), *Hayestan* in London, *Hayk* in New York, *Trushak* in Tbilisi, (*Ermeni Komiteleri,* 2001, pp. 1-3) all of which became central to the dissemination of nationalist rhetoric.

The Ottoman Bank Raid of 1896 provides a striking example of the committees' media strategy. While the raid involved bombings and violence that caused significant civilian casualties, Western newspapers largely focused on the subsequent clashes between Armenians and Muslims, portraying the events as an indiscriminate massacre of Armenians (Yavuz, 2015, pp. 98-109). This selective reporting aligned with the committees' goals of delegitimising the Ottoman government while diverting attention from their own actions. The resulting international outcry placed additional diplomatic pressure on the Ottoman Empire, further demonstrating the effectiveness of propaganda as a tool for achieving political leverage.

In addition to influencing foreign media, the committees utilised their publications to mobilise support within the Armenian community. Newspapers and pamphlets published by Hunchak and Dashnak organisations circulated

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[11] For further information, see. (Yavuz, 2017, pp. 91-110).
[12] For the activities of Karabet Hagopian, see. (İskefiyeli, 2017, pp. 221-259; İskefiyeli, 2015, pp. 534-570).

widely among Armenians within the Ottoman Empire and in the diaspora.[13] For example, in London, the Hunchak published two pamphlets aimed at inciting Armenians in Anatolia. These pamphlets, divided into two sections titled *Tuğyan-ı Cedid* (*The New Revolt*) and *Açık Mektup* (*Open Letter*), contained content designed to provoke unrest. This publication is explicitly mentioned as part of the committee's propaganda efforts to mobilise and influence the Armenian population against the Ottoman Empire (BOA. Y.EE. 97-52, lef. 5). Such materials often included vivid accounts of alleged atrocities, nationalist rhetoric, and calls to action, fostering a sense of solidarity and purpose among readers.

An example of "Calls to Action" occurred in Bulgaria. According to the record, an emblem symbolising an "Independent Armenian Principality" and a seditious Armenian-language pamphlet, authored by Mkritich Utucian, who was on the run for injuring an Ottoman soldier, were prepared for secret distribution across Anatolia. These materials aimed to provoke public sentiment and generate financial support for the committees. Additionally, Priest Aristarkis, a prominent member of the committees, travelled through cities such as Varna, Ruse, and Silistra, organising meetings and delivering speeches against the Ottoman Empire. Upon returning to Bucharest, he continued these activities, further promoting the revolutionary agenda (BOA. Y.A. Hus. 219-45). These actions reflect the committees' strategic use of symbols, publications, and public addresses to spread propaganda and challenge Ottoman authority.

Symbolic actions were another key aspect of the Armenian committees' propaganda efforts. Songs, slogans, and rituals were crucial in unifying Armenians and communicating their struggle to the broader world. Such slogans and songs were often classified as subversive materials by the Ottoman authorities and were frequently found in various periodicals, including magazines and newspapers.[14] For example, a publication titled *Irkaran*, confiscated in Diyarbakır, contains themes that explicitly reflect efforts to promote and intensify Armenian nationalist sentiments (Yazıcı, 2017, pp. 333-343). Likewise, poems,

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[13] For example, one of the reports of the Ottoman Ministry of Police mentions explicitly that the Hunchak Committee operated printing presses in London and Switzerland, producing propaganda materials and distributing criminal instructions under their seal. These publications included manifestos, threatening letters, and detailed plans for inciting rebellion and committing assassinations. This highlights the committee's systematic use of international press and publications to propagate their agenda and coordinate acts of violence against the Ottoman Empire (*Ermeni Komiteleri,* 2001 p. 3).

[14] Searches conducted in Armenian households uncovered harmful publications, letters, and weapons. The Ottoman Archives contain numerous documents detailing these discoveries. For a descriptive portrayal, see. (Halaçoğlu, 2009, pp. 129-153).

anthems and laments emerge as prominent elements within these publications. They were deliberately crafted to preserve Armenian identity and to stir sentiment, particularly among the youth.[15] These kinds of publications evoked a sense of historical and cultural pride and framed the Armenian struggle as part of a larger narrative of resistance and liberation.

The committees also reinforced their messaging through anniversaries, religious ceremonies, and public speeches. Leaders like Mihran Damadian became prominent figures whose rhetoric galvanised the Armenian population. Their speeches often combined themes of so-called historical injustice, religious martyrdom, and nationalist aspiration, creating a powerful narrative that resonated with both Armenians and their international supporters. For example, in his speech in Greece, Damadian invoked themes of so-called "shared oppression" and historical solidarity between Armenians and Greeks, emphasising their common struggle against Ottoman rule. He highlighted the so-called "systematic persecution of Christians, the suppression of Armenian identity, and the enduring resilience of both nations". By appealing to cultural and historical ties and collective aspiration for freedom and justice, Damadian framed the Armenian cause as a national struggle and part of a broader fight for Christian civilisation and dignity (Selvi, 2009a, pp. 39-42).

Visual propaganda, such as *yaftas* (notices/posters), descriptions and illustrations, further amplified these messages.[16] Notably, the role of American missionaries was particularly influential in disseminating and reinforcing these narratives.[17] Depictions of Armenian villages in flames or women and children fleeing violence were designed to evoke emotional responses and rally support for the cause. During the Ottoman Bank Raid, reports of such visual propaganda were published in Western newspapers (Yavuz, 2015, pp. 364-368). These images were particularly effective in Western contexts, where they were often interpreted through the lens of humanitarianism and Christian solidarity.

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[15] For instance, a subversive document seized in Aleppo included the following lines: Let us defend ourselves / Against the Turks who drain our blood / Let us defend ourselves with force / And save ourselves (Halaçoğlu, 2009, p. 145). For similar poems and songs, see. (*Ermeni Komitelerinin*, 2003, pp. 15-21; Babacan, 2007, pp. 12-14).

[16] The Armenian incidents in Merzifon, Yozgat, and Kayseri began with posting yaftas (posters) on government offices, streets, and public thoroughfares. see. (Kolbaşı, 2011).

[17] For example, under the headline "Turkish Plot," *The Los Angeles Times* relayed information from the *Chronicle* and included an interview with Miss Grace Kimball, a missionary associated with the New York Mission. Kimball, noted for assisting Armenians during recent events, described the situation as a significant revolutionary movement in Turkey. The account included extraordinary depictions, such as reports of victims' heads being mounted on poles and paraded through the streets. Additionally, rumours of the Sultan issuing orders for the extermination of all Armenians were highlighted, further amplifying the dramatic nature of the narrative. (Los Angeles Times, 1896, p. 1).

A hallmark of the committees' propaganda strategy was their ability to control the narrative surrounding key events. This was particularly evident in how they framed incidents like the Sasun Rebellion and the Zeytun Rebellion. While Ottoman documents described these events as insurrections involving armed Armenian groups[18], the committees portrayed them as defensive uprisings against state oppression and local abuses. For instance, during the Sasun Rebellion, Armenian sources emphasised the plight of villagers subjected to double taxation by Kurdish tribes and Ottoman officials (Dadrian, 2003, p. 114; Hovanissian, 1986, pp. 24-25). These accounts, disseminated through Armenian and foreign publications, largely omitted the role of revolutionary leaders in instigating the conflict.[19] Because such Armenian incidents reinforced the already negative image of Turks in the West, events like Sasun further cemented this perception. The propaganda surrounding Sasun, combined with sensationalised reporting, shaped the narrative in Europe and America, portraying Turks as mass murderers. This depiction, rooted in existing prejudices, overshadowed any attempt to uncover the truth and has perpetuated a lasting slander against Turks (McCarthy, 2014, p. 194). Similarly, the Zeytun Rebellion was framed as a heroic struggle against overwhelming odds, despite evidence of premeditated planning and external support by Armenian committees (Nalbandian, 1967, p. 127). Even when their actions involved significant violence, the committees were adept at shifting blame to the Ottoman authorities. This was evident during the Ottoman Bank Raid, where the focus of international media coverage quickly turned to the Ottoman response rather than the raid itself. In the initial days following the raid, media coverage focused on describing the events. However, within a few days, they began to portray the city's incidents as deliberately orchestrated by the Ottoman government (Yavuz, 2015, pp. 213-222). By portraying the Ottoman government as heavy-handed and authoritarian, the committees ensured that their actions were seen as justified or, at the very least, overshadowed by the broader narrative of Armenian victimhood.

The Armenian Diaspora was crucial in amplifying the committees' propaganda efforts. Armenian communities in Europe and the United States lobbied governments, organised public meetings, and raised funds to support the revolutionary movement. In the late 19th century, Armenians in the United States progressively established churches and developed organised networks. Over time, the Armenian diaspora in America emerged as a key centre for some of the

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[18] For Sasun and Zeitun Rebellions, see. (*Osmanlı Arşivi,* 1989; Günay, 2007).
[19] For the perception of British newspapers, see. (Çeken, 2022, pp. 75-98).

most influential lobbying efforts on a global scale.[20] This international advocacy was also effective in Britain, where groups like the Anglo-Armenian Association (İskefiyeli, 2015, pp. 534-570) and influential figures such as Gladstone lent their voices to the cause.[21] The committees capitalised on this support, using it to sustain their activities and legitimatise their demands on the global stage.

While propaganda was an effective tool for mobilising support and generating international sympathy, it also had limitations. The reliance on exaggerated or one-sided narratives sometimes undermined the committees' credibility, notably when conflicting accounts emerged. In the Western newspapers, this dynamic becomes particularly evident in the bombing incidents that occurred in Istanbul precisely one year after the bank raid (Kuzucu, 2015, pp. 589-616). Despite these challenges, the Armenian committees' propaganda was instrumental in advancing their cause. By controlling the narrative, mobilising their community, and influencing international opinion, they succeeded in keeping the Armenian Question at the forefront of global diplomacy. Their propaganda mechanisms, deeply intertwined with their broader strategy of seeking international intervention, highlight the sophistication and adaptability of their nationalist movement.

3. Escalation of Violence

The late 19th century witnessed a marked escalation of violence in the activities of the Armenian revolutionary committees, reflecting both their growing desperation and strategic intent. Initially relying on demonstrations and symbolic protests, the Hunchak and Dashnak committees gradually transitioned to large-scale uprisings, urban terrorism, and assassination attempts as diplomatic efforts failed to yield significant results. This shift not only intensified the Armenian Question but also revealed the committees' willingness to adopt increasingly militant tactics to achieve their nationalist objectives.

The early stages of the Armenian uprisings were characterised by limited confrontation, with events like the Erzurum Incident and the Kumkapı Demonstration of 1890 aimed primarily at drawing attention to Armenian grievances without extensive violence. However, as the Ottoman government strengthened its resolve to suppress dissent, and as the committees faced setbacks in their efforts to secure meaningful international intervention, their tactics evolved (Yavuz, 2015, p. 316). The Sasun Rebellion of 1894 marked a turning

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[20] For further information, see. (Selvi, 2003, pp. 27-37; Selvi, 2009b, pp. 101-113; Karacakaya, 2009, pp. 85-105).
[21] For Gladstone and British policy towards the Ottoman Empire, see. (Şahin, 2009, pp. 51-86; Karaca, 2014).

point. This armed uprising, led by revolutionary figures such as Hamparsum Boyadjian, was deliberately orchestrated to incite Kurdish tribes to attack Armenian villages, thereby prompting Ottoman military intervention (Doğan, 2000, pp. 22-23). The rebellion was framed by Armenian sources as a struggle against oppression, with claims of massacres and atrocities dominating subsequent narratives (Hovanissian, 1986, pp. 24-25). These accounts, amplified by the committees' propaganda apparatus, drew significant international attention and further pressured the Ottoman government. The Sasun Rebellion exemplified the committees' strategy of provoking violent Ottoman reprisals to elicit sympathy and condemnation from European powers. However, this approach also signalled their shift towards more aggressive and militarised tactics, a trend that continued to define their activities in the ensuing years.

The Ottoman Bank Raid of 1896 marked a new phase in the escalation of violence, introducing urban terrorism as a central element of the committees' strategy. Organised by the Dashnak committee, the raid involved a small group of revolutionaries led by Armen Garo (Karakin Pastırmadjian), who targeted the Ottoman Empire's financial hub in Istanbul. The objective was twofold: to destabilise the Ottoman government and to force European powers to intervene. While the raid caused civilian casualties and widespread panic, its true impact lay in the diplomatic fallout. Under international pressure, Abdulhamid II allowed the raiders to leave the bank unharmed under the protection of European officials, (Yavuz, 2015, pp. 126-127) underscoring the committees' ability to manipulate international sensitivities. The raid's success in drawing attention to the Armenian cause came at the cost of alienating segments of the Ottoman Armenian population, who bore the brunt of the subsequent reprisals.

The Yıldız Assassination Attempt of 1905 represented the culmination of this escalating violence. Planned by the Dashnak committee, the operation aimed to assassinate Sultan Abdulhamid II as he departed from Friday prayers at the Yıldız Mosque. The plot involved a sophisticated explosive device concealed in a carriage, reflecting the increasing audacity and organisational capability of the committees.[22] Although the bomb detonated prematurely, killing 26 people and injuring 58, the attempt demonstrated the committees' readiness to resort to extreme measures. More importantly, it reinforced their strategic use of high-profile acts of violence to challenge Ottoman authority and amplify their demands on the international stage (Selvi, 2013, pp. 18-19).

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[22] For a complete description of the event, see. (Selvi, 2013).

The committees' reliance on violence was not merely reactive but an integral part of their broader strategy. By orchestrating uprisings and attacks, they sought to expose the vulnerabilities of the Ottoman government, undermine its authority in regions with significant Armenian populations, and provoke international condemnation (Nalbandian, 1967, p. 127). These actions, however, came with significant risks. While they succeeded in keeping the Armenian Question at the forefront of European diplomacy, they also intensified inter-communal tensions within the Empire. The committees' deliberate targeting of Ottoman officials, financial institutions, and public spaces alienated many Armenians and exacerbated divisions between Armenian and Muslim communities.

The escalation of violence also served as a tool for internal mobilisation. Revolutionary acts such as bombings and assassinations were intended to inspire Armenians within the Empire and the diaspora, positioning the committees as the vanguard of the nationalist struggle. High-profile events like the Ottoman Bank Raid and the Yıldız Assassination Attempt were carefully choreographed to project an image of defiance and resilience, reinforcing the committees' claims to leadership and legitimacy.

Despite its tactical successes, the committees' increasing reliance on violence highlighted the limitations of their strategy. The Ottoman government's capacity to suppress uprisings, combined with the committees' dependence on European intervention, underscored the challenges of achieving lasting political change through militant means. Furthermore, the human and social costs of this violence deepened divisions within the Armenian community and heightened the mistrust of the Ottoman authorities. The escalation of violence by the Armenian revolutionary committees was a calculated response to their challenges, reflecting both the opportunities and constraints of their position. While their actions succeeded in drawing international attention and challenging Ottoman authority, they also exacerbated the very tensions they sought to resolve.

Conclusion

The Armenian uprisings of the late 19th century offer a revealing case study of the interplay between nationalist aspirations and international dynamics within the Ottoman Empire. The Hunchak and Dashnak committees, driven by the goal of Armenian autonomy or independence, devised a multifaceted strategy that combined propaganda, escalating violence, and calculated appeals for international intervention. These efforts underscored the committees' determination to challenge Ottoman authority and secure their place on the global diplomatic agenda.

Each uprising, from the relatively contained Erzurum Incident to the audacious Yıldız Assassination Attempt, demonstrated the committees' evolving tactics and growing reliance on violent means. Early demonstrations sought to draw attention to Armenian grievances and provoke reforms through diplomacy. However, as these efforts failed to yield significant results, the committees increasingly turned to armed uprisings and urban terrorism. These actions not only intensified tensions within the Empire but also highlighted its administrative fragility, particularly in the eastern provinces where ethnic and religious diversity presented complex challenges.

Propaganda emerged as a central pillar of the committees' strategy, enabling them to shape public perceptions and rally support both domestically and internationally. By controlling narratives through demonstrations, media manipulation, and symbolic actions, they succeeded in portraying Armenians as victims of systemic oppression. This framing, coupled with active diaspora mobilisation, ensured that the Armenian Question remained a persistent concern in European diplomacy. However, the committees' reliance on selective narratives and exaggerated claims occasionally undermined their credibility, highlighting the limitations of propaganda as a tool for sustained political change. The international dimension of the uprisings played a dual role. On the one hand, European powers—most notably Britain, France, and Russia—provided diplomatic pressure that lent legitimacy to Armenian grievances and shielded revolutionary leaders from severe consequences. On the other hand, this external intervention deepened mistrust within the Empire and emboldened the committees to escalate their activities, further straining Ottoman-Armenian relations. The dependency on foreign support also exposed the committees to the shifting priorities of European powers, whose interests often aligned with broader geopolitical strategies rather than the specific demands of Armenian revolutionaries.

In the broader context of nationalist movements within multi-ethnic empires, the Armenian uprisings exemplify the tensions between local agency and external intervention. They reveal the challenges of reconciling nationalist goals with the realities of fragmented political landscapes and entrenched social hierarchies. For the Ottoman Empire, these uprisings underscored the difficulties of governing a diverse population during an era of political transformation and growing nationalist sentiment. The Armenian uprisings is one of profound historical and social significance. While they succeeded in keeping the Armenian Question at the forefront of international diplomacy, they came at a significant cost to the communities involved. The cycle of violence, propaganda, and intervention not only deepened divisions within the Empire but also exacerbated inter-communal mistrust, undermining efforts at coexistence.

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CHAPTER 21

Evaluation of the Effects of Smart City Systems on Local Participation within a Theoretical Framework

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Introduction

The concept of smart cities has emerged as a transformative paradigm in urban governance, combining technological innovation with sustainable development goals to address the complex challenges of modern urbanization. Central to this paradigm is the integration of digital tools and data-driven systems into urban infrastructure, enabling governments to optimize resource allocation, improve service delivery, and enhance public engagement. Smart city systems, encompassing technologies such as the Internet of Things (IoT), artificial intelligence (AI), and participatory platforms, aim to bridge the gap between citizens and governance structures, creating new avenues for local participation in decision-making processes.

Local participation is a critical element of democratic governance, ensuring that citizens have a voice in shaping policies that directly affect their lives. Traditionally, participation has been mediated through face-to-face interactions, town hall meetings, and community forums. However, the rise of smart city systems has disrupted these traditional mechanisms, introducing digital platforms that enable real-time feedback, crowdsourced solutions, and data-driven policy decisions. While these innovations offer unprecedented opportunities for inclusivity and efficiency, they also present challenges, such as the digital divide, data privacy concerns, and the risk of technocratic governance overshadowing grassroots involvement.

This chapter aims to critically evaluate the effects of smart city systems on local participation, exploring how these systems have redefined the relationship between citizens and urban governance. The analysis is situated within a robust theoretical framework, incorporating insights from participatory governance, actor-network theory, socio-technical systems theory, and deliberative democracy. By examining global examples from Barcelona, Singapore, and Bristol, the chapter highlights the dual potential of smart city systems to empower citizens and reinforce existing inequalities.

The chapter contributes to the growing academic discourse on smart cities by addressing two key questions:

To what extent do smart city systems enhance local participation and democratize urban governance?

What theoretical frameworks best explain the transformative effects of these systems on participatory practices?

The discussion is structured as follows: Section 1 outlines the theoretical background, establishing key concepts and frameworks that inform the analysis. Section 2 explores the effects of smart city systems on local participation, identifying key dynamics and their implications. Section 3 examines examples of smart technologies and governance, drawing insights from global practices. Section 4 engages in critical discussion, evaluating challenges and opportunities in the context of smart city governance. Section 5 considers policy implications, proposing strategies to enhance local participation. Finally, the conclusion reflects on the findings and highlights directions for future research.

1. Theoretical Background

1.1 Participatory Governance

Participatory governance is a theoretical framework that emphasizes the active involvement of citizens in public decision-making processes, with the aim of fostering more inclusive, transparent, and accountable governance systems. Rooted in democratic theory, participatory governance seeks to bridge the gap between government authorities and the public by encouraging collaboration and shared responsibility in policymaking. This approach is often discussed in opposition to top-down governance models, which are characterized by centralized decision-making and limited public engagement (Fung, 2006).

One of the most widely referenced conceptualizations of participatory governance is Arnstein's (1969) Ladder of Citizen Participation, which categorizes citizen involvement into eight levels ranging from "manipulation" (non-participation) to "citizen control" (full participation). Arnstein's model highlights the spectrum of participation, from tokenistic forms such as consultation to transformative practices where citizens hold significant decision-making power. While the ladder has been criticized for its linearity and limited adaptability to complex governance contexts, it remains a foundational framework in discussions about participatory processes.

In the context of smart city systems, participatory governance acquires new dimensions. Digital platforms offer tools for real-time engagement, allowing citizens to provide feedback, contribute ideas, and collaborate with municipal authorities on policy development. For instance, participatory budgeting platforms enable citizens to directly allocate portions of municipal budgets, a practice that has been successfully implemented in cities like Porto Alegre and Barcelona (Santos et al., 2018). Such initiatives demonstrate the potential of smart technologies to expand the scope and scale of participatory governance.

However, participatory governance in smart cities is not without challenges. Scholars have noted the risk of digital exclusion, where marginalized groups are excluded from participatory processes due to lack of access, skills, or digital literacy (Peck, 2020). Additionally, the emphasis on technologically mediated participation raises concerns about the transparency and accountability of algorithmic decision-making processes, as well as the potential for surveillance and data misuse (Cardullo & Kitchin, 2019).

Despite these challenges, participatory governance provides a valuable lens for examining how smart city systems can enhance local participation. By prioritizing inclusivity, accountability, and shared power, this framework underscores the importance of designing technologies that empower citizens rather than reinforcing existing inequalities.

1.2. Actor-Network Theory (ANT)

Actor-Network Theory (ANT) provides a unique framework for examining the sociotechnical dynamics of smart city systems, emphasizing the equal agency of human and non-human actors in shaping governance processes. Developed by Latour, Callon, and Law, ANT challenges traditional divides between social and technical systems by framing technologies, institutions, and individuals as interconnected actors within networks (Latour, 2005). This approach is particularly useful for understanding how smart city systems mediate local participation and governance dynamics.

Central to ANT is the concept of heterogeneous networks, which encompass human actors (e.g., policymakers, citizens) and non-human actors (e.g., technologies, infrastructures). These entities collectively shape the network's structure and operations. For instance, Barcelona's Decidim platform demonstrates how participatory tools mediate citizen engagement, define rules, and organize data flows (Balestrini et al., 2017; Cardullo & Kitchin, 2019).

The principle of translation in ANT explains how actors align their interests through negotiation and adaptation to sustain the network. In smart cities, translation occurs when government goals, citizen expectations, and platform functionalities converge. Participatory tools, such as budgeting platforms, depend on municipalities fostering inclusivity, citizens trusting the systems, and technologies being accessible and secure (Callon, 1986).

Smart technologies are conceptualized in ANT as mediators, actively shaping participation processes. These mediators influence participation in several ways:

1. **Enabling Participation**: Technologies democratize decision-making by offering accessible platforms. For instance, Seoul's mVoting app bridges communication gaps, enabling citizen input in urban planning (Lee et al., 2016).

2. **Constraining Participation**: Conversely, poor design or high costs can exclude marginalized groups, while opaque algorithms may limit transparency and citizen influence (Kitchin, 2017).

Despite its strengths, ANT faces criticism for downplaying power dynamics and ethical concerns (Whittle & Spicer, 2008). For example, while participatory platforms appear inclusive, their designs may reflect governmental or corporate priorities, potentially sidelining marginalized voices. Ethical concerns are also evident in cases like Rio de Janeiro, where crime-prevention sensors disproportionately monitor low-income areas, exacerbating inequality (Shelton et al., 2015).

To enhance inclusivity and transparency, ANT suggests designing smart city systems with a focus on:

- **Co-Creation**: Involving citizens in technology design and implementation to align with local needs (Balestrini et al., 2017).

- **Accountability**: Embedding protocols to address algorithmic biases and data misuse (Kitchin, 2017).

- **Equity**: Ensuring accessibility to prevent exclusion and marginalization (Peck, 2020).

Although ANT does not prescribe solutions, its focus on negotiation and alignment provides a critical lens for evaluating how smart city technologies mediate governance and influence power dynamics, ensuring they serve as tools for empowerment rather than exclusion.

1.3. Socio-Technical Systems Theory

Socio-Technical Systems (STS) Theory provides a robust analytical framework for understanding the integration of technological and social systems. Initially conceptualized within organizational studies to address work design and productivity challenges (Trist, 1981), STS has since been extended to domains such as urban governance and smart city systems. The theory posits that technological systems cannot be divorced from their social contexts; rather, their effectiveness hinges on the co-evolution of social and technical dimensions (Mumford, 2000).

The principle of joint optimization lies at the heart of STS, emphasizing that socio-technical systems achieve optimal outcomes only when their technical and social components are designed to work synergistically (Bostrom & Heinen, 1977). For instance, while advanced algorithms or participatory platforms may promise efficiency, their success depends on their alignment with institutional structures and citizen needs (Janssen et al., 2017).

Another critical aspect of STS is the concept of mutual shaping, which highlights the bidirectional influence between society and technology. Technological systems, such as IoT-enabled platforms, shape social behaviors by introducing new interaction mechanisms, while societal values and norms, in turn, influence the design, adoption, and regulation of these technologies (Bijker, 1995; Orlikowski, 1992).

STS provides a nuanced lens for analyzing participation in smart city systems by acknowledging the complex interplay between technological innovation and societal dynamics. In governance contexts, STS underscores that:

1. Technological systems must account for diverse user needs, ensuring inclusivity and accessibility (van Dijk, 2020).

2. Institutional frameworks must evolve alongside technological advancements to support effective governance and citizen engagement (Kitchin, 2017).

3. Ethical considerations, such as transparency and accountability, are critical to maintaining trust and legitimacy in socio-technical systems (Shelton et al., 2015).

While STS offers a valuable framework for analyzing socio-technical integration, it has been critiqued for its lack of prescriptive solutions, particularly in addressing systemic inequalities (Whittle & Spicer, 2008). Additionally, its emphasis on co-optimization may oversimplify the tensions and competing priorities inherent in complex governance systems (Hughes, 1987).

Despite these critiques, STS remains a foundational framework for understanding the challenges and opportunities of embedding smart technologies into participatory governance structures.

1.4. Deliberative Democracy

Deliberative democracy emphasizes the role of open, reasoned dialogue in achieving inclusive and legitimate decision-making processes. Emerging from the work of theorists like Habermas, it focuses on the idea that public deliberation,

rather than mere voting or elite decision-making, is key to democratic legitimacy. By fostering environments where citizens exchange ideas and critically evaluate diverse perspectives, deliberative democracy seeks to create governance systems that reflect collective reasoning and shared values (Habermas, 1984; Dryzek, 2000).

Smart city systems have begun to incorporate elements of deliberative democracy through digital tools designed to engage citizens in urban planning and decision-making. Platforms such as participatory budgeting apps and online forums aim to democratize access to policy discussions by removing traditional barriers to participation. For example, technologies enable broader citizen involvement, particularly in large urban areas where in-person deliberations may be impractical. However, realizing the full potential of deliberative practices within these systems requires careful attention to inclusivity and equality (Gutmann & Thompson, 2004).

Inclusivity remains one of the most significant challenges in implementing deliberative democracy through digital means. Although technology can theoretically expand access, disparities in digital literacy, infrastructure, and socioeconomic conditions often prevent marginalized groups from engaging meaningfully. Research highlights that while digital platforms lower logistical barriers, they may inadvertently reinforce existing inequalities by favoring those who are already technologically adept or possess higher levels of education (van Dijk, 2020). For these systems to achieve their deliberative goals, they must actively address these disparities, incorporating mechanisms to support underrepresented voices.

A related concern involves the depth of dialogue fostered by technology-mediated deliberation. While platforms provide opportunities for large-scale engagement, the nature of online discussions often prioritizes speed and brevity over nuanced reasoning. Scholars have noted that the quality of deliberation can be compromised when algorithmic systems aggregate or summarize inputs, potentially distorting the diversity of perspectives (Kitchin, 2017). Ensuring that digital deliberations retain the reflective and evidence-based qualities central to deliberative democracy requires the integration of safeguards such as transparency protocols and ethical oversight.

Despite these challenges, smart city technologies hold promise as facilitators of deliberative governance. By designing systems that incorporate feedback loops, ensure accessibility, and promote equitable participation, cities can foster environments where citizens actively contribute to urban decision-making.

Evidence suggests that hybrid models combining traditional in-person deliberation with digital tools can help balance the inclusivity of digital participation with the depth of face-to-face discussions (Smith, 2009). These approaches highlight the need to view technology as a complement to, rather than a replacement for, traditional democratic practices.

In the context of smart city governance, deliberative democracy provides a framework for evaluating how technology can be leveraged to enhance citizen engagement. By emphasizing inclusivity, fairness, and reasoned dialogue, it offers valuable principles for guiding the design and implementation of participatory systems. However, realizing these principles requires a deliberate effort to bridge the gaps between technological capabilities and the sociopolitical realities of urban communities.

1.5. Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) is a widely recognized theoretical framework for understanding how individuals adopt and use technological innovations. Originally developed by Davis (1989) within the field of information systems, TAM identifies two primary factors influencing technology adoption: perceived usefulness and perceived ease of use. These factors shape users' attitudes toward technology, ultimately determining their behavioral intention to use it.

In the context of smart city systems, TAM provides valuable insights into how citizens engage with technology-mediated governance platforms. Perceived usefulness refers to the extent to which citizens believe that a given technology will improve their ability to participate in decision-making or access urban services. For instance, participatory budgeting platforms are often deemed useful because they allow citizens to directly influence municipal spending. Similarly, open data systems are valued for their ability to enhance transparency and accountability in governance (Janssen et al., 2017).

Perceived ease of use, on the other hand, focuses on the effort required to engage with the technology. Citizens are more likely to adopt digital tools that are intuitive, accessible, and user-friendly. Complex interfaces, lack of technical support, or inadequate digital literacy can act as significant barriers to participation, even when the technology itself is beneficial (Venkatesh & Davis, 2000). For example, older adults or individuals with limited experience in using digital devices may find smart city platforms challenging to navigate, reducing their likelihood of participation.

TAM also highlights the role of external variables—such as demographic factors, cultural norms, and prior experience—in shaping perceptions of technology. For smart city systems, these variables are particularly relevant in understanding disparities in adoption. Research shows that marginalized communities often encounter structural barriers, such as limited access to high-speed internet or affordable devices, which hinder their ability to perceive technologies as both useful and easy to use (van Dijk, 2020).

Despite its strengths, TAM has faced criticism for oversimplifying the adoption process by neglecting broader sociopolitical and ethical dimensions. Scholars argue that factors like trust in government, data privacy concerns, and power dynamics also significantly influence technology adoption, especially in participatory governance contexts (Bélanger & Carter, 2008). For instance, citizens may reject digital governance platforms not because of usability issues but due to fears of surveillance or skepticism about their impact on decision-making.

Nevertheless, TAM remains a foundational framework for analyzing citizen engagement with smart city systems. It underscores the importance of designing technologies that are not only functional and user-friendly but also aligned with the diverse needs and expectations of urban populations. Integrating TAM with other theoretical approaches, such as socio-technical systems theory or deliberative democracy, can provide a more holistic understanding of how smart city technologies influence participation.

2. Effects of Smart City Systems on Local Participation

Smart city systems have introduced transformative changes in local participation, leveraging technology to bridge gaps in traditional governance. By integrating digital platforms, IoT technologies, and data-driven systems, these frameworks aim to make participatory processes more accessible, transparent, and efficient. However, these innovations also reveal underlying challenges, such as technological inequities and ethical concerns, which complicate their implementation. Understanding the dual dynamics of facilitation and limitation is crucial for evaluating their overall impact on citizen engagement.

2.1. Facilitators of Participation

One of the most significant benefits of smart city systems lies in their ability to enhance accessibility, particularly through digital platforms. Unlike traditional participatory methods, which often require physical attendance at meetings, these systems enable citizens to contribute from any location. Participatory budgeting

tools provide a prominent example, empowering citizens to directly influence municipal spending. In Paris, for instance, more than €100 million has been allocated annually through citizen voting on projects submitted via an online platform, a process that has significantly increased participation across diverse demographics (Janssen et al., 2017).

Digital tools also streamline communication between citizens and government authorities, allowing for more dynamic and responsive governance. Technologies such as mobile applications and IoT sensors enable real-time feedback mechanisms, where citizens can report issues, propose solutions, or vote on local initiatives. For example, Seoul's mVoting platform has facilitated widespread public input on urban planning, with over one million citizens participating in consultations on issues ranging from transportation planning to park development (Lee et al., 2016). These mechanisms enhance the responsiveness of municipal authorities, fostering a sense of shared accountability.

Another transformative aspect of smart city systems is their capacity to promote transparency in governance processes. By leveraging open data platforms, municipalities can share information on budgets, project timelines, and policy outcomes, empowering citizens to monitor and evaluate governance actions. Helsinki's open data initiative exemplifies this approach, providing access to over 1,200 datasets that enable residents to scrutinize government performance and advocate for data-driven policy changes (Meijer & Bolívar, 2016). Additionally, platforms like Barcelona's Decidim allow citizens to track the status of their proposals throughout the policymaking cycle, ensuring accountability and bolstering public trust.

Perhaps most compellingly, smart city systems have the potential to amplify the voices of underrepresented groups. Traditional governance structures often marginalize certain populations, such as young people, individuals with mobility limitations, or those in geographically remote areas. Research indicates that online platforms tend to attract more diverse participants than in-person meetings, offering a vital avenue for these voices to be heard. For instance, studies in European cities reveal that participatory apps often engage younger demographics who are less likely to attend physical events, reflecting the democratizing potential of these technologies (Cardullo & Kitchin, 2019).

2.2. Barriers to Participation

Despite their advantages, smart city systems also encounter significant obstacles that limit their ability to achieve inclusive and equitable participation. The digital divide remains one of the most pervasive barriers, particularly in socioeconomically disadvantaged communities. Access to high-speed internet and digital devices is unevenly distributed, excluding vulnerable populations from utilizing participatory platforms. In rural areas or underserved urban neighborhoods, the lack of robust digital infrastructure and affordability further exacerbates these disparities (van Dijk, 2020). As a result, the very systems designed to democratize engagement risk reinforcing existing inequalities.

Privacy concerns represent another critical barrier. Participatory systems often rely on extensive data collection to personalize experiences or analyze user behavior. However, insufficient safeguards around data protection can erode public trust. Citizens are frequently wary of how their information is used, fearing surveillance or misuse by authorities. This mistrust is amplified in contexts where governments lack transparent data policies, discouraging participation even among those with access to the technology (Kitchin, 2017). Effective governance requires addressing these concerns through clear communication and robust regulatory frameworks.

Limited digital literacy poses an additional challenge, particularly for older adults and individuals with minimal technological experience. Even when platforms are accessible, complex interfaces and technical jargon can deter meaningful participation. Studies indicate that digital literacy training and user-friendly designs are essential for bridging this gap, yet such initiatives are often underfunded or inconsistently implemented (Peck, 2020). Without addressing these barriers, smart city systems risk excluding significant portions of the population, undermining their potential to enhance inclusivity.

Finally, the technocratic nature of many smart city initiatives may marginalize non-digital voices. Overemphasis on digital tools can lead to the exclusion of those who prefer traditional forms of engagement or lack the means to participate online. Additionally, algorithmic decision-making embedded in these systems often prioritizes efficiency over equity, potentially sidelining community-driven, deliberative approaches to governance. This tension underscores the need to balance technological innovation with human-centered design principles, ensuring that smart systems complement rather than replace existing participatory frameworks (Smith, 2009).

2.3. Balancing Opportunities and Challenges

While the facilitators and barriers outlined above highlight the complexities of integrating smart city systems into governance, they also point to opportunities for improvement. Combining digital platforms with traditional participatory methods, such as town hall meetings or citizen assemblies, can help address gaps in accessibility and inclusivity. Municipalities play a pivotal role in bridging these methods, ensuring that governance systems remain inclusive and context-sensitive. As Uzel (2018) emphasizes, municipalities serve as the nexus between national socio-economic goals and localized governance strategies, making them indispensable in co-creating technologies and frameworks that reflect diverse community needs.

Moreover, co-creation processes that involve citizens in the design and implementation of these technologies can ensure that they reflect diverse needs and priorities. Ethical oversight and robust data governance frameworks are equally critical to building trust and safeguarding participation in the digital age. By effectively combining traditional and digital governance tools, municipalities can create an adaptive, resilient governance model that addresses challenges while maximizing opportunities for inclusive participation.

3. Smart Technologies and Governance Examples

The integration of smart technologies into urban governance has transformed how cities engage with their citizens. Across the globe, municipalities are experimenting with innovative digital tools to foster inclusivity, transparency, and responsiveness in decision-making processes. These examples illustrate how diverse cities have tailored smart city initiatives to meet their unique governance challenges and priorities. By examining the experiences of Barcelona, Singapore, and Bristol, this section explores the successes, limitations, and lessons learned from implementing participatory systems driven by technology.

Barcelona's Decidim platform showcases a grassroots model for co-creating public policies, emphasizing transparency and citizen empowerment. Singapore's Smart Nation initiative, in contrast, reflects a centralized approach that leverages cutting-edge technology to optimize urban services, albeit with a more limited focus on deliberative engagement. Finally, Bristol demonstrates a localized, community-driven approach to smart city development, combining digital tools with traditional participatory methods to address environmental and social challenges. Together, these examples offer valuable insights into the diverse strategies cities adopt to integrate smart technologies into participatory governance.

3.1. Barcelona: The Decidim Platform

Barcelona has established itself as a global leader in participatory governance through its innovative use of technology, particularly the Decidim platform. Launched in 2016, Decidim is an open-source digital participatory democracy tool that facilitates citizen engagement in municipal policymaking. The platform, whose name translates to "We Decide" in Catalan, enables residents to propose, debate, and vote on policies and projects, ensuring a co-creation model that reflects the principles of transparency, inclusivity, and accountability (Fuster Morell et al., 2021).

One of Decidim's most prominent implementations has been its integration into Barcelona's Participatory Budgeting (PB) process. Between 2020 and 2023, the city allocated €75 million—equivalent to 5% of the municipal budget—for projects proposed and voted on by residents via the platform. This initiative attracted widespread participation, with thousands of citizens contributing ideas, voting on projects, and tracking their progress in real time. Funded projects included improvements to green spaces, investments in renewable energy, and the development of cycling infrastructure, reflecting the diverse priorities of the population (Participedia, n.d).

A defining feature of Decidim is its real-time tracking mechanism, which allows citizens to monitor their proposals throughout the policymaking process. This transparency fosters trust and accountability, bridging gaps between citizens and municipal authorities (Allegretti & Antunes, 2021). The platform also provides extensive documentation, including proposal histories, voting results, and administrative decisions, further enhancing its reputation as a tool for ethical governance (Subirats & García, 2020).

However, Decidim is not without its challenges. Research highlights disparities in participation, with younger, tech-savvy individuals and urban residents more likely to engage than older populations or those in rural or economically disadvantaged areas. These inequalities underscore the importance of addressing digital literacy and access barriers, particularly through targeted outreach and training programs (Peña-López, 2018). Additionally, while the platform's reliance on algorithms enhances efficiency, it raises concerns about biases in proposal prioritization and the representation of minority voices (Cardullo & Kitchin, 2019).

Decidim's scalability has also facilitated its adoption beyond Barcelona. Cities such as Helsinki, Mexico City, and Madrid have implemented versions of the platform, leveraging its participatory architecture to engage citizens in

governance processes. This adaptability underscores Decidim's potential as a global model for participatory democracy (Fuster Morell et al., 2021).

Decidim exemplifies the transformative potential of smart city systems in fostering inclusive, transparent, and accountable governance. Addressing barriers to participation and ensuring ethical algorithmic design allows platforms like Decidim to effectively bridge the gap between citizens and local governments. This approach underscores the importance of prioritizing accessibility, transparency, and trust to maximize citizen engagement and co-create meaningful urban solutions.

3.2. Singapore: The Smart Nation Initiative

Singapore's Smart Nation initiative exemplifies a centralized, state-driven approach to integrating technology into governance and daily life. Launched in 2014, the initiative reflects the city-state's ambition to become a global leader in leveraging digital technology to improve public services, enhance quality of life, and foster citizen participation. Unlike grassroots participatory platforms such as Barcelona's Decidim, Singapore's model emphasizes strategic planning and top-down coordination, combining large-scale infrastructure development with digital engagement tools (Ho, 2017).

The initiative incorporates a range of technologies, including Internet of Things (IoT) networks, artificial intelligence (AI), and mobile applications, to facilitate participatory governance. A notable example is the OneService app, which enables residents to report municipal issues—such as damaged infrastructure, waste management concerns, or noise disturbances—directly to government agencies. The app has streamlined service delivery by providing a centralized platform for public feedback, ensuring that citizen concerns are addressed efficiently and transparently (Cheng, 2016).

Singapore's Smart Nation initiative also emphasizes inclusivity through digital literacy programs and public outreach efforts. Initiatives such as the Digital Readiness Blueprint aim to equip citizens with the skills and tools needed to engage with smart technologies effectively. These efforts include providing subsidized internet access, offering workshops on digital skills, and distributing devices to low-income households. Such measures reflect the government's recognition of the digital divide and its proactive approach to minimizing its impact on participation (Tham, 2019).

However, critics argue that Singapore's approach prioritizes efficiency and technological innovation over deliberative engagement. While platforms like the

OneService app facilitate feedback, they rarely involve citizens in co-creating solutions or deliberating policy options. Citizen participation is often confined to reporting problems or responding to pre-defined surveys, limiting the depth of engagement and deliberation (Ho, 2017). This model aligns with Singapore's broader governance framework, which emphasizes technocratic leadership and central control rather than grassroots democracy (Tortajada, 2016).

Privacy concerns also feature prominently in critiques of the Smart Nation initiative. The extensive data collection required to support IoT networks and AI-driven governance has raised questions about surveillance and data security. Singapore's use of technology for pandemic contact tracing, for instance, sparked debates over the balance between public health and individual privacy. While the government has implemented measures to protect data, including encryption and restricted access, scholars argue that the lack of independent oversight undermines public trust (Lim et al., 2021).

Despite these challenges, the Smart Nation initiative demonstrates how technology can enhance governance when integrated with strategic planning and robust infrastructure. Singapore's approach to smart city development underscores the importance of aligning technological innovation with broader policy goals, such as sustainability and social equity. For instance, the Smart Urban Mobility program has successfully reduced traffic congestion by using predictive analytics to optimize public transportation routes and encourage active mobility (Tortajada, 2016).

Singapore's model also highlights the scalability of centralized smart city initiatives. By standardizing data protocols and integrating systems across various government agencies, the city-state has created a cohesive digital ecosystem that supports efficient decision-making and service delivery. This centralized approach contrasts with more decentralized models like Barcelona's, offering valuable insights into the diversity of strategies available for integrating technology into governance (Ho, 2017).

Singapore's Smart Nation initiative highlights the potential of state-driven smart city systems to improve participation, efficiency, and service delivery. Its focus on technological innovation and streamlined governance has achieved notable success in addressing urban challenges and enhancing quality of life. However, the emphasis on top-down governance and efficiency presents challenges for inclusivity and meaningful citizen engagement. Incorporating more deliberative mechanisms could help strike a balance between technological

advancements and participatory governance, fostering a more inclusive approach to urban management.

3.3. Bristol: Community Engagement Through Smart Technologies

Bristol is recognized as a leader among medium-sized cities in deploying smart technologies to foster community engagement and address urban challenges. Its approach emphasizes localized, community-driven participation over centralized governance models. Through initiatives like Bristol Is Open and the REPLICATE project, the city has demonstrated how smart technologies can be integrated into participatory governance frameworks to empower citizens, address environmental challenges, and promote social inclusion (Marvin et al., 2018; Cowley et al., 2018).

Launched in 2015, Bristol Is Open represents a flagship initiative in the city's smart city strategy. This partnership between the Bristol City Council and the University of Bristol focuses on creating an "open programmable city" by integrating IoT networks, sensors, and data-sharing platforms. Residents, researchers, and businesses use the infrastructure to collaborate on urban innovations. For example, sensors monitor air quality and traffic patterns, and this data is made available to the public in real-time, allowing residents to contribute to discussions on urban planning and mobility solutions (Joss et al., 2019). This open data approach ensures that technology does not merely collect information but also fosters community co-ownership of urban challenges.

Another example of Bristol's participatory emphasis is the Know Your Place platform, a participatory mapping tool launched in 2017. This initiative enables residents to access and contribute geographic and historical data about their neighborhoods. Such tools allow citizens to collaborate with urban planners, making decisions about housing, green spaces, and infrastructure more inclusive. Research indicates that participatory mapping increases community cohesion and fosters a sense of agency among residents (Raven et al., 2018).

The city's environmental engagement efforts are exemplified by the European Union-funded REPLICATE project. This initiative focused on integrating smart energy, transportation, and ICT systems while involving residents in the co-design of these solutions. For instance, in the Ashley, Easton, and Lawrence Hill districts, citizens were invited to contribute ideas on energy efficiency measures, smart metering, and sustainable mobility. The project demonstrated how smart technologies could be tailored to local needs when citizens are meaningfully involved in their development (European Commission, 2020; Marvin et al., 2018).

Bristol's initiatives extend beyond technological innovation to address the critical issue of digital exclusion. Research highlights that economically deprived areas of the city face lower rates of internet access and digital literacy, which can hinder participation in smart city initiatives. To bridge this gap, Bristol has implemented programs such as free public Wi-Fi, digital literacy workshops, and device distribution schemes for underserved populations (Peck, 2020; Joss et al., 2019). These measures aim to ensure that the benefits of smart city systems are equitably distributed across all demographics.

Despite these successes, challenges remain. Privacy concerns are a recurrent issue in projects like Bristol Is Open, which collect extensive urban data to facilitate decision-making. While anonymization protocols and governance frameworks have been implemented, scholars argue that public trust in such systems requires continuous engagement and transparency (Cowley et al., 2018; Marvin et al., 2018). Moreover, maintaining long-term community participation is challenging, as interest often wanes after initial project phases, underscoring the importance of embedding participatory practices into broader governance structures (Raven et al., 2018).

Bristol demonstrates the potential of smart city systems to strengthen community engagement through inclusive and participatory practices. By tackling structural challenges such as digital exclusion and emphasizing ethical data governance, the city has developed a model that balances technological innovation with social equity. Bristol's evolving strategies provide insightful examples for other cities aiming to integrate smart technologies into their governance frameworks while ensuring broad and equitable citizen participation.

The experiences of Barcelona, Singapore, and Bristol highlight the transformative potential of smart technologies in enhancing participatory governance. These cities demonstrate that digital tools can make governance more transparent, inclusive, and responsive when appropriately designed and implemented. Barcelona's Decidim platform illustrates the power of open-source, co-creation systems to empower citizens and foster accountability. Singapore's Smart Nation initiative underscores the role of state-driven innovation in optimizing urban management, although it raises questions about inclusivity and deliberation. Bristol's hybrid approach, combining smart technologies with grassroots engagement, emphasizes the importance of addressing digital exclusion and ethical concerns.

Despite their varying contexts and strategies, these examples reveal common challenges, including the digital divide, privacy concerns, and the need for

sustained citizen engagement. They also underscore the importance of aligning technological innovation with local needs, values, and governance frameworks. As cities worldwide continue to adopt smart technologies, these examples provide critical lessons for designing participatory systems that balance efficiency with inclusivity and equity. By addressing these challenges, smart city systems can evolve into powerful tools for fostering more democratic, accountable, and inclusive urban governance.

4. Critical Discussion

The integration of smart technologies into participatory governance, as observed in cities like Barcelona, Singapore, and Bristol, highlights the potential for innovation to transform citizen engagement. However, these systems also reveal structural challenges and ethical dilemmas that need to be critically evaluated. This discussion contextualizes the findings through theoretical frameworks, including Actor-Network Theory (ANT) and Deliberative Democracy, while addressing ethical implications and the need for balanced participatory approaches.

4.1. The Role of Technology as a Mediator: Insights from ANT

Actor-Network Theory (ANT) emphasizes the interplay between human and non-human actors in shaping governance networks. In smart city systems, technologies act as mediators that facilitate, constrain, or transform participation. Barcelona's Decidim platform, for example, functions as a key mediator by enabling co-creation and fostering transparency through its open-source framework. Citizens can directly influence policy outcomes by submitting proposals, debating issues, and tracking decisions in real time, reflecting ANT's assertion that technology actively shapes social interactions (Latour, 2005).

Similarly, in Bristol, platforms like Know Your Place and Bristol Is Open redefine the relationship between citizens and authorities. By democratizing access to data and creating spaces for collaboration, these systems empower residents to contribute to urban planning and environmental management. However, ANT also highlights the potential for technology to reinforce existing power asymmetries. In Singapore, the centralized Smart Nation initiative exemplifies how state-driven technologies can prioritize efficiency and control, limiting the agency of citizens. While tools like the OneService app streamline service delivery, their feedback-oriented design reflects a top-down governance model that aligns with the government's technocratic approach (Ho, 2017).

ANT further underscores the importance of scrutinizing the power dynamics embedded in technological systems. In Barcelona and Bristol, the reliance on algorithms to process citizen input raises concerns about whose voices are amplified and whose are marginalized. Research shows that algorithmic processes, if poorly designed or monitored, can perpetuate systemic biases, privileging dominant perspectives while excluding minority or dissenting voices (Kitchin, 2017). This calls for greater transparency and participatory oversight in the design and implementation of these systems.

4.2. Deliberative Democracy and the Depth of Engagement

Deliberative Democracy provides a normative framework for evaluating the inclusivity and quality of participation facilitated by smart city systems. Its emphasis on reasoned dialogue and co-creation highlights the need for participatory tools that go beyond collecting feedback to foster meaningful engagement. Barcelona's Decidim platform is a strong example of deliberative principles in action, enabling structured debates and co-creation processes that reflect the diversity of citizen perspectives. The platform's real-time tracking mechanism further enhances deliberation by ensuring accountability and building trust between citizens and authorities (Fuster Morell et al., 2021).

In contrast, Singapore's Smart Nation initiative, while technologically advanced, falls short of fostering deliberative engagement. Platforms like the OneService app primarily focus on gathering citizen feedback, offering limited opportunities for dialogue or collaborative problem-solving. This approach underscores a key tension in smart governance: the balance between efficiency and inclusivity. Scholars argue that participatory systems must move beyond transactional interactions to create spaces for collective reasoning and consensus-building (Dryzek, 2000).

Bristol's hybrid approach, which integrates digital platforms with traditional participatory methods, offers a more balanced model. Initiatives like the REPLICATE project involve residents in co-designing solutions for energy efficiency and sustainable mobility, blending deliberative processes with technological innovation. However, sustaining meaningful engagement in such hybrid models requires addressing resource limitations, digital literacy gaps, and the unequal distribution of technological infrastructure (Marvin et al., 2018).

4.3. Ethical Considerations in Technology-Mediated Governance

Ethical dimensions are central to the implementation of smart governance systems. Across the global examples, privacy concerns, data security, and

algorithmic biases emerge as critical issues that shape public trust and participation. In Singapore, the extensive data collection required for Smart Nation projects has raised questions about surveillance and the potential misuse of personal information. While the government has implemented encryption and access controls, the absence of independent oversight undermines transparency and accountability (Lim et al., 2021).

Barcelona's Decidim platform and Bristol's smart initiatives also face ethical challenges, particularly around algorithmic decision-making. Algorithms play a central role in moderating discussions, prioritizing proposals, and processing feedback, yet their design often lacks transparency. Scholars argue that without participatory oversight, algorithms can reinforce existing inequalities by favoring certain demographics or perspectives (Kitchin, 2017; Cowley et al., 2018). Addressing these issues requires robust ethical frameworks that prioritize fairness, inclusivity, and accountability in digital governance.

4.4. Balancing Technology-Driven and Traditional Methods

One of the most significant insights from the examples is the importance of balancing smart technologies with traditional participatory methods. While digital platforms can enhance accessibility and efficiency, they should not replace face-to-face engagement, particularly in contexts where digital exclusion remains a barrier. In Bristol, for example, the combination of digital tools like Bristol Is Open with neighborhood forums and community workshops has created a more inclusive participatory ecosystem (Peck, 2020). This hybrid model ensures that diverse populations, including those with limited digital literacy, can contribute meaningfully to decision-making processes.

However, sustaining this balance requires continuous investment in capacity-building and outreach efforts. Programs that provide digital literacy training, subsidized internet access, and device distribution are essential for ensuring equitable participation. Furthermore, participatory systems must be designed to reflect local needs and cultural contexts, avoiding one-size-fits-all approaches that fail to account for diverse governance environments (Marvin et al., 2018).

5. Policy Implications

The integration of smart technologies into participatory governance requires comprehensive policy frameworks that address ethical, social, and infrastructural challenges. Drawing on insights from Barcelona, Singapore, and Bristol, this section outlines key policy implications for designing inclusive, transparent, and effective smart governance systems.

5.1. Ethical Governance and Data Accountability

One of the foremost challenges in smart governance is ensuring ethical data management. The extensive data collection required for systems like Decidim or Singapore's Smart Nation initiative raises concerns about privacy, surveillance, and data misuse. To mitigate these risks, cities must adopt robust data governance frameworks that prioritize transparency and citizen oversight.

Policy measures should include:

- **Transparency Protocols**: Cities should disclose how citizen data is collected, processed, and used in decision-making processes. For example, Decidim's open-source model provides public access to its code and data, fostering accountability (Fuster Morell et al., 2021).

- **Independent Oversight**: Establishing independent data governance bodies can ensure compliance with ethical standards and build public trust. In Singapore, the absence of such mechanisms has raised concerns about surveillance and privacy violations, underscoring the need for third-party monitoring (Lim et al., 2021).

- **Consent-Based Models**: Citizens must retain control over their data through consent mechanisms, allowing them to opt into specific participatory processes while ensuring their information is anonymized and securely stored (Kitchin, 2017).

5.2. Bridging the Digital Divide

To address the digital divide, cities must implement targeted policies and initiatives aimed at improving access to technology and digital literacy, particularly for underrepresented and disadvantaged communities. Programs that provide affordable internet access, subsidized devices, and digital skills training are essential for ensuring equitable participation.

Key policy recommendations include:

- **Infrastructure Development**: Cities should invest in expanding broadband networks, particularly in underserved areas, to ensure that all citizens have access to high-speed internet. Bristol's efforts to provide free public Wi-Fi in community spaces offer a scalable example of such initiatives (Marvin et al., 2018).

- **Digital Literacy Campaigns**: Targeted training programs should focus on enhancing digital skills among populations with limited

technological exposure, such as older adults, low-income households, and rural communities. Workshops and partnerships with local organizations can play a pivotal role in reducing literacy gaps (Peña-López, 2018).

- **Device Accessibility**: Providing low-cost or subsidized devices can help overcome barriers to technology access. Public libraries, community centers, and schools could serve as hubs for device lending programs and technical support services (Cowley et al., 2018).

5. 3. Fostering Deliberative and Inclusive Participation

While smart technologies facilitate participation, their effectiveness depends on the depth and inclusivity of citizen engagement. Policymakers should prioritize creating platforms that move beyond transactional interactions, fostering deliberative dialogue and co-creation processes.

Policy implications include:

- **Deliberative Tools**: Platforms like Decidim should incorporate features that enable structured debates and collective decision-making. For example, tools for collaborative document editing or facilitated online discussions can enhance the deliberative quality of participation (Dryzek, 2000).

- **Representation of Marginalized Groups**: Governments must actively involve underrepresented populations in participatory processes by removing accessibility barriers and incorporating diverse perspectives in platform design and implementation (Raven et al., 2018).

- **Hybrid Models**: Combining digital tools with traditional engagement methods can ensure that participation is accessible to both tech-savvy citizens and those who prefer face-to-face interaction. Bristol's integration of community workshops alongside smart platforms exemplifies this balanced approach (Peck, 2020).

5.4. Enhancing Algorithmic Transparency and Accountability

As algorithms play an increasing role in moderating discussions, prioritizing proposals, and analyzing citizen feedback, policymakers must address concerns about bias, fairness, and accountability in algorithmic decision-making.

Key recommendations include:

- **Open Algorithm Design**: Cities should adopt open-source algorithms that allow for public scrutiny and ensure that citizens understand how decisions are being made. This approach, as seen in Decidim, builds trust and minimizes biases in platform operations (Fuster Morell et al., 2021).

- **Diversity in Algorithmic Development**: Engaging diverse stakeholders in the design and testing of algorithms can help reduce biases and ensure equitable outcomes (Kitchin, 2017).

- **Regular Audits**: Conducting independent audits of algorithmic systems can identify and address biases, ensuring that platforms remain fair and transparent over time (Cowley et al., 2018).

5.5. Sustaining Long-Term Citizen Engagement

Maintaining consistent citizen participation in smart governance requires innovative approaches to keep communities engaged over the long term. Cities must design systems that are not only accessible but also continuously relevant and rewarding for participants. Policy suggestions include:

- **Gamification of Participation**: Incorporating elements of gamification, such as rewards for participation or progress tracking, can increase citizen motivation and sustained engagement (Balestrini et al., 2017).

- **Dynamic Feedback Loops**: Providing timely responses to citizen inputs and showcasing the tangible impacts of their contributions can reinforce trust and encourage ongoing involvement (Marvin et al., 2018).

- **Collaborative Governance Structures**: Establishing multi-stakeholder governance bodies that include citizens, policymakers, and technologists can foster co-ownership of smart initiatives, ensuring long-term community engagement (Joss et al., 2019).

The policy implications outlined above emphasize the need for a holistic approach to smart governance that balances technological innovation with ethical considerations and social inclusion. By addressing the digital divide, fostering deliberative engagement, and ensuring algorithmic accountability, cities can create participatory systems that are both effective and equitable. The experiences of Barcelona, Singapore, and Bristol offer valuable lessons for designing policies

that empower citizens and build trust in smart city systems. Moving forward, integrating these policy measures will be critical to realizing the transformative potential of smart technologies in participatory governance.

Conclusion

The integration of smart technologies into participatory governance marks a significant evolution in how cities engage with their citizens, promising enhanced transparency, inclusivity, and responsiveness. However, as demonstrated through the experiences of Barcelona, Singapore, and Bristol, the implementation of these systems presents a complex interplay of opportunities and challenges that require careful consideration.

Barcelona's Decidim platform underscores the transformative potential of open-source, co-creation systems to empower citizens and foster accountability. By enabling structured deliberation and offering transparency through real-time proposal tracking, Decidim exemplifies how digital platforms can embody the principles of participatory democracy. However, its reliance on technological infrastructure also highlights persistent barriers, such as the digital divide and algorithmic biases, which require ongoing mitigation efforts.

Singapore's Smart Nation initiative showcases the power of state-driven innovation in leveraging advanced technologies to optimize urban services and streamline governance processes. Yet, its centralized, feedback-oriented model raises questions about the depth of citizen engagement and the risks associated with surveillance and data privacy. These concerns highlight the need for ethical data governance frameworks and independent oversight mechanisms to build trust and protect citizens' rights.

Bristol's hybrid approach illustrates the importance of combining digital tools with traditional participatory methods to ensure inclusivity and equity. By engaging citizens in co-designing solutions for energy efficiency and urban planning, the city demonstrates how smart technologies can complement grassroots initiatives. However, the challenges of sustaining long-term participation and addressing structural inequalities emphasize the need for continued investment in digital literacy and community outreach.

Across these diverse contexts, several key themes emerge. First, the digital divide remains a critical challenge, excluding marginalized populations from accessing or benefiting fully from smart governance systems. Cities must prioritize bridging this gap through infrastructure development, digital literacy programs, and affordable access to technology. Second, the ethical dimensions of

smart city systems—particularly concerning data privacy, algorithmic biases, and surveillance—require robust governance frameworks that prioritize transparency, accountability, and fairness. Finally, the need for deliberative engagement is paramount; smart technologies must facilitate meaningful dialogue and co-creation rather than reducing participation to transactional feedback.

These examples also offer broader insights for cities worldwide. The successful integration of smart technologies into participatory governance is not a one-size-fits-all solution. Instead, it requires tailoring systems to local contexts, balancing efficiency with inclusivity, and ensuring that technological innovation aligns with societal values and governance frameworks. Policymakers must adopt a holistic approach that addresses structural inequalities, fosters trust, and empowers citizens to actively shape their urban environments.

Looking forward, future research should focus on the long-term impacts of smart governance systems, exploring how these technologies influence social equity, democratic engagement, and urban resilience. Comparative studies across different socio-political contexts can provide valuable lessons for designing participatory systems that balance technological advancements with human-centered governance principles. By addressing these challenges and opportunities, smart city systems can evolve into powerful tools for fostering more democratic, accountable, and inclusive urban governance.

In conclusion, the integration of smart technologies into participatory governance represents both a transformative opportunity and a significant responsibility. As cities embrace digital innovation, a commitment to inclusivity, transparency, and ethical governance will be essential to ensuring that these systems fulfill their potential to enhance democratic engagement and improve quality of life for all citizens.

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CHAPTER 21

The Relationshipof Digital Game Addiction and Phubbing in University Students

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Introduction

Games are both entertaining and educational activities that have existed since the dawn of time. They occupy an important place in people's lives from childhood. They enable help ready for life by teaching them switch between roles. They more teach children how to share, make friends, protect their own rights, cooperate, participate in group activities, respect others, act respectfully, and be aware of their gender roles – hence strengthening their cognitive, language, and psycho-motor development and self-care skills (Durualp and Aral, 2011; Kennedy-Behr, Rodger and Mickan, 2015; Lillard, Lerner et al., 2013). Traditional games have by and large been replaced by virtual games via advances in technology. Toys such as balls, ropes, and marbles have fallen out of favor for cell phones and computers. More and more people are interest in online games, where many people from different places play together in cyber space (Inan and Dervent, 2016). For example, "League of Legends" has 115 million monthly active players and is played for over one billion hours (on average) per month – making it the most popular game on earth. It is especially among adolescents and young adults between the ages of 15 and 25; in Turkey, it has 15 million active subscribers (Web 1).

Computers, tablets and smartphones have become an integral part of people's lives – regardless of age – around world. Technology is advancing at a head spinning rate, and becoming ever more accessible to the masses. Likewise, the concept of game addiction has emerged because people can now easily access that technology, and because of uncontrolled and excessive use of virtual games (Yalçın Irmak and Erdoğan, 2016). Game addiction is particularly common among adolescents and young adults (generation Z). The DSM-V defines game addiction as repetitive and intense use of the Internet to play games frequently with other players. Game addicts spend the bulk of their time playing games. However, whenever they prevented from doing so, they are likely to behave irrationally – that is: react harshly, delay their basic needs, withdraw from their home and work lives, struggle to control themselves while playing, and get angry (Lermi and Afat, 2020; Mustafaoğlu and Yasacı, 2018; Ögel, 2013).

Advancements in information technology have made the use of cell phones (or smartphones) more popular. Problematic smartphone use or smartphone addiction, which is defined as excessive or compulsive use of smartphones has become a global problem, particularly among adolescents and young adults (Foerster, Roser, Schoeni and Röösli, 2015; Yang, Zhou, Liu and Fan, 2019). This also has serious negative effects on people's physical and psychological health, so far as it can lead to sleep disorders, depression, and poor academic

performance (Liu, Zhou, Yang, Kong, Niu and Fan, 2017; Yang et al., 2019; Niu, Yao, Wu, Tian, Xu and Sun, 2020).

Another such phenomenon is phubbing – that is, when a person cares more about their smartphones than the people they are communicating with (Karadağ et al., 2016). This can mean ignoring what's going on in a social environment, or addictively surfing Whatsapp, Facebook, and other apps on one's smartphone (Nazir and Pişkin, 2016). In the literature, this condition is generally described as an addiction, or a social behavior disorder. Karadağ et al., (2016) suggest that phubbing-related behaviors, such as spending excessive amounts of time on social media, playing game or on one's smartphone, and being disinterested in those around them are all signs of digital addiction. One international study has revealed that phubbing behaviors were associated with internet and smartphone addiction, and with the fear of missing out (FoMO) (Chotpitayasunondh and Douglas, 2016). However, one who phubbs does not necessarily embody all of these behaviors, per se. In other words, not phubber uses the Internet, or is a game or smartphone addict. In some cases, people exhibit phubbing behaviors because they want to avoid interacting with other(s). This suggests that phubbing should be treated separately from some of these concepts. Moreover, unfortunately studies have not been exactly clarified the cause of phubbing.

Due to the lockdowns many countries have imposed during the COVID-19 pandemic which broke out in Wuhan city, China in December 2019 people – especially adolescents and young adults – are spending great amounts of time on social media, the Internet, their smartphones, alongside playing computer games and watching TV and thus are becoming addicted to them. The aim of this study is to examine the correlation of young adults' game addiction with phubbing in order to draw attention to this problem.

Methods

The data collection tools, collection, and analysis, alongside the research model and sample group in this study are as follows:

Research Model

This study aimed to explore the correlation between digital game addiction and phubbing. Therefore, correlational survey model was used, because it describes past or present situations as they are, compares them, and allows for the use of surveys.

Sample Group

The population included Associate's Degree students studying at Muş Alparslan University during 2020-2021 academic year. The sample consisted of 343 students who voluntarily agreed to participate in the study. 81.6% of the participants were female and 18.4% were male. 15.2% of the participants were 17-19 years old, 72.6% were between 20 and 22 years old, 8.7% were between 23 and 25 years old, and 3.5% were either 25 years of age or older. 59.2% of the participants were in the first-year students whilst the 40.8% were the second-year students.

Data Collection Tools

Three data collection tools were employed in this study: the "Personal Information Form" (prepared by the researchers), "the Digital Game Addiction Scale," and "the Generic Scale of Phubbing." The scales were applied to the sample group using the online questionnaire method

Personal Information Form (PIF): This form was prepared by the researchers to collect information about the sample group. It asks them questions about how they use their device. For example: How much time do they spend on their phones? Do they play online or offline games? Where do they like playing games? How do they feel when they play games? Which games do they choose games based on their Internet connection? Does playing games tire them? Are they addicted to games? What games do they play the most? What devices do they use most often?

Digital Game Addiction Scale (DGAS): The *Digital Game Addiction Scale* was adapted for university students by Hazar & Hazar (2019) based on the "Digital Game Addiction Scale for Children" developed by Hazar and Hazar (2017) to assess just how addicted they are to digital games. It is a 5-point Likert-type scale, and consists of 21 items and three subscales (extreme focus and procrastination, deprivation and seeking, change of emotion and thoughtfulness). The lowest and highest scores are "21" and "105," respectively. The scale is rated as follows: "normal group (1-21 points), low-risk (22-42 points), risky group (43-63 points), dependent group (64-84 points), and highly dependent group (85-105 points). The Cronbach's alpha coefficient of the scale is 0.95.

Generic Scale of Phubbing (GSP): The Generic Scale of Phubbing (GSP) was developed by Chotpitayasunondh and Douglas (2018) and later adapted for Turkish by Göksün (2019). It is a 7-point Likert scale containing 15 items (1=Never, 2=Rarely, 3=Occasionally, 4=Sometimes, 5=Often, 6=Generally, 7=Always). The scale has four subscales: nomophobia, interpersonal conflict,

self-isolation, and problem acknowledgement. The internal consistency coefficient of its Turkish version is .93.

Data Collection

All data was collected online. In the online form prepared by the researchers, the participants were informed about the study and the conditions of participation in the study. It took averagely 5 minutes to complete the data collection form.

Data Analysis

The data was analyzed using on SPSS (Statistical Package for Social Sciences) for Windows 25.0. Frequency (n) and percentage (%) were used as descriptive statistics parameters for personal information. Other descriptive statistical methods were also employed to evaluate the data. The normal distribution of the data depended on whether or not the skewness and kurtosis values of between ± 3 (Shao, 2002). The data of the study show a normal distribution. Pearson correlation analysis was performed to test the relationship of the scales. Significance level was accepted as 0.05. The data was tested for reliability by calculating the Cronbach's Alpha reliability coefficient.

Findings

This section features this study's findings.

Table 1. Findings on Characteristics of the Participants for Use of Digital Devices (N= 343)

About Use of Digital Devices		N	%
How much time do you spend on your phone per day?	0-2 hours	52	15.2
	3-5 hours	150	43.7
	6-8 hours	92	26.8
	9-11 hours	27	7.9
	12-14 hours	14	4.1
	15+ hours	8	2.3
Do you play online or offline games?	Yes	140	40.8
	No	203	59.2
Where do you prefer playing digital games?	With family	60	17.5
	In a crowded environment	26	7.6
	Alone	257	74.9
How do you feel when you play digital games?	Amused	210	61.2
	Excited	58	16.9
	Afraid	1	0.3
	Happy	25	7.3
	Angry	10	2.9
	Stressed	39	11.4
Which games do you prefer based on your Internet connection?	Offline games	226	65.9
	Online games	117	34.1
Does playing digital games tire you?	Yes	134	39.1
	No	209	60.9
Are you a game addict?	Yes	19	5.5
	No	324	94.5
Which games do you play the most?	Action & Adventure (e.g. PUBG, Pac-Man, Far Cry, Dragon Age: Inquisition, The Longest Journey)	52	15.2
	Board games (e.g. Okey, poker etc.)	17	5.0
	Saga Games (e.g. Angry Birds, Diamond Crush, Candy Crush, Frozen Bubble)	32	9.3
	Simulation (e.g. Sim City, The Sims, Flight Simulators)	5	1.5

	Sports (e.g. FIFA, NBA, Championship Manager)	14	4.1
	Tactic/Strategy (e.g. Chess, Dune 2, Age of Empires, Starcaft)	38	11.1
	Intelligence/puzzle (e.g., Who wants to be a millionaire?, Tetris)	185	53.9

It was observed that 15.2% of the participants spent 0-2 hours, 43.7% spent 3-5 hours, 26.8% spent 6-8 hours, 7.9% spent 9-11 hours, 4.1% spent 12-14 hours, and 2.3% spent 15 hours or more on the phones daily. 40.8% of the participants played online or offline games, while 59.2% played neither. 17.5% of the participants preferred to play digital games with/among their families, 7.6% did so in a crowded environment, and 74.9% did so alone. 61.2% of the participants felt amused (had fun), 16.9% felt excited, 0.3% felt afraid, 7.3% felt happy, 2.9% felt angry and 11.4% felt stressed whenever they played games. 65.9% of the participants preferred offline games, where as 34.1% preferred online games. 39.1% of the participants stated that playing digital games tired them out, while 60.9% said they did not. 5.5% of the participants considered themselves to be game addicts, 94.5% did not. 15.2% of the participants preferred to play action/adventure games, 5% preferred board games, 9.3% preferred Saga Games, 1.5% preferred simulation-based games, 4.1% liked sports games, 11.1% liked tactic/strategy games, and 53.9% preferred intelligence/puzzle-based games.

Table 2. Distribution of Devices Participants Used Most

Variables		N	%
	Smartphone	337	98.3
	Laptop	82	23.9
Devices used	Tablet	52	15.2
	PC	33	9.6
	Video game console	5	1.5

It was determined that 98.3% of the participants mostly smartphones, 23.9% used laptops, 15.2% used tablets, 9.6% used desktop computers, and 1.5% used game consoles.

Table 3. Descriptive Statistics of the Scales and Their Subscales

The Scales and Their Subscales	Min	Max	Median	$\bar{X}$	SD
Digital Game Addiction Scale (DGAS)	21.00	100.00	28.00	32.93	13.40
Extreme focus and procrastination	11.00	55.00	16.00	17.76	7.35
Deprivation and seeking	6.00	25.00	6.00	8.24	3.57
Change of emotion and thoughtfulness	4.00	20.00	6.00	6.93	3.43
Generic Scale of Phubbing (GSP)	15.00	105.00	39.00	44.10	18.88
Nomophobia	4.00	28.00	17.00	17.05	6.70
Interpersonal conflict	4.00	28.00	7.00	9.06	5.49
Self-isolation	4.00	28.00	7.00	9.42	6.05
Problem acknowledgement	3.00	21.00	7.00	8.58	4.89

The mean scores of the participants were 32.93±13.40 for overall DGAS, 17.76±7.35 for extreme focus and procrastination subscale, 8.24±3.57 for deprivation and seeking subscale, and 6.93±3.43 for change of emotion and thoughtfulness subscale.

On the GSP, they earned a mean score of 44.10±18.88. Their mean scores are 17.05±6.70 for nomophobia subscale, 9.06±5.49 for interpersonal conflict subscale, 9.42±6.05 for self-isolation subscale, and 8.58±4.89 for problem acknowledgement subscale.

Table 4. Correlation between the DGAS and GSP

Correlation		DGAS	Extreme focus and procrastination	Deprivation and seeking	Change of emotion and thoughtfulness
GSP	r	0.311[**]	0.318[**]	0.201[**]	0.276[**]
	p	0.00	0.00	0.00	0.00
Nomophobia	r	0.223[**]	0.235[**]	0.075	0.225[**]
	p	0.00	0.00	0.167	0.00
Interpersonal conflict	R	0.274[**]	0.269[**]	0.226[**]	0.236[**]
	P	0.00	0.00	0.00	0.00
Self-isolation	R	0.229[**]	0.223[**]	0.195[**]	0.197[**]
	P	0.00	0.00	0.00	0.00
Problem acknowledgement	R	0.291[**]	0.297[**]	0.224[**]	0.250[**]
		0.00	0.00	0.00	0.00

There was a statistically significant positive (same) weak correlation between the GSP and DGAS, and all three of DGAS's subscales (0.2<r<0.3; p<0.05).

There was a statistically significant and yet positive (same) weak correlation between nomophobia subscale and DGAS and extreme focus and procrastination subscale, and change of emotion and thoughtfulness subscale (0.2<r<0.3; p<0.05). On the other hand, there was a statistically significant positive (same) correlation at a very weak level between the nomophobia subscale and deprivation and seeking subscale (r<0.2; p<0.05).

There was a statistically significant, positive (same) weak correlation between the *interpersonal conflict subscale* and the DGAS, and all three of DGAS's subscales (0.2<r<0.3; p<0.05).

A statistically significant positive (same) weak correlation was found between *self-isolation subscale* and the DGAS and extreme focus and procrastination subscale (0.2<r<0.3; p<0.05). There was a statistically significant positive (same) correlation at a very weak level between self-isolation, deprivation and seeking, and change of emotion and thoughtfulness subscales (r<0.2; p<0.05).

A statistically significant positive (same) weak correlation was determined between *problem acknowledgement subscale* and the DGAS, and all three of DGAS's subscales (0.2<r<0.3; p<0.05).

Discussion and Conclusion

The results of the study were discussed in the light of the literature. No study in the literature has been published as of yet that directly examines the correlation between game addiction and phubbing. However, this relationship has been indirectly studied. This study investigated the correlation between game addiction and phubbing of 343 associate's degree students selected using random sampling method. The findings indicated that there was a statistically significant and positive (same) weak correlation between the GSP and the DGAS, and its three subscales.

A statistically significant positive (same) weak correlation was found between the nomophobia subscale and the DGAS, the extreme focus and procrastination subscale, and the change of emotion and thoughtfulness subscale (0.2<r<0.3; p<0.05). There also was a statistically significant, positive (same) correlation at a very weak level between the nomophobia subscale and deprivation and seeking subscale (r<0.2; p<0.05). Aykaç and Yıldırım (2021)'s study on university students revealed that while there was no correlation between nomophobia and the status of playing games, being a phubber was significantly correlated with playing games.

There was a statistically significant, positive (same) weak correlation between the interpersonal conflict subscale and the DGAS, and all three of DGAS's subscales (0.2<r<0.3; p<0.05). Upon the literature review, no related study was found.

A statistically significant, positive (same) weak correlation was found between self-isolation subscale and the DGAS, extreme focus and procrastination subscale (0.2<r<0.3; p<0.05). Self-isolation subscale had a statistically significant, positive (same) correlation at a very weak level with deprivation and seeking subscale and change of emotion and thoughtfulness subscale (r<0.2; p<0.05). Likewise, the studies have reported that Phubbing has a positive correlation with depression (Davey et al., 2017; Wang et al., 2017) and loneliness (David and Roberts, 2017). David and Roberts (2017) stated that phubbing was associated with an individual's sense of exclusion, and people paid attention to their phones in order to eliminate those feelings. They also pointed out that people

tried to reward their sense of belonging through going on social media, surfing the internet and playing games.

A statistically significant positive (same) weak correlation was determined between problem acknowledgement subscale and the DGAS, and all three of DGAS's subscales ($0.2 < r < 0.3$; $p < 0.05$). No other related study was found in the literature.

Studies on phubbing-related behaviors tend to focus mainly on the factors affecting phubbing. Most of them have demonstrated that personality traits (e.g., neuroticism), addictive behaviors (e.g., internet, game, smartphone, and social media addiction), fear of missing out (FoMO), lack of self-control, and anxiety (Al-Saggaf and O'Donnell, 2019; Gong, Chen, Xie and Xie, 2019) all influence phubbing. The results of the study by Guazzini et al., (2019) revealed that there was a positive correlation between social anxiety and phubbing.

Studies on game addiction generally tend to focus on factors causing and the variables affecting game addiction. Tıngaz, Altun and Vural (2019)'s study involving 426 students revealed that male students were more addicted to games than their female counterparts, and there was inverse correlation between students' attention spans and game addiction. Another study-examining the correlation between university students' addiction to online games and social skills – reported that game addiction had a significant correlation with social skills (Ayumi, Zulkarnain and Hendra, 2019). Yet another study featuring adolescents revealed that there was a strong correlation between the game addiction and stress levels of the participants (Sung, Nam and Hwang, 2020).

This study is the first attempt to examine the correlation between game addiction and phubbing in Turkey. Therefore, experimental studies are needed in line with its findings. Further research also needs to be carried out to determine mediator and latent variables that are likely to influence game addiction and phubbing. Likewise, there is a need for mixed-design studies combining quantitative and qualitative data to gather in-depth information about the reasons behind why university students play games and become a phubber and the influencing factors.

Ethical Approval: For conducting the study, approval was obtained from the Necessary approval was received from Muş Alparslan University Scientific Research and Publication Ethics Committee (2021/2231) to conduct the research. (Decision No: 2021/2231).

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CHAPTER 22

A Study on the Credit-To-Gdp Gap Indicator: Evidence From Fragile Five[*]

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1. INTRODUCTION

Credits are among the most important factors that increase economic growth by creating resources for the consumption and investment behaviors of the private sector. The relationship between credit growth and GDP growth is twofold. While the increase in credits supports growth through consumption and investment channels, the increase in growth can also positively affect the collateral values and the environment of trust, causing an increase in credit demand and supply. While the expansion in the credit volume contributes to economic growth, it also leads to an increase in the risks related to the financial sector. The fact that rapid credit growth periods in many countries are related to banking crises makes it necessary to closely follow the increase in credits in order to manage the increasing financial risks more cautiously (Aydin and Yilmaz, 2019). Financial instability has often been foreshadowed by periods of strong credit growth. During the recent period leading up to the 2008-09 global financial crisis, robust credit expansion led to elevated leverage and, eventually, the emergence of systemic banking problems. Therefore, researchers and policymakers are focused on identifying and quantifying excess credit as accurately as possible (Jokipii et al., 2021). Kindleberger (2000) implies that it has long been known that excessive credit expansion is a key factor in financial booms and collapses.

The role of credits in the formation of financial crises is related to the extent to which financing resources are used in efficient projects rather than the rate of increase of the credits. For this reason, in addition to the credit increase, several indicators and criteria have been developed that take into account the added value created by the use of credit and the effects on the economy. A frequently used metric is the credit-to-GDP gap indicator, which was put forth by Borio and Lowe (2002a) and it is calculated by taking the credit-to-GDP ratio and subtracting it from its long-term trend. The ratio allows credit supply and demand to increase in proportion to the size of the economy by normalizing credit volume. Changes in the ratio's long-term level may be accounted for by the divergence from its trend. Because it is the best early warning indicator, the credit-to-GDP gap has become a key component of global macroprudential policy (BCBS 2010, Nyffeler et al., 2020). Drehmann and Yetman (2020) also emphasize that the credit gap is a helpful indicator for forecasting financial crises, which is the credit-to-GDP ratio's deviation from a one-sided HP-filtered trend. Therefore, Basel III recommends that regulators incorporate it into their frameworks for countercyclical capital buffers.

In this study, we focus on the "Fragile Five" whose definition was first used by Morgan Stanley in August 2013 to represent developing countries that are

highly dependent on foreign investment in order to finance their economic growth. High capital outflows are observed from these countries, including Turkiye, Brazil, India, South Africa, and Indonesia, especially after the 2008-09 Global Financial Crisis, in the period when low-cost cash injections called "tapering" were reduced and the U.S Federal Reserve (FED) finalized its economic stimulus packages (Yueh, 2013). In 2013, Morgan Stanley gave scores to developing countries and defined the "Fragile Five", considering six factors such as the balance of current accounts, the ratio of foreign exchange reserves to foreign debt, the number of foreign government bonds, U.S dollar debt, inflation and real interest rate difference (Kuepper, 2021). The fact that these countries have a high current account deficit and the need for external financing that arises cause these countries to experience serious effects in case of sudden and large-scale outflows. In addition, in these countries, the increase in elections and similar political risks lead to an increase in the country's risk premium, so it brings with it a higher capital cost.

The credit-to-GDP ratio is an important indicator that reflects the country's payment ability and also points to the sustainability of the debt. The International Monetary Fund (IMF) defines the sustainability of the debt as the continuation of its solvency, without bearing an additional cost of financing (IMF, 2003). In this context, the high debt of the credits used increases the possibility of defaulting on debt payments and it reduces the creditworthiness of the country. The fact that the credit-to-GDP ratio has an increasing trend, for example, can also lead to the downward revision of the credit rating agencies.

In fact, in countries such as Indonesia, South Africa, and Turkiye, based on the high growth expectations resulting from the favorable demographic and other advantages of these countries, investment opportunities have become quite attractive over the past decade. However, concerns about their high fiscal deficits and high dependence on debt can cause very negative effects on the economic outlook of these countries. Therefore, effective debt management is critical for economic and financial stability in these countries, and the realization of debt management in accordance with the purpose contributes favorably to GDP, leading to a decrease in the credit-to-GDP ratio (Ogbeifun and Shobande, 2020).

The fact that developing countries learned from the crises in the 1990s and 2000s and were more cautious about financial imbalances and dependence on external debt contributed to the fact that there was no significant financial and financial deterioration in the financial turbulences experienced before 2013. On the other hand, in the post-2013 period, there was an upward trend in the credit-to-GDP ratio in developing countries (Quijano-Evans, 2017).

In this study, we focus on the total credit use of the non-financial private sector. Figure 1 demonstrates the credit to GDP ratios (non-financial private sector) of the "Fragile Five" including Turkiye, Brazil, India, South Africa, and Indonesia in the 2006:Q1-2020:Q3 period.

Figure 1: Credit-to-GDP Ratios: 2006:Q1-2020:Q3
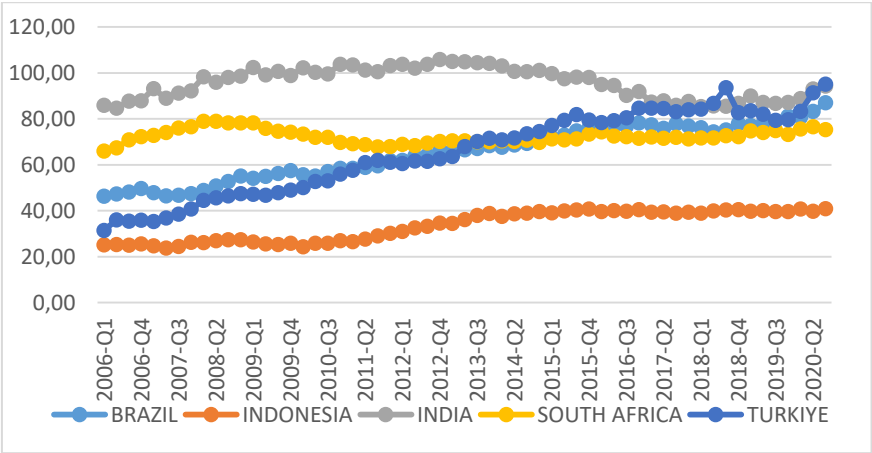
Source: CBRT EVDS.

Similar to the credit-to-GDP ratio, the credit-to-GDP gap developed by considering the deviations between the long-term trend of the credit-to-GDP ratio is another indicator used to measure the accumulation of risks in the financial system. The credit to GDP gap, developed as part of the Basel III regulations that determine international standards in the banking system, is found by separating the credit-to-GDP ratio from its own trend with the HP filter. This indicator provides better information about the increase in risk in the banking system than other alternative indicators. In this context, the fact that the credit-to-GDP gap has taken a positive value and has an increasing trend suggests that credits have moved away from the long-term trend and the risks in the banking system have increased (Aydin and Yilmaz, 2019).

Figure 2 presents the Credit to GDP gap (non-financial private sector) of Turkiye, Brazil, India, South Africa, and Indonesia, which are called the "Fragile Five" in the 2006:Q1-2020:Q3 period.

Figure 2: Credit-to-GDP Gaps: 2006:Q1-2020:Q3
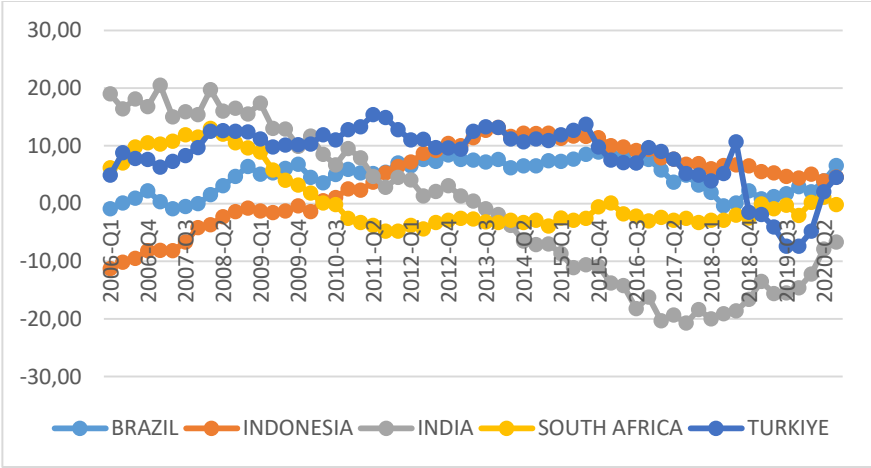
Source: CBRT EVDS.

The aim of this study is to analyze the credit-to-GDP gap, which gives an important signal of the durability of the financial system in countries with high fragility, based on the total credit use of the non-financial private sector. We use the data acquired from the Electronic Data Delivery System (EVDS) of the Central Bank of the Republic Turkiye for Brazil, Indonesia, India, South Africa, and Turkiye in the period of 2006:Q1-2020:Q3. In the analysis, we employ the panel unit root test, which was proposed by Bahmani-Oskooee et al. (2014). This test has advantages over traditional panel unit root tests, such as allowing horizontal cross-sectional dependence and allowing different numbers of sudden and slow breaks of panel components.

The study progresses as follows: Following the literature review in the 2nd section, the data, methodology, and results are introduced in the 3rd section. In the last section, we conclude by making a general evaluation.

2. LITERATURE REVIEW

There are many studies in academic literature that focus on the sustainability of debt. In developing countries, the ratio of debt to GDP has increased significantly in the last decade, while the number of analyses for these countries has increased. Excessive credit growth is an important factor leading to financial instability. Drehmann (2013) pointed out that credit-to-GDP gaps are important early warning indicators for systemic bank crises. Accordingly, these indicators, which are very useful in terms of detecting vulnerabilities in the financial system

and applying macro-prudential instruments, produce more meaningful results in predicting the possibility of a systemic crisis than indicators that focus only on bank loans. Evaluating the early warning characteristics of different credit to GDP gaps in his analysis, Drehmann (2013) benefitted from the methodological approaches used by Borio and Lowe (2002b), Borio and Drehman (2009), and Drehman et al. (2011). In his analysis including countries such as England and Germany, he concluded that crises were triggered by international vulnerabilities rather than domestic vulnerabilities such as gaps.

In another study focusing on credit growth, debt service ratio, and credit to GDP gap, Drehmann and Tsatsaronis (2014) analyzed six indicators, including credit to GDP gap for a group of 26 countries in the period 1980-2012. Accordingly, they found that the non-core liability ratio and debt service ratios are also important rates that show the durability of the banking system.

The financial crisis highlighted the need for a series of macroprudential policy measures that can be utilized to reduce systemic risk. Ayvazyan (2018) examined the credit-to-GDP ratio gap for assessing excessive private sector credit in Armenia using quarterly data from 2003:Q2 to 2016:Q3 and discovered that the gap reflects excessive credit in recent periods. These findings have significant implications for macroprudential policy frameworks in Armenia, indicating that the Central Bank should closely monitor credit cycles with respect to economic fundamentals. It is proposed that national macroprudential authorities analyze several indicators and make decisions based on a number of analyses that assist them in determining the position of the economy in the credit cycle in terms of economic fundamentals. He also emphasized that It is critical to begin developing a strong, credible, and transparent countercyclical capital buffer system that regulators will use throughout the credit cycle after Basel III is fully implemented.

Giese et al. (2014) examined the performance of the Basel III credit-to-GDP gap in the United Kingdom, which would be utilized as a reference guide in determining the countercyclical capital buffer, in addition to judgment. They discovered that this measure was effective in providing an early warning of earlier U.K experiences of banking sector difficulty. However, this does not ensure future signaling success. Sevencan (2019) stated that the credit gap alone was not a danger signal and emphasized that the large deviation of this gap from the long-term trend would create problems. Accordingly, in each economy, resources point to a certain growth rate; on the other hand, in the event of debt above potential, borrowing costs increase and private sector loans rise significantly from the long-term trend. These periods, also called credit boom, bring about economic and financial deterioration. Similarly, Aydin and Yilmaz (2019), stating that the

increase in loans should be carefully monitored in terms of more cautious management of financial risks examined the credit gap indicators for the Turkish banking sector in the 1998-2017 period. Therefore, by creating credit to GDP ratio and credit gap indicators, they discussed how indicators could be interpreted in terms of credit developments, taking into account the characteristics of business cycles seen in the Turkish economy.

Yetkin (2019) stated that the circular capital buffer was developed with a macro-prudential perspective and it is recommended to use credit to GDP gap as a reference variable while determining the circular capital buffer by the BASEL Committee, in the post-global financial crisis period, while BASEL III regulations developed to increase the resistance of the banking sector to financial shocks. Examining the relationship between problematic bank loans, credit gaps, and economic and financial cycles in emerging market economies, Tunay et al. (2018) concluded that bank loans had a significant impact on economic activity volume and financial asset prices for a group of 20 developing countries such as Argentina, Brazil, Indonesia, Mexico, Turkiye, China, South Africa, Russia, and Venezuela in 1999-2014. At the same time, they found that problematic loans and credit gaps are very negatively affected by financial and real shocks.

Bouvatier and El Ouardi (2023) evaluated the quality of credit-based variables as early warning signals of systemic banking crises for more than 160 countries. According to their research, the credit-to-GDP gap is still the strongest predictor for high-income nations, but this is not the case for middle- and low-income nations. Their findings emphasize the inapplicability of a one-size-fits-all strategy when designing the countercyclical capital buffer's operating structure. They also demonstrated that when the trend value in the credit-to-GDP ratio is above 20%, the credit gap becomes a reliable indicator of banking crises.

3. ECONOMETRIC ANALYSIS
3.1 Data and Methodology

In this study, we analyze the credit to GDP gaps for the "Fragile Five" including Brazil, Indonesia, India, South Africa, and Turkiye in the period of 2006:Q1-2020:Q3 by using the data acquired from the Central Bank of the Republic of Turkiye EVDS. In order to test the stationary of credit-GDP gaps, we employ the panel unit root test proposed by Bahmani-Oskooee et al. (2014). The basic hypothesis of this test is based on the panel unit root test developed by Carrion-i Silvestre et al. (2005), which states that all series in the panel are stationary. In this test, there are significant advantages of using the CBL test. First, the CBL test reverses the null and alternative hypothesis, and in the CBL test, the null

hypothesis of all series in the entire panel is stationary. Therefore, we can say that all series in the panel are stationary when the null hypothesis is rejected. Secondly, the CBL approach allows us to consider different fracture numbers on different unknown dates (Bahmani-Oskooee et al., 2014). The panel unit root test developed by Bahmani-Oskooee et al. (2014) is mainly developed by including the Fourier functions determined in the CBL test, which tries to predict structural changes with dummy variables. In this test, structural fractures are better captured than standard Fourier tests or dummy variables. The key benefits of the test are that it permits horizontal cross-sectional dependence and that the panel's components exhibit varying numbers of sharp and smooth shifts (Yilanci et al., 2020).

Bahmani-Oskooee et al. (2014) take into account the following panel data model:

$$y_t = \alpha + \sum_{l=1}^{m+1} \theta_l DU_{l,t} + \sum_{k=1}^{n} \gamma_{1,k} \sin(\frac{2\pi kt}{T}) + \sum_{k=1}^{n} \gamma_{2,k} \cos(\frac{2\pi kt}{T}) + \varepsilon_t$$

(1)

Where t shows the time trend, T shows the number of samples and m shows the optimal number of breaks. DU expresses the dummy variable that captures sudden changes and it is symbolized as follows:

$$DU_{k,t} = \begin{cases} 1, & while\ TBk - 1\ <\ TBk \\ 0, & on\ the\ other\ case \end{cases}$$

(2)

3.2 Analysis Results

Table 1 and Table 2 show the analysis results. Panel A provides information about the stationary properties of the panel and the series individually. Panel B shows the significance of F statistics and structural break dates.

Table 1: Panel Unit Root Test Findings

Panel A: Panel Stationary Test

Panel stationary test	T-statistic	Critical Values			
		90%	95%	97,5%	99%
Homogenous long-run variance	-2.903	-0.594	-0.145	0.123	0.444
Heterogeneous long-run variance	-2.571	-1.961	-1.767	-1.606	-1.379

Panel B: Univariate Stationary Test

Countries	Bartlett	90%	95%	97,5%	99%
Brazil	0.070	0,086	0.111	0.136	0.174
Indonesia	0.047	0.050	0.058	0.067	0.078
India	0.039	0.048	0.056	0.065	0.076
South Africa	0.081	0.088	0.115	0.142	0.178
Turkiye	0.162	0.132	0.177	0.224	0.271

Table 2: Estimation Findings

Panel A: Optimal Frequency, F-statistic, and Critical Values

Countries	Optimal Frequency	F-statistic	90%	95%	97,5%	99%
Brazil	4	11.902	2.329	3.112	3.932	4.888
Indonesia	1	143.59	2.414	3.122	3.861	4.834
India	1	320.14	2.380	3.168	3.918	5.023
South Africa	2	13.580	2.400	3.206	4.016	5.133
Turkiye	3	3.7755	2.409	3.112	3.873	5.022

Panel B: Break Dates

Countries			
Brazil	2008:Q1	2010:Q3	2016:Q4
Indonesia	2007:Q3	2012:Q1	2018:Q1
India	2007:Q1	2009:Q1	2016:Q2
South Africa	2009:Q1	2010:Q3	2018:Q2
Turkiye	2007:Q3	2015:Q3	2018:Q3

Note: Critical values are acquired using 10.000 replications.

According to the findings in Table 1 both the panel and the series individually are stationary. When the F statistics in Table 2 are checked, we can confirm the significance of our test results since we can observe that the reported F-statistics values are higher than the critical values. When the structural breaking dates are analyzed, we also notice that these dates point to the periods of increased financial stress, the 2008-2009 Global Financial Crisis, the 2010-2014 European Debt Crisis periods, and the 2018:Q3 period, when the financial macro-financial outlook in Turkiye is significantly deteriorated.

4. CONCLUSION

Two crucial metrics used to evaluate the build-up of hazards in the financial system are the credit-to-GDP ratio and the credit-to-GDP gap. As a result, the credit-to-GDP gap's upward trend suggests that loans are deviating from the long-term trend and that risk is rising. Using data from the Central Bank of the Republic of Turkiye EVDS for the period of 2006:Q1–2020:Q3, we attempt to analyze the credit-to-GDP gaps of the "Fragile Five," which include Brazil, Indonesia, India, South Africa, and Turkiye. In this paper, we use empirical analysis to show that the credit-to-GDP gap has a consistent direction. Our results show that the credit-to-GDP gaps of these countries are stable, which means that the "Fragile Five" countries do not have a concerning outlook in terms of their credit-to-GDP gaps between 2006:Q1 and 2020:Q3. Therefore, we can conclude that there is no risky outlook in terms of the non-financial private sector's credit uses in the analysis period. In recent years, the number of studies on credit growth has been increasing. In particular, the concept of credit to GDP gap has become a variable that attracts the attention of researchers due to its importance in BASEL III regulations. These indicators, which are very useful in terms of detecting risk accumulation in the financial system and using policy tools for reducing risks, produce very meaningful results in predicting the probability of a systemic crisis. Stating that credit growth is an important indicator of economic growth, the researchers emphasize that it is ideal for the credit-to-GDP ratio to be close to 100% and it indicates a strong loan demand. Accordingly, a high credit-to-GDP ratio indicates that the banking sector actively supports the real economy. When Figure 1 is examined, we see that it is generally below 100% in the period of 2006:Q1-2020:Q3. Therefore, we can imply that there is no aggressive outlook in these countries in terms of credit-to-GDP ratios. However, in addition to the credit-to-GDP gaps and credit-to-GDP ratios, taking into account other indicators that indicate an increase in risks in the financial system may allow us to achieve more meaningful results.

It is debatable to what extent the increase in loans will be excessive. Dell'Ariccia et al. (2016) have established additional conditions based on the credit-to-GDP gap to define whether the increase in credits is excessive. The first condition is that the credit-to-GDP gap is more than 1.5 times the standard deviation and the credit-to-GDP ratio is above 10% of the annual growth rate. The second condition is that the annual growth rate of the credit-to-GDP ratio is over 20%. If one of these two conditions have been realized, the increase in loans is defined as "excessive". Aydin and Yilmaz (2019) also state that the level of development of the countries should also be taken into account while determining the excess in credit growth. As a matter of fact, Dell'Ariccia et al. (2016) evaluate the lack of a very broad credit base, which is a situation specific to developing countries, as one of the determinants of "good" credit growth.

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CHAPTER 23

The Effects of Foreign Direct Investments on Income Inequality in BRICS Countries

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INTRODUCTION

The process of globalization, which accelerated significantly in the latter half of the 20th century, has had a profound impact on the global economy, transforming international capital flows, trade dynamics, and economic relationships. The expansion of international trade, technological advancement, and financial integration have served to diminish economic boundaries between nations as a result of the process of globalization. In this period, foreign direct investment (FDI) and international trade have emerged as pivotal drivers of economic growth, particularly for developing countries. However, the effects of globalization have not been limited to the creation of economic opportunities. They have also profoundly affected the distribution of income among nations and individuals.

The accelerated capital flows and trade dynamics within the globalization process have a significant impact on income inequality, which is one of the most critical macroeconomic challenges. Globalization influences income inequality through variables such as trade, investment, technological changes, and labor market transformations. While FDI fosters economic growth by facilitating technology transfer and capital accumulation, it also exacerbates income inequality by increasing the demand for skilled labor. Similarly, the expansion of international trade volumes affects income distribution both across and within countries. Although trade enhances growth and welfare in low-income nations, factors such as the concentration of economic activities in certain sectors and the unequal distribution of trade benefits intensify income inequality (Nielson, Alderson, & Beckfield, 2005; Bergh & Nilsson, 2010; Goldberg & Pavcnik, 2007).

Income inequality is a critical issue for both economic and social development. Societies characterized by high levels of inequality are at higher risk of facing widespread challenges, including poverty, social unrest, economic instability, and social exclusion. Historically, income inequality has been on the rise since the Industrial Revolution, with its effects being particularly pronounced in developing countries. Understanding the impact of globalization on income inequality is therefore vital for achieving sustainable development goals (Thorbecke & Charumilind, 2002).

The BRICS countries—Brazil, Russia, India, China, and South Africa—stand out as emerging powers in the global economic system, marked by significant FDI inflows, intensive trade activity, and pronounced income inequality. The term BRICS was first introduced in a 2001 Goldman Sachs report, which

projected these nations as key players in the 21st-century global economy (Wilson & Purushothaman, 2003). In 2009, the BRICS nations formalized their collaboration through the first BRICS Summit in Russia, establishing a platform for regular dialogue to strengthen economic, political, and social cooperation. With their large populations and substantial growth potential, the BRICS countries hold a critical position in the global economy. However, these nations also grapple with high levels of income inequality and persistent poverty.

Both FDI and international trade are widely regarded as primary drivers of economic growth in BRICS countries (Sharma, Roy, & Choudhury, 2019). Yet, the impact of globalization on income inequality remains a contentious topic in the literature. This study aims to examine the impact of globalization on income inequality in BRICS countries during the period 2001–2023, focusing on FDI and international trade. While the existing literature explores the relationship between globalization and income inequality, few studies provide a comprehensive analysis specific to the BRICS nations. This study aims to fill this gap by investigating the relationship between globalization and income inequality and providing policy recommendations.

LITERATURE REVIEW

Globalization offers significant opportunities for economic growth and development by integrating the world economy through processes such as international trade, capital flows and technology transfer. Foreign direct investment and international trade, the two main channels of globalization, play a critical role in the integration of countries into the global economy. However, the effects of these processes on income inequality have long been debated in the literature.

The effects of globalization on income inequality are explained from two contrasting perspectives. The first perspective posits that globalization fosters economic growth while reducing poverty and inequality. Proponents of this view argue that international trade and FDI drive productivity gains, job creation, and technology transfer (Dollar & Kraay, 2004; Alfaro et al., 2004). Conversely, the opposing perspective suggests that globalization adversely affect income distribution and exacerbate inequality. This argument highlights that low-skilled workers, in particular, often fail to benefit from trade and investment, with the resulting gains from globalization being disproportionately concentrated in certain groups or sectors (Milanovic, 2016; Feenstra & Hanson, 1996, 1997).

The relationship between FDI and income inequality remains complex. While some researchers argue that FDI promotes economic growth and subsequently

reduces inequality (Borensztein et al., 1998), others contend that FDI exacerbates income inequality by increasing the demand for highly skilled labor, thereby widening income disparities (Görg & Greenaway, 2004; Tsai, 1995). Modernization theory suggests that in the early stages of economic growth, FDI may initially heighten inequality; however, this effect diminishes as countries advance in their development (Kuznets, 1955). In contrast, Dependency Theory posits that economies heavily reliant on foreign capital may experience increased income inequality due to monopolistic tendencies within the industrial sector (Adams, 2009).

The debate on the relationship between FDI and income inequality is also evident in the literature. While some studies highlight the positive effects of FDI on income distribution (Borensztein et al., 1998; Chen, 2016; Jensen & Rosas, 2007; Chintrakarn, 2012; Bhandari, 2007), others emphasize its negative consequences (Choi, 2006; Görg & Greenaway, 2004; Tsai, 1995; Lee, 2006; Herzer et al., 2014; Asteriou et al., 2014; Mahutga & Bandelj, 2008; Wu & Hsu, 2012).

The literature on international trade's impact on income inequality is similarly divided. Some studies suggest that trade reduces income inequality, particularly in low-income countries where export-oriented growth stimulates job creation and poverty reduction (Silva & Leichenko, 2004; Rudra, 2004; Meschi & Vivarelli, 2007; Georgantopoulos & Tsamis, 2011). Nevertheless, some empirical studies have indicated that the beneficiaries of international trade are often concentrated in specific sectors or groups, which has the effect of increasing income inequality. Export-led growth strategies, in particular, tend to disproportionately favor higher-income groups while providing limited benefits to low-skilled workers, thus contributing to income disparities. This unequal distribution of business profits leads to an inequitable distribution of income within and between countries. (Goldberg & Pavcnik, 2007; Aradhyula et al., 2007; Lu & Cai, 2011; Bensidoun et al., 2011; Demir et al., 2012; Cassette et al., 2012).

As a result, studies in the literature demonstrate that the effects of FDI and trade on income inequality vary based on the economic characteristics of countries and the policies they implement. This study seeks to fill this gap in the literature by examining the effects of globalization on income inequality in BRICS countries and by analyzing the socioeconomic consequences of globalization processes in terms of income distribution.

DATA AND METHODOLOGY

This study investigates the effects of globalization on income inequality in BRICS countries during the period 2001–2023. The analysis utilizes annual panel data from Brazil, Russia, India, China, and South Africa, collectively known as the BRICS nations.
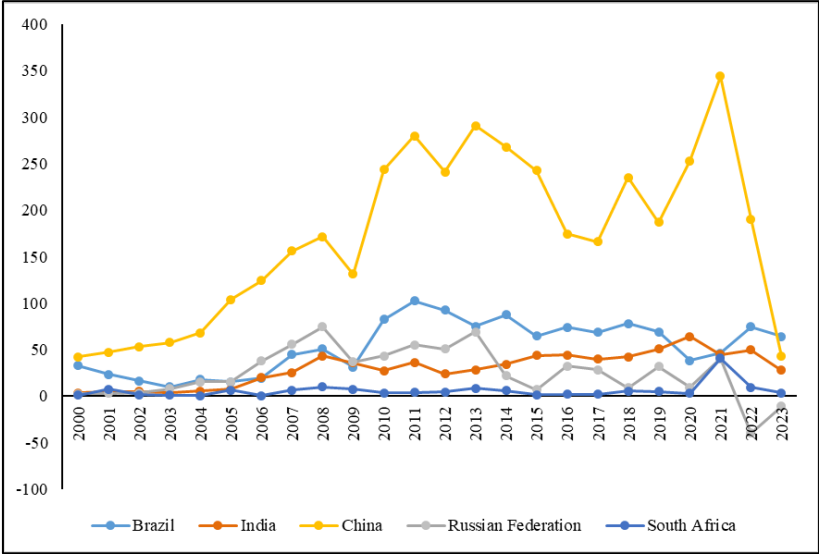
The BRICS countries account for 26% of the world's landmass, approximately 24% of global GDP, and 17% of global trade. Expected to play a pivotal role in driving the global economy over the next 50 years, these nations represent the largest economies across four continents. China, situated at the center of East and Southeast Asia, contributes nearly 75% of the region's GDP and is the world's second-largest economy. India accounts for approximately 86.6% of South Asia's GDP, while Brazil represents about 36% of the GDP of Latin America and the Caribbean. Russia contributes nearly 69% of the GDP of the Commonwealth of Independent States (CIS), and South Africa accounts for 22.5% of Sub-Saharan Africa's GDP (Gusarova, 2019).

As key representatives of emerging economies, the BRICS nations have become focal points for investors over the past two decades. Multinational corporations have increasingly shifted resources and operations to these countries, drawn by low labor costs and favorable market conditions. Simultaneously, the BRICS countries have emerged as significant players in international trade, driven by their rapidly growing economies and expansive domestic markets. These nations now account for an increasing share of global trade, encompassing both exports and imports. For example, China has developed a production and trade capacity so extensive that it is often referred to as the "world's factory," while India has gained international prominence through its thriving service sector exports.

Among the BRICS nations, China ranks second globally in foreign direct investment (FDI) inflows, according to World Bank data (2024). Brazil follows in sixth place, and India ranks twelfth, while Russia and South Africa hold relatively smaller shares. Nonetheless, the trade volumes of these nations are substantial. With its export-driven growth strategies, China plays a pivotal role in global trade, further cementing the importance of BRICS countries in both trade and investment. According to World Bank data (2024), China ranks first in net trade of goods and services, followed by Russia in second place and Brazil in fourteenth. These figures highlight that BRICS nations are not only major recipients of FDI but also critical players in the global trade system.

Figure 1 illustrates the net FDI inflows for BRICS countries.

According to Figure 1, China has consistently been the dominant recipient of foreign direct investment (FDI) among BRICS countries from 2000 to 2023, significantly outpacing its counterparts in attracting investment inflows. Brazil ranks as the second-largest FDI recipient, particularly after 2009, when it experienced a notable upward trend, further cementing its position as a key destination within the BRICS bloc after China. In contrast, Russia's upward trend in FDI inflows began to decline after 2005, a shift partially attributed to the Russia-Ukraine conflict that started in 2014. In certain years, Russia's FDI inflows even dropped to levels comparable with those of South Africa. India, following Brazil, has steadily risen as an important FDI recipient, demonstrating gradual but consistent growth in inflows since 2005. South Africa, except for 2021, maintained relatively low and stagnant FDI inflows throughout the analysis period.

Figure 2 illustrates the share of FDI inflows as a percentage of GDP for the BRICS countries.

Figure 2: Net Foreign Direct Investment Inflows (% GDP)
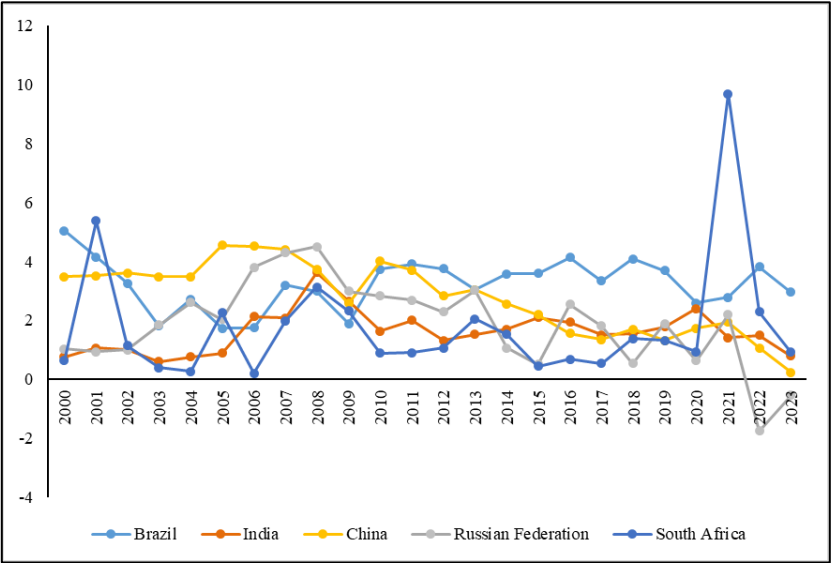
According to Figure 2, the share of foreign direct investment (FDI) in GDP among BRICS countries varied significantly between 2000 and 2023. Russia stood out in 2000 with a notably high share of 68%, but this figure fluctuated over time, declining to 41.8% by 2023. China reached its peak of over 50% during the 2003–2008 period but experienced a consistent downward trend starting in 2015, settling at 37.3% by 2023. India recorded its highest FDI share of 55.6% in 2011, which gradually declined to 45.8% by 2023. Brazil maintained relatively lower levels, peaking at 37.6% in 2021 and stabilizing at 33.8% by 2023. South Africa experienced a significant rise, peaking at 65.9% in 2008, and remained relatively stable at 65.7% by 2023.

Figure 3 illustrates the trade openness rates of BRICS countries.

Figure 3: Trade Openness (GDP %)
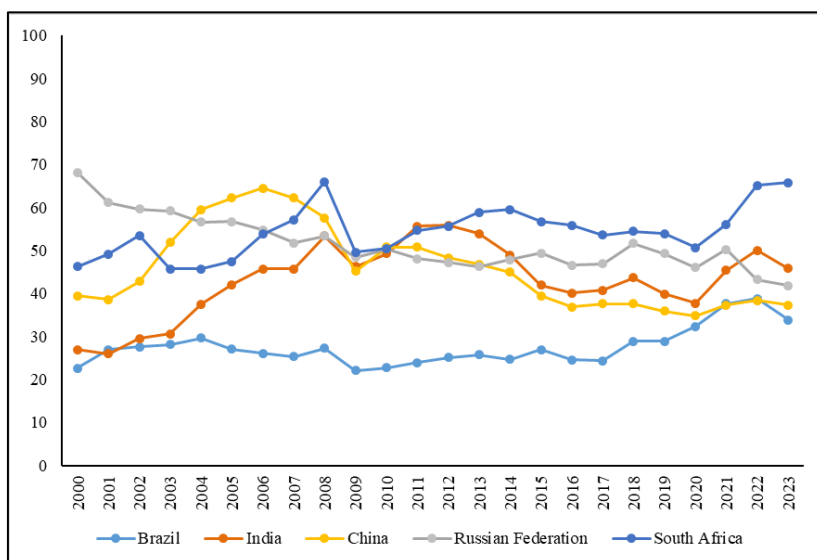
According to Figure 3, trade openness among BRICS countries exhibited significant differences between 2000 and 2023. Russia initially stood out with a high trade openness rate of 68%, but this steadily declined to 41.8% by 2023. China reached a peak of 64.5% during its strong international trade performance between 2004 and 2008, but this figure also declined, settling at 37.3% in 2023. India recorded its highest trade openness rate of 55.6% in 2011, followed by fluctuations, eventually stabilizing at 45.8% in 2023. Brazil maintained comparatively lower levels, peaking at 37.6% in 2021 before declining to 33.8% in 2023. In contrast, South Africa experienced a notable increase, peaking at 65.9% in 2008 and remaining relatively stable at 65.7% in 2023. These trends highlight the evolving roles of BRICS countries in international trade, influenced by their distinct economic structures, trade policies, and levels of integration within global trade networks.

Despite current progress, income inequality remains a critical problem in BRICS countries, which account for about 41% of the global population. While these countries have contributed approximately 56% of global economic growth since 2008, the benefits of this growth have largely been concentrated within a small segment of the population, leaving many excluded from the advantages of economic development.

Figure 4 shows the pattern of income inequality in the BRICS countries from 2001 to 2023, as measured by the Gini coefficient.

Figure 4: Gini Coefficient in the BRICS countries
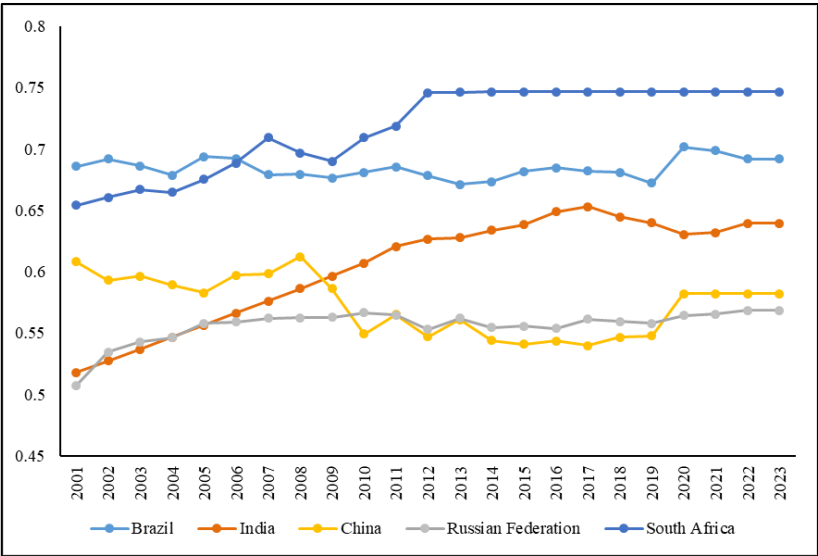
According to Figure 4, the Gini coefficient data, which measures income inequality in BRICS countries from 2001 to 2023, reveals substantial variations across nations. Brazil consistently exhibited high levels of income inequality throughout the analyzed period, peaking at 0.70 in 2020. In China, the Gini coefficient was around 0.50 in the early 2000s, increased between 2005 and 2010, and later stabilized at 0.56 by 2023. In India, income inequality steadily rose, peaking at 0.65 in 2016, before slightly declining to 0.63 in 2023. Russia, which initially showed high levels of inequality in the early 2000s, experienced a decline in its Gini coefficient to 0.54 in 2010, followed by fluctuations, stabilizing at 0.58 in 2023. South Africa stood out with the highest income inequality among the BRICS countries throughout the period. After 2011, its Gini coefficient remained consistently above 0.71, highlighting severe income distribution imbalances. These findings underscore the persistent and significant challenges of addressing income inequality in BRICS nations.

This study examines several key variables to understand the determinants of income inequality. The main variables include the Gini coefficient, representing income distribution; foreign direct investment (FDI) as a share of GDP; and trade openness, calculated as the total value of imports and exports as a share of GDP.

Control variables include GDP per capita (measured in constant 2015 US dollars), the unemployment rate, the urbanization rate, and the Worldwide Governance Indicators (WGI). To address differences in scale, all variables are expressed in their logarithmic forms.

The dataset covers the period from 2002 to 2023. Gini coefficient data were sourced from the World Inequality Database (WID), and other variables from the World Bank database. The variables used in the econometric model are defined as follows:

- GINI: Logarithmic value of the Gini coefficient (income inequality).

- FDI: Logarithmic value of FDI inflows as a share of GDP.

- TRADE: Logarithmic value of trade openness (total trade as a share of GDP).

- GDPPC: Logarithmic value of GDP per capita (constant 2015 prices).

- URBAN: Logarithmic value of the urbanization rate.

- UNEMP: Logarithmic value of the unemployment rate.

- WGI: Logarithmic value of the Worldwide Governance Indicators, an equally weighted composite of six dimensions: Voice and Accountability, Political Stability and Absence of Violence/Terrorism, Government Effectiveness, Regulatory Quality, Rule of Law, and Control of Corruption.

The study employs a panel data analysis method to construct an econometric model that examines changes in income inequality in BRICS countries over the 2002–2023 period. The empirical model is specified as follows:

$$GINI_{it} = \beta_0 + \beta_1 FDI_{it} + \beta_2 TRADE_{it} + \beta_3 GDPPC_{it} + \beta_4 URBAN_{it} + \beta_5 WGI_{it} + \beta_6 UNEMP_{it} + u_{it} \qquad (1)$$

Descriptive statistics are shown in Table 1.

Table 1: Descriptive Statistics

Variable	Obs.	Mean	Std. Dev.	Min.	Max.
GINI	110	0.486	0.041	0.423	0.557
FDI	109	1.091	0.441	-0.801	2.368
TRADE	110	3.789	0.273	3.141	4.204
GDP_PC	110	8.549	0.734	6.677	9.407
URBAN	110	4.078	0.346	3.375	4.486
WGI	108	-0.424	0.531	-1.627	0.328
UNEMP	110	2.264	0.522	1.464	3.395

Source: World Bank Database – World Development Indicators & Worldwide Governance Indicators, The World Inequality Database, Income Inequality Indicators (Access Date: 26.11.2024)

The mean logarithmic value of the Gini coefficient, which represents income inequality in BRICS countries, is 0.486. The mean logarithmic value of foreign direct investment (FDI) is 1.091, while the mean logarithmic value of trade openness, measured as the total value of imports and exports as a share of gross domestic product, is 3.789. Furthermore, the mean logarithmic value of GDP per capita is 8.549, the urbanization rate is 4.078, and the unemployment rate is 2.264. Finally, the mean logarithmic value of the Worldwide Governance Index (WGI), which reflects the quality of governance, is -0.424.

RESULTS

Table 2 presents the diagnostic test statistics, which provide an overview of the model's validity and robustness.

Table 2: Diagnostic Test Statistics

Test	Statistics
Cluster-Robust Hausman Test	10.18
Bhargava, Franzini ve Narendranathan DW Testi	0.49
Baltagi-Wu LBI Testi	0.62
Levene, Brown ve Forsythe Test (W_0)	25.24***
Levene, Brown ve Forsythe Test (W_{10})	12.07***
Levene, Brown ve Forsythe Test (W_{50})	25.54***
Pesaran's Test of Cross-Sectional Independence	2.02**
Frees's Test of Cross-Sectional Independence	0.37***
Friedman's Test of Cross-Sectional Independence	25.56***

Note: *, ** and *** are significant at the level of 10%, 5% and 1%, respectively

The results of the diagnostic tests indicate that the assumptions of autocorrelation, heteroskedasticity, and cross-sectional dependence have been violated. Accordingly, the random effects model was estimated using Driscoll-Kraay standard errors, which are robust to these problems.

The estimation results are presented in Table 3.

	Coef.	Driscoll-Kraay Std. Err.
FDI	0.012**	0.005
TRADE	0.031**	0.015
GDP_PC	-0.026**	0.011
URBAN	0.097***	0.029
WGI	0.047***	0.009
UNEMP	0.023*	0.012
Constant	0.154***	0.066
R^2	0.874	
Wald χ^2	3538.2***	
Number of Groups	5	
Number of Obs.	108	

Note: *, ** and *** are significant at the level of 1%, 5% and 10%,

The findings from the panel data analysis emphasize the impact of globalization and other independent variables on income inequality. The results indicate that globalization, as represented by foreign direct investment (FDI) and trade openness, contributes to increasing income inequality. The positive and significant relationship between FDI and the Gini coefficient ($\beta = 0.012$, $p < 0.05$) suggests that while FDI fosters economic growth, its benefits are disproportionately concentrated among skilled labor and economically advantaged groups, thereby exacerbating inequality. Similarly, trade openness has a positive and significant effect on the Gini coefficient ($\beta = 0.031$, $p < 0.05$), highlighting that the unequal distribution of trade gains can intensify income disparities. Individuals and sectors more integrated into international trade tend to derive greater benefits, while others are excluded, resulting in a more uneven distribution of income. These findings emphasize the negative impact of globalization on income inequality.

The control variables also highlight significant determinants of income inequality. GDP per capita demonstrates a negative and statistically significant relationship with the Gini coefficient ($\beta = -0.026$, $p < 0.051$), indicating that inclusive economic growth reduces inequality. Conversely, urbanization shows a positive and significant effect ($\beta = 0.097$, $p < 0.01$), suggesting that urban

expansion may exacerbate income disparities, particularly in large urban centers where economic imbalances are more pronounced. Surprisingly, governance quality exhibits a positive and significant association with the Gini coefficient (β = 0.047, $p < 0.01$), implying that improvements in governance may not necessarily mitigate inequality and, in some cases, may even perpetuate existing disparities. The unemployment rate is also positively associated with income inequality (β = 0.023, $p < 0.10$), indicating that higher unemployment levels intensify inequality.

These findings underscore the multifaceted nature of income inequality, which is shaped by a complex interplay of economic, social, and governance factors. Globalization remains a critical driver within this dynamic, influencing inequality patterns.

CONCLUSION

Income inequality poses a significant challenge to achieving sustainable economic growth and social justice. While globalization promotes economic growth and development through increased international capital flows and trade, it also has the potential to deepen disparities in income distribution. The BRICS countries—Brazil, Russia, India, China, and South Africa—emerge as key players in the global economy, driving their economic growth through foreign direct investment (FDI) and international trade while simultaneously contending with persistent income inequality. Understanding the effects of globalization on income inequality in BRICS countries is, therefore, essential for developing more inclusive and equitable policies, not only for these nations but also for other countries with similar developmental paths.

This study adopts a multidimensional approach to analyze the factors influencing income inequality and examines the impact of globalization on income inequality in BRICS countries from 2001 to 2023. Income inequality is measured by the Gini coefficient, while globalization is represented by FDI and trade openness. Control variables include economic growth, urbanization, governance quality, and unemployment rate. The results suggest that income inequality is shaped by a complex interaction of factors and that globalization increases income inequality.

The results highlight that FDI and trade openness adversely affect income distribution, suggesting that globalization processes are not inherently inclusive. FDI tends to benefit skilled labor and capital owners disproportionately, often marginalizing low-skilled workers and increasing income inequality. Similarly, trade openness can deepen income disparities when the gains from trade are

concentrated in specific sectors. These findings emphasize the need to guide globalization processes in ways that promote equity and reduce income inequality.

The mitigating effect of economic growth on income inequality underscores the importance of inclusive growth strategies. However, the exacerbating effects of variables such as urbanization, governance quality, and unemployment highlight the need for integrated economic and social policy interventions. Urbanization's role in increasing inequality calls for strengthened social policies to address economic imbalances in urban areas. The positive association between governance quality and income inequality suggests that governance practices must be restructured to effectively address disparities. Similarly, the relationship between unemployment and income inequality highlights the need for employment-generating policies, particularly those supporting low-skilled workers.

Policy recommendations for BRICS countries can be summarized as follows:

- Inclusive FDI Integration: FDI should be integrated more inclusively into local economies, with targeted incentives to ensure benefits extend to low-skilled workers and small enterprises.

- Equitable Trade Policies: Trade policies should be designed to distribute the gains from trade more broadly across sectors and demographics.

- Strengthened Social Reforms: Social and economic reforms should address labor market disparities, reduce unemployment, and mitigate the economic imbalances caused by urbanization.

- Governance Improvements: Governance reforms should prioritize reducing income inequality through targeted and inclusive measures.

In conclusion, this study contributes to a deeper understanding of the multidimensional dynamics of income inequality in BRICS countries by analyzing the effects of globalization and other socioeconomic factors. The findings highlight the importance of developing comprehensive, integrated strategies and implementing these effectively to reduce income inequality. For policymakers, these results provide critical insights into addressing income disparities in emerging economies while promoting sustainable and inclusive growth.

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CHAPTER 24

Gaza, Artificial Intelligence and Genocide

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Introduction

In the rapidly evolving landscape of modern warfare, the deployment of Artificial Intelligence (AI)-enabled systems has profoundly reshaped military operations, often at the expense of human rights and justice. Nowhere is this transformation more evident than in Gaza, where Israel's reliance on AI-driven defense and offensive systems has intensified the oppression of Palestinians and escalated civilian suffering. These technologies, which claim to enhance precision and reduce human intervention, have instead been weaponized to deepen the humanitarian crisis, violate international law, and further entrench an unequal power dynamic. Analyzing the ethical and legal dimensions of AI use in Gaza is not only crucial but also a call to action for global accountability.

AI technologies in warfare typically serve two main functions: defense and offense. Israel's Iron Dome, a multi-layered air defense system, is often highlighted as a technical marvel. Using AI-supported radar and sensors, the system autonomously identifies and intercepts projectiles. However, this portrayal ignores the broader context: the Iron Dome's efficiency in protecting Israeli lives starkly contrasts with its failure to mitigate the root causes of conflict or address the disproportionate harm inflicted upon Palestinians. The reliance on this system has allowed Israel to perpetuate military aggressions with minimal consequences, while Hamas' low-cost rockets continue to expose the limitations of such high-tech systems in preventing civilian casualties.

Israel's offensive AI systems, including Habsora and Lavender, further exacerbate the human toll in Gaza.[2] These systems autonomously identify targets based on analyzed intelligence, reducing human oversight in life-or-death decisions. While marketed as tools of efficiency, their implementation often disregards the fundamental principles of distinction and proportionality under international law. Civilians, schools, hospitals, and densely populated areas in Gaza frequently become collateral damage, with these systems playing a key role in the dehumanization and systematic targeting of Palestinians. The ethical implications are profound: who bears responsibility for these violations—the AI, the programmers, or the military operators? This ambiguity shields Israel from accountability, fostering impunity.

AI's application is not limited to direct combat but extends to an oppressive surveillance apparatus in occupied Palestinian territories. Systems such as Blue

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[2] Caroline Haskins, Wired, The Hidden Ties Between Google and Amazon's Project Nimbus and Israel's Military, https://www.wired.com/story/amazon-google-project-nimbus-israel-idf/?

Wolf, Red Wolf, and Wolf Pack[3] are emblematic of the digital apartheid Palestinians face daily. These technologies, which employ facial recognition and biometric data collection, monitor Palestinians' movements, restrict their freedoms, and reinforce systemic discrimination. Following the attacks of October 7, 2023, Israel expanded its surveillance capabilities, further transforming Gaza into a digital prison.[4] Human rights organizations have condemned these practices as violations of basic freedoms and dignity, with technology being weaponized to sustain apartheid policies and the subjugation of an entire population.

This study seeks to examine the role of AI in the ongoing oppression of Palestinians in Gaza. Israel's extensive use of these technologies, from airstrikes to surveillance, raises urgent questions about the complicity of technology in human rights violations and the failure of international mechanisms to ensure accountability. The systematic targeting of civilians and the disregard for proportionality highlight the urgent need to address the moral and legal challenges posed by these technologies. Beyond the immediate devastation, the deployment of AI in Gaza sets a dangerous precedent for the future of warfare—one where oppression is automated, and responsibility is obscured. This study will explore how AI has been weaponized in the context of Gaza, delving into its role in both military aggression and systemic control. It will argue that the unchecked use of these technologies reinforces Israel's apartheid system while intensifying the humanitarian crisis faced by Palestinians. Through this lens, the analysis will challenge the narrative of AI as a neutral tool and call for robust international oversight to prevent its misuse. Ultimately, the study seeks to amplify the Palestinian struggle for justice and advocate for accountability in the face of technological tyranny.

1. The Military Use of AI Technologies

AI-powered defense systems have become a cornerstone of modern military strategies, with Israel's Iron Dome standing as a high-profile example. This multi-layered air defense system, often hailed for its technical sophistication, is deeply integrated with AI, enabling it to autonomously detect, prioritize, and

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3 Amnesty International, Israel/OPT: Israeli authorities are using facial recognition technology to entrench apartheid,
https://www.amnesty.org/en/latest/news/2023/05/israel-opt-israeli-authorities-are-using-facial-recognition-technology-to-entrench-apartheid/ (Retrieved on 2 May 2024)
4 Paige Collings and Jillian C. York, Electronic Frontier Foundation, Digital Apartheid in Gaza: Unjust Content Moderation at the Request of Israel's Cyber Unit, July 26, 2024. https://www.eff.org/deeplinks/2024/07/digital-apartheid-gaza-unjust-content-moderation-request-israels-cyber-unit

intercept projectiles through radar and sensor integration.[5] The radar sensor of the Iron Dome is the ELM-2084 Multi-Mission Radar, developed by ELTA Systems. This radar is a mobile S-Band radar system designed for air defense, surveillance, and artillery weapon location tasks.[6] The system has been credited with successfully neutralizing short- and medium-range rockets, ostensibly protecting Israeli airspace. However, this narrative fails to address the broader context: while Iron Dome shields Israeli civilians, it enables Israel to maintain its military aggression against Palestinians in Gaza without addressing the systemic injustices fueling the conflict.

The Iron Dome's reliance on advanced AI technologies ostensibly reduces unnecessary use of ammunition by targeting only confirmed threats. However, Hamas' use of low-cost, homemade rockets frequently challenges the system, exposing its limitations in ensuring proportionality and preventing collateral damage. Critically, the resources poured into such systems highlight the stark asymmetry of power, as Gaza remains an isolated and besieged territory with no comparable means of defense. The perpetuation of such military policies underscores a disregard for the humanitarian consequences endured by Palestinians, particularly as civilian casualties and the destruction of vital infrastructure persist unabated.

Israel's offensive operations further exploit AI through systems like Habsora and Lavender. Habsora, reportedly introduced in 2021, processes vast amounts of intelligence data to identify targets in Gaza, allegedly focusing on members of resistance groups like Hamas.[7] The system claims to streamline decision-making, reducing the time needed to identify targets. However, its implementation reveals glaring ethical and legal concerns. The automated nature of the process minimizes human oversight, resulting in the frequent misidentification of targets in densely populated civilian areas. Hospitals, schools, and other protected sites under international law have been hit, with these attacks dismissed by Israeli authorities as "collateral damage."[8]

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5 Gabrielle Weiniger, What is the Iron Dome? How Israel's air defence system works, https://www.thetimes.com/world/article/what-iron-dome-how-works-israel-8prxkqqrl (Retrieved on 28 November 2024)

6 Israel Aerospace Industries, ELM-2084 MS-MMR Multi-Sensor Multi Mission Radar System, https://www.iai.co.il/p/elm-2084-ms-mmr (Retrieved on 28 November 2024)

7 Al Jazeera English, 'AI-assisted genocide': Israel reportedly used database for Gaza kill lists, https://www.aljazeera.com/news/2024/4/4/ai-assisted-genocide-israel-reportedly-used-database-for-gaza-kill-lists?utm_source=chatgpt.com (Retrieved on 28 November 2024)

8 BBC News, IDF official admits 'extensive collateral damage' in Gaza camp strike, https://www.bbc.com/news/live/world-middle-east-67831997 (Retrieved on 28 November 2024)

Lavender, an advanced version of Habsora,[9] takes autonomy a step further by significantly reducing human intervention in the targeting and strike processes. Reports suggest that Lavender has been instrumental in Israel's intensified campaigns against Gaza since October 2023. AI systems like Lavender allegedly disregard the proximity of targets to civilian areas, prioritizing military objectives over the lives and safety of Palestinian civilians. These practices starkly violate international humanitarian law, particularly the principles of distinction and proportionality, and raise urgent questions about accountability. The lack of transparency surrounding these operations shields Israel from responsibility, even as these technologies amplify the scale of destruction and civilian suffering.

AI's role extends beyond direct combat to underpin surveillance and intelligence-gathering operations, forming a key component of Israel's control apparatus in Palestine. Advanced data analytics powered by AI enable the rapid processing of intelligence from drones, satellite imagery, and other sources to identify potential threats. However, these capabilities are not confined to military applications; they are systematically employed to monitor and oppress the Palestinian population.

Surveillance systems like Blue Wolf, Red Wolf, and Wolf Pack exemplify this dystopian use of technology. These systems collect biometric data and track the movements of Palestinians, turning Gaza and the occupied territories into digital prisons. AI-driven facial recognition tools deny Palestinians freedom of movement, further entrenching the apartheid-like conditions under which they live. Following the October 2023 escalation, the deployment of these technologies has intensified, with international human rights organizations condemning their use as a violation of basic human rights. Such systems serve as tools of control and domination, reinforcing Israel's oppressive policies and amplifying the suffering of Palestinian civilians.

The integration of AI in Israel's military and surveillance operations exemplifies how technology can be weaponized to perpetuate systemic injustice. While AI-driven systems are often touted as innovations in precision and efficiency, their deployment in Gaza demonstrates the opposite—heightened civilian casualties, widespread destruction, and the erosion of fundamental human rights. The unchecked use of AI underscores the urgent need for international oversight to address the moral and legal implications of these technologies. Without accountability, these systems will continue to serve as

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9 Atay Kozlovski, When Algorithms Decide Who is a Target: IDF's use of AI in Gaza, https://www.techpolicy.press/when-algorithms-decide-who-is-a-target-idfs-use-of-ai-in-gaza/ (Retrieved on 28 November 2024)

enablers of oppression, exacerbating the already dire humanitarian crisis faced by Palestinians.

2. Ethical Dimensions of AI

The principles of proportionality and distinction, fundamental to international humanitarian law, are frequently violated in AI-assisted military operations. Systems such as Habsora and Lavender, used by Israel, have demonstrated significant failures in distinguishing between civilian and military targets. Strikes on hospitals, schools, and residential areas in Gaza, protected under international law, result in widespread civilian casualties, often dismissed as "collateral damage." This framing dehumanizes Palestinian victims and highlights the systemic disregard for civilian safety in densely populated areas. Such violations exacerbate the humanitarian crisis, undermining legal norms designed to protect non-combatants

The increasing autonomy of AI systems raises profound accountability challenges. As decision-making shifts to algorithms, identifying responsibility for errors becomes difficult. When systems like Lavender operate with minimal human intervention, mistakes, including misidentified targets, lead to devastating outcomes. The lack of transparency in AI decision-making processes further complicates accountability, shielding both developers and military operators from liability. This ambiguity fosters impunity, allowing violations of international law to persist unchecked.

3. Violations of International Law

International humanitarian law is built on the principles of proportionality and distinction, which aim to protect civilians during armed conflicts. However, Israel's use of AI-enabled systems in Gaza flagrantly violates these principles.[10] According to United Nations reports, AI-driven systems like Habsora and Lavender have directed strikes against hospitals, schools, and other civilian infrastructure, resulting in significant civilian casualties. These actions constitute clear breaches of international law and include acts that could be classified as war crimes. The systematic targeting of densely populated civilian areas, justified as "collateral damage," exacerbates the humanitarian catastrophe faced by Palestinians and undermines the legal protections designed to safeguard non-combatants.

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10 Anadolu Agency, Israel using AI to identify potential civilian targets to maximize Palestinian casualties: Report, https://www.aa.com.tr/en/middle-east/israel-using-ai-to-identify-potential-civilian-targets-to-maximize-palestinian-casualties-report/3071852, (Retrieved on 28 November 2024)

The deployment of autonomous AI systems introduces critical challenges to accountability, creating significant gaps in the chain of responsibility. By minimizing human intervention in decision-making processes such as target selection and strike execution, these systems obscure the identification of those responsible for war crimes.[11] Decisions made by AI algorithms complicate the attribution of accountability among military personnel, system developers, and senior decision-makers. This ambiguity fosters a culture of impunity, as seen in Israel's operations in Gaza, where legal oversight is rendered ineffective.

AI-driven surveillance systems have become tools of systemic control and oppression in Gaza and other occupied Palestinian territories. Technologies like Blue Wolf and Red Wolf, equipped with facial recognition capabilities, are used to monitor and restrict the movements of Palestinians. These systems collect extensive biometric data, effectively turning Gaza and the West Bank into a digital prison.[12] By categorizing individuals based on perceived security threats, these technologies enable the Israeli military to exert totalitarian control over daily life, denying Palestinians fundamental freedoms. The expansion of these systems after the October 2023 escalation further entrenches the apartheid-like conditions imposed on Palestinians, exacerbating psychological trauma and fueling societal fragmentation.

The use of AI in military operations has led to catastrophic outcomes for the civilian population in Gaza. Systems like Habsora and Lavender frequently misidentify targets, resulting in strikes on civilian infrastructure, including schools, hospitals, and densely populated residential areas. The indiscriminate violence has claimed thousands of innocent lives, leaving families devastated and communities shattered. The framing of these casualties as "collateral damage" dismisses the humanity of Palestinian victims and normalizes systemic violence against them. The widespread destruction of homes and essential services has deepened the humanitarian crisis, with generations of Palestinians living under the constant threat of violence and displacement.

11   United   Nations   Secretary   General,   Secretary-General's   Press   Encounter   on   Gaza, https://www.un.org/sg/en/content/sg/press-encounter/2024-04-05/secretary-generals-press-encounter-gaza-scroll-down-for-arabic (Retrieved on 15 December 2024)
12 Middle East Eye, Israel turning Palestinian territories into 'open-air prison', says UN expert, https://www.middleeasteye.net/news/israel-turning-palestinian-territories-open-air-prison-says-un-expert, (Retrieved on 15 December 2024)

Conclusion

The destructive impact of AI technologies in Gaza underscores the urgent need for international regulation and accountability. While AI is often portrayed as a tool for precision and efficiency, its deployment in warfare has highlighted its potential for misuse and abuse. The lack of oversight and accountability mechanisms allows these systems to perpetuate violence and oppression with impunity. The international community must establish comprehensive frameworks to govern the use of AI in military operations, ensuring compliance with humanitarian principles and protecting civilian populations from harm. Without such measures, the weaponization of AI will continue to exacerbate conflicts, undermining global stability and human rights.

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CHAPTER 25

The Effect of Ethical Leadership on Cyberloafing Behaviours: A Study on Health Workers[*]

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INTRODUCTION

Ethical leadership is the leadership approach of people who take and implement their approaches and decisions ethically Ethical leadership is the application of principles and values in an ethical manner while applying leadership behaviors. In order for ethical leadership behaviors to be applied, the environment must be appropriate and the people around the leader must adopt these ethical values just like the leader. Otherwise, ethical leadership behaviors will not achieve their purpose (Erdoğan, 2002). In order for ethical leadership behaviors to be implemented within the organization, the organizational climate must be conducive to ethical leadership behaviors (Aronson, 2001).

Cyberloafing is the use of mass communication tools within the company to create personal benefits (Lim, 2002). As a concept, cyberloafing is "the use of the computer and internet system provided to employees for the realization of activities in the workplace by employees for personal benefit or to spend more enjoyable time at work. When we look at various studies, it is accepted that cyberloafing behaviors are mostly harmful, but there are cases where it is beneficial. While some researchers explain cyberloafing behaviors as spending unnecessary time in the workplace, some researchers argue that these behaviors increase the productivity of employees from time to time (Örücü & Yıldız, 2014). Cyberloafing behaviors have various damages to organizations and organizational employees. When employees spend time for personal benefits when they would be engaged in activities for the workplace, there is a loss of productivity in the workplace. As a result, productivity decreases and the profitability of the business decreases (Mills, Hu, Beldona, & Clay, 2001).

Virtual shirking behaviors also have various benefits for the organization and its employees. It has been seen in various studies that cyberloafing behaviors provide relaxation to employees and as a result of this situation, employees' motivation increases. For this reason, when determining internet usage policies in organizations, employees should be allowed to use the internet personally at certain times with certain policies (Lim & Chen, 2012). Especially nowadays, employees spend most of their time in front of a computer. Small breaks like these can be more beneficial for employee motivation and the profitability of the workplace (Anandarajan, Simmers, & D'ovidio, 2011).

1. THEORETICAL and EMPIRICAL LITERATURE

An ethical leader can be defined as a leader who exhibits ethically accepted behaviors in his/her environment, defends the rights of the people who follow them, imposes impartial and fair sanctions on all followers without discriminating between people, has a sense of compassion towards his/her followers because they are focused on both people and the society they are in, treats his/her followers with respect, and exhibits fair and reliable attitudes towards his/her followers (Derin vd., 2013). It is seen that the first written studies in the field of leadership began in the 19th century. As a result of the studies, it is seen that more than 5000 studies have been obtained. When we look at the definitions, it is seen that more than 350 definitions have been made (Erçetin, 2000). With the most general definition, leadership refers to the characteristics of a person who is effective in the process of directing the group, influencing the group, influencing other individuals in the group and making decisions on their behalf in the process of controlling the actions to be taken and successfully achieving the goal of the planned action.

The ethical leader acts as a defense mechanism in situations that may reduce the success and performance of the organization by preventing problems that occur within the organization. These behaviors exhibited by the leader will contribute to making the organization a more reliable environment by affecting the behaviors, duties and corporate structure of the employees over time. As a result, the leader's making fair decisions will affect the members in the group and as a result, the leader will be a successful leader (Yaman, 2010). A leader who is believed to make ethical decisions will lead to an increase in the positive actions of the people who follow him/her and will also affect the employees' feeling of belonging to the organization and increase their commitment to the organization. The achievements of Gandhi, who had no official and political power, against England thanks to his courage and moral persuasiveness, are among the most appropriate examples of the power of influence mentioned here (Covey, 1997).

Ethical leaders make correct and egalitarian decisions by not ignoring the rights of the people who follow them at decision-making points. They establish principled communication with their followers and apply the reward-punishment system in an egalitarian manner based on ethical rules when necessary (Mayer vd., 2010). One of the most important differences between ethical leaders and other leaders is that ethical behaviors are taken as a basis when applying reward or punishment methods to the people who follow them. As an example, if the success achieved in the organization has been achieved by applying unethical behaviors, the punishment method should be applied. Thanks to this, ethics is at

the forefront. Employees realize that not only the result is important but also how it is achieved, and thus employees are encouraged to exhibit ethical behaviors (Akker vd., 2009).

In all decisions that need to be taken within the organization, the opinions of the employees should be consulted and a suitable environment should be prepared for the employees to have a share in the decisions made. As a result, ethical behaviors are experienced personally by the employees and the transfer process is realized by setting an example for the employees (Pipkin, 2000). The ethical leader exhibits behaviors that are in agreement with the ethical rules as well as the mandatory rules that the organization must comply with in order to achieve its pre-planned goals. As a result, it helps to reduce behaviors that do not comply with the rules set by the organization and to prevent employees who exhibit behaviors that are considered negative by the organization (Peterson, 2002).

When the concept of virtual shirking is examined, it is seen that this concept was first introduced by Lim in 2002. The concept of virtual shirking is defined as the use of internet services by the people working in the organization for their own interests and purposes during working hours and the use of e-mail for personal purposes other than the main purpose of use (Hanaylı, 2020). Virtual shirking has two dimensions: important virtual shirking and unimportant virtual shirking behaviors. Unimportant cyberloafing behaviors are shown as an organizational and insignificant deviance among production deviations (Robinson & Bennett, 1995). On the other hand, it is stated that cyberloafing attacks are not as bad as it is thought. The context in which these behaviors are evaluated is important. In fact, when computer and internet facilities are used for business purposes, it is possible for the employee to reflect what he/she has learned online to his/her work. Especially considering that many educational applications are now done online, it should not be ignored that cyberloafing behavior can be a learning tool (Keklik vd., 2015).

In recent years, there have been many innovations in the field of technology. These innovations have provided many benefits both in people's personal and working lives. The use of information technologies by both organizations and people has become an essential factor (Karataş & Avcı, 2017). In the new globalized world, the preference of information technologies allows organizations to perform more than one transaction in a short time. With the help of these opportunities, organizations save time and reduce the cost of transactions by performing their transactions that need to be done in a short time more effectively. Organizations should be closely related to information technologies in order to compete comfortably with the markets they are in and with other

organizations and should act in parallel with the constantly developing technology (Yıldırım, 2016).

When information technologies are examined, it is seen that the most important one is the use of the internet and smart devices that have managed to gain a place in our lives thanks to the use of the internet (Yağcı & Yüceler, 2016). Cyberloafing can also be defined as using the internet during message hours, cyber deviance, abuse of internet use, and using data for personal purposes at work (Örücü & Yıldız, 2014). Cyberloafing behaviors have been the subject of many studies. Although cyberloafing behaviors have negative consequences, positive consequences have also been found. In his study, Hernandez explains that cyberloafing causes computer network safety problems, legal problems and, in addition, a decrease in the data rate of any company's computer network (Hernandez, 2016). When we look at the most general definition of virtual shirking, it is seen that it is expressed as the voluntary internet use of employees that is not related to work (Blanchard & Henle, 2008). In addition, test shirking behavior also includes people logging into banned, entertainment, adult sites online (Piotrowski, 2012). When the study conducted by Mills et al. in 2001 is examined, it is seen that the cyberloafing actions performed within the organization will occur in three stages. These three stages are stated by the researchers as intensive use of the internet by people working in the workplace, financial and productivity losses, and violation of legal responsibilities. Four main elements of cyberloafing behaviors are mentioned. The first of these four main elements is low job performance (Kuschnaroff & Bayma, 2014).

The other element involves focusing on specific behaviors related to cyberloafing behaviors such as reading blogs, playing games and spending time on social media. When employees often engage in these behaviors in their workplaces, it can be difficult for them to return to the tasks they are responsible for (Weatherbee, 2010). The third element is that cyberloafing behaviors contribute positively to productivity in order to achieve the goals required for the task (Coker, 2011). The fourth element is that employees perform cyberloafing behaviors after the end of their work at their workplaces. In this behavior, it is seen that there is no loss in the productivity of the employees. The most important issue here is that this behavior does not turn into workplace commitment (Klotz & Buckley, 2013).

Erkutlu and Özdemir (2018) conducted a study with 208 administrative staff working at Ahi Evran University and found that there is a negative and insignificant relationship between authentic leadership, a type of ethical leadership, and cyberloafing behaviors. Baydar (2021) conducted a study with

571 school administrators and teachers working in public schools affiliated to the Istanbul Directorate of National Education and found that there is a low level positive relationship between ethical behaviors and cyberloafing behaviors. Lim (2002) investigated the cyberloafing behaviors of employees within the organization with 188 employees and found that employees who do not receive sufficient appreciation from their bosses and who feel that they have been wronged will desire to perform cyberloafing behaviors within the organization.

2. EMPIRICAL ANALYSIS

2.1. Method

The main purpose of the study is to determine the effect of ethical leadership on cyberloafing behaviors. The ethical leadership scale in the questionnaire was developed by Brown et al. (2005) and consists of 10 statements. The cyberloafing scale used in the research was developed by Van Doorn (2011) and its Turkish adaptation was taken from the research conducted by Özkalp and Yıldız (2018: 74). The cyberloafing scale is a 12-item scale. There are 5 questions to determine socio-demographic characteristics.

The population of the study consists of healthcare professionals working in Çanakkale. Due to the size of the population, data were collected using the "Convenience Sampling Method". The questionnaires used in the data collection process were applied between May 20 and June 05, 2024. Data were collected from 248 people in the study. Normality analysis, factor analysis, validity and reliability analysis, correlation analysis and regression analysis were performed on the collected data.

2.1.1. Model and Hypotheses

Ethical Leadership	⟶	Cyberloafıng Behavıours

Şekil 1: Research Model

Based on the research model and lıterature revıew, the followıng hypotheses were tested.

H1: Ethical leadership affects cyberloafing behaviors.

H1a: Ethical leadership affects important cyberloafing behavior.

H1b: Ethical leadership affects unimportant cyberloafing behavior.

2.2. Empirical Findings

Table 1. Descriptive Statistics on Participants' Gender

Gender	Frequency	Percent
Female	122	49,0
Male	125	51,0
Total	247	100,0

When the gender of the participants is analyzed, it is seen that the total number of participants is 247. Of this number, 49% were female (122 participants) and 51% (125 participants) were male. 1 participant did not reveal his/her gender.

Table 2. Descriptive Statistics on Participants' Marital Status

Marital Status	Frequency	Percent
Married	152	61,0
Single	94	39,0
Total	246	100,0

When the marital status of the participants is analyzed, it is seen that the total number of participants is 246. Of this number, 61% were married (152 people) and 39% were single (94 people). 2 participants did not reveal their marital status.

Table 3. Descriptive Statistics Regarding Participants' Age Variables

Age	Frequency	Percent
18-25	29	11,6
26-33	46	18,9
34-41	72	28,9
42-49	49	19,7
50 and above	52	20,9
Total	248	100,0

When the age ranges of the participants are analyzed, 11.6% (29 people) are between the ages of 18-25, 18.9% (46 people) are between the ages of 26-33, 28.9% (72 people) are between the ages of 34-41, 19.7% (49 people) are between the ages of 42-49, and 20.9% (52 people) are between the ages of 50 and above.

Table 4. Descriptive Statistics on Income Levels of Participants

Income Level	Frequency	Percent
Less than 20000	38	15,7
20001-30000	56	22,5
30001-40000	51	20,5
40001-50000	51	20,5
50000 and above	52	20,9
Total	248	100,0

When the monthly income levels of the participants are analyzed, it is seen that 15.7% (38 people) have an income level of less than 20000, 22.5% (56 people) have an income level of 20001-30000, 20.5% (51 people) have an income level of 30001-40000, 20.5% (51 people) have an income level of 40001-50000, and 20.9% (52 people) have an income level of 50000 and above.

Table 5. Descriptive Statistics on Participants' Working Periods

Working Time	Frequency	Percent
Less than 2 years	47	18,9
2-6	37	14,9
6-10	32	12,9
10 years and above	130	52,4
Total	246	100,0

When the tenure of the participants is analyzed, it is seen that 18.9% (47 people) have been working for less than 2 years, 14.9% (37 people) between 2-6 years, 12.9% (32 people) between 6-10 years, 52.4% (130 people) for 10 years or more. 2 participants did not specify their working period.

Table 6. Normal Distribution Analysis

Scales	Distortion	Kurtosis
Cyberloafing Behaviors	-,197	-,636
Ethical Ledadership Behaviors	-,163	-,265

Since the skewness and kurtosis values are between +1.96 and -1.96, the normal distribution condition is met. In addition, according to the central limit theorem, if the sample size is (n>30), it is accepted that the normal distribution condition is met (Ak, 2002).

Table 7. Reliability Analysis

Scales	Number of Articles	Cronbach's Alpha Co-efficient
Cyberloafing Behaviors	12	,901
Ethical Ledadership Behaviors	10	,941

As a result of the reliability analysis for the Cyberloafing scale, Cronbach Alpha (α) reliability coefficient was found to be .901. According to this result, it is seen that the scale is highly reliable.

As a result of the reliability analysis for the ethical leadership scale, Cronbach Alpha (α) reliability coefficient was found to be .941. According to the result, it is seen that the scale is highly reliable.

Table 8. Validity Analysis of the Scales

KMO and Bartlett's Test		Cyberloafing Behaviors	Ethical Ledadership Behaviors
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,873	,939
Bartlett's Test of Sphericity	Approx. Chi-Square	2070,213	1960,052
	df	55	45
	Sig.	,000	,000

According to the findings obtained, it is seen that the sample size of the scales used in the research is at an adequate level. The KMO value for the cyberloafing behaviors scale was 0.873 (p<.05); the KMO value for the ethical leadership behavior scale was 0.939 (p<.05). When these results are considered, it is seen that the sample size of the ethical leadership behaviors and virtual shirking behaviors scales is sufficient for statistical analysis.

Table 9. Rotated Factor Loadings of the Ethical Leadership Scale

Factors	Expressions	Factor Load	Explaind % Variance
Factor 1	EL5	,878	66,097
	EL8	,875	
	EL4	,869	
	EL6	,856	
	EL7	,852	
	EL10	,834	
	EL1	,814	
	EL9	,792	
	EL3	,786	
	EL2	,506	
Total			66,097

When the rotated factor loadings of the ethical leadership scale were analyzed, it was seen that the factor loadings were in a single dimension. This factor explains 66.097% of the ethical leadership behavior.

Table 10. Rotated Factor Loadings Results of the Cyberloafing Scale

Factors	Expressions	Factor Load	Explaind % Variance
Factor 1 Important Cyberloafing Behaviors	CB1	,874	35,752
	CB2	,873	
	CB3	,813	
	CB4	,720	
	CB5	,703	
	CB6	,665	
	CB10	,516	
Factor 2 Unimportant Cyberloafing Behaviors	CB7	,871	29,976
	CB8	,867	
	CB9	,826	
	CB11	,626	
	CB12	,531	
Total			65,727

When we look at the rotated factor loadings of the cyberloafing scale, according to the two factor loadings obtained, important cyberloafing behaviors (1,2,3,4,5,6,10) are distributed as unimportant cyberloafing behaviors (7,8,9,11,12). The first factor explained 35,752% and the second factor explained 29,976%. The total variance is 65,727%.

Table 11. Ethical Leadership Scale Correlation Analysis Results

Scales		EL	CB
EL	Pearson C.	1	-,147[*]
	Sig. (2-tailed)		,020
	N	249	248
CB	Pearson C.	-,147[*]	1
	Sig. (2-tailed)	,020	
	N	248	248

Pearson Correlation Analysis was conducted to determine the relationship between ethical leadership and cyberloafing behaviors. It was found that there was an inverse (r=-,147) and significant (p<0.05) relationship between ethical leadership and cyberloafing behaviors.

Table 12. Regression Analysis Table for Ethical Leadership and Cyberloafing Behaviors

İndependent Variable	Dependent Variable	Adj.R^2	B	Std.Error	t	P	β	F
Ethical Ledadership	Cyberloafing Behaviors	,018	-,147	,056	-2,337	,020	-,132	5,463
	Important Cyberloafing Behaviors	,021	-,157	,068	-2,490	,013	-,169	6,201
	Unimportant Cyberloafing Behaviors	,004	-,89	,058	-1,395	,164	-,080	1,947

As a result of the simple linear regression analysis conducted to reveal the effect of ethical leadership on important cyberloafing behaviors, an inverse and significant relationship was observed between ethical leadership and important cyberloafing behaviors (R=-0.157), and ethical leadership was found to be an inverse and significant predictor of important cyberloafing behaviors (F= 6,201, p<0.05). Ethical leadership explains 16.9% of the change in important cyberloafing behaviors (p<0.05).

As a result of the simple linear regression analysis conducted to reveal the effect of ethical leadership on unimportant cyberloafing behaviors, an inverse and significant relationship was observed between ethical leadership and unimportant cyberloafing behaviors (R=-0.089), and ethical leadership was found to be an inverse and significant predictor of unimportant cyberloafing behaviors (F= 1.947, p<0.05). Ethical leadership explains 8% of the change in unimportant cyberloafing behaviors (p<0.05).

As a result of the simple linear regression analysis conducted to reveal the effect of ethical leadership on cyberloafing behaviors, an inverse and significant relationship was observed between ethical leadership and cyberloafing behaviors (R=-0,147), and ethical leadership was found to be an inverse and significant predictor of cyberloafing behaviors (F= 5,463, p<0.05). Ethical leadership explains 13.2% of the change in cyberloafing behaviors (p<0.05).

CONCLUSION AND SUGGESTIONS

The health sector plays a huge role in the well-being of all countries. It is seen that all countries in the world have an incredible need for the health sector. As in every sector, it is possible to say that there are some problems in the health sector. This study focuses on the perception of ethical leadership as a reason for these problems. Research shows that cyberloafing behaviors are at a lower level when people working in the health sector have a high perception of ethical leadership.

This study was conducted with 248 health personnel working in the health sector. The effect of ethical leadership on cyberloafing behaviors on the determined sample group was examined. In this study, which was conducted to determine the effect of ethical leadership behaviors on virtual shirking behaviors, "Ethical Leadership" scale consisting of 10 statements and "Virtual Shirking" scale consisting of 12 statements were used to determine ethical leadership behaviors. Five questions were also prepared to determine the socio-demographic characteristics of the participants. As a result of the reliability analysis for the scales, the Cronbach Alpha (α) reliability coefficient of the ethical leadership scale was found to be .941 and the Cronbach Alpha (α) reliability coefficient of the cyberloafing scale was found to be .901. According to the results, the scales were found to be highly reliable. In order to determine the relationships between the variables in the study, one main hypothesis and two sub-hypotheses were formed. In the study, ethical leadership was examined in one dimension, and cyberloafing behaviors were examined in two dimensions: important cyberloafing behaviors and unimportant cyberloafing behaviors.

Simple linear regression analyses were conducted to determine the effect between the variables. As a result of the simple linear regression analysis conducted to determine the effect between ethical leadership and cyberloafing behaviors, it was observed that there was an inverse and significant relationship between ethical leadership and cyberloafing behaviors (R= -,147 R2=,018). Ethical leadership was found to be an inverse and significant predictor of cyberloafing behaviors (F=5,463, p<0,05). It was seen that ethical leadership explained 13.2% of the change in cyberloafing behaviors. Each unit change in ethical leadership had an inverse effect on cyberloafing behaviors at the level of (β=-.147). With this result, the hypothesis "H1: Ethical leadership affects

cyberloafing behaviors" is accepted. It is seen that people who perform cyberloafing behaviors can shape these behaviors in the face of the ethical behaviors they see from their leaders. As a result of the simple linear regression analysis conducted to determine the effect between ethical leadership and important cyberloafing behaviors, it was observed that there was a significant relationship (R=,-157 R2=,021). It was found that ethical leadership is an inverse and significant predictor of important cyberloafing behaviors (F=6,201 p<0,05). It was seen that ethical leadership explained 0.16.9% of the change in important cyberloafing behaviors. Each unit change in ethical leadership had an inverse effect on positive cyberloafing behaviors at the level of (β=-.157). With this result, the hypothesis "H1a: Ethical leadership affects important cyberloafing behavior" is accepted. This result shows that people who perform important cyberloafing behaviors can shape these behaviors in the face of the ethical behaviors they see from their leaders. As a result of the simple linear regression analysis conducted to determine the effect between ethical leadership and unimportant cyberloafing behaviors, it was observed that there was a significant relationship (R= -,089 R2=,004). It was found that ethical leadership is an inverse and significant predictor of unimportant virtual shirking behaviors (F=1,947 p<0,05). It was seen that ethical leadership explained 8% of the change in unimportant cyberloafing behaviors. Each unit change in ethical leadership had an inverse effect on unimportant cyberloafing behaviors at the level of (β=-.089). With this result, "H1b: Ethical leadership affects unimportant cyberloafing behavior" hypothesis is not accepted. This result shows that the people who perform unimportant cyberloafing behaviors are not related to the ethical behaviors they have seen from their leaders. This result is consistent with the result of Erkutlu and Özdemir (2018) in their study.

As a result, the research consists of 1 main hypothesis and 2 sub-hypotheses in total. The main hypothesis was accepted. Among the sub-hypotheses, the hypothesis "H1a: Ethical leadership affects important cyberloafing behavior" was accepted, but the hypothesis "H1b: Ethical leadership affects unimportant cyberloafing behavior" hypothesis was not accepted. The analyzes statistically explain the determined research model.

Our suggestions for future studies are as follows:

- The study can be repeated in different sectors and with a larger sample size.
- It is recommended to conduct studies on the effects of variables such as organizational silence, job satisfaction, organizational socialization and organizational commitment, which are extremely important in

working life, on cyberloafing behaviors and their relationship with ethical leadership.

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CHAPTER 26

An Overview of Current Approaches and Issues in Negotiation Ethics

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Introduction

Negotiation ethics, an important concept that we encounter in many fields, from daily life to business, from law to diplomacy, directly and strongly affects not only the relations between individuals but also the relations between institutions, communities, and countries. This universal emphasis explains the importance of negotiation ethics not only in the local and social contexts but also at the global level. Today, individuals, organizations, and even states aim to ensure long-term sustainability and protect their reputation by integrating ethical principles, values, and principles in negotiation processes. In recent years, negotiation ethics, which has attracted the attention of the business world and corporate circles, has been frequently studied.

Defined as a communication and reconciliation process in which parties try to reach an agreement by sharing their interests, needs, ideas, or opinions, negotiation is a communication and solution method used in many different fields, from daily life to the business world and diplomacy (Khachaturova & Poimanova, 2015). In the negotiation process, the parties aim to meet at a common point by trying to understand each other's perspectives. It is essential to manage conflicts and reach a fair conclusion between the parties when different opinions and conflicts are common. Various strategies are used in professionally conducted negotiation processes. In negotiations in which competitive strategies are used, the parties try to protect their own interests, whereas in collaborative negotiations, the parties try to achieve win-win results (Neale-Bazerman, 1992). The negotiation process covers the process from pre-negotiation to the end of the negotiation. The parties work on the strategies they will follow in this process by determining their interests and goals during the preparation phase. In the next stage, negotiations are initiated, and the parties explain their positions. In negotiations, in which disagreements and discussions are common, different views are presented, and discussions on interests may occur. Communication skills and empathy are important at this stage. The parties make suggestions and proposals to overcome disagreements, and the negotiation process begins. At this stage, the parties agree on a common point or the process is closed without success.

The 1950s and 1960s saw the beginning of academic studies on negotiation in fields such as marketing and sales. In the 1970s, negotiation gained prominence in areas like international relations, law, and business management. Harvard Law School's "Negotiation and Conflict Resolution Program" played a significant role in advancing studies on negotiation. Today, negotiation is a growing discipline

studied in various fields to improve the effectiveness and ethics of negotiation processes (PON,2023.)

The globalization and complexity in the business world, ethical scandals, increasing social consciousness and concerns and the diversification and differentiation in the demands and expectations of internal and external customers have effectively brought ethical issues to the forefront in negotiations. Negotiation ethics enable individuals, organizations and societies to address the challenges they face from an ethical perspective and to manage negotiation processes in a fair, respectful and sustainable manner. Ensuring the satisfaction and fulfillment of all parties underpins longer-term and sustainable agreements. By promoting fair and balanced outcomes between the parties, negotiation ethics provides a broader perspective that includes not only legal and financial outcomes as well as social, cultural and environmental impacts.

1. Literature Review

Negotiation science, as a common field of discipline, seeks to scientifically and systematically analyze and understand the processes that people undertake to resolve or compromise their interests, needs, differing views and disagreements. Negotiation science draws together theories and methods from different disciplines to analyze negotiation processes and, as a result, provides a deep understanding of how to conduct more effective and efficient negotiations. The science of negotiation can be applied to business, politics, law, international relations, psychology, communication, and many other fields.

Experts in this field use a variety of approaches to understand negotiation processes, develop effective negotiation strategies, and resolve disputes ethically and fairly. By combining theoretical foundations with practical application, negotiation science aims to help people negotiate better and resolve disputes more ethically and fairly.

Negotiation ethics aims to manage negotiation processes in a fair, respectful, and ethical manner by addressing various issues. Negotiation ethics aims to advance negotiation processes beyond an approach that focuses only on tangible results. This is because negotiation processes involve not only financial gains but also relationships, cultural diversity, societal impacts, and long-term outcomes. Table 1 presents the issues addressed by negotiation ethics.

Table 1. Issues addressed by the science of negotiation

Subject	Description
1. Negotiation Strategies	Examines when and how different negotiation strategies should be used. Competitive and co-operative strategies, win-win and win-lose approaches are discussed.
2. Communication and Empathy	Communication skills and empathy are extremely important in negotiation processes. In this field, communication techniques and empathy development methods are discussed.
3. Balance of Power and Interests	Studies on the balance of power and the interests of the parties in negotiation processes are discussed. The extent to which strong and weak parties can negotiate effectively is examined.
4. Cultural and Environmental Factors	This study examines how negotiations between parties from different cultures are affected by cultural norms and values. The impact of environmental factors on the negotiation process is also discussed.
5. Methods of Dispute Resolution	Methods used to resolve disputes and alternative solutions, such as mediation and arbitration, are examined.
6. The Role of Ethics	Studies on how ethical behaviors and values should be observed in negotiation processes.

Source: Compiled by the author.

In corporate business life, effective negotiation skills are extremely important in resolving conflicts and disputes. Organizations and managers, who feel increasingly the impact of limited resource management and intense competition, expect all their employees, not only the management staff, to have effective negotiation skills. However, the fact that the negotiation process has a complex nature and requires the interaction of different disciplines requires the continuous development of negotiation skills. Therefore, different abilities, skills, attitudes, and behaviors are expected from an effective negotiator (Erkuş-Tabak, 2008). Negotiation, which is also described as a set of abilities and skills used in various fields, requires different characteristics, such as good communication, empathy, problem solving, and flexibility.

Protecting the trust relationship between the parties and resolving disputes ethically are also important parts of the negotiation process. In this context, the ethical dimension of the attitudes and behaviors exhibited by negotiators draws attention (French et al., 2002). The shocking ethical scandals and the great shock waves and collapses caused by these scandals have accelerated the importance of

ethical behavior and the efforts of organizations to approach ethics more professionally and thus to establish ethical principles and guidelines, and have led to an in-depth questioning of ethical behavior in negotiations in business life (Farrell et al., 2002). Understanding that ethical principles, values, principles, and attitudes and behaviors in this direction can have significant effects on the negotiation process and results has brought the concept of ethics in negotiations to the agenda as a subject in itself (Erkuş, 2009).

2. Method

This study employs a theoretical framework based on a comprehensive literature review and conceptual analysis. The methodology involves the systematic collection and examination of existing scholarly works on negotiation ethics, focusing on various approaches such as environmental sustainability, digital ethics, multiculturalism, and others. By synthesizing these diverse ethical dimensions, this study aims to identify how ethical principles can be applied in different negotiation contexts.

3. Negotiation Ethics

The concept of negotiation ethics describes the moral norms that should be followed in the processes of resolving disputes or co-operating with one another. Historically, behaviors based on negotiation ethics date back to very early periods of human history; however, the term is a more modern concept. The modern meaning and emphasis of negotiation ethics began to develop toward the middle of the 20th century. In areas such as business, politics, diplomacy, law, and international relations, there has been a growing need to resolve disputes between parties in a fair and ethical manner. During this period, more ideas, theories, and literature on negotiation ethics were developed. Since the 1980s, significant research has been conducted on negotiation ethics (Robinson et al., 2000; Lewicki-Obinson, 1998).

Negotiators are often faced with difficult situations in which they must question their value systems and ethical boundaries. Often believing that the other party has acted unfairly, negotiators may engage in unethical behavior without realizing that they may have acted in a way that may be seen as unethical by others (Pang & Wang, 2011). Given that the discussion of ethics in negotiations is becoming more prevalent, it is crucial for negotiators to be aware of the ethical dilemmas they face and understand how to respond to them. Negotiations do not only involve economic and commercial outcomes. They also involve social outcomes, including although often underestimated, instilling trust in the other party and improving relationships. Ethical attitudes and behavior are critical as

they are directly linked to the outcome of negotiations. Significant differences in negotiations arise from the ethical attitudes and behaviors adopted and displayed. Unethical behavior by the parties can lead to negative social consequences. For example, unethical behavior can cause problems among individuals in the business world, as well as negative public perceptions and image problems (Cramton-Dees, 1993).

Negotiation ethics is currently recognized as an important field at both academic and applied levels, and various rules, principles, and approaches have been developed to promote fair, ethical, and cooperative negotiation processes. Negotiation ethics are the moral and professional norms that should be followed in negotiations to resolve disputes or make decisions between parties. Negotiation ethics are based on values such as honesty, respect, fair behavior, transparency, and maintaining positive relations between the parties. In business, law, politics, international relations, and many other fields, ethical rules must be followed during negotiations. Negotiation ethics are important not only for resolving disputes but also for maintaining and strengthening long-term relationships. Establishing and maintaining trust between the parties is closely related to behavior in accordance with negotiation ethics.

It is known that individuals conducting the negotiation process, either individually or on behalf of their organizations, exhibit unethical behaviors such as conveying false information to the other party, making high and exaggerated offers or making promises that cannot be fulfilled (Lewicki, 1983). Many studies focusing on unethical behaviors in the negotiation process (Volkema et al., 2004; O'Connor-Carnevalle, 1997) have demonstrated that negotiators consciously or unconsciously use these behaviors as tactics to achieve successful outcomes.

Studies on negotiation ethics in Turkey are not at the required and desired levels. In the search conducted within the scope of the research, no thesis directly on negotiation ethics was found. A search of national databases revealed very few studies on negotiation ethics. The results are shown in Table 2.

Table 2. Academic Studies on Negotiation Ethics

Author	Year	Subject of the Study
Erkuş, A.	2009	Employees' perceptions of negotiation ethics
Aktaş, S.	2012	Negotiation (Discourse) Ethics
Özaralli, N.	2015	Overview of the Negotiation Process
Sığrı, Ü.	2018	Unethical Negotiation Tactics and Culture
Gündüzöz, G. & Gündüzöz, S.	2021	Islamic Negotiation Ethics

3.1. Ethical Theories and Approaches to Negotiation

Negotiation ethics is a subject that has been analyzed by different theories and approaches. These perspectives help to make sense of the ethical dimensions of negotiation processes and to conduct fairer, respectful, honest, and cooperative negotiations. Negotiation ethics has been affected by different philosophical thought currents and is shaped by the philosophical principles of these currents. Philosophical movements such as Deontology, Utilitarianism, Virtue Ethics, and Kantian Ethics, which effectively shape negotiation ethics, have shaped the basic principles of negotiation ethics and formed its philosophical background. By combining various aspects of these philosophical approaches, negotiation ethics aims to apply ethical values and moral behaviors to negotiation processes (Rosenberg, 2009). Different approaches to negotiation ethics emphasize various ethical values and principles by addressing negotiation ethics from different perspectives. The table below shows theories and approaches and their effects on negotiation ethics.

Table 3. The Effects of Ethical Theories and Approaches on Negotiation Ethics

| Theory/Approach	Description	Impact of Negotiation Ethics
- Utilitarianism	Utilitarianism holds that the most ethical behavior provides the greatest social benefit.	The ethical priority in negotiations is for the negotiating parties to reach an understanding that is in their mutual best interests.
-Deontological Ethics	The deontology emphasizes the nature and ethics of action.	In negotiation ethics, it is important to uphold basic ethical principles, such as honesty, fairness, and respect.
-Equity and Justice Approach	In negotiation ethics, it is essential to uphold basic ethical principles, such as integrity, fairness, and respect.	The ethics of negotiation emphasizes that all parties are equally taken into account and that fair outcomes are achieved.
-Virtue Ethics	The virtues highlighted in virtue ethics form the basis of ethical conduct in negotiation processes.	Virtues such as empathy, honesty, and courage are important in negotiation ethics.
-Humanitarian Principle Approach	This approach emphasizes the priority of protecting human rights, dignity and respect between the parties.	Observing human rights is also important in negotiation ethics.
Islamic Ethics	Values such as justice, honesty, and benevolence are important.	Islamic ethics shape negotiation ethics in line with Islamic values and principles.
-Feminist Ethics	Feminist ethics emphasize gender equality and justice.	In negotiation ethics, it is important to be sensitive to gender roles and ensure equality.
-Social Contract	Theories According to these theories, individuals come together under a social contract and determine their ethical behavior according to this contract.	In negotiation ethics, it is important to be loyal to contracts between parties.

Source: Lewicki & Wiethoff (2000).

Negotiation ethics has emerged as a field that is continuously evolving and expanding, with contributions from experts across different disciplines and perspectives. Academic studies on negotiation ethics have been conducted in various fields, such as business, law, psychology, communication, and international relations. Each of these fields approaches negotiation ethics from a unique perspective and requirements. These studies aim to understand the ethical aspects of negotiation processes, develop strategies for resolving disputes, and contribute to maintaining positive relationships between parties.

In the business world, conflict resolution, collaboration, and negotiation processes are crucial. In the field of business and management, negotiating in a fair and ethical manner is critical to maintaining sustainable business relationships. However, in the legal field, negotiation ethics aims to provide fair and ethical conduct during conflict resolution and reconciliation processes. It is essential to preserve ethical values in legal negotiations. Negotiation ethics are also of great importance in international relations and diplomacy; ethical and fair behavior in negotiations between countries plays an important role in resolving conflicts and ensuring peace. In political debates, an ethical approach to the formulation and implementation of public policy aims to protect public trust and the interests of the public. Key elements of an ethical negotiation process include good communication skills, empathy and open dialogue. Therefore, communication plays a fundamental role in negotiation ethics. Human behavior, psychological factors, and emotional intelligence during negotiation processes are considered from the perspective of negotiation ethics.

Finally, in the context of environmental ethics, sustainability, and environmental factors, an ethical negotiation approach is effective in prioritizing concerns about the environment and the interests of future generations. Negotiation ethics aims to determine the ways in which individuals behave fairly, respectfully, and ethically in the processes of resolving disputes and cooperating in many areas. Experts and researchers from different disciplines enrich negotiation ethics with the knowledge, theories, and practices produced in their respective fields. Figure 1 shows the areas in which academic studies in negotiation ethics are concentrated.

Figure 1. Topics Concentrated on Academic Studies on Negotiation Ethics
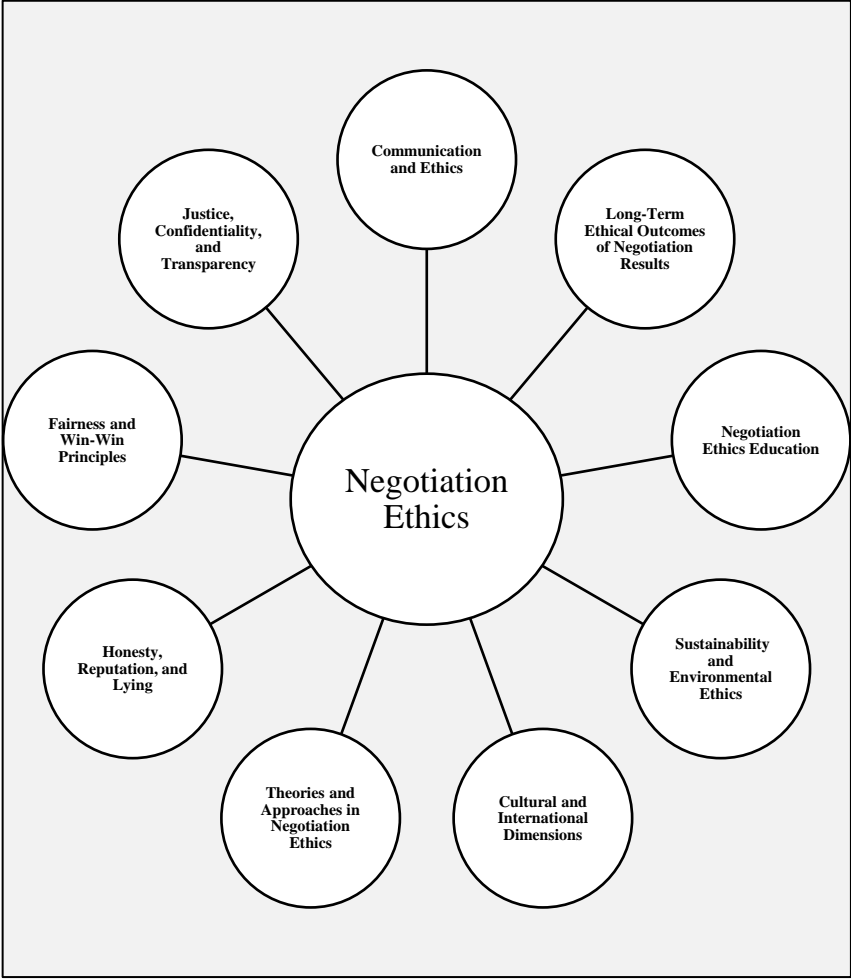
The effects of globalization on business life, the removal of borders and restrictions, the increase in relationships between organizations, and the establishment of new networks have laid the groundwork for addressing the issue of negotiation ethics, particularly in the cultural context and in various other fields (Rivers-Lytle, 2007; Lewicki et al., 2001; Adler, 1991).

3.2. Negotiation Ethics Courses and Curricula:

Many universities now include negotiation ethics or similar topics in their curricula. The primary aim of these courses is to equip participants with the ability to negotiate in a manner consistent with ethical values. In fields such as

business, law, communication, and international relations, there are courses on negotiation ethics or related topics (Curhan-Elfenbein, 2010; Lewicki, 2001; Salacuse, 1998). Below is a list of content covered in negotiation ethics courses offered at the higher education level:

- Basic principles and methods of negotiation processes

- The role of ethical values and norms in negotiation processes

- Communication and empathy skills

- Competitive and collaborative negotiation strategies

- Dispute resolution and compromise techniques

- The impact of cultural differences in negotiation

- Difficult negotiations and crisis management

- Characteristics of international negotiations

- Ethically appropriate negotiation strategies and behaviors

The content of a well-prepared negotiation training program includes essential skills and knowledge that will help participants manage negotiation processes more effectively. The duration and details of these training programs may vary depending on the target audience, sector, and objectives (Hensel et al., 2008; Raz-Mitchel, 2001; Yanow, 1999; Byram-Cox, 1992; Sebenius, 1984). An example negotiation training program is presented in Table 4.

Table 4. Negotiation Training Curriculum

Fundamentals and Definition Negotiation	Definition of negotiation
	Basic principles and importance of negotiation
	The types of negotiation
Preparation Before Negotiation	Goal setting
	Information gathering and analysis
Communication and Effective Communication Skills	Active listening and empathy
	Clear and effective communication strategies
	The role of communication in conflict resolution
Strategy Development	Understanding competitive and collaborative strategies
	Determining the negotiation style
	Flexibility and adaptability of strategy
Conflict Resolution and Compromise	Causes and types of conflicts
	Balancing interests and achieving win-win outcomes
	Compromise strategies and fair conflict resolution
Difficult Negotiations and Crisis Management	Negotiating with difficult people
	Recovering from deadlocked negotiations and crisis management
The Role of Ethics and Ethical Rules	Negotiation ethics and ethical values
	Promoting ethical behavior
Cultural Differences and International Negotiations	Negotiation approaches in different cultures
	Factors to consider in international negotiations
Negotiation Simulations and Practice	Role-playing based on real-life scenarios
	Practical application of negotiation skills and feedback
Post-Negotiation Evaluation and Learning	Evaluation of the agreement
	Review of the learning process and application to future negotiations

Source: Hensel et al., 2008; Raz-Mitchel, 2001; Yanow, 2000.

A negotiation ethics training program aims to guide participants in conducting effective and fair negotiation processes based on ethical values and principles. Some suggested topics for negotiation ethics training are presented in Table 5.

Table 5. Negotiation Ethics Training

Topic	Content
The Relationship Between Negotiation and Ethics	Introduction to the definition, scope, and role of ethical values in negotiation processes.
: ethical principles and values	Core values and ethical principles in negotiation ethics. Explanation of concepts such as honesty, fairness, empathy, respect, and trust, emphasized with examples.
- Steps in Negotiation Process and Ethical Approaches	Stages of the negotiation process and the necessity of ethical behavior. Ethical considerations during stages like opening, information sharing, offers, bargaining, settlement, and closing during negotiation processes.
- Effective Communication and Empathy	The role of effective communication and empathy in negotiation ethics. Development of communication skills like empathetic listening, questioning, open communication, and non-verbal cues.
- Conflict Management and Difficult Situations	Ethical management of disputes and conflicts. The importance of ethical behavior in challenging negotiations.
- Cultural Differences and Diversity	Effective negotiations between parties from different cultures. The impact of cultural differences in dispute resolution and cultural sensitivity.
- Power Balance and Fairness	Conduct fair and ethical negotiations between strong and weak parties. Achieving fair outcomes.
Sustainability and Environmental Ethics	Environmental impact of negotiations and sustainability. How environmental ethics can be considered in negotiation processes.
- Unethical Behavior and Its Consequences	What constitutes unethical behavior in negotiation ethics and its long-term consequences of such behavior.
: practical applications and scenarios	Practical applications and scenarios from real life that provide participants with opportunities to apply what they have learned.

- Training and evaluation outcomes	Summary of the skills and knowledge participants should acquire at the end of the training, assessment methods, and certification.

The negotiation ethics training content presented in Table 5 represents a standard and general training plan. The negotiation ethics training content should be customized according to the participants' needs, levels, and areas of application. Additionally, the training duration, program format, and practical elements used during the training process can improve the training efficiency.

4. Advanced Negotiation Ethics Approaches and Issues

Negotiation Ethics, as a discipline that is constantly evolving and fed by different fields, has seen new approaches and perspectives emerge over time (Shapiro, 2017; Kolb-Porter, 2015; Garcia, 2012; Kolb-Judith, 2003; Fisher-Patton, 1991). In the following, advanced approaches and issues in the field of Negotiation Ethics are explained based on the literature review of academic studies:

4.1. Values Subject Ethics Negotiation

This perspective emphasises that negotiations should not only be driven by financial gains, but also by ethical values. In negotiation, mutual understanding and respect for the values of the parties involved makes negotiation outcomes more sustainable. Values-based ethical negotiation takes into account not only material outcomes, but also the emotional, psychological and relational needs of the parties. The values-based ethical negotiation approach is effective in building lasting business relationships, creating strategic partnerships, and conducting executive training and leadership development programmes (Falcao, 2012). Values-based ethical negotiation helps to build trust between the parties and leads to more sustainable and lasting outcomes. The basic principle in this approach is to understand and respect the values and motivations of the parties, so that it can serve as the foundation for long-term co-operation.

4.2. Win-Win Approach

This approach seeks not only the benefits of the parties, but also the gains for society and stakeholders. In this approach, negotiation outcomes are optimised to best serve the interests of all parties involved. It focuses on reaching an agreement where both parties win, rather than only one party winning. The basic philosophy is to find a solution that satisfies both parties at the end of the negotiation process.

In this approach, the parties cooperate by focusing on common goals and interests. Acting in the same direction facilitates the process of finding a solution. The parties should empathise to understand each other's positions and needs (Fisher et al., 2008). In the Win-Win Approach, where effective communication is critical, the parties evaluate multiple solutions and alternatives from a broader perspective to achieve the best outcome. Recognised as the foundation of long-term business relationships, the Win-Win Approach is particularly effective in securing complex and long-term agreements as it strengthens not only the current agreement but also the possibility of future cooperation. In the Win-Win Approach, where flexibility is at the forefront, mutual trust, support, empathy and respect for each other's demands are critical in achieving a satisfactory outcome for both parties.

4.3. Power Distributions and Justice in Negotiations

The Power Distributions and Justice in Negotiations approach includes protecting the weaker party and achieving fair results to form the basis of an ethical negotiation process (Lewicki et al., 1985, 2021; Malhotra, 2016). This approach focuses on providing justice and equality in negotiation by identifying and eliminating inequalities resulting from power distributions. This approach emphasizes the following issues:

- Identifying the reasons why power distributions lead to injustices and eliminating these injustices.

- Ensuring equality and justice in negotiations.

- The strong party is expected to be sensitive to the needs and concerns of the weaker party.

- The strong party should avoid coercing or pressuring the weaker party, but this should be prevented by negotiating constructively.

- Clear and processed information sharing between the parties and the presentation of mutually convincing arguments help reduce the effects of power differences.

- Especially in negotiations with difficult differences, it is important to identify compromise points and common gains between the parties and encourage agreements on these issues.

This approach is very important in negotiations where there are power differences between the parties. In this case, the stronger party is expected to act

fairly and be sensitive to the needs of the weaker party. In this way, it contributes to achieving more sustainable and ethical negotiation results.

4.4. Environmental Continuity and Ethical Responsibility

The "Environmental Continuity and Ethical Responsibility" approach, which addresses frequently on-the- agenda issues such as environmental pollution, global warming, and climate change, plays an important role in negotiation processes. This approach focuses on producing environmentally friendly and long-term solutions between the parties and encourages consideration of the environmental impact and sustainability of negotiation results. This approach emphasizes that decisions should be made to protect the interests of the environment, future generations, and the parties during the negotiation process, and the environmental impact and sustainability of agreements come to the forefront. Therefore, this approach focuses particularly on environmentally sustainable projects, collaborations, and agreements. The adoption of environmental ethics and sustainability principles by the negotiating parties contributes to the achievement of more environmentally friendly and future-oriented agreements. (Kearins, 2011; McBride, 2010; Senge, 2008; Catton, 1994).

4.5. Digital Ethics and Technology

The rapid development of technology and the widespread use of digital platforms have created new areas of challenge in negotiation ethics. Therefore, ethical approaches should be developed in various areas such as data security, privacy, machine learning and artificial intelligence. The field "Digital Ethics and Technology" addresses the relationship between ethics and technology in negotiations on digital platforms. This approach addresses the ethical dimensions of negotiations conducted on digital platforms and takes into account the opportunities and challenges brought by technology, and primarily focuses on the following issues (Whiting-Pritchard, 2017; Himma & Tavani, 2008):

- Negotiation within the framework of ethical principles for communication between parties on digital platforms.

- Privacy and security of data shared between parties in digital negotiations.

- Elimination of technological skill differences and ensuring that all parties benefit equally from technological opportunities, elimination of technological inequalities.

- Ensuring the balance between ethics and technology in negotiations conducted on digital platforms, while emphasizing the necessity of benefiting from the opportunities offered by technology while protecting the rights and ethical values of the parties.

4.6. Multiculturalism and Cultural Ethics

Globalization has increased the complexity of negotiations between different cultures. Multiculturalism and cultural ethics examine how different cultural values affect conflict resolution processes and how cultural diversity can be managed. This approach focuses on ethical values and cultural differences between parties from different cultures. Cultural ethics is an approach that examines how ethical values and norms in negotiation processes are shaped by the cultural context of the parties (Vendemiati, 2008; Frederick, 2002; Jhingran, 2001; Donaldson, 1996). In order to understand cultural diversity, respect cultural differences, and achieve fair, ethical, and collaborative outcomes, the cultural ethics approach provides a framework based on ethical values for negotiation processes.

4.7. Virtual Negotiation and Electronic Communication Ethics

With the widespread use of digital communication tools, a large portion of negotiation processes also take place in online environments. With the increase in virtual negotiations, electronic communication ethics focuses on the ethical aspects of disputes that occur in online communication and the protection of ethical standards. This approach aims to understand the ethical dimensions of virtual negotiations and discuss the applicability of electronic communication ethics on digital platforms (Reamer et al., 2021; Rainey et al., 2021). This approach aims to protect ethical values and communication rules in negotiations that take place on digital platforms in order to ensure cooperation, respect and fair communication between the parties.

4.8. New Business Models and Work Styles

Especially freelancing, remote work, sharing economy and similar new business models create changes in the field of negotiation ethics. New business models and worksheet overcome traditional work bonds by evaluating new approaches such as digitalization, remote work, freelancing and sharing economy from the perspective of negotiation ethics (Menkel-Meadow et al., 2020; Martí, 2018). This field examines the ethical effects of new business models in negotiation processes and determines the necessary values.

4.9. Interaction with Changes in Technology and Business Models

Artificial intelligence, automation and similar innovations are causing new problems in the field of negotiation ethics. This subject, which examines the ethical and practical effects of rapidly advancing technological innovations and changing business models in the business world, addresses the effects of the digitalization process on traditional ways of doing business and the problems that arise in terms of negotiation ethics in this transformation (Sandler, 2013; Lucivero et al., 2011; Moor, 2005). This field analyzes the effects of technological developments and new business models on negotiation processes, ensures the protection of ethical values in negotiations and develops the necessary sensitivity.

4.10. Data Privacy and Ethics in Business

Data privacy, especially in commercial negotiations, involves the confidentiality, security and ethical aspects of shared and used data. Increasing digitalization and technological developments in the business world have presented new challenges for negotiators to share and use data securely. The "Data Privacy and Ethics" topic (Payton and Claypoole, 2016; Tene and Polonetsky, 2011) aims to understand, discuss and put into practice ethical principles regarding data privacy and security in negotiation processes. This topic focuses on understanding the responsibilities of the business world in terms of data security and privacy and how data should be managed within an ethical framework.

4.11. Negotiation Ethics in Music, Art and Performing Arts

In the art world, issues such as copyrights, the value of works and artists' rights have led to the emergence of negotiation ethics. The subject "Negotiation Ethics in Music, Art and Performing Arts" addresses the ethical dimensions of negotiation processes between artists, musicians, interior designers and arts managers (Passman, 2019; Wheeler, 2013). This subject addresses ethical issues in the art world and the management of relationships between artists, organizers and other interested parties.

The evaluation of artists' creative labor and the protection of their rights are ethical issues in music, art and performing arts. Issues such as compensation, copyright and the use of works are addressed in the context of negotiation ethics. The exhibition, presentation and commercialization of works of art also require ethical approaches. Disputes between artists and gallery owners and the presentation of works of art also involve negotiation processes and therefore

negotiation ethics. Activities such as contracts between performing artists and organizers, stage performances and event organization also fall within the scope of ethics. There are also ethical dimensions of the issues negotiated between art education institutions, students and teachers. This includes student assessment methods, educational standards and ethical behavior.

The approaches described in this section reflect how negotiation ethics is applied and how different dimensions and contexts are considered in negotiation ethics. Negotiation ethics continues to develop as a field that adapts to social and technological changes.

5. Conclusion and Recommendations

Negotiation ethics require all participants to act with moral sensitivity. At the center of ethics are honesty, justice, and respect. Ethical issues can arise when different interests and values clash. The complexity of finding balance and ensuring harmony between the parties is an important problem that requires attention. Achieving harmony requires not only moving away from a win-lose logic, but also focusing on permanent and sustainable solutions. Negotiation processes are based on effective communication and empathy. Good communication helps the parties understand each other's needs and use their emotional intelligence. Effective communication and empathy will help achieve better negotiations outcomes.

Negotiation ethics emphasizes the importance of compromise and win-win situations. Seeking solutions where the needs and expectations of all parties can be met is not only about short-term solutions but also about laying the foundation for long-term relationships. Negotiation ethics is a process that shapes the present while shaping the future. It would be appropriate and wise to focus on the role of negotiation ethics in contributing to the construction of a more just and ethical future at the corporate and individual levels.

The following recommendations can be provided to institutions, organizations, and decision makers for the development of negotiation ethics:

− Educational and awareness-raising activities on negotiation ethics should be conducted for different levels and social segments. Individuals should be made aware of negotiation ethics through training programs, seminars, workshops, and informative materials.

− Negotiation ethics can be planned as a subject, learning outcome, and separate course, especially in faculties and departments of social and human sciences, such as business, law, and international relations.

- Informative studies on negotiation and negotiation ethics should be conducted with children and young people, starting from primary school.

- Determining the fundamental values, principles, and ethical principles of countries, societies, and institutional structures and sharing them clearly will contribute to making negotiation processes healthier, more transparent, and more predictable. These values and principles guide the negotiation processes and support the participants to exhibit correct behaviors.

- Transparent management and disclosure of negotiation processes and decisions will help establish trust between the parties. Transparency and accountability are prerequisites for the public and stakeholders to be properly informed about the negotiation processes.

- Institutions, organizations, and individuals should seek professional negotiation ethics guidance from experienced consultants and mentors.

- Different sectors, collaborations, cooperatives, organizations, and institutions should develop special ethical codes and standards for negotiation processes.

- Good and successful examples of negotiation ethics should be encouraged, and exemplary guidelines, manuals and templates should be provided to the parties who will experience these processes.

- In cases in which progress in negotiation ethics is difficult, official regulations or sanctions may be applied.

- Civil society organizations and the media should keep the issue of negotiation ethics on the agenda and contribute to the awareness of the society on this issue.

- Top management should commit to negotiation ethics in the context of ethical leadership and take a pioneering role in making ethical values a part of corporate culture.

- Negotiation ethics involves not only instant decisions and reactive behaviors. Long-term thinking is also important in negotiation ethics. Sustainable-oriented decisions, an ethical corporate culture, and long-term success are vital.

In conclusion, negotiation ethics is not just a method or tool; it is an approach that brings ethical values to the forefront. This study focused on the current state of negotiation ethics, how it can be applied in various contexts, and how it can be used to improve results. It is recommended that in future studies, the negotiation ethics approach should be addressed in more depth, and the methods of application in different environments should be emphasized.

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CHAPTER 27

An Overview of Consumer Expectancy Theory

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INTRODUCTION

Based on the concept that individuals make purchasing decisions based on their expectations and the perceived likelihood of achieving desired outcomes; consumer expectancy theory plays a crucial role in understanding the psychology behind consumer decision-making (Zeithaml, 1988; Kahneman, 2011). This theory blends elements of psychology, marketing, and behavioral economics, and provides insights into how businesses can influence consumer choices by aligning their marketing strategies with consumer expectations (Oliver, 1980).

In essence, consumer expectancy theory highlights the interplay between what consumers anticipate and how these anticipations shape their behavior (Fishbein and Ajzen, 1975). The theory emphasizes that consumer decisions are not made in a vacuum; instead, they are influenced by prior experiences, social and cultural contexts, and the marketing messages they encounter. These expectations determine whether a consumer perceives a product or service as valuable, trustworthy, or capable of fulfilling their needs.

In today's fast-paced, dynamic and ever-evolving markets, understanding consumer expectancy theory is more important than ever. Companies operate in a competitive environment where consumer preferences are constantly evolving. Rapid technological advancements, the abundance of choices available to consumers, and the influence of digital media have all amplified the complexity of consumer behavior. As consumers become more informed and discerning, they develop higher expectations for quality, convenience, and value. Meeting these expectations is a prerequisite for building customer loyalty and gaining competitive advantages.

By delving deep into expectancy theory, businesses can not only forecast consumer behavior but also design strategies that effectively influence purchasing decisions, ultimately leading to increased customer satisfaction and brand loyalty. Consumer expectancy theory equips marketers with the tools to predict how consumers might respond to different stimuli, enabling them to create tailored experiences that resonate with their target audience (Pine and Gilmore, 1999). For instance, by understanding the expectations consumers have about a product's functionality or a service's reliability, marketers can craft messages and campaigns that directly address these anticipations, fostering trust and engagement.

This article explores consumer expectancy theory in depth, examining its origins, core principles, applications, and implications for modern marketing strategies. By integrating real-world case studies and addressing the challenges

and criticisms of the theory, we aim to provide a comprehensive understanding of how businesses can leverage it to optimize their practices and enhance consumer experiences.

ORIGINS OF CONSUMER EXPECTANCY THEORY

Expectancy theory was first introduced by Victor Vroom in the context of workplace motivation. Vroom (1964)'s expectancy theory posits that individuals are motivated to act in certain ways based on the expectation that their efforts will lead to desirable outcomes. Basically, this comprehensive theory aims to organize and integrate existing knowledge in the field of vocational psychology and motivation. Furthermore, Vroom (1964)'s theory has revealed implications for the explanation of the motivational factors of individuals to various situations as well as for the explanation of the employee's motivational factors to their works (Lee, 2007). According to Robbins (1983), despite its critics, the expectancy theory of Vroom (1964) has generally developed results indicating that it is currently the clearest and most accurate explanation of individual motivation. Over time, this concept has been adapted to various fields, especially including marketing and consumer behavior. In theories related to marketing and consumer behavior, expectancy theory is referred to explain how consumers form expectations and how these expectations influence their purchasing decisions.

The foundations of expectancy theory in the consumer context can be traced to its psychological roots, emphasizing that decision-making is not arbitrary but rather a calculated process. Vroom (1964)'s model proposed three key components as (*i*) *expectancy*, (*ii*) *instrumentality*, and (*iii*) *valence*. These three components have since been repurposed to explore how consumers evaluate their choices. Expectancy theory assumes that consumers approach decisions with a goal-oriented mindset, weighing the probability of success against the perceived value of the outcome. A brief explanation regarding the mentioned three components can be given as below (Turcan, 2010; Osafa et al., 2021):

Expectancy: Expectancy reflects a consumer's belief that exerting efforts, such as researching a product or comparing brands, will lead to a desired outcome. For example, a consumer might believe that purchasing an eco-friendly product contributes meaningfully to environmental preservation.

Instrumentality: Instrumentality refers to the connection between an action and its outcome. Consumers evaluate whether the outcome they desire will actually materialize as promised. For instance, if a skincare brand claims its product will reduce wrinkles, consumers assess whether such claims align with reviews or scientific evidence.

Valence: Briefly, valence can be described as the value an individual places on rewards. It captures the subjective value consumers assign to a specific reward or benefit, and varies widely among individuals based on their preferences, priorities, and personal experiences. A health-conscious consumer may place higher valence on organic ingredients compared to cost savings.

As a theoretical formula, motivation can be calculated by multiplying the three components of Vroom (1964)'s theory (Osafa et al., 2021):

$$Motivation = Expectancy \times Instrumentality \times Valence$$

The adoption of expectancy theory in consumer behavior research marked a shift toward understanding decision-making as a multifaceted process that involves cognitive, emotional, and social dimensions. This adoption established the premise that satisfaction, trust, and loyalty are contingent upon the alignment of expectations with actual experiences.

Further contributions to the theory's foundations include the works of Fishbein and Ajzen (1975), and Oliver (1980). Fishbein and Ajzen (1975)'s paper on attitudes and behaviors highlighted the role of belief systems in shaping consumer expectations. Similarly, Oliver (1980)'s model of satisfaction decisions emphasized that consumers constantly compare expected outcomes to their actual experiences. These foundational studies laid the groundwork for integrating expectancy theory into marketing strategies, enabling businesses to predict and influence consumer behavior more effectively.

The cross-pollination of expectancy theory with other theoretical frameworks has also enriched its application. Concepts such as cognitive dissonance of Festinger (1957), and the prospect theory of Kahneman and Tversky (1979) complement expectancy theory by delving into how consumers perceive potential losses and gains or experience discomfort from unmet expectations. Together, these insights offer a holistic understanding of consumer decision-making.

Additionally, advancements in neuroscience have begun to shed light on how brain mechanisms influence expectations and decisions. Neuroimaging studies reveal that areas of the brain associated with reward processing are activated when consumers anticipate desirable outcomes, reinforcing the importance of expectancy in shaping behavior (Plassmann et al., 2012). This intersection of neuroscience and consumer psychology opens new avenues for applying expectancy theory in understanding and predicting purchasing patterns.

PRINCIPLES OF CONSUMER EXPECTANCY THEORY

Consumer expectancy theory operates on several key principles that shape decision-making processes. These principles given below provide a framework for understanding how expectations are formed and how they drive consumer behavior (Zeithaml, 1988; Schmitt, 1999; Kahneman, 2011):

Perceived Probability of Success: Consumers evaluate the likelihood of achieving the desired outcome based on their prior experiences, knowledge, and available information (Cooper et al., 1988). A high probability of success increases the likelihood of purchase. When consumers perceive the odds of achieving satisfaction as high, they are more willing to invest time, money, and effort into their decision. For example, a customer buying a high-end appliance evaluates prior user reviews and brand reputation to ensure reliability, increasing their confidence in the purchase.

Cognitive Effort and Mental Shortcuts: Decision-making involves cognitive effort, as consumers analyze various options and weigh potential benefits and costs. However, humans often rely on heuristics or mental shortcuts to simplify this process. For instance, a consumer might choose a familiar brand because past experiences with it were positive, reducing the mental load of decision-making. Businesses can leverage this by fostering familiarity and trust through consistent branding and quality.

Emotional Influence: While expectancy theory emphasizes rational decision-making, emotions play an equally critical role. Positive emotions, such as excitement, anticipation, or joy, enhance the perceived value of a product or service. Conversely, fear or doubt may deter purchases. For example, luxury brands evoke feelings of exclusivity and pride, which can heavily influence consumer choices beyond rational cost-benefit analyses.

Feedback Loops and Adaptive Expectations: Consumer experiences and feedback significantly influence future expectations. Positive experiences reinforce existing expectations and loyalty, while negative experiences can cause consumers to adjust their expectations downward or even switch brands (Schmitt, 1999). For example, prompt resolution of customer service issues can transform a negative situation into a positive reinforcement, restoring faith in the brand.

Social and Cultural Context: Expectations are deeply embedded in cultural and social norms. Peer recommendations, societal trends, and cultural values all shape consumer behavior (Thaler and Sunstein, 2008). For example, sustainability-focused consumers may prefer brands that align with their

environmental values. Social proof, such as testimonials or influencer endorsements, also amplifies perceived reliability and desirability.

Personalization and Relevance: Today's consumers expect businesses to cater to their individual needs and preferences. Personalization enabled by data analytics and artificial intelligence (AI) has become a cornerstone of modern marketing. Custom-tailored experiences, such as Netflix's recommendation algorithm or personalized email campaigns, align directly with consumer expectations, creating higher satisfaction levels.

Temporal Dynamics: Expectations are not static; they evolve over time based on new information, trends, and experiences. Businesses need to stay agile in anticipating and meeting these dynamic expectations. For example, during the COVID-19 pandemic, consumer priorities shifted toward safety and convenience, prompting brands to adapt their offerings and communication strategies accordingly (Karakas and Fidancan, 2022).

Trade-Offs and Opportunity Costs: Consumers are aware of trade-offs in decision-making, balancing costs, benefits, and opportunity costs. They weigh their options by considering not only what they gain but also what they forgo by choosing one alternative over another (Ajzen, 1991). Effective marketing strategies highlight how a product minimizes these trade-offs, emphasizing its superior benefits compared to competitors.

By understanding and applying these principles, businesses can craft marketing strategies that resonate with their target audience and foster long-term loyalty.

CONSUMER EXPECTANCY THEORY & MARKETING

Understanding consumer expectancy theory enables businesses to design strategies that align with consumer expectations. It is possible to summarize some practical applications of the consumer expectancy theory in marketing as below:

Personalization and Customization: Consumers expect tailored experiences that cater to their individual needs and preferences. By leveraging data analytics and artificial intelligence, businesses can create personalized marketing campaigns that resonate with their target audience. Personalization enhances perceived value, strengthens emotional connections, and fosters long-term brand loyalty (Darshana, 2016; Siyal et al., 2024). For instance, Spotify's algorithm creates playlists based on a user's listening history, delivering a highly personalized experience.

Clear Communication: Effective communication is critical for setting and managing expectations. Businesses must provide clear and accurate information about their products and services to build trust and credibility. Transparency in pricing, product descriptions, and policies ensures that consumers feel informed, reducing the likelihood of dissatisfaction.

Value Proposition: Highlighting the unique value proposition of a product or service can enhance its perceived value. Marketers should focus on showcasing the benefits and outcomes that consumers can expect (Kotler and Keller, 2016). For instance, Tesla emphasizes its vehicles' environmental impact, advanced technology, and long-term cost savings, which align with consumers' expectations for innovation and sustainability.

Pricing Strategies: Consumers often evaluate products based on price expectations (Ali and Anwar, 2021). Offering competitive pricing, discounts, or perceived value-for-money deals can influence purchasing decisions (Schindler, 2012). Dynamic pricing strategies, such as those used by airlines and e-commerce platforms, align with consumer perceptions of fairness and value.

Customer Experience: Ensuring a seamless and satisfying customer experience reinforces positive expectations. This includes aspects such as user-friendly interfaces, prompt customer support, and hassle-free returns. Amazon's one-click purchasing and efficient return process exemplify how meeting and exceeding consumer expectations can lead to loyalty.

Brand Positioning: Strong branding and consistent messaging help shape consumer expectations. A well-positioned brand can influence perceptions and foster loyalty (Varela et al., 2010). Apple's minimalist design and consistent messaging about innovation and quality set clear expectations, which the company consistently meets.

Anticipating Trends: Businesses can use predictive analytics to anticipate consumer expectations and align their offerings with emerging trends. This proactive approach helps stay ahead in competitive markets.

Leveraging Feedback Mechanisms: Feedback loops allow businesses to refine their strategies based on consumer input (Rosario, 2024). Real-time surveys, product reviews, and social media monitoring provide insights into consumer expectations and areas for improvement. For example, Netflix uses viewer feedback to refine its content library and recommendation algorithm.

Omnichannel Integration: Seamless integration across multiple channels ensures that consumer expectations are consistently met. Whether shopping

online, in-store, or via mobile, a cohesive experience reinforces trust and satisfaction. Brands like Starbucks have perfected omnichannel strategies with features like mobile ordering, in-store pickup, and loyalty rewards.

Emotional Branding: Building emotional connections with consumers enhances their expectations and loyalty. Brands that align their messaging with consumers' values and aspirations create a sense of belonging (Kim and Sullivan, 2019). For example, Nike's campaigns often emphasize personal achievement and social issues, resonating deeply with its audience.

Gamification: Integrating gamification elements into marketing strategies can meet consumer expectations for engagement and entertainment. For instance, fitness apps like Fitbit use challenges and rewards to motivate users, aligning with their health goals and enhancing satisfaction.

Corporate Social Responsibility (CSR): Modern consumers increasingly expect brands to take ethical stances on social and environmental issues. CSR initiatives demonstrate a brand's alignment with consumer values, strengthening trust and loyalty. Companies like Patagonia highlight their commitment to sustainability, exceeding consumer expectations for ethical practices.

By strategically applying these principles, businesses can harness the power of consumer expectancy theory to create impactful marketing strategies that resonate deeply with their audience.

CLASIFICATION OF EXPECTATIONS

Expectations are formed through a combination of cognitive, emotional, and social inputs. These include personal experience, social influence, marketing communications, and cultural context.

Previous interactions with a brand or similar products play a significant role in shaping expectations. A positive past personal experience fosters trust, while negative encounters can diminish future expectations. For instance, a consumer who enjoyed the features of a specific smartphone brand is more likely to anticipate the same quality in future models (Oliver, 1980). Expectations are heavily influenced by social interactions, such as word-of-mouth recommendations, online reviews, and social media discussions. Previous research on the subject shows that peer reviews have a more substantial impact on consumer expectations than advertisements (Zeithaml et al., 1990). Marketing communications such as advertising, promotional strategies, and branding efforts craft consumer perceptions. Overpromising in advertisements can lead to inflated expectations, while consistent and authentic messaging helps set realistic

benchmarks. Cultural norms, societal values, and regional traditions also shape what consumers expect from products and services. For instance, customers in collectivist cultures may prioritize communal benefits over individual utility, altering their expectation framework.

Expectations formed through a combination of cognitive, emotional, and social inputs as mentioned above can be classified into several types. These are summarized as:

Predictive Expectations: These are derived from a consumer's understanding of what is likely to happen based on current knowledge. The predictive expectations are considered to be the level of service a consumer really expects to receive in a given situation (Golder et al., 2012). For instance, a customer ordering food delivery expects it to arrive within the stated time frame based on the app's promise.

Ideal Expectations: These are aspirational and represent the most favorable outcome a consumer envisions. Miller (1977) defines ideal expectation as the level desired about a service performance. In this line, Zeithaml et al. (1993) define the concept as the consumers' desires about the provision of a service. Tsai et al. (2011) consider that these expectations are the beliefs about the provision of services that constitute references or ideal points in the evaluation of the effectiveness or performance of the company. For instance, a buyer of luxury cars may expect not just functionality but also prestige and exclusivity.

Normative Expectations:

The term normative expectations originate from one of Prakash and Lounsbury (1984)'s expectations categories. It is thought of as what the consumer should receive to be completely satisfied (Zeithaml et al.,1993). Consumers develop these expectations based on what they believe should happen in a given scenario. If a restaurant advertises itself as fine dining, customers will expect high-quality service and ambiance. Normative expectations can therefore be said to refer to an ideal point based on values and norms about how things "should" be. The idea behind normative expectations is generally that citizens evaluate whether the performance fulfills their needs, wants, and desires.

Minimum Acceptable Expectations: These represent the baseline level of performance a consumer is willing to accept. For instance, airline passengers may tolerate slight delays but not poor safety measures.

There also exist some psychological processes in the formation of expectations involving several cognitive and emotional mechanisms. In the 1st

stage called *anchoring and adjustment*, consumers often anchor their expectations on initial impressions or information and adjust these as new details emerge (Kahneman and Tversky 1979). Following in the *selective perception* stage, expectations influence how consumers perceive information. According to Oliver (1980), positive expectations can amplify favorable experiences, while negative ones can lead to heightened dissatisfaction. Finally, consumers tend to seek information that confirms their expectations, reinforcing their initial perceptions in the *conformation bias* stage (Zeithaml et al., 1990).

EXPECTANCY THEORY & ITS INFLUENCES ON CONSUMER BEHAVIOR

Influence on Purchase Decisions

Expectancy theory profoundly impacts every phase of the consumer decision-making process, shaping behaviors and preferences.

In the pre-purchase phase, the influences are observed due to (*i*) *information search*, (*ii*) *brand evaluation* and (*iii*) *risk perception*. Consumers actively seek data to compare alternatives, relying on reviews, word-of-mouth, and advertisements. High expectations can motivate thorough research to ensure a product's compatibility with anticipated needs (Oliver, 1980).

Besides, consumers evaluate brands based on their past experiences and perceived credibility. For instance, in a study by Zeithaml et al. (1990), brand familiarity is found to have significant influences on predictive expectations. Risk expectations also play a very critical role in risk assessment. Consumers with high expectations are more likely to choose brands with established reputations to minimize perceived risks.

In the purchase phase, the *(i) point of sale experience* and *(ii) motional engagement* are crucial matters. Expectations influence the consumer's in-store or online purchase experience. Elements like ease of navigation, visual appeal, and customer assistance can either reinforce or challenge pre-existing expectations. During the emotional engagement phase, the emotional congruence with expectations becomes critical. For instance, luxury goods often create aspirational imagery that enhances the purchase experience.

Finally, in the post-purchase phase; *(i) reflection and evaluation*, *(ii) word-of-mouth advocacy* and *(iii) repeat purchases* are among the key issues. Post-purchase evaluations determine satisfaction levels based on the congruence between expected and actual performance. As per the expectancy-disconfirmation model (Oliver, 1980), exceeding expectations fosters loyalty,

while unmet expectations lead to dissatisfaction. Satisfied customers often share positive experiences, further shaping the expectations of potential buyers. Conversely, dissatisfied consumers can amplify negative experiences, impacting brand perception. High satisfaction derived from met or exceeded expectations often translates into long-term brand loyalty. Empirical studies reveal that 70% of repeat purchases are influenced by prior positive disconfirmation (Zeithaml et al., 1990).

Customer Satisfaction and Loyalty

The expectancy-disconfirmation model posits that satisfaction arises when actual performance meets or exceeds expectations (Lee et al., 2022). Conversely, unmet expectations lead to dissatisfaction, influencing future purchase intentions and brand loyalty.

Businesses may use consumer expectancy theory in their favor by setting realistic expectations. Overpromising in advertising can lead to heightened expectations that are difficult to fulfill, resulting in negative disconfirmation. A focus on transparency and authenticity ensures realistic benchmarks. For instance, Zara employs fast fashion cycles to set realistic expectations for affordability and trends. Besides, businesses may refer to the theory to enhance perceived value and to manage post-purchase communication. Marketers highlight unique selling propositions to amplify valence, ensuring that products are perceived as valuable relative to their cost. Tesla emphasizes cutting-edge innovation and sustainability to align with consumer ideals. Effective follow-ups, feedback mechanisms, and customer service reinforce positive disconfirmation, fostering trust and loyalty. Amazon's seamless return policy ensures a hassle-free post-purchase experience.

BRIEF CASE STUDIES & EMPIRICAL INSIGHTS

Case Study 1: Apple Inc.

Apple exemplifies the effective application of expectancy theory by *creating high expectations*, *meeting or exceeding expectations* and *managing disconfirmation*. Through innovative product launches and premium branding, Apple sets high benchmarks for quality and innovation. Apple consistently delivers superior functionality, seamless user interfaces, and cutting-edge technology, reinforcing its premium brand image. A study by Fornell et al. (2020) indicates Apple's customer satisfaction index is consistently among the highest in the tech industry. Apple proactively addresses customer concerns through robust after-sales support and regular updates. For example, the resolution of

battery-related performance issues helped maintain brand loyalty despite initial negative disconfirmation.

Case Study 2: Amazon

Simira to Apple Inc., Amazon's success hinges on its ability to *predict consumer needs*, *deliver on expectations* and *exceed expectations*. Using advanced analytics and machine learning, Amazon personalizes shopping experiences, aligning with individual consumer preferences. Amazon's commitment to fast delivery, vast product selections, and competitive pricing establishes a strong baseline of reliability. Studies show that 82% of Prime members report high satisfaction with delivery speed (Statista, 2022). Amazon exceeds expectations through features like Alexa integration, "Amazon Day" delivery options, and personalized product recommendations. These innovations consistently boost customer retention and positive word-of-mouth advocacy.

CRITIQUES OF EXPECTANCY THEORY

One of the primary critiques of expectancy theory is its overemphasis on rational decision-making processes. The theory assumes that consumers act logically, evaluating options based on clear and deliberate expectations. However, research in behavioral economics and psychology has revealed that consumer behavior is often influenced by emotions, heuristics, and cognitive biases (Ariely, 2008). For instance, impulse purchases or decisions made under emotional stress frequently deviate from the calculated pathways suggested by expectancy theory.

Expectancy theory often fails to account for cultural differences in consumer behavior. Expectations and their implications can vary significantly across cultural contexts. Hofstede (1981)'s cultural dimensions theory highlights how individualistic societies may prioritize personal gain and autonomy, whereas collectivist cultures emphasize group harmony and shared benefits. These cultural variances challenge the universal applicability of expectancy theory and require localized adaptations for global marketing strategies (Triandis, 1995).

Another critique is the theory's limited attention to subconscious factors affecting consumer behavior. Modern neuroscience has demonstrated that much of decision-making occurs below the level of conscious awareness (Kahneman, 2011). For instance, brand preferences can be shaped by subliminal advertising or long-term exposure to brand imagery, which are not easily captured within the expectancy framework.

Operationalizing and measuring key constructs like valence, instrumentality, and expectancy pose significant challenges. Subjective perceptions vary widely among individuals, and quantifying these constructs in empirical research often leads to inconsistent results. Researchers have called for more robust methodologies to enhance the validity and reliability of expectancy theory measurements (Vroom, 1964).

Expectancy theory struggles to account for rapidly changing consumer environments, such as technological disruptions or economic crises. In dynamic markets, consumer expectations can shift unpredictably, influenced by factors like social trends, viral marketing campaigns, or sudden changes in socio-political climates. These contexts demand more flexible and adaptive theoretical models (Kozinets, 2010).

Businesses leveraging expectancy theory to manipulate consumer behavior raise ethical concerns. For instance, creating artificially high expectations through deceptive advertising can lead to consumer dissatisfaction and erosion of trust. Regulatory bodies often scrutinize marketing practices that exploit consumer expectations unfairly.

Some empirical evidence criticizing the validity of consumer expectancy theory is also available. Kahneman and Tversky (1979)'s study on prospect theory demonstrate that consumers are more influenced by potential losses than equivalent gains, challenging the rational perspective of expectancy theory. Research by Markus and Kitayama (1991) posits significant differences in consumer motivations between Western and Eastern societies, emphasizing the need for cultural sensitivity in applying expectancy frameworks. Neuro-scientific research by Plassmann et al. (2008) reveals that brand perceptions can alter neural activity related to product valuation, underscoring the subconscious dimensions of consumer behavior.

FUTURE DIRECTIONS

Technology has increasingly become a fundamental determinant of consumer expectations. From influencing consumer behavior to reshaping workplace norms, technology's pervasive presence dictates not only what is possible but also what is anticipated. The rapid evolution of technology has consistently redefined the boundaries of human potential and some service industries such as retailing, banking, etc. (Demirgunes et al., 2024). While technological innovations have long served as tools to solve problems and increase efficiency, they have also played a crucial role in shaping consumer expectations. This

relationship is reciprocal; as technology evolves, expectations adjust, and these expectations, in turn, influence the trajectory of technological innovation.

The emergence of digital tools and technologies such as artificial intelligence and predictive analytics, dynamic feedback mechanisms, augmented reality (AR) and virtual reality VR) has redefined how businesses may favor of consumer expectancy theory.

AI enables businesses to analyze consumer data and predict expectations with unprecedented accuracy. Predictive algorithms assess past behavior, search history, and demographic factors to offer personalized recommendations. Netflix's recommendation engine uses AI to tailor viewing suggestions, exceeding user expectations for content discovery (Smith & Linden, 2017). Real-time feedback systems allow brands to monitor and adapt to changing consumer expectations. For instance, chatbots and instant customer surveys provide immediate insights, enabling businesses to address dissatisfaction before it escalates. AR and VR technologies enhance consumer experiences by bridging the gap between expectations and reality. Virtual try-ons for apparel or furniture give consumers confidence in their purchase decisions (Poushneh & Vasquez-Parraga, 2017).

Another dimension of future researches on the subject is about behavioral economics, as it has enriched expectancy theory by introducing concepts like heuristics, biases, and bounded rationality. Nowadays, consumers are more sensitive to potential losses than equivalent gains, shaping their expectations and risk assessments. Initial price points or promotions anchor consumer expectations, influencing their perception of value. Businesses use anchoring to frame discounts or premium pricing strategies. Besides, providing too many options can overwhelm consumers, leading to dissatisfaction. Expectancy theory now incorporates strategies to simplify decision-making, such as curated product recommendations (Iyengar & Lepper, 2000).

Modern consumers increasingly prioritize sustainability and ethical considerations, influencing their expectations of brands. Brands like Patagonia and Tesla align with consumer ideals of environmental responsibility, creating expectations around sustainability without compromising quality. Businesses that openly communicate their supply chain practices or ethical commitments build trust and loyalty. Aligning with societal values, such as diversity or charitable contributions, creates deeper emotional connections with consumers. Research shows that socially responsible brands often exceed expectations, fostering stronger advocacy (Kotler & Lee, 2005).

As markets globalize, expectancy theory must accommodate cultural differences in consumer behavior by localized marketing campaigns and cross-cultural researches. For instance, some brands like McDonald's adapt menus and messaging to local cultures, addressing unique expectations. Expanding research on how cultural dimensions such as collectivism and individualism shape consumer expectations enable businesses to tailor strategies more effectively (Hofstede, 1980).

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CHAPTER 28

An Evaluation on Digital Media and
Local Press in Ethical Context

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Introduction

Local press plays an important role in expressing the problems of the public and offering solutions to these problems. The function of the local press is not only limited to conveying the agenda, but also has great importance in terms of informing the public to solve various problems that directly affect the lives of the local people and pressuring local administrators to fulfill their responsibilities regarding these problems. Local news sites shed light on the economic, social and cultural problems experienced by the people by bringing many issues concerning the social life in the region to the agenda. In this way, awareness is created about the needs and demands of the local people and local administrations are ensured to take these problems into consideration.

Local press also has critical functions such as raising public awareness and providing education. For example, local press creates public awareness and encourages discussion of solution proposals by sharing developments in areas that directly affect the society such as education, health, infrastructure and transportation with the local people. In addition, the local press contributes to the establishment of transparency and accountability principles by criticizing the policies implemented by local governments. This encourages the local press to be an important monitoring tool and to encourage local governments to conduct more effective and public-oriented work.

Ethical violations on local news sites are generally more apparent due to the lack of monitoring mechanisms and inadequate journalism standards. In particular, the fast access opportunities provided by the internet can cause some news sites to compromise on accuracy and reliability and turn to click-oriented journalism. This situation not only leads to misleading readers, but also to the violation of society's right to access accurate information. In addition, distorted content on some local news sites can deepen social polarization, and instead of respectful discussion of different views and ideas, hate speech and hostility are spread.

In order to prevent such ethical violations, local news sites must strictly adhere to professional journalism standards and ethical rules. Editorial independence, transparency, accurate references to sources, and impartial presentation of news will be important elements that increase the reliability of the local press. In addition, increasing media literacy will improve the public's ability to distinguish true news from false news, which will increase the sense of responsibility of media outlets. Local news sites' reporting not only with commercial concerns but also with social and public interest in mind will play a critical role in preventing

ethical violations. The study primarily focuses on the role and functions of the local press in social life. The local press provides news that directly affects the daily lives of the public from the closest sources, provides the public with access to information, and creates an important platform for expressing the problems of the society. In this context, the power and importance of the local press is not limited to just presenting news, but also expands with the functions of directing social changes, raising public awareness, and monitoring local governments. The local press contributes to democratic processes by allowing the local public to make their voices heard, and facilitates the sharing of suggestions for solving social problems with the public. The role that the local press plays in shaping public opinion at the local level and in building a stronger culture of participation in society is important in many ways.

This study examines the relationship between ethical violations seen in local news sites and journalism in more detail. When local press outlets deviate from ethical standards in the process of producing content with commercial concerns, this often leads to misleading the reader and misrepresenting social problems. Presenting headlines, content, and advertisements as if they were news is not only misleading for the reader, but also fails to fulfill the basic function of journalism, which is to inform the public. Such ethical problems weaken the ties that the local press provides with the society and undermine the public's trust. The study aims to remind journalists of the ethical responsibilities of journalism by making recommendations to overcome these ethical problems that the local press faces.

Local Press: A Conceptual Framework

Local press is a type of press that is generally published in smaller settlements such as provinces, districts, and towns, and mostly shares developments in the region and news that concerns the public. These publications cover a wide range of topics, from problems encountered in daily life to cultural events, from developments in the local economy to information on municipal services. One of the most important functions of the local press is to ensure the formation of local public opinion. Local newspapers not only allow the public to follow developments in the region, but also to form opinions about these developments and to become aware of social events. The local press helps various segments of society to make their voices heard, and acts as a platform for voicing the concerns and demands of the local public. The local press establishes an effective control mechanism over local governments by reporting the needs of the society.

This process also brings with it a function that questions whether local governments fulfill their responsibilities and to what extent they respond to the

expectations of the public. The functions of the local press, such as informing the public in the region and conveying the demands of the public to local administrators, are of great importance in the functioning of democratic processes. At the same time, the local press has a great responsibility in terms of criticizing local governments, questioning whether policies are working correctly and suggesting alternative solutions when necessary (Yılmaz, 2010:136).

In the context of the relationship between the governing and the governed, the local press plays an important role in sharing public services with the public in an accurate, transparent and effective manner. The local press informs the public about the services provided by the local governments in the region and ensures that these services are announced correctly. It also functions as a channel that strengthens the relationship between local governments and the public. The local press facilitates the public's access to public services, informs citizens and makes the interaction of the governments with the public healthier. This allows public services to be shaped according to the needs of the public, while at the same time increasing social participation. In this respect, the local press helps the public to make their voices heard and the administrators to listen to these voices (Gezgin, 2007:177-178).

Another important function of the local press is to supervise local governments on behalf of the public. This supervision ensures that the administrators adhere to the principle of transparency and take the interests of the public into consideration. The local press monitors the actions of local governments, brings up wrong practices and acts as a control mechanism to protect the rights of the people. This control also plays a critical role in the process of forming public opinion. The local press ensures that the people have access to accurate information by reporting on social events and developments related to the administration. In this way, the public's awareness of the administration increases, and the decisions and practices of the administrators become more controllable. Thus, the local press contributes to the healthy functioning of democracy. The local press also plays an important role in building the cultural and social identity of the society. The educational function of the mainstream press gains a much deeper meaning in the local press through social identity. The local press not only provides information, but also keeps the cultural values, history and social structure of the region alive and spreads them. In this sense, the local press not only raises awareness in the society, but also enables the society to know itself and embrace its cultural values. The strengthening of the democratic culture at the national level at the local level is only possible if the local press fulfills this function correctly. The local press helps the democratic

processes to function healthily by encouraging the participation of the people. In order to accurately reflect the national will and increase the participation of the people in democratic processes, the local press should be a culture of democracy.

Digital Media and Local Press

With the rapid development of the internet, local newspapers have also entered the digital transformation process and have gained the opportunity to reach wider audiences through local news sites. This development increases the effectiveness of the local press and allows regional issues to reach a wider audience. Local newspapers can now go beyond the boundaries of traditional printed publications and attract the attention of more people with the news they publish on the internet and can announce important issues in the region to a wider audience. Digital journalism plays an important role in this transformation process of the local press. Thanks to the opportunities offered by the internet, local newspapers can leave behind the limitations of printed publications and exist on digital platforms in line with the rapidly changing world.

Today, technological developments in the field of communication and surrounding the whole world have led to a new formation in the field of media. The formation in question has led to new tools such as the internet, social networks, blogs and social media making their mark on our age as new media environments, and has also brought about significant social changes and transformations (Onar Çambay, 2015). Internet journalism is a type of journalism that is carried out in line with the basic principles and rules of traditional journalism, but with the innovative tools and technologies offered by the internet. Unlike traditional journalism, internet journalism carries out the production and distribution process of news in a digital environment and more quickly. The limited geographical and time pressures of traditional journalism are eliminated in the internet environment, and become accessible to wider audiences. Unlike printed newspapers, news published on digital platforms over the internet can instantly reach a wide audience, enable readers to share news quickly and help spread the local agenda rapidly (Etkeser, 2015:13). This digital transformation expands the area of influence of the local press, creating public opinion on regional issues and carrying discussions to a wider audience.

The internet is a daily life practice and has an active role in many issues from the individual's social relations to consumption habits, health attitudes and cultural activities, and the need for internet technology is increasing day by day (Ertürk, 2022). Technologically based changes in the field of communication have also begun to change and transform the journalism practices produced

through traditional media. In parallel with the development and spread of new communication technologies, digital media environments can offer independent and alternative perspectives to today's problematic news production approach. Alternative journalism types that can be applied in digital media for problematic journalism practices in society; It allows pluralism by getting rid of homogeneity in content, enabling those who cannot find representation in the media to be heard, and actively expressing their problems and thoughts (Demirel, 2018). Internet journalism, when compared to traditional journalism, refers to a field where the methods of producing and distributing news are different. Internet journalism is a process in which news spreads rapidly on digital platforms, content can be updated instantly and can be enriched with various media tools (such as video, audio recording, social media integration). In internet journalism, the reporting process allows journalists to be more free compared to their colleagues working in traditional media outlets. Internet journalists can produce news more flexibly and independently, receive feedback quickly in digital environments, and interact (Tokgöz, 2015:114-115). However, this freedom also brings with it the responsibility of accessing information, analyzing it, and reporting the news accurately. Internet journalism, just like traditional journalism, requires reporters to produce content based on accurate and reliable information. Journalists must meticulously evaluate the information they receive, check the accuracy of the news, and protect the public against misleading information. At this point, internet journalism should not deviate from the basic principles of traditional journalism. The objectivity and accuracy of the news and the correct information of the public are among the most important priorities for both types of journalism. In an environment where news spreads rapidly with the opportunities provided by the internet, the importance of accurate and reliable news increases even more. Since online journalism is a medium through which information spreads rapidly, it also brings to the agenda the necessity of preserving the quality and accuracy of news by building on the solid foundations of traditional journalism.

The Relationship Between Local Press and Ethics

Ethics is a field that is shaped by universal principles and evaluates human behavior as "good" and "right". Unlike morality, ethics is shaped around universal values and principles and is not limited to personal or social traditions. While morality is usually shaped within the framework of rules and norms shaped by a particular society, culture or religious belief system, ethics goes beyond these norms and expresses a more general and universal set of values.

At this point, ethics is a field that goes beyond "good" and "bad" behaviors and questions the rightness or wrongness of human behaviors based on universally accepted principles. Ethics is a discipline that directs people and societies to act more fairly, honestly and conscientiously, questions moral principles and aims to produce solutions to problems related to them (Dedeoğlu, 2016:103).The main purpose of ethics is to ensure that individuals and societies live healthier lives based on moral principles and values. Ethics is a set of rules that are generally unwritten and direct social and individual behaviors. These rules serve as a guide for how people should behave and are shaped in parallel with the values accepted in society. In this context, ethics encompasses not only the individual lives of people, but also the principles that will enable them to solve the difficulties they encounter in their social relations, business and social life in a correct and fair manner. Guiding people on how to behave, both individually and at the societal level, is one of the most important goals of ethics.

Universal ethical principles also have a great impact on global issues such as the development of societies and human rights. These universal principles defend values such as human dignity, justice and equality, regardless of the local moral rules adopted by each society. In this way, ethics plays an important role not only at the individual level but also at the societal level, since ethical values form the common grounds necessary for societies to coexist in a fair and peaceful manner. Ethics therefore discusses not only individuals' choices between right and wrong, but also which values should be protected in social life and how these values can transform into a social structure.

The word 'ethics' can have different meanings in different contexts. The first meaning is usually associated with morality and is defined as a set of accepted norms and values about how individuals should act in their relationships with each other in a particular society, culture or community. Such norms are usually unwritten and are shaped based on social traditions, and each society, culture or group develops its own values, beliefs and social rules over time. In this context, ethics is a system of norms that can be considered a social contract and that draws the boundaries of behaviors that are considered "good" and "bad" at a particular time and in a particular culture. These norms regulate society, provide a framework for how individuals should interact with each other and define what is right and wrong. However, these rules may vary in line with cultural differences and changing social needs over time, that is, the concepts of "good" and "bad" may also change from society to society (Kuçuradi, 2020: 45-47). However, these written norms sometimes consist only of rules determined by social consensus and regulating society; therefore, these documents may be composed of a mixture

of universally accepted norms and norms that are more valid in a local context. That is, while some ethical rules may be based on universally accepted principles, others may consist of local norms that only appeal to the values and interests of a particular society or group. This situation shows that although ethical documents claim to be universal, some of the norms they contain are rules that have not been questioned philosophically and are valid for a particular group or culture.

Therefore, ethics is not only a set of norms valid for a group, but also a concept shaped by the claim of universality of these rules. In this context, ethics emerges as a concept that reflects both social, cultural and individual differences and is based on universal principles at a certain level. The ethical phenomenon defined as the basic key and road map in the conduct of the journalism profession comes to the fore as the most important equipment in the digital world where information pollution is experienced at the line stage and the need for truth and reality is increased. Ethics is an important catalyst that will enhance the prestige and quality of digital newspapers (Çambay, Dirik, 2018)

Media ethics is the behavior of those who do the job of journalism in line with defined institutional, individual and social principles/codes at every stage of their profession (Korap, Özel,2019). A strong local press is an important element for the healthy functioning of democracy, because it ensures pluralism. Local media provides a platform where different segments of society can make their voices heard, representing social diversity and different views. However, the mainstream press can sometimes threaten this pluralism and tend to monopolize, limiting the hearing of various voices and ideas. This situation is one of the ethical problems that local media in particular face. Undermining the independence of the local press and presenting news and information from a single perspective prevents diversity, which is the basis of democracy, and makes it difficult for the public to be informed correctly. The issue of media and ethics should be emphasized as an important assessment tool regarding the role that media plays in conveying the values and cultural norms specific to a society and in helping people internalize these values and create a space for themselves. Today, the media is expected to present much information about social and cultural life through a certain filter and with an egalitarian publishing approach (Demirel, 2022).

Another ethical problem arises when journalists working in the local press act as reporters for the mainstream press. Although the main reason for this situation is economic factors, this situation can negatively affect the originality and independence of local journalism. The impact of the mainstream press on the local press becomes even more apparent when the news produced by local

journalists in their own regions is taken by another media outlet and used without specifying the source. This situation damages the news production capacity and originality of the local press. While local journalists generally work with limited resources, they also become news sources for the mainstream press. This creates both an ethical and economic problem for the local press, because the labor of local journalists is used by other media outlets without permission.

One of the biggest problems faced by the local media in recent years has been news theft. News theft refers to the unauthorized publication of a news story prepared by a local newspaper by another local media outlet or the mainstream press without specifying the source. Such ethical violations not only undermine the source and reliability of the news, but also undermine the basic principle of journalism, namely accurate and honest reporting. News theft threatens the independence and impartiality of the press, because the use of a news story by another institution without respecting its source has the potential to mislead and manipulate society. Such ethical violations undermine the credibility of the local media and prevent the public from accessing accurate information (Yılmaz, 2019:135-137). It is of great importance for local media to adopt ethical values and effectively implement these values. Ethical violations can have serious consequences not only for local press employees but also for the masses. Local media should inform the public correctly, be sensitive to social problems and take the necessary measures to ensure the reliability of the news. Ethical problems can have major effects through news that can reach large audiences quickly. For this reason, the local press should adopt ethical standards in a way that fulfills its responsibility to society, instead of acting solely for commercial concerns. Preventing ethical violations not only increases the quality of the local press, but also contributes to the healthy functioning of democracy by gaining the trust of the public. The Internet is a public autonomous area far from the control of multinational corporations (Ertürk, 2022:199)

New media, together with rapidly developing technologies, offers a communication environment that deeply affects social and individual life. However, these developments also bring with them important ethical problems. The most important of these is the violation of privacy. The Internet and social media encourage individuals to share their personal information and private lives, but there are serious problems in protecting this data. The dissemination of private information without the consent of individuals or their unauthorized collection leads to serious ethical violations. Another problem is related to copyright and patent rights. The rapid sharing and copying of content in the digital environment may mean a violation of the rights of original authors. This

situation leads to the exploitation of the labor of digital content producers in particular and the devaluation of creative processes. In addition, not showing the original source of the content produced causes damage to originality and transparency. Content without specifying the source increases information pollution and raises doubts about its accuracy (Binark and Bayraktutan, 2013: 39)

Local press ethics consist of basic principles that local journalists must follow and take into account during news production and presentation. The dissemination of ethical understanding in local media outlets will ensure that both journalists and individuals with social responsibility have access to accurate and reliable information. In order to prevent these ethical violations encountered in local news sites and to raise public awareness, it is of great importance to strengthen ethical training and control mechanisms. The dissemination of ethical understanding will ensure that local media has a more reliable and respected position in society and will help media outlets continue to function healthily.

Conclusion

Local press is of great importance for the healthy functioning of democracies and the development of societies. Local press is an important tool for the people to make their voices heard, to express their problems and to discuss solution proposals. In this sense, local press is responsible for ensuring pluralism by giving space to the views of various segments of society and informing the people in the region accurately and honestly. The people's access to accurate information about local governments and other social actors plays a critical role in the functioning of democracy and the participation of the people in government. The local press contributes to the healthy functioning of democratic processes by offering solutions to the problems faced by the public, keeping these problems on the agenda, and ensuring that local governments are monitored. Therefore, the function of the local press is not limited to just reporting news; it also carries social responsibility and undertakes the task of forming public opinion by considering the general interests of the society.

However, with the development of internet journalism, the local press encounters important opportunities and also ethical problems. While the internet offers the opportunity to reach a wide audience and has increased the influence of the local press, the anonymity and easy access offered by digital platforms also bring with it ethical violations. Ethical problems frequently encountered on local news sites include various violations such as publishing news without verifying its accuracy, violation of personal rights, misleading headlines, and hate speech. Such ethical problems not only damage the reliability of the local press, but can

also prevent the public from accessing accurate information and harm the healthy functioning of democracy. In this context, it is extremely important to prevent ethical violations encountered in the local press, to develop ethical awareness, and to spread this awareness.

Local news sites need to follow an ethical news production process. This does not only mean ensuring the accuracy of the news; it also means respecting the values of the public and avoiding discriminatory, hateful and socially disturbing content. News production in line with ethical principles is not only related to the content of the news, but also to the language, headlines, photographs and visuals used. These principles will protect the reputation of the local press and increase the public's trust in local media outlets. The more ethical understanding is adopted in local journalism practice, the more effectively the social responsibility of media outlets will be fulfilled. Therefore, preventing ethical violations in the local press and strengthening the ethical understanding is the responsibility of both journalists and news sites. Work to be done in this direction will further strengthen the influence of the local press in society and ensure that the public is informed accurately, reliably and fairly.

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CHAPTER 29

Evaluating Economic and Social Interactions: Gdp and Marriage Rates Through Bounds Testing And Ecm

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1. INTRODUCTION

The effect of marriage rates on economic growth has important consequences since marriage rates are considered as a demographic and social indicator affecting economic activities. In particular, it is thought that factors such as household expenditures and housing demand, which may change with marriage, can affect economic growth. In addition, it is predicted that the change in population growth rates due to the changes of the marriage rates may also have effects on the labor market and growth dynamics. In this context, analyzing the relationship between marriage rates and economic growth can contribute to the more effective design of social and economic policies.

Theoretical approaches that marriage rates may positively affect economic growth focus on the effects of marriage on household consumption, savings and investment decisions. The combined income and expenditure structures formed with marriage may contribute to growth by increasing economic activities.

On the other hand, it is also suggested that marriage rates may negatively affect economic growth. A decrease in marriage rates due to economic difficulties may slow down the population growth rate and weaken the labor market and growth potential.

Some approaches argue that marriage rates and economic growth do not have a direct relationship. This view is based on the assumption that individuals' marriage decisions are mostly affected by socio-cultural dynamics and can be shaped independently of economic factors.

In this study, the methods used to analyze the relationship between marriage rates and economic growth and the obtained findings are presented systematically. In the second section, the literature is discussed. In the third section, the data set and econometric methods used in the study are explained in detail. In the fourth section, the unit root tests and ARDL bounds test findings are presented, the short- and long-term dynamics of the model are evaluated, and the findings regarding the error correction model and long-term analysis are discussed. In the last section, the results are evaluated, policy recommendations and directions for future studies are made. With this structure, the study aims to present both theoretical and empirical contributions together.

2.LITERATURE REVIEW

Table 1. Literature Review

Study	Period	Data Frequency	Data Sample	Methods	Findings
Nobles and Buttenheim (2008)	1990-1999	Hourly	Indonesia (regional hourly wage data)	Logistic Regression-Based Discrete-Time Hazard Models	Negative
Sztaudynger (2014)	1970-2011	Annual	Poland	Ordinary Least Squares (OLS)	Positive
Hill (2015)	1929-1939	Annual	USA	Panel Data Analysis, Fixed Effects Models	Positive
Moro et al. (2017)	1900-2000	Annual	16 OECD Countries	Panel Data Analysis, Fixed Effects Regression	Positive
Lerman et al. (2018)	1977-2013	Annual	USA (State-level data)	Fixed Effects Model, Panel Data Analysis	Positive
Hussain (2020)	1995-2017	Annual	USA	Ordinary Least Squares (OLS)	Negative
Bellido and Marcen (2021)	1991-2013	Annual	30 European Countries	Panel Data Analysis	Positive
Gao, Pang and Zhou (2022)	2002-2021	Annual	31 Provinces of China	Multivariate Regression Analysis	Positive
Bulut (2023)	2002-2021	Quarterly	Turkey	VAR-Based Granger Causality Analysis	Positive

Nobles and Buttenheim (2008) examined the relationship between marriage rates and economic growth in Indonesia for the period 1990-1999. Using regional hourly wage data, the analysis finds that economic growth (increasing wage rates) has a negative relationship with marriage rates. The study was conducted with logistic regression-based discrete-time hazard models and found that marriages are postponed during periods of economic growth for both men and women.

Sztaudynger (2014) examined the relationship between marriage rate and economic growth using the Polish case. It is concluded that a decline in the marriage rate reduces the fertility rate and a decline in the fertility rate slows down the growth of GDP per capita. It is also observed that economic growth increases marriage rates and decreases divorce rates. The analysis was applied in Poland for the period between 1970 and 2011 and was analyzed using the ordinary least squares (OLS) method.

Hill (2015), who used panel data analysis and fixed effect model to analyze the relationship between marriage rates and economic conditions (GDP and employment levels) in the United States during the Great Depression (1929-1939), concluded that there is a positive relationship between GDP and marriage rates.

Moro et al. (2017), in their study where they examined the relationship between GDP and marriage rates using data from 16 OECD countries for the period 1900-2000, showed that the marriage rate increases GDP up to a certain level, but after this level it negatively affects GDP using panel data analysis and fixed effect regression.

Lerman et al. (2018), in their study where they examined the relationship between marriage rates and economic growth for the period 1977-2013, they showed that the rate of married adults in states has a positive and statistically significant effect on GDP per capita. Hussain (2020) analyzed the relationship between economic growth and marriage rates in the United States between 1995 and 2017 using the Least Squares (OLS) method and concluded that the increase in per capita income negatively affected marriage rates.

Bellido and Marcen (2021) concluded that there was a positive relationship between GDP per capita and marriage rates using panel data covering 30 European countries between 1991 and 2013.

Gao, Pang, and Zhou (2022) revealed that there was a positive relationship between GDP per capita and marriage rates in their study for China. Bulut (2023) examined the relationship between marriage rates and economic growth in Turkey within the framework of Granger Causality Analysis using quarterly data for the period 2002-2021.The results of this analysis revealed a bidirectional causality relationship between marriage rates and GDP growth. This indicates that an increase in marriage rates has a positive effect on economic growth, while economic growth, in turn, has a positive effect on marriage rates by improving the financial opportunities available to individuals.

3. MODEL and DATA

3.1. Model

The model used in this study is expressed by Equation (1).

$$GDPPC_t = \alpha_{0a_t} + \alpha_{1a_t}MAR_t + \epsilon_{0a_t}$$

$$(1)$$

where, $GDPPC$ represents gross domestic product per capita, MAR represents crude marriage rate, α coefficients represent the estimators of the Least Squares method, and ε indicates the error term.

The transformed form of this model is expressed by Equation (2).

$$gdppc = \alpha_{0b_t} + \alpha_{1b_t}mar_t + \epsilon_{0b_t}$$

where,: $gdppc$ represents the logarithmic value of gross domestic product per capita, and mar represents the logarithmic value of crude marriage rate. α coefficients are the OLS estimators, and ε represents the random variations not included in the model.

Data

The data used in this study are annual in frequency, covering the period 1960-2020. The dataset consists of gross domestic product per capita (in constant 2015 US dollars) taken from the World Bank's Development Indicators (WDI) database and crude marriage rates (divorce rate per 1000 people) provided by the OECD.

4. METHODOLOGY and EMPRICAL FINDINGS

Following Ozaydin and Dagdemir (2023), the methodology used in this study primarily includes the application of unit root tests to determine the stationarity properties of the series under study. Based on the results of unit root tests, the integration levels of the series were determined and the analysis was carried out by selecting the appropriate econometric technique in the light of these findings.

4.1. Stationarity Tests

In order to prevent the spurious regression problem, the Augmented Dickey Fuller (ADF) test (Dickey & Fuller, 1979), Phillips Perron (PP) test (Phillips & Perron, 1988) and Lee-Strazicich (LS) test (Lee & Strazicich, 2003) were applied. ADF test findings are presented in Table 2 and Table 3, PP test findings in Table 4 and Table 5, and LS test findings in Table 6 and Table 7.

Variable	Intercept	Intercept & Trend
$gdppc$	-3.29** (1)	-1.47 (1)
$\Delta gdppc$	n/a	-4.84*** (0)
mar	1.82 (0)	-0.96 (0)
Δmar	-4.29*** (0)	-3.94** (2)

*** , ** ,and *, indicates stationarity at 1%, 5% , and 10% significance level, respectively.

Table 3. Stationarity Level (ADF Test)

Variable	Intercept	Intercept & Trend
$gdppc$	I (0) **	I (1) ***
mar	I (1) ***	I (1) **

*** , ** ,and *, indicates stationarity at 1%, 5% , and 10% significance level, respectively.

According to Table 2, in the model containing only the constant term, the test statistic for $gdppc$ at the level is -3.29, and since it exceeds the critical value at the 5% significance level, stationarity is achieved. However, in the model containing the constant term and trend, the test statistic was not found to be significant with -1.47, and stationarity was not observed at the level. When the difference ($\Delta gdppc$) is examined, stationarity is achieved at the 1% significance level with the statistic of -4.84 in the model containing the constant term and trend.

On the other hand, for the variable mar, the test statistic was found to be 1.82 in the model containing the constant term, and -0.96 in the model containing the constant term and trend, and stationarity was not detected in both cases. However, when the difference (Δmar) is examined, stationarity is achieved at 1% and 5% levels, respectively, with statistics of -4.29 in the constant term model and -3.94 in the constant term and trend model.

These results show that the $gdppc$ variable showed stationarity at the level in the constant term model, but became stationary at the first difference in the

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[3]Optimal lag length for ADF unit root test (Dickey & Fuller, 1979) is chosen by using Akaike Information Criterion (Akaike, 1973, 1998), the values in parentheses are the chosen lag lengths.

constant term and trend model. The variable mar is not stationary at the level, but it become stationary at its first difference (I(1)).

Table 4. PP[4] Test Outcomes

Variable	Intercept	Intercept & Trend
$gdppc$	-4.17*** (2)	-1.39 (2)
$\Delta gdppc$	n/a	-4.92*** (1)
mar	2.3 (5)	-0.43 (6)
Δmar	-4.2*** (4)	-3.63** (6)

*** , ** ,and *, indicates stationarity at 1%, 5% , and 10% significance level, respectively.

Table 5. Stationarity Level (PP Test)

Variable	Intercept	Intercept & Trend
$gdppc$	I (0)***	I (1) ***
mar	I (1) ***	I (1) **

*** , ** ,and *, indicates stationarity at 1%, 5% , and 10% significance level, respectively.

According to the Phillips-Perron (PP) unit root test findings (Table 4 and Table 5), the stationarity properties of the variables were evaluated in detail. In the model with a constant term, the $gdppc$ variable showed stationarity at the level with a test statistic of -4.17 at the 1% significance level. However, in the model with a constant term and trend, the test statistic of the same variable was -1.39, and stationarity could not be achieved at the level in this model. In contrast, in the model with a constant term and trend, the $\Delta gdpp$ variable with the first difference taken showed stationarity at the 1% significance level with a statistical value of -4.92.

On the other hand, the mar variable did not provide stationarity with a statistical value of 2.30 at the level in the model with a constant term and -0.43 in the model with a constant term and trend. However, when the first difference was taken (Δmar), stationarity was obtained at the 1% and 5% significance levels

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[4]Bartlett kernel (Bartlett, 1948, 1950) is used as the spectral estimation method and Newey-West (Newey and West, 1986) bandwidth is used as the bandwidth for P-P (Phillips and Perron, 1988) unit root test, the values in parentheses are the chosen lag lengths.

with a test statistic of -4.20 in the constant term model and -3.63 in the constant term and trend model, respectively.

These results reveal that the $gdppc$ variable showed stationarity at the level in the constant term model, but became stationary only at the first difference in the constant term and trend model. On the other hand, the mar variable did not provide stationarity at the level, and showed stationarity at the first difference (I(1)) in both the constant term and the constant term and trend models.

According to Table 6, the selected lag length for the $gdppc$ variable is 8, the test statistic is -3.47, and since the value in question is below the critical values, stationarity is not achieved. Similarly, the test statistic for the mar variable is calculated as -4.00, and it is concluded that the relevant variable is not stationary at the level value. On the other hand, when the first differences are taken for both variables, it is determined that the relevant variables are stationary at the 1% level. In addition, the relevant test findings reveal that the break year for the $gdppc$ is 1974.

Table 6. Lee & Strazicich [5] Test Outcomes

	Break	
Variable	**test statistic**	**break year**
$gdppc$	-3.47 (8)	1989
$\Delta gdppc$	-3.81*** (3)	1974
mar	-4.00 (2)	2003
Δmar	-6.29*** (2)	2013

***, ** ,and *, indicates stationarity at 1%, 5% , and 10% significance level, respectively.

The stationarity levels of the variables are shown in Table 7.

Table 7. Stationarity Level (LS Test)

Variable	**Crash**	**Break**
$gdppc$		I (1) ***
mar		I (1) ***

***, ** ,and *, indicates stationarity at 1%, 5% , and 10% significance level, respectively.

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[5]Maximum lag length for Lee& Strazicich unit root test (Lee& Strazicich, 1992) is determined as 10 lags.

4.2. ARDL [6]Analysis

In the study, the Autoregressive Distributed Lag (ARDL) approach was used. This methodology was preferred because it allows the analysis of stationary series at different levels (I(0) or I(1)) and produces reliable results in small samples. The ARDL model used in the study is presented with Equation (3) and provides a flexible framework that combines both short-term dynamics and long-term balances. Therefore, the flexible structure of the method and its validity even when the series have different integration degrees have made the ARDL model a suitable choice in line with the purpose of the study.

$$\Delta gdppc_t = \alpha_{0c} + \sum_{i=1}^{c_1} \alpha_{1c} gdppc_{t-i} + \sum_{i=0}^{c_2} \alpha_{2c} \Delta mar_{t-i} + \alpha_{3c} d_{1974} + \alpha_{4c} T + \beta_{1c} gdppc_{t-1} + \beta_{2c} mar_{t-1} + \epsilon_{0ct}$$

(3)

In the model analyzed within the scope of Equation (3), GDP per capita ($gdppc$) is the dependent variable of the model, while the crude marriage rate (mar) is the independent variable. The relationship between these variables is modeled with the most appropriate lag lengths (c's). While the trend variable (T) aims to capture linear trends over time, the dummy variable representing the structural break in 1974 ($d1974$) ensures that specific effects in this period are included in the model. The coefficients (α's and β's) represent the regression coefficients estimating the relationship belonging to the model, while the error term (ε) represents the random fluctuations that the model cannot explain.

In the study, the ARDL (5,2) model was selected as the most appropriate model using the Akaike Information Criterion (AIC). In order to confirm the statistical reliability and robustness of the model, various diagnostic tests were applied, such as the Jarque-Bera test for evaluating normal distribution, the Breusch-Godfrey test for serial correlation, the ARCH test for autoregressive conditional heteroscedasticity, and the Ramsey RESET test for checking the correct specification of the model. The results of these tests are presented in Table 8.

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[6] Pesaran & Pesaran (1997), Pesaran & Smith (1998), Pesaran & Shin (1995,1998,1999) ve Pesaran vd. (2001).

Table 8. Diagnostic Test Findings

Test	Test Statistics	Probability
Jarque-Bera[7]	3.96	0.13
Breusch-Godfrey[8]	2.4	0.12
ARCH[9]	0.06	0.8
Ramsey RESET[10]	2.55	0.11

According to the diagnostic test findings presented in Table 8, the ARCH test revealed that there was no conditional heteroscedasticity with a test statistic of 0.06, while the Breusch-Godfrey test confirmed that the model did not have a serial correlation problem and the Jarque-Bera test confirmed normally distributed residuals. Lastly, Ramsey RESET test findings showed that no model misspecification issue is detected.

Additionally, to verify the parameter stability of the ARDL (5,2) model, CUSUM and CUSUMSQ tests were also applied, and the findings of the relevant tests are presented in Figure 1.
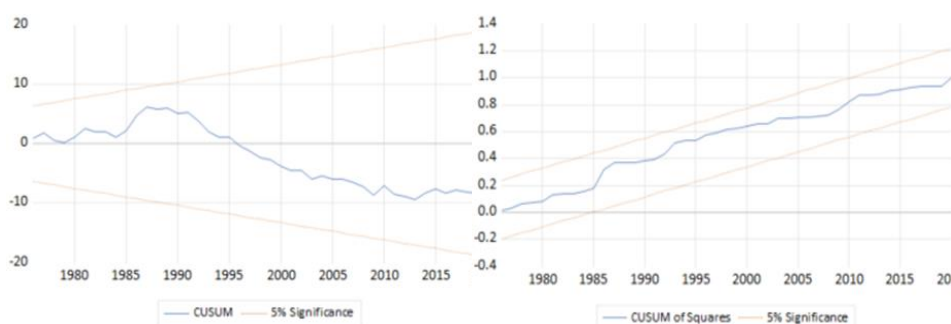

Figure 1.CUSUM[11] and CUSUMSQ[12] Tests

The model exhibits parameter stability over time, as demonstrated by both CUSUM and CUSUMSQ test statistics remaining within the 5% significance bounds

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[7] (Jarque & Bera, 1980)

[8] (Breusch & Godfrey,1981)

[9] (Engle, 1982)

[10] (Ramsey,1969).

[11] (Page,1954)

[12] (Brown et.al, 1975)

ARDL bounds test method was used to test the cointegration relationship between variables. The ARDL bounds test examines cointegration by comparing the calculated F-statistic to critical bounds, where an F-statistic exceeding the upper bound indicates a long-term relationship between variables, while an F-statistic below the lower bound suggests no cointegration exists.

Table 9. Bounds Test

Test	F
Calculated Test Statistics	8.9**
Upper Bound	7.78
Lower Bound	6.93

***, ** ,and *, indicates stationarity at 1%, 5% , and 10% significance level, respectively.

According to the bounds test results in Table 9, the calculated F-statistic was found to be 8.9, which exceeded the upper limit of 7.78 at the 5% significance level revealing the existence of the cointegration relationship between marriage rate and economic growth.

4.3. Error Correction Model

After confirming the existence of cointegration, Error Correction Model (ECM) was used to analyze the short-term dynamics between the crude marriage rates and per capita GDP. The findings of the ECM are presented in Table 10.

Table 10. Error Correction Model

Variable	Coefficient	Std. Error	t-statistics	p-value
γ_{t-1}	-0.09	0.02	-4.26	0.00***
$\Delta gdppc_{t-1}$	0.37	0.10	3.46	0.00***
$\Delta gdppc_{t-2}$	-0.38	0.11	-3.38	0.00***
$\Delta gdppc_{t-3}$	0.067	0.119	0.56	0.57
$\Delta gdppc_{t-4}$	-0.51	0.10	-4.81	0.00***
Δmin_t	0.14	0.03	4.15	0.00***
Δmin_{t-1}	0.11	0.05	1.89	0.06*
d_{1974}	-0.07	0.01	-5.48	0.00***

C	0.45	0.08	5.28	0.00***
T	0.00	0.00	3.81	0.00***
Important Statistics				
$\overline{R^2}$	0.69		**RSS**	0.02
F	13.31***		**DW**[13]	2.26

*** , ** ,and * indicates stationarity at 1%, 5% , and 10% significance level, respectively.

The one period lagged error correction term coefficient of -0.09 is statistically significant at 1% level, indicating that 9% of short-term deviations from long run equilibrium are corrected each period.

4.4. Long Run Model

The long-run coefficients of the ARDL (5,2) model were estimated with results shown in Table 11.

Table 11. Cointegrated Model

Variable	Coefficient	Std. Error	t-statistics	p-value
mar_t	1.97	0.97	2.03	0.04**

*** , ** ,and * indicates stationarity at 1%, 5% , and 10% significance level, respectively.

As seen from Table 11, the crude marriage rate has a statistically significant positive long-run effect on Portugal's economic growth, with a 1% increase in marriages associated with a 1.97% rise in per capita GDP at the 5% significance level.

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[13] (Durbin & Watson, 1950)

5. CONCLUSION

In this study, the relationship between the crude marriage rate and GDP per capita for the Portuguese case was examined for the period 1960-2020. The stationarity levels of the variables were determined by ADF, Phillips-Perron and Lee-Strazicich unit root tests. The stationarity properties for crude marriage rate and GDP per capita were found to be sensitive to model specification in the unit root testing. The ARDL (5,2) model was selected as the most appropriate model in the analysis of possible relationships between the variables and successfully passed the relevant model diagnostic checks and parameter stability tests. According to the Error Correction Model (ECM) findings, it was determined that approximately 9% of short-term imbalances were eliminated within one period. On the other hand, it was determined that a 1% change in marriage rates in the long term would lead to a change of approximately 1.97% in GDP per capita in the same direction.

Considering the positive effect of marriage rates on economic growth, the importance of policies aimed at ensuring economic stability should be emphasized. In the case of Portugal, designing social policies that supports marriage rates may be used as a policy tool to foster economic growth rates.

Although the findings obtained in this study provide important results regarding the relationship between GDP per capita and crude marriage rate, there are some limitations. First of all, the fact that the data used in the analysis cover a certain period may be a restrictive factor. In addition, the effects of social, cultural and political factors other than the variables used in the model are not included in the model, which may limit the generalization of the results. Future research opportunities may include conducting comparable analyses across different countries, incorporating multiple structural breaks and using additional variables.

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CHAPTER 30

Exploring Long-Term and Short-Term Economic Dynamics: A Case Study of Mineral Rent in Australia

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1. INTRODUCTION

Mineral rents present both opportunities and challenges for countries rich in natural resources, as they have the potential to accelerate economic development or increase vulnerabilities. While the strategic use of these revenues in the right areas has the potential to accelerate economic growth, incorrect practices in the allocation of relevant resources can negatively affect economic growth. In this context, understanding the complex relationship between mineral rents and economic growth is very important in terms of shedding light on the development of effective natural resource management policies for economic growth.

Different views on the impact of mineral rents on economic growth can be summarized as follows. According to the view that there is a co-directional relationship between natural resources and economic growth, if the incomes obtained from natural resources can be effectively directed by policy makers to productive investments such as infrastructure and human capital, they can contribute to the increase in the capital accumulation of the country and thus the incomes obtained from natural resources can be used as a tool for achieving economic growth. This approach suggests that natural resources can be a strong driving force for economic development if managed within the framework of appropriate policies.

On the other hand, according to the view known as the resource curse, mineral rent can negatively affect economic growth by causing sectoral imbalances, especially if they lead to a structure dependent on foreign countries. This view evaluates the subject more within the framework of institutional economics.

Another approach argues that the effect of natural resource revenues on economic growth depends on other external factors such as the institutional structure of the economy and macroeconomic policies, and therefore there may not be a direct relationship between mineral rent and economic growth.

The following part of the study is structured as follows. In the second part, studies in the literature are examined and the findings of the relevant studies are presented. In the third part, the data set and econometric model used are explained and the methodological framework selected for the analysis is given. In the fourth part, empirical findings are presented and the obtained findings are discussed. In the last part of the study, a general evaluation of the findings is made, policy recommendations are given and suggestions are presented for future studies on the relevant subject

2. LITERATURE REVIEW

Table 12. Literature Review

Study	Period	Data Frequency	Data Sample	Methods	Findings
Arin and Braunfels (2018)	1970-2014	Annual	91 countries	Bayesian Model Averaging	Positive long-term effect of oil rents.
Erum and Hussain (2019)	1984-2016	Annual	43 OIC member countries	CS-ARDL	A positive relationship between mineral rents and GDP.
Barczikay et al. (2020)	1980-2018	Monthly	Botswana	NARDL	Partial Dutch disease due to diamond rents.
Ampofo et al. (2020)	1981-2017	Annual	10 mineral-rich countries	NARDL and nonlinear causality tests	Mixed effects: Positive in some countries, negative elsewhere.
Yang et al. (2021)	1988-2019	Annual	Russia	NARDL	Oil rents: Positive; Gas rents: Negative shocks impact on GDP.
Boire and Nell (2021)	1982-2017	Annual	Mali	VECM analysis and surveys	Strong linkages between mining and manufacturing.
Shi et al. (2023)	2002-2019	Annual	18 mineral-rich countries	Panel Random-effects model	The positive effect of mineral

					rents on GDP with good governance.
Özcan, Temiz, and Tarla (2023)	2001-2021	Annual	19 metal-exporting countries of precious metal ores and concentrates	Panel ARDL, FMOLS, DOLS	Negative impact of metal rents on GDP.
Ajayi (2024)	1980-2022	Annual	13 Sub-Saharan African countries	GMM	Short-term: Positive; Long-term: Negative (conflicts, population).

Arin and Braunfels (2018) investigated the relationship between GDP and oil rents using cross-country panel data from 91 countries between 1970 and 2014. Utilizing Bayesian Model Averaging (BMA) techniques, the study finds a positive and robust long-term relationship between oil rents and economic growth, challenging the natural resource curse hypothesis.

Erum and Hussain (2019) investigate the relationship between GDP and natural resources using panel data from 43 OIC member countries spanning 1984–2016. Using the Cross-Sectional Autoregressive Distributed Lag (CS-ARDL) approach, their findings reveal a positive and significant relationship between natural resource rents and GDP.

Barczikay et al. (2020) investigate the relationship between diamond rents and GDP in Botswana using monthly time-series data spanning 2006–2018. Employing a Nonlinear Autoregressive Distributed Lag (NARDL) model, they identify a partial Dutch disease phenomenon, where diamond exports lead to genuine exchange rate appreciation, negatively impacting manufacturing competitiveness. The findings highlight that the economic effects are specific to trade relations with Namibia and South Africa, which account for 74% of Botswana's imports.

Ampofo et al. (2020) explore the relationship between GDP and total natural resource rents using annual panel data from the top 10 mineral-rich countries from 1981 to 2017. They find mixed results using the Nonlinear ARDL

(NARDL) model and nonlinear Granger causality analysis. Natural resource rents negatively impact GDP in Australia, India, and the Democratic Republic of Congo (DRC), confirming the resource curse. However, in Brazil and Canada, the rents positively affect GDP.

Yang et al. (2021) examine the relationship between GDP and natural resource rents using annual time-series data for Russia from 1988–2019. Their analysis reveals an asymmetric dynamic using the Nonlinear Autoregressive Distributed Lag (NARDL) model. Positive shocks in natural gas rents negatively impact GDP growth, confirming the resource curse hypothesis for Russia. In contrast, both positive and negative shocks in oil rents positively impact GDP growth, indicating resilience and resource blessings.

Boire and Nell (2021) analyze the relationship between GDP and gold mining in Mali using annual time-series data from 1982–2017. Employing survey data and a Vector Error Correction Model (VECM), their findings reveal significant backward linkages from gold mining to manufacturing, contradicting the enclave hypothesis. The study also finds no evidence of a Dutch disease effect, suggesting that gold mining supports industrial development.

Shi et al. (2023) examine the relationship between GDP growth, governance, and mineral rents in 18 critical mineral-rich countries using panel data spanning 2002–2019. Employing a panel random-effects GLS model, the study finds a positive and significant relationship between GDP growth and mineral rents. Additionally, good governance, proxied by control of corruption, strengthens this positive impact.

Özcan et al. (2023) investigated the resource curse hypothesis using annual panel data from 19 top exporters of precious metal ores between 2001 and 2021. Employing methods like panel ARDL, FMOLS, and DOLS, their findings confirm a negative and significant relationship between precious metal rents and GDP growth. The results suggest that a one-unit increase in precious metal rents leads to a 9% decline in GDP, supporting the resource curse hypothesis and emphasizing the need for institutional and human capital improvements to mitigate adverse effects.

Ajayi (2024) explores the relationship between GDP and mineral rents in 13 Sub-Saharan African countries using panel data from 1980–2022. Employing the System GMM method, the study finds that mineral rents have a positive short-term impact on GDP growth.

MODEL and DATA

Model

The model used in this study is expressed by Equation (1).

$$GDPPC_t = \alpha_{0a_t} + \alpha_{1a_t}MIN_t + \epsilon_{0a_t} \tag{4}$$

In equation (1), GDPPC represents gross domestic product per capita, MIN represents mining rents. The α's in the model represent the least squares estimators, and ϵ represents the white noise error term.

The logarithmic form of the model is expressed by Equation (2).

$$gdppc = \alpha_{0b_t} + \alpha_{1b_t}min_t + \epsilon_{0b_t} \tag{5}$$

In equation (2), $gdppc$ is the natural logarithm of GDP per capita, min is the natural logarithm of mineral rent.

Data

The data used in this study covers the Australian economy and consists of annual frequency observations. The analysis period of the study covers the years 1970 to 2021. Both gross domestic product per capita and mineral income per capita were measured in constant US dollars and obtained from the WDI database.

2. METHODOLOGY and EMPRICAL FINDINGS

Within the scope of the methodology used in the study, as employed in Özaydın and Dağdemir (2023), firstly a series of unit root tests were conducted aiming to determine the stationarity properties of the analyzed series; then, the most appropriate econometric method was selected within the framework of the findings obtained from the relevant tests.

2.1. Stationarity Tests

The stationarity properties of the variables used in the study were determined with the help of Augmented Dickey Fuller (ADF) (Dickey and Fuller, 1979), Phillips Perron (PP) (Phillips and Perron, 1988), KPSS (Kwiatkowski et al., 1992) and Zivot-Andrews (ZA) (Zivot and Andrews, 1992) unit root tests. In this context, the relevant test results are expressed in the tables between Table 2 and Table 9.

Table 13. ADF[3] Unit Root Test Outcomes

Variable	Intercept	Intercept & Trend
gdppc	-0.25 (0)	-1.66 (0)
Δgdppc	-6.92*** (0)	-7.03*** (0)
min	-0.71 (0)	-0.96 (0)
Δmin	-6.07*** (0)	-6.08*** (0)

***, **, and *, indicates stationarity at 1%, 5%, and 10% significance level, respectively.

In Table 2, for the model with only the fixed term, the gross domestic product per capita (*gdppc*) variable was not found to be stationary even at the 10% significance level with a test statistic value of -0.25 and zero lag length. However, when the first difference of this variable was taken, the test statistic was calculated as -6.92 and stationarity was determined at the 1% significance level. Similarly, in the model with only the fixed term, the mineral income (*min*) variable did not show stationarity at the zero-lag length with a test statistic of -0.71 at the level, but a significance level of 1% was achieved with a test statistic value of -6.07 at the first difference.

The results are similar in the model with trend and fixed term. The (*gdppc*) variable was not found to be stationary at the level with a test statistic of -1.66, but it became stationary at the 1% significance level with a test statistic of -7.03 at the first difference and zero lag length. Similarly, the (*min*) variable did not show stationarity at the level with a test statistic of -0.96 and a lag length of zero, but was found to be stationary at the 1% significance level with a test statistic of -6.08 at the first difference.

Table 14. Stationarity Level (ADF Test)

Variable	Intercept	Intercept & Trend
gdppc	I (1) ***	I (1) ***
min	I (1) ***	I (1) ***

***, **, and *, indicates stationarity at 1%, 5%, and 10% significance level, respectively.

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[3]Optimal lag length for ADF unit root test (Dickey & Fuller, 1979) is chosen by using Akaike Information Criterion (Akaike, 1973, 1998), the values in parentheses are the chosen lag lengths.

The ADF unit root test results in Table 3 reveal that the series of both variables are not stationary at the level, but become stationary at their first difference.

According to Table 4, in the model containing only the constant term, the test statistic for the gross domestic product per capita ($gdppc$) variable was calculated as 0.06 and the bandwidth was selected as 2; in this case, it was determined that the variable was not stationary at 1%, 5% and 10% significance levels. However, when the first difference of ($gdppc$) was taken, the test statistic was found to be -6.89 and stationarity was achieved at the 1% significance level with a bandwidth of 1. In the same model, the mineral income (min) variable did not show stationarity at the level with a test statistic of -0.71 and a bandwidth of 0, but it became stationary at the 1% significance level with a test statistic of -6.06 and a bandwidth of 2 in the first difference.

In the model including constant term and trend, ($gdppc$) did not show stationarity at the level with a test statistic of -1.61 and a bandwidth of 3, but was found to be stationary at the first difference with a test statistic of -7.02 and a bandwidth of 1 at a significance level of 1%. Similarly, the (min) variable did not show stationarity at the level with a test statistic of -1.13 and a bandwidth of 1, but was found to be significant at the first difference with a test statistic of -6.07 and a bandwidth of 2 at a significance level of 1%.

Table 15. PP[4] Test Outcomes

Variable	Intercept	Intercept & Trend
$gdppc$	0.06 (2)	-1.61 (3)
$\Delta gdppc$	-6.89*** (2)	-7.02*** (1)
min	-0.71 (0)	-1.13 (1)
Δmin	-6.06*** (2)	-6.07*** (2)

***, **, and *, indicates stationarity at 1%, 5%, and 10% significance level, respectively.

According to the results of the Phillips Perron unit root test, the analyzed series do not show stationarity at the level, but become stationary at their first difference.

Table 16. Stationarity Level (PP Test)

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[4]Bartlett kernel (Bartlett, 1948, 1950) is used as the spectral estimation method and Newey-West (Newey and West, 1986) bandwidth is used as the bandwidth for P-P (Phillips and Perron, 1988) unit root test, the values in parentheses are the chosen lag lengths.

Variable	Intercept	Intercept & Trend
gdppc	I (1) ***	I (1) ***
min	I (1) ***	I (1) ***

***, **, and *, indicates stationarity at 1%, 5%, and 10% significance level, respectively.

In Table 6, in the model containing only the constant term, the gross domestic product per capita ($gdppc$) variable does not provide stationarity at the 5% significance level with a test statistic of 0.57 and a lag length of 9. However, the test statistic of ($gdppc$) in the first difference was calculated as 0.23 and stationarity was achieved at the 5% significance level with a lag length of 8. While the mineral income (min) variable did not provide stationarity at the level with a test statistic of 0.72 and a lag length of 10, stationarity was achieved with a test statistic of 0.19 and a lag length of 2 when the first difference was taken.

In the model containing trend and constant term, $gdppc$ did not provide stationarity at the level with a test statistic of 0.15 and a lag length of 9; however, stationarity was achieved at the 5% significance level with a test statistic of 0.06 and a lag length of 8 in the first difference. In the same model, the min variable provided stationarity at the level of 5% with a test statistic of 0.10 and a lag length of 9.

Table 17. KPSS[5] Test Outcomes

Variable	Intercept	Intercept & Trend
gdppc	0.57** (9)	0.15** (9)
Δgdppc	0.23 (8)	0.06 (8)
min	0.72** (10)	0.1 (9)
Δmin	0.19 (2)	n/a

***, **, and *, indicates no stationarity at 1%, 5%, and 10% significance level, respectively.

According to the KPSS unit root test results in Table 7, the series, with the exception of the min variable in the model with intercept and trend, generally do not show stationarity at the level, but become stationary when the first difference is taken.

Table 18. Stationarity Level (KPSS Test)

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[5]Parzen kernel (Parzen, 1957) is used as the spectral estimation method and Newey-West (Newey and West, 1986) bandwidth is used as the bandwidth for P-P (Phillips and Perron, 1988) unit root test, the values in parentheses are the chosen lag lengths.

Variable	Intercept	Intercept & Trend
gdppc	I (1)	I (1)
min	I (1)	I (0)

In Table 8, in the model including only the constant term, the test statistic for the gross domestic product per capita ($gdppc$) variable is -4.270; this result does not provide stationarity at the 5% significance level. However, when the first difference is taken, the test statistic is -7.200 and the breakout year is found as 2004, which shows that stationarity is provided at the 1% significance level. The mineral income (min) variable does not provide stationarity at the level with the test statistic -2.510; however, stationarity is provided at the 1% significance level with the test statistic -7.090 in the first difference.

In the model including trend and constant term, the $gdppc$ variable does not provide stationarity at the level with the test statistic -4.620 at the 5% significance level; However, it became stationary at the 1% level with the first difference test statistic -7.940. In the same model, the min variable did not show stationarity at the level with the test statistic -2; however, stationarity was achieved at the 1% level with the first difference test statistic -7.320. Table 9 supports these findings and reveals the stationarity properties of the variables by also taking into account the break years. These findings are of critical importance in analyzing the effects of structural breaks.

Table 19. ZA[6] Test Outcomes

Variable	Intercept		Intercept & Trend	
	test statistic	break year	test statistic	break year
gdppc	-4.27 (0)	2005	-4.62 (0)	2005
Δgdppc	-7.20*** (0)	2004	-7.94*** (0)	2012
min	-2.51 (0)	1995	-2.96 (0)	1998
Δmin	-7.09*** (0)	1993	-7.32*** (0)	1993

***, **, and *, indicates stationarity at 1%, 5%, and 10% significance level, respectively.

Table 20. Stationarity Level (ZA Test)

Variable	Intercept	Intercept & Trend
gdppc	I (1) ***	I (1) ***
min	I (1) ***	I (1) ***

***, **, and *, indicates stationarity at 1%, 5%, and 10% significance level, respectively.

According to the results of the unit root tests, the stationarity levels of the analyzed variables differ. The gross domestic product per capita ($gdppc$) variable was not found to be stationary at the level (I(0)) in both the models containing only a constant term and those containing a constant term and a trend in the ADF, Phillips Perron, KPSS and Zivot-Andrews tests; however, it became stationary when its first difference was taken (I(1)).

The mineral income (min) variable was found to be stationary at the level (I(0)) in the model containing a constant term and a trend in the KPSS test. However, in other tests, the min variable did not show stationarity at the level and achieved stationarity at the first difference (I(1)).

2.2. ARDL[7] Analysis

In this study, the ARDL approach was preferred because this method has the flexibility to work with variables that are stationary at both I(0) and I(1) levels and provides a suitable framework for series with different stationarity levels. In addition, the ability to evaluate long-term and short-term relationships within the

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[6]Maximum lag length for ZA unit root test (Zivot & Andrews, 1992) is determined as 4 lags.

[7] Pesaran & Pesaran (1997), Pesaran & Smith (1998), Pesaran & Shin (1995,1998,1999) ve Pesaran vd. (2001).

same model makes the ARDL method advantageous compared to other econometric approaches. In this context, the ARDL model used in the study is expressed by Equation (3).

$$\Delta gdppc_t = \alpha_{0c} + \sum_{i=1}^{c_1} \alpha_{1c} gdppc_{t-i} + \sum_{i=0}^{c_2} \alpha_{2c} \Delta min_{t-i} + \alpha_{3c} d_{2004} + \alpha_{4c} T + \beta_{1c} gdppc_{t-1} + \beta_{2c} min_{t-1} + \epsilon_{0ct}$$

(6)

where the c coefficients represent time lags, and the T variable shows the time trend. The d_{2004} is the dummy variable, which models the structural break that occurred in 2004.

In the study, ARDL(4,2) model was selected using Akaike Information Criterion (AIC). In order to ensure the statistical reliability of the model, diagnostic tests such as Jarque-Bera for normality test, Breusch-Godfrey for autocorrelation test, ARCH for heteroscedasticity test and Ramsey RESET for model specification test were applied. The results of these tests are presented in Table 10.

Table 21. Diagnostic Test Findings

Test	Test Statistics	Probability
Jarque-Bera[8]	1.05	0.58
Breusch-Godfrey[9]	2.91	0.09
ARCH[10]	0.04	0.83
Ramsey RESET[11]	2.57	0.11

According to the Ramsey RESET test results, the test statistic was calculated as 2.57 and the p- value as 0.11which shows no specification error in the functional form. The Jarque-Bera test shows that the error terms are normally distributed with a test statistic of 1.05 and a probability value of 0.58. In addition, the ARCH test and Breusch-Godfrey test findings revealed that there was no heteroscedasticity and autocorrelation problem in the model, respectively.

In addition to the above diagnostic tests, CUSUM and CUSUMSQ tests were applied to test whether the parameters were stable. The results of the relevant tests are given in Figure 1 below.

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[8] (Jarque & Bera, 1980)
[9] (Breusch & Godfrey,1981)
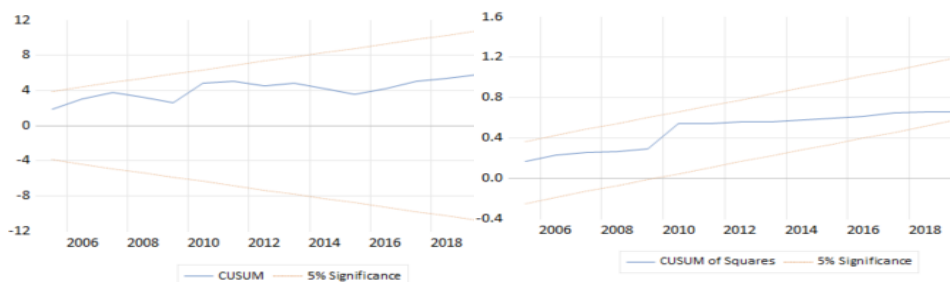[10] (Engle, 1982)
[11] (Ramsey,1969).

Figure 2.CUSUM[12] and CUSUMSQ[13] Tests

The CUSUM and CUSUMSQ test findings revealed that the model parameters are stable over time.

Following the confirmation of the statistical robustness of the model via diagnostic checks, the bounds testing methodology is applied. In the ARDL bounds testing methodology, if the calculated statistics exceed the upper bound, it is concluded that there exists a long-run relationship between the variables in question. The findings of the bounds test for the ARDL (4,2) model are presented in Table 11 below.

Table 22. Bounds Test

Test	*F*	*t*
Calculated Test Statistics	6.31*	-3.53*
Upper Bound	6.26	-3.4
Lower Bound	5.59	-3.13

***, **, and *, indicates stationarity at 1%, 5%, and 10% significance level, respectively.

According to the bounds test results in Table 11, the calculated F-statistic was found to be 6.31 and the t-statistic was found to be -3.53, which exceed the upper critical values of 6.26 and -3.40, respectively. This findings for the ARDL (4,2) model indicated the existence of a long-term relationship between the GDP and mineral rents at a significance level of 10%.

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[12] (Page,1954)
[13] (Brown et.al, 1975)

2.3. Error Correction Model

After verifying that there is a cointegration relationship between mineral rents and GDP for the Austrian case, the Error Correction Model (ECM) was applied and the findings are presented in Table 12.

Table 23. Error Correction Model

Variable	Coefficient	Std. Error	t-statistics	p-value
γ_{t-1}	-0.49	0.13	-3.60	0.00***
$\Delta gdppc_{t-1}$	0.29	0.17	1.69	0.09*
$\Delta gdppc_{t-2}$	0.06	0.16	0.43	0.66
$\Delta gdppc_{t-3}$	0.457	0.151	3.01	0.00***
Δmin_t	3.52	3.00	1.17	0.24
Δmin_{t-1}	-6.40	2.86	-2.23	0.03**
d_{1987}	0.68	0.20	3.37	0.00***
C	29.57	8.22	3.59	0.00***
T	0.04	0.01	3.23	0.00***
Important Statistics				
$\overline{R^2}$	0.35		RSS	2.68
F	4.26***		DW[14]	2.13

***, **, and *, indicates stationarity at 1%, 5%, and 10% significance level, respectively.

As seen in Table 12, the coefficient of the error correction term is found to be -0.49. The relevant coefficient is negative as expected and is statistically significant at the 1% level. The relevant coefficient shows that, within the framework of the ARDL (4,2) model, approximately half of the deviations from the long-term equilibrium of the model in the short term are corrected in one period.

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[14] (Durbin & Watson, 1950)

2.4. Long Run Model

In the study, the long-term form of the ARDL (4,2) model was estimated and the results are presented in Table 13.

Table 24. Cointegrated Model

Variable	Coefficient	Std. Error	t-statistics	p-value
min_t	-5.30	3.11	-1.70	0.09*

***, **, and *, indicates stationarity at 1%, 5%, and 10% significance level, respectively.

According to the data in Table 13, the coefficient of the mineral rental rate variable was calculated as -5.30, the standard error was 3.11 and the t-statistic was -1.70, and it was found to be statistically significant at the 10% significance level (p-value 0.09). This result reveals that a 1% increase in the mineral rental rate has a negative effect of approximately 5.3% on GDP per capita in the long run.

CONCLUSION

In this study covering the Australian economy in the period 1970-2021, the relationship between mineral rent and GDP per capita was examined. First of all, different unit root tests were applied to determine the stationarity levels of the variables and the results revealed that some variables were stationary at level (I (0)) and others were stationary at first difference (I(1)). In this context, the ARDL (4,2) model selected based on the AIC criterion successfully passed diagnostic checks and parameter stability tests. The error correction term coefficient was found to be -0.49 and this coefficient was found to be statistically significant at the 1% level; this result shows that 49% of the short-term deviations from the long-term equilibrium were corrected in the next period. In the long-term model, the coefficient of the mineral rent variable was calculated as -5.30 and this coefficient was found to be statistically significant at the 10% level; this situation reveals that a 1% increase in mineral rent leads to a decrease of approximately 5.3% in GDP per capita in the long run.

The findings of the study revealed that various policy measures should be taken to reduce the negative effects of mineral rent on economic growth and to support sustainable development in Australia. It is important that resources obtained from mineral rent are directed to areas that will support economic growth in the long term.

Although the study provided insights for the relationship between mineral rents and GDP, it has its limitations. The main limitations of this study are that the analysis was conducted for a single country sample, the limited number of explanatory variables and the structure of the econometric methodology used.

Considering these limitations, future studies on the subject may provide more explanatory findings by expanding the studies to different countries or country groups, using more complex econometric techniques, and analyzing models with different explanatory variables.

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