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CONTENTS

Chapter 1

THE MEDIATING ROLE OF WORKPLACE BULLYING ON LEARNED HELPLESSNESS AND ORGANIZATIONAL SILENCE RELATIONSHIP: THE CASE OF SYRIAN REFUGEES

Emine KARAKAPLAN ÖZER[1]

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INTRODUCTION

The conflicts that began in Syria in 2011 have confronted Turkey with a large migration movement. According to April 2022 data from the Ministry of Interior's General Directorate of Migration Administration, there are 3,762,385 Syrians have been living in Turkey with temporary protection status. The services to be provided to Syrians are detailed in the Temporary Protection Regulation. The labour rights of individuals covered by the regulation are also regulated under the heading of "Services for Access to the Labor Market". The procedures and principles related to the work of temporarily protected people are regulated by the Council of Ministers upon the proposal of the Ministry of Family, Labor and Social Affairs (Buz & Uslu, 2019). There is an employment quota for Syrians under temporary protection and regulations. According to this, the number of those provided with temporary protection cannot exceed 10% of the number of Turkish citizens working in an organization (Official Gazette of the Republic of Turkey, 2016).

The integration of refugees into the workforce is important for individuals, employers and host country. However, refugees are generally disadvantaged in workforce (Knappert et al., 2020). A different country, language, culture, and workplace can make them vulnerable to workplace bullying (Bergbom et al. , 2015; Rosander & Blomberg, 2021; Hogh et al., 2011). In workplaces at least 10% of employees' face to workplace bullying. This situation leads to serious stress in both organizations and the industries (Zapf et al., 2011). It is difficult to manage the stress associated with it and it leads to long-term psychological distress (Einarsen et al., 2018). It is very important to be aware of workplace bullying in organizations, identify the reasons and take the necessary precautions due to the serious negative effects on individual, organizational and social dimensions (Elçi et al., 2014). The significant undesirable outputs of workplace bullying have been discussed by many researchers recently (Srivastava & Agarwal, 2020). The effect of workplace bullying on physical and mental well-being (Ahmad & Kaleem, 2020; Öcel, 2011; Nielsen et al., 2014), conflict management and work engagement (Einarsen et al., 2018), ethical leadership (Erkutlu & Chafra, 2014), turnover intention (Ahmad & Kaleem, 2020; Elçi et al., 2014; Şantaş et al., 2020), conflict in organizations (Tekmen, Özkan Canpolat & Sağlam , 2020), burnout and depression (Lever, Dayball, Greenberg & Stevelink, 2019) have been discussed in many studies.

Employees who are targets of bullying faced situations such as high workload, constant control, ignorance and exclusion by other employees, and sarcasm and sarcastic language within the organization (Serçeoğlu et al., 2016). Due to these types of problems in the workplace employees may feel helpless and hopeless. This mood can become a learned behaviour and affect the victim in many ways. Exposure to uncontrollable consequences triggers learned helplessness and this leads to a situation in which the victim cannot

benefit even from the regained control (Teodorescu & Erev, 2014). There is hardly any research on learned helplessness conducted at workplaces especially among refugees. When applied to work environment research, the learned helplessness hypothesis may have remarkable consequences for both workers and organizations (Lennerlöf, 1988).

Silence is another case faced at workplaces. Similar to sleep, silence is a process in which we are active. Unlike sleep, the paradoxical and obscure nature of silence is not reductionist and suitable for physical work (Pinder & Harlos, 2001). These messages, conveyed through the active process should be seriously considered as for a healthy organizational climate. In this study, it has been studied based on the organizational silence theory of Dyne, Ang, & Botero (2003). In this theory, organizational silence is conceptualized in three subdimensions as Acquiescent Silence, Defensive Silence, and ProSocial Silence.

Based on the arguments mentioned above, the purpose of the present research is to investigate the mediating role of workplace bullying in the relationship between learned helplessness and organizational silence among Syrian refugees. The reception of refugees in workplaces is not the only case. It is also important to uncover the organizational implications of employing refugees in workplaces. In the literature on organizational behaviour, there are not so many studies on Syrian refugees, especially in Turkey. The purpose of this paper is to fill the mentioned gap. This study is important as it reveals the results of the relationship between workplace bullying, learned helplessness, and organizational silence. In addition, examining the effects of mentioned variables on refugees is essential for literature on organizational behaviour.

2. LITERATURE REVIEW AND HYPOTHESES

2.1. Workplace Bullying

Workplace bullying has been studied by many scholars (Boudrias et al., 2021; Einarsen et al., 2003; Einarsen et al., 2018; Leymann, 1990; Rayner & Hoel, 1997; Quine, 2001; Nielsen et al., 2014; Srivastava & Agarwal, 2020) for three decades. The first theoretical study on workplace bullying was done by Leymann (1990). Leymann (1996) described workplace bullying as "the systematically hostile and unethical behaviours targeting a group or an individual who is unable to defend herself/himself in the workplace. Bullying is usually manifested by negative act by the bully that makes it difficult for the targets to fulfil their job duties and responsibilities and generally they exposed to harassment, ridicule, nicknames, ostracism, offend, spreading false rumours (Einarsen et al., 2003).

Bullying is an aggressive behaviour that includes three criteria. These criteria are giving deliberate harm or showing aggressive behaviour; an unequal

of power between the victim and the bully and happening repeatedly (Olweus, 1999). It has been stated that bullying is common in many organizations (Boudrias et al., 2021). But it is hard to define bullying for the workplaces (Quine, 2001). A behaviour to be defined as workplace bullying must be repeated at least once a week and have been going on for at least six months. Workplace bullying cannot be qualified as occasional conflicts or ongoing conflicts between close or equal sides (Einarsen et al., 2003). The frequency and persistence of undesirable behaviours constitute the difference between workplace bullying and other aggression types (Boudrias et al., 2021).

Rayner and Hoel (1997) determined five bullying behaviours. These are threats to the profession (belittling views, humiliating, accusation of not making an effort), threats to personal reputation (gossiping, insulting, ridiculing), isolation (blocking access to educational, physical or social opportunities), overwork (excessive business pressure, impossible deadlines, unfair cuts) and instability (meaningless duties, removal of responsibility, indication of repeated errors, preparation for failure) (Quine, 2001). Regardless of hierarchical status, in workplace bullying there is an unequal power between the two sides (Boudrias et al., 2021).

2.2. Learned Helplessness

Overmier and Seligman observed that dogs which are exposed to inescapable and unavoidable electric shocks did not escape from shock later even when it was possible to escape. Seligman and Maier (1967) soon revealed that this effect was due to the uncontrollability of original shocks, and they defined this situation as learned helplessness. Learned helplessness includes motivational, cognitive, and emotional effects (Maier & Seligman, 1976). Similar to dogs, cats, rats, fish, and non-human primates, humans also lose their motivation to react to harmful events that they cannot control (Lennerlöf, 1988). According to the learned helplessness theory, there are three conditions for experiencing learned helplessness: the first one is the "individual helplessness", the second is the "decision of the individual to be incompetent" and the last one is "generalizing the belief that the individual is incompetent to all similar situations" (Cananoğlu, 2011).

Individual perceptions of the capability to cope with the social and physical environment are essential to maintain physical and psychological well-being (Nadal, 2000). In uncontrollable events, there is no synchronicity between action and result, and there is even an unconditional relationship between action and outcome which means an individual cannot affect the outcome of the event (Hooker, 1976). When perceiving that being an answer is not important for achieving or preventing a desired outcome, attributing despair to a particular cause is common. Psychologists have associated the chosen attribution type with the severity of the person's helplessness and the likelihood of the recurrence of despair in different situations (LaForge, 1989).

2.3. Organizational Silence

Organizational silence is a collective concept that employees deliberately hide their thoughts and anxious about organizational matters (Morrison & Milliken, 2000). Silence seems to be being closed to organizational matters but in fact it is a kind of communication (Pinder & Harlos, 2001). Employees often have essential information and ideas to enhance their organizations. Sometimes they express their opinions, knowledge about the business, but sometimes they prefer silence and hide their knowledge and opinions. Basically, expressive and inhibiting behaviours can seem like converse sides as silence refers not speaking while voice means talking about the significant matters and problems of organizations. Based on this contradiction and employee motives, organizational silence conceptualized in three subdimensions by Dyne, Ang, & Botero (2003) as Acquiescent Silence, Defensive Silence, and ProSocial Silence. The first subdimension, Acquiescent Silence, refers to acceptance of organizational conditions, underestimation of them, and having limited awareness on alternatives. Assent in unfair conditions means overlooking the alternatives and having no enthusiasm to search for any (Pinder & Harlos, 2001). Defensive silence is defined as hiding ideas and information because of fear and protecting oneself (Van Dyne & Botero, 2003). Pro-social silence is an employee's hiding and concealment of business opinions and knowledge for the benefit of the organization or other collegues (Dyne et al., 2003). This research investigates the acquiescent silence and defensive silence.

2.4. The Relationship of Learned Helplessness and Organizational Silence

Organizational silence is explained as the concealment of actual style of expression regarding emotional, behavioral and cognitive considerations of an individual's organizational situations against those who have the ability of change or compensate (Pinder & Harlos, 2001). It is difficult to notice silence (Dedahanov & Rhee, 2015) as it is a behaviour absence (Van Dyne, & Botero, 2003). If organizational conditions don't provide employees to express themselves comfortably, employees will not be able to participate in organizational activities, processes, and decisions, and they will remain silent in the organization and turn into indifferent individuals. Employees' preferences to keep this silence prevent the emergence of new ideas, creativity and developments in the organization (Işık & Küçükşahin, 2020), reduces organizational commitment (Vakola & Bouradas, 2005; Dedahanov & Rhee, 2015), trust (Dedahanov & Rhee, 2015; Nikolaou et al., 2011), job satisfaction (Vakola & Bouradas, 2005), affect organizational citizenship behaviour (Acaray & Akturan, 2015) and increases the level of learned helplessness (Çelebi, 2018). In this paper, the relationship of learned helplessness and organizational silence is questioned so it has been hypothesized that:

H1. Learned helplessness and acquiescent silence are positively and significantly correlated to each other.

H2. Learned helplessness and defensive silence are positively and significantly correlated to each other.

2.5. The Mediating Role of Workplace Bullying on Learned Helplessness and Organizational Silence Relationship

Workplace bullying is an effective stress element influencing the health and well-being of individuals. Exposing to systematic and deliberate psychological pressure by others can cause severe reactions and triggers damaging effects (Presti et al., 2019). Results of a study investigating the attitudes of Syrian refugees who had to migrate to another country will provide important contributions to researchers, employers, and employees in many ways. Within this framework the mediating role of workplace bullying on learned helplessness and organizational silence relationship is investigated in this research.

In the literature, bullying and mobbing are used interchangeably. The studies on mobbing and organizational silence demonstrated that the mobbing has a curicial role on organizational silence (Elçi et al, 2014; Hüsrevşahi, 2015) but no research was found investigating the mediating role of workplace bullying on learned helplessness and organizational silence relationship. Çelebi (2018) examined the role of learned helplessness in the relationship between mobbing and organizational silence on 210 employees and the results of her study demonstrated that silence scores are increased as employees' exposure to mobbing increased, similarly, it was observed that individuals displayed more silence behaviours as their learned helplessness level increased.

Hence, it has been hypothesized that:

H3. Workplace bullying and learned helplessness are positively associated with each other.

H4. Workplace bullying and acquiescent silence are positively associated with each other.

H5. Workplace bullying and defensive silence are positively associated with each other.

H6. Workplace bullying has a mediating role on the relationship between learned helplessness and organizational silence.

3. METHODOLOGY

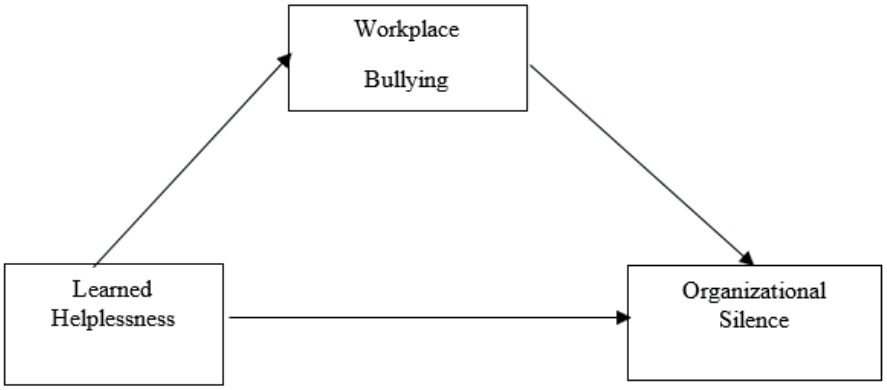
3.1. Research Design and Measurement Model

This current study is carried out with the relational survey design, which is one of the quantitative research methods. Data was collected by simple

random sampling technique. IBM SPSS 21.0 and IBM AMOS 21.0 Package Programs were used for the analysis. The main aim of this paper is to examine the mediating role of workplace bullying in the relationship between learned helplessness and organizational silence.

The proposed model of the research is illustrated in Figure 1.

Figure 1. Hypothesized Model



3.2. Sample And Data Collection

The participants of the study are 304 Syrian refugees living and working in Adıyaman province in Turkey. The number of male participants is 205 and the females is 99. They were selected from various sectors such as textile factories, catering companies, restaurants etc. Participation was voluntary. As our research involves human participants, we have obtained a formal approval from the Social and Human Sciences Ethics Committee of Adıyaman University (03.02. 2021-56).

Data was collected via a questionnaire and a covering letter, explaining the purpose of the research, was attached. The questionnaire consists of 3 different sections.

The first of these sections is Negative Acts Ouestionnaire-NAQ which was used for the measurement of workplace bullying. Einarsen and Raknes (1997) was originally developed by the questionnaire, and it was revised by Einarsen, Hoel, & Notelears (2009). It consists 22 items and a five-point Likert scale ranging from 1 (never been made) to 5 (at least once every day) was used.

Learned Helplessness Scale was used to measure the employees' perceived learned helplessness. It was developed by Pestonjee and Reddy (1988). It consists of 13 items and six-point Likert type scale, ranging from 1(strongly disagree) to 6 (completely agree), was used.

The Organizational Silence Scale was used to measure employees' perception of organizational silence. It was developed by the Dyne, Ang, & Botero (2003). The scale consists of 15 items and the sub-dimensions of the scale are acquiescent silence (1-5), defensive silence (6-10), and prosocial silence (11- 15). Each sub-dimension comprises five items. Seven-point Likert type scale, range from 1(strongly disagree) to 7 (completely agree) is used. In this study acquiescent silence and defensive silence were considered.

3.3. Statistical Analysis

The analyses of data firstly carried out by using SPSS 21.0 Package Programme. Pearson Correlation was conducted to reveal the correlation between the variables and statistical significance was defined as $p< .05$. Then, Structural Equation Modelling on AMOS 21.0 was used to conduct the path analysis. The mediating role of workplace bullying on learned helplessness and organizational silence relationship was revealed by the results gathered from the Path Analysis.

4. RESULTS

The main aim of this study is to investigate the mediating role of workplace bullying on the relationship between learned helplessness and organizational silence. Learned helplessness is the independent variable, acquiescent silence, defensive silence are the dependent variables and workplace bullying is the mediating variable. Before proceeding to the fundamental analysis, the normality assumption was tested, and skewness and kurtosis values were examined. In addition, histograms and q-q plot values were examined. The results obtained showed that the data was normally distributed. Then Pearson Correlation was conducted to reveal the correlation between the variables and the results are shown in Table 1.

Table 1. The Correlations Among the Variables of the Study

Variables of the Study	Learned Helplessness	Workplace Bullying	Acquiescent Silence	Mean	sd
Learned Helplessness	1			3.83	.97
Workplace Bullying	.460***	1		2.35	.86
Acquiescent Silence	.400***	.420***	1	3.71	1.20
Defensive Silence	.321***	-.014	.153**	4.53	1.47

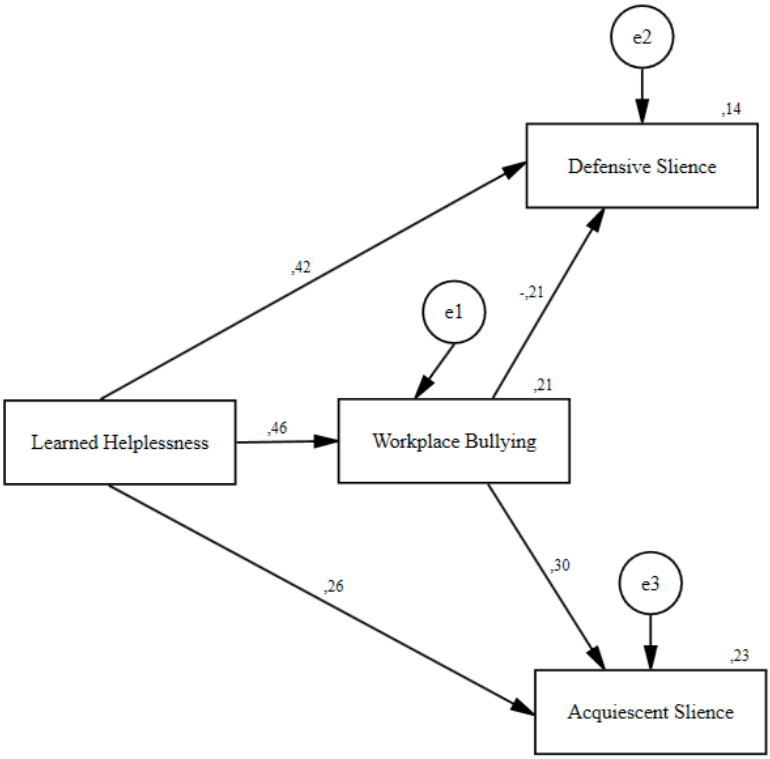
***$p < .001$, **$p < .01$.

The results of the correlation tests revealed that learned helplessness, acquiescent silence and defensive silence are positively and significantly correlated to each other. Additionally, workplace bullying and learned helplessness are positively and significantly correlated to each other and

workplace bullying, and acquiescent silence are positively and significantly correlated to each other. Consequently H1, H2, H3, H4 are supported but H5 rejected. H5 rejected because workplace bullying, and defensive silence are negatively associated with each other.

Path analysis was also conducted to test the hypotheses. Estimation of the path model yielded a very good fit with the data χ^2 (1, N = 309) = 2.46, $p > .05$; CFI = .99, GFI = .1.00; AGFI = .96; NFI = .99; TLI = .999; RMSEA = .07.

Figure 2. The Path Analysis Conducted to Investigate the Mediating Role of Workplace Bullying on Learned Helplessness and Organizational Silence Relationship.



As can be seen in Figure 2, learned helplessness predicted workplace bullying (β = .46, p <.001), defensive silence (β = .42, p <.001), and acquiescent silence (β = .26, p <.001) positively. Additionally, workplace bullying predicted defensive silence (β = -.21, p <.001) negatively and acquiescent silence (β = .30, p <.001) positively. Learned helplessness explained 21 % of the variance in workplace bullying. Additionally, learned helplessness and workplace bullying explained 14 % of the variance in defensive silence and 23 % of the variance in acquiescent silence. Based on the findings mentioned above H6 is supported.

5. DISCUSSION AND CONCLUSION

The main aim of this study is to reveal the mediating role of workplace bullying on learned helplessness and organizational silence relationship by regarding the research and publication ethics. The sample of the research is Syrian refugees living in Turkey. The results revealed that learned helplessness predicted workplace bullying, defensive silence and acquiescent silence positively. Additionally, workplace bullying predicted defensive silence negatively and acquiescent silence positively. Workplace bullying explained 14 % of the variance in defensive silence and 23 % of the variance in acquiescent silence.

Workplace bullying positively correlated with organisational silence as can be seen from the results. It predicts defensive silence negatively and acquiescent silence positively. These results are consistent with the results of many studies in the literature (Cheong, 2020; Elçi et al., 2014; Rai & Agarwal, 2018; Saeidipour et al., 2021; Sepahvand et al., 2020).

The findings also reveal the existence of a significant positive relationship between the learned helplessness and organizational silence. This result is consistent with the results of the research carried out by Çelebi (2018). Revealing this reality is important for the field, because if a silent employee is perceived as trouble-free and her/his psychological background is not examined, it may even lead to the loss of important talents of the organizations. Organizations invest in their employees by supporting their well-being to retain them at the organization. Because the institution incurs significant costs in the recruitment and training of employees. In addition, when employees leave their jobs, the institution may face a shortage of qualified human capital (Ahmad & Kaleem, 2020).

The results of this study on workplace bullying and organizational silence demonstrate the significant positive relationship between the variables. It is consistent with the results of many studies in the literature (Elçi et al., 2014; Çelebi, 2018; Rai & Agarwal, 2018; Hüsrevşahi, 2015; Liu et al., 2020).

The results of this study reveal the necessity to develop serious measures and reflexes in order to prevent workplace bullying to achieve the goals in organizations. Einarsen, Skogstad, Rørvik, Lande, & Nielsen (2018) states that organizational precautions not only prevent bullying, but can also affect the reactions of employees being bullied. Evaluating bullying in organizations only within an administrative process may cause the targets who remain silent to be unnoticed. Along with the measures taken on the basis of management, taking measures to improve the reactions of the targets will lead to the formation of a healthy climate in organizations.

This study is unique in terms of examining the mediating role of workplace bullying in the relationship of the related variables. No similar study was found

in the literature. This reveals that the study fills an important gap and reflects a multidisciplinary perspective. Although this study sheds light on both academics and sector representatives in terms of organizational behaviour regarding refugees, it does not cover all refugees. One limitation of the study is that only Syrian refugees were selected as sample. Future studies involving refugees from different cultures may lead to more general results in the context of refugees.

Another limitation of the study is the inclusion of Syrian refugees in Adıyaman province. In future studies, a larger sample from various cities may provide wider data for the evaluation and comparison of results. The pandemic was another factor limiting the study. Reaching the participants became hard for the researchers because of the pandemic precautions.

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Chapter 2

THE CODES OF FISCAL POLICY IN THE NEO-LIBERAL MONETARIST SCHOOL OF THOUGHT AND THE FREIBURG SCHOOL

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Introduction

The subject that will be discussed is of importance for the explanation of the relegation of fiscal policy to the background in the Monetarist school of thought. In 2023, the General Budget Administration's economic code summary is estimated to be TRY 6,507,462,938,000 (Presidency of Strategy and Budget, 2022). Based on the data of the Central Bank of the Republic of Turkey, as of December 2022, the emission volume is TRY 342,000,000,000,000 (Central Bank of the Republic of Turkey, 2023). These figures demonstrate that fiscal policy should not be relegated to a secondary role in the formulation of economic policies.

The objective here is to address whether the problems that cause fiscal policy to be relegated to the background in the Monetarist school of thought exist theoretically. Identifying which motives and impulses are at the root of these issues would ultimately assist in the solution of these challenges. What is crucial is to reveal these motives and impulses so as to prevent or open the path for theorizing the problems that theoretically cause fiscal policy to be relegated to the background in the Monetarist school of thought.

I will demonstrate that the motives and impulses underlying the problems that lead to the relegation of fiscal policy to the background in the Monetarist school of thought are mere illusions. In doing so, I will be guided by the theory of monetary policy neutrality. So, my argument here is that every policy must be used as much as necessary without leading to policy blindness and policy fetishism.

1. Concepts and Theoretical Background

Monetarists argue that fiscal policy is generally ineffective unless supported by monetary policy. Fiscal policy, even when supported by monetary policy, is bound to remain weak due to the existence of expectations. For monetarists, the rejection of fiscal policy is, in a sense, a rejection of Keynesianism (Bocutoglu, 2019, pp. 293-294).

Monetarists argue that short-term fiscal policy destabilizes rather than stabilizes the economy. Misdiagnosis and many hazards arising from uncertainties in general economic forecasts lead to delays in diagnosis, decision-making, and behavior. The time lag between the diagnosis of a deviation from the general equilibrium state of economic agents and the effects of the measures taken is quite long. Furthermore, there is also the issue that the impact delay is variable for each measure and cannot be determined precisely. Therefore, fiscal policy acts more as a disruptor than a stabilizer of the economy (Ozturk, 2020, p. 86).

Monetarism's approach to fiscal policy is negative. It regards fiscal policy as a failure as an expansionary policy. In order to support this argument, the

exclusion effect explanation is used. Financing the budget deficit resulting from an expansionary fiscal policy by borrowing from the public would increase the demand for money and hence the interest rate, which in turn would reduce private investment. The net effect of a budget deficit on aggregate spending is therefore unpredictable, at best very small (Tokatlioglu & Selen, 2021, p. 73).

The hypothesis comes into existence to explain that, within the monetarist school of thought, it is possible to use fiscal policy as an economic policy instrument in conjunction with monetary policy as an expansionary policy.

Once money is introduced in practice, fiscal policy no longer has a strong effect with a fixed money supply, even when the zero bound eliminates the Taylor rule. The fiscal multiplier is the same whether interest rates are at the zero bound or not. The reason is that even if the credible interest rate remains unchanged, fiscal policy excludes investment through the credit insurance premium (Le et al., 2016, p. 86).

Research on the relative effectiveness of monetary and fiscal policy persisted into the new century. In Indonesia, the subject was followed by researchers including Yunanto and Medyawati, Kuncoro and Sebayang, Simorangkir and Adamanti, and Hidayat and Silalahi. Yunanto and Medyawati employed a two-stage least squares system to characterize the sensitivity (response) of shocks to a macroeconomic policy change. Using fiscal and monetary multipliers, they concluded that monetary policy was more effective than fiscal policy during 1990-2011. Kuncoro and Sebayang also utilized the impact function between monetary and fiscal policies, and they found that monetary policy was more effective than fiscal policy in Indonesia during 1999-2010. So, using two different approaches, both Yunanto & Medyawati and Kuncoro & Sebayang found that monetary policy was more effective in Indonesia (Yien et al., 2019, p. 370).

In other words, the monetary policy key to fighting inflation ends up failing as fiscal policy does not simultaneously replace raising taxes to stabilize the debt. The economy moves through an upturn, yet with persistently higher inflation and a growing public debt to GDP (Gross Domestic Product) ratio (Davig & Leeper, 2011, p. 226).

The theory here is that fiscal policy cannot be used simultaneously with monetary policy to prevent any economic instability. Bilgili (2001) states in an article that the main sources of depression may be real and monetary variables. Keynesians explain depression with real variables, and monetarists explain depression with monetary variables. He suggests that the quarrel between Keynesian and monetarist approaches may be related to the distinction in business cycle analysis between the impulse and the diffusion mechanism. According to their impact on private expenditure, monetarists

see investment in the sense of a spillover mechanism that carries the impact of autonomous money supply impulses due to its origins in the public sector, whereas Keynesians argue in favor of the responses of monetary and fiscal policy to respond as a series of investment impulses.

In the theory put forward by Keynes and his successors, monetary policy was considered insignificant. Parasiz (1991) stated in his article that Keynes' General Theory has been interpreted and complemented by many economists. These studies have shown that governments can use budgetary and fiscal policies to fully control the evolution of the economic cycle and may even be willing to accept budget deficits. Conversely, these studies emphasize that monetary policies are almost completely ineffective.

Monetarists based their assumptions about fiscal policy on the constancy of the quantity of money. As Turan (2011) argues in his book, monetarists consider the quantity of money to be held constant when analyzing fiscal policy and argue that fiscal policy has little effect on the level of economic activity. He states that monetarists' arguments regarding the effects of fiscal policy can be described within the framework of the IS-LM model.

2. On the Necessity of an Economic System

There is clearly a relationship between the elements of all open systems in nature. However, for these systems to function well and sustain their existence, there are certain essential characteristics. One of these characteristics is that the relationships between the elements of systems are meaningful and harmonious. Unless there is a meaningful relationship between the elements of a system, harmonization is, naturally, not possible.

This is also the case among the elements of the economic system. As is well known, the functioning of the economic system is ensured by economic policies. And economic policy instruments ensure the functioning of economic policies. Each economic policy instrument has its own elements. What is essential here is the existence of meaningful relationships between these elements. The meaningful relationship between these elements also leads to harmonization between the elements.

The harmonization between the elements of the instruments of economic policy is crucial with respect to the following aspects (Savas, 1982, pp. 21-22):

-Achieving full employment,

-Increasing the level of production,

-Maintaining price stability,

-Ensuring balance of payments,

-Eliminating imbalances in the distribution of income and wealth,

-Eliminating imbalances in factor allocation,

-Ensuring that the public needs are met,

-Prioritizing and protecting certain regions or sectors,

-Directing private consumption habits,

-Ensuring the secure continuation of the supply of essential goods,

-Managing population size and structure,

-Ensuring a reduction in working hours.

No force in nature is left unattended and uncontrolled. For, this lack of freedom and control could lead to forces weakening each other to the point where they are unable to fulfill their functions, or even destroying each other. The elements of the instruments of economic policy, each of which is a force in the economy, should not be left unattended and uncontrolled. Unattended and uncontrolled elements of economic policy instruments lead to ineffective instruments, and then to policy inefficiency.

The mobility and variability of the elements of economic policy instruments increased even more as the era moved into a new period, the Information Age. In the information age, another type of economic policy, information policy, gained increased functionality. This functionality also means an increase in the functionality of the instruments of information policy, such as information on the diagnosis and forecasting of the economic situation; qualitative and quantitative information on the supply, demand, and prices of investment and consumer goods; advertising and propaganda on a specific producer, consumer, and labor behavior; and labor market consultancy. The increased functionality of information policy instruments in the information age results in an increase in the influence of information policy on other economic policies. It is essential that information policy instruments are not left unattended and uncontrolled to ensure the smooth functioning of the economic system.

As is well known, the theory of large markets does not, in principle, have to be linked to a particular economic idea. It is conceivable, as J.P. Constant notes, that the expected benefits can arise both in a system in which a liberal cadre functions and in a guided system. In this regard, the Treaty of Rome, the foundation of the European Union, authorized the use of interventionist formulas in some cases, as well as resorting to the mechanisms of classical economics. On the one hand, the convergence of social and fiscal legislation was chosen to eliminate the differences in price levels, while on the other hand, direct intervention mechanisms were put into practice to ensure the economic balance of the less developed regions within the Common Market structure, to meet their capital needs and to ensure the flow of labor forces. The

European Investment Bank and the European Social Fund were established to achieve these objectives (Ulken, 1992, p. 449).

Prior to the globalization process in which the world economy finds itself today, economic disturbances in one country affected other countries only to the extent of that country's share in the world economy. The main features of globalization are as follows (Brzezinski, 1998, p. 30):

-Common security system, including integrated command and forces (NATO-North Atlantic Treaty Organization), U.S.A.(United States of America)-Japan Security Treaty, etc.),

-Cooperation organizations for regional economic cooperation (APEC-Asia and Pacific Economic Cooperation), NAFTA-North American Free Trade Agreement) and private global cooperation (World Bank, IMF-International Monetary Fund, WTO-World Trade Organization),

-Methods that enable collective decision-making, even when they are directed by the United States,

-Choosing democratic membership in key alliances,

-Establishing a fundamental constitutional and legal structure with a global dimension (ranging from a Court of Justice to special tribunals to prosecute war criminals in Bosnia and Kosovo).

With globalization, restrictions on the international mobility of capital and money flows were lifted. This leads to the fact that a disturbance in the economy of one country affects the economies of other countries, regardless of the country's share in the world economy. With globalization, the relationships between the elements of economic policy instruments and the relevance and harmonization of these relationships become more significant.

This study analyzes the relationship between the elements of economic policy instruments and the elements of fiscal policy instruments and their harmonization issues in the post-1980 period.

3. On the Harmonization Issues in Economic System and Order Policy Instruments-Fiscal Order Policy Relations

In this article, the harmonization issues in the relations between the Production, Enterprise, Workplace, and Property Order, which are among the instruments of Economic System and Order Policy; Social Policy and Social Security Order; and Fiscal Order, which is also an instrument of Economic System and Order Policy, are analyzed.

Economic policy instruments are divided into three parts:

-Instruments to Determine Behavior

-Instruments to Stimulate, Encourage and Direct Behaviors, and

-Instruments to Harmonize Behavior.

Again, in a systematic analysis, the instruments to stimulate, encourage and direct behaviors are also divided into four parts (Erkan, 1990 pp. 180, 184):

-Economic System and Order Policy Instruments,

-Economic Process Policy Instruments,

-Economic Structure Policy Instruments, and

-Information Policy Instruments.

Information Policy Instruments are included in the instruments of the other three policies above and have four instruments. These are:

-Information on Diagnosis and Forecasting of Economic Situation,

-Qualitative and Quantitative Information on the Supply, Demand, and Prices of Investment and Consumption Goods,

-Advertising and Propaganda on a Certain Producer, Consumer and Labor Behavior,

-Labor Market Consultancy (Turkish Employment Agency).

The Economic System and Order Policy Instruments, which this article analyzes from one perspective, also come in the form of recommendations or legal coercion. The vast majority of these are in the form of coercive legal norms. These norms, which constitute the legal framework of the economic order, cover five areas:

-Laws Determining the Legal Order of Production,

-Laws Determining Market Order,

-Laws Determining the Monetary Order,

-Laws Determining the Financial Order, and

-Laws Determining Social Policy and Social Security Order.

What is meant by the term "Laws Determining the Fiscal Order" are the Laws Determining the Budget Order and the Laws Determining the Tax Order (Erkan, 1990, pp. 182, 184, 196-198). This article reviews the existing harmonization issues in the relationship between the Laws Governing the Fiscal Order and the laws covering other areas of the economy.

a. Harmonization Issues Between the Laws Determining the Legal Order of Production and the Laws Determining the Financial Order

The order of production consists of a set of norms and theories that regulate the relations of the production process. Legal regulations determining property relations on the means of production are divided into four categories. These are (Erkan, 1987 p. 77):

-Legal regulations regarding the property order,

-Legal regulations on the form of enterprise, which regulates the authority and liabilities within the enterprise, closely related to the property order,

-Legal regulations that determine the participation of employees in the workplace and entrepreneurial decisions (management) (business organization),

-Together with the totality of legal regulations on labor and worker health protection, these constitute the economic order policy instruments in the production field.

3.a.1. Harmonization Issues between the Laws Determining the Property Order and the Laws Determining the Financial Order in Turkey

The laws governing both the property order and the fiscal order are laid down in constitutions and regulated by separate laws. As articles that determine the property order, Article 35 of the Constitution defines the property right, and Article 44 defines the land ownership. Furthermore, as articles determining the financial order, Article 73 of the Constitution defines the Duty to Pay Taxes, Article 161 defines the Preparation of the Budget, Article 162 defines the Discussion of the Budget, Article 163 defines the Principles of Making Amendments to Budgets, Article 164 defines the Final Account, and Article 165 defines the Audit of State Economic Enterprises. Apart from the Constitution, the property right is also specified in the Civil Code and the Code of Practice in the Code of Obligations. Apart from the Constitution, the legislation determining the fiscal order consists of the following: Income Tax, Corporate Tax, Value Added Tax, Tax Procedure, Stamp Duty, Vehicle Tax, Inheritance Tax, Fuel Consumption Tax, Education, Youth, Sports and Health Services Tax, Customs Tax Laws, Law on Tax Refunds, Law on Fees, Laws of Various Funds, Law on Pension Fund, Law on Social Insurance, Law on Tradesmen and Craftsmen and Other Independent Employees Social Insurance Institution, Law on Army Assistance Institution, Law on Surety Fund and Budget Laws. Thus, laws regulating the right to ownership of material factors of production and laws governing the fiscal order are significant instruments of economic order policy. Property Right is a right that includes the broadest powers related to property (Onen, 1991, p. 220).

Private property, ostensibly a neutral "right" between individuals and property, is in fact a social power relationship between individuals. It is a historically specific form of relationship with social consequences. Everyone has the same right to own property and to use it as they wish. However, it is this innocent-looking right that underlies the class structure of capitalism. This is the essence of the capitalist state. A capitalist state is a state that sanctions private property and freedom of contract (Gulalp, 1993, pp. 14-15).

Moving from the abstract and descriptive concepts mentioned above to the concrete practices of today, we encounter particular situations, which are discussed below. From a business management perspective, the following situation emerges.

In business management, familial management occurs when a significant portion of the ownership, key political decision-making bodies, and hierarchical structure are composed of members of a particular family. The most prominent feature of this form of governance is that top management positions are open to certain family members or relatives. In the initial stages of economic development efforts, this type of management is widely encountered (Kocel, 1995, p. 9). Despite the fact that the owners of small and medium-scale firms include certain family members and relatives and that they are also the first managers of the enterprise, which is advantageous for accelerating the work and adapting quickly to changes, the lack of sufficient technical and professional knowledge of the owners and/or managers in the face of constantly changing market conditions and technologies, i.e. their inability to catch up, complicates their correct decision-making (Bagriacik, 1989, p. 21). The characteristics of small-scale enterprises in terms of management are as follows (Karatas, 1991, p. 21):

-Management has an independent character. The management of the enterprise is usually done by the owners.

-The capital is usually in the possession of one person or a small group of people in these enterprises. The enterprise is financially independent. The owner of the enterprise has taken over how the work is carried out and the issues of raising capital.

-It has a predominantly local government character. Usually, workers and employers are members of the same local community. And their knowledge and skills are limited.

Based on the above explanations, there are three main types of enterprise organizations. These are sole proprietorship, partnership and legal entity. In a sole proprietorship scheme, one owner makes all decisions and is personally liable for all of the firm's activities and debts. In a partnership, there are two or more co-owners, one of whom may have binding decisions and is personally

liable for all of the firm's activities and debts. Under the legal entity term, the firm has a legal existence separate from the owners. Owners are shareholders in the firm and take only as much risk as their stake. The owners elect a board of directors, which employs paid managers to run the firm under the supervision of the board of directors (Lipsey et al., 1990, pp. 173-174).

Apart from private enterprises, the following situations arise from the perspective of public enterprises.

Public enterprises are also divided into four groups. The first one is the revolving fund enterprises, classified as fund enterprises, functioning under general, annexed budget administrations and engaged in commercial and industrial activities. Some of the enterprises with revolving funds are the Ministry of Finance's Stamp Printing House and Mint, the Ministry of National Education's Stamp Printing House and Mint, the Ministry of National Education's printing houses, vocational high school workshops, and university hospitals (Batirel, 1994, p. 16). The second type of public enterprise is the organizations with annexed budgets, whose expenses are covered by special revenues and are carried out outside the general budget. Some of the Annexed Budget Institutions are the General Directorate of Highways, the General Directorate of Foundations, and Universities (Sonmez, 1994, pp. 169-170). The third type of public enterprise is the enterprises affiliated with Special Provincial Administrations, Municipalities, and Villages. These include spa enterprises affiliated with special provincial administrations, water, and natural gas, and urban transportation enterprises affiliated with municipalities (Coskun, 1994, passim.). The last of the public enterprises is the Public Economic Enterprises (PEE), which consists of State Economic Enterprises (SEE) and certain public enterprises, i.e. Public Economic Organizations (PEO) engaged in public activities. State Economic Enterprises are enterprises more than half of the capital of which belongs to public administrations with general and annexed budgets, which act in the economic field just like enterprises operating on commercial principles. State Economic Enterprises are the units of public administration that are wholly owned by the public but are established by law to produce and sell monopoly goods and basic goods and services and produce mostly public goods and services. State Economic Enterprises are established on the basis of Law No. 2929 by issuing a special law. Such enterprises are private legal entities under private law with respect to their relations with third parties, and public legal entities with respect to their management and supervision. The liabilities of such public institutions are limited to their capital, and they function as autonomous public administrations (Aksoy, 1993, pp. 165-166). The above-mentioned status of public enterprises clearly expresses the state's characteristic of being both a public power and one of the units of the economy (Sonmez, 1987, p. 267).

Public enterprises prefer to maintain monopolies in some sectors. In some production lines, the functioning of competition is incompatible with the economy. In other words, instead of having more than one firm competing in these production lines, having a single firm doing all production keeps total costs at a minimum. A natural monopoly occurs when the infrastructure facilities, which must be geographically distributed over the production area, occupy a large share of total costs. Monopoly operation in railway, postal, telegraph, and telephone services enables the production of more services with the same amount of input (Bulutoglu, 1988, p. 20). A critique of the causes of natural monopoly suggests that the purpose of economic discussion is to avoid natural monopolies and monopoly prices (Samuelson & Nordhaus, 1989, p. 588).

Conclusion

In our study, fiscal policy instruments are assigned as independent variables to constitute the manipulation instruments. These independent variables are public revenues, public expenditures, public budget, and public borrowing. Again, in our study, monetary policy instruments are assigned as independent variables to constitute the manipulation instruments. These independent variables are interest rate policy, OMO (open market operations), provisions policy, exchange rate policy, money printing, open monetary policy, quantitative monetary easing, quantitative credit easing, zero or negative interest rate policy, macro & micro-prudential measures, and forward guidance. Independent variables show a fluctuating trend. The growth group is to be implemented by lowering interest rates, lowering reserve requirements, liquidity-boosting open market policies, increasing public expenditures, lowering taxes, and increasing incentives. Among these independent variables, the price stability group is to be implemented by raising interest rates, increasing reserve requirements, keeping the national currency valuable, restricting public expenditures, increasing taxes, and increasing budget discipline. Of these independent variables, the unemployment group is to be implemented by lowering interest rates, reducing reserve requirements, implementing OMOs that will make liquidity abundant, increasing public expenditures, lowering taxes, and increasing incentives. Among these independent variables, the current account deficit group is to be implemented by increasing reserve requirements, depreciation of the national currency, import substitution, export incentives, and non-tariff barriers. The budget deficit group is to be implemented by restricting public expenditures, increasing taxes, and enhancing budget discipline. The income distribution group is to be implemented with regulations on taxes. The public sector debt burden group is to be implemented by restricting public expenditures, increasing taxes, enhancing budget discipline, and striving for lower interest rates. The control variables in our analysis are low growth, high inflation, high

unemployment, high current account deficit, high budget deficit, distorted income distribution, and high public sector debt burden.

Discussion

The objective of this study is to strengthen our thesis arguing that fiscal policy instruments, which are larger in monetary volume than monetary aggregates, should not fall behind monetary policy instruments in the neo-liberal monetarist stream of economic thought. Our contribution to the theory has been to prove that fiscal policy instruments are not inferior to monetary policy instruments regarding dynamism. For practitioners, our contribution has been to expand the boundaries of fiscal policy in the monetarist school of thought. One of the limitations of our study is the superficial theoretical comparison issue stemming from the methodology. Another limitation is the issue arising from the researcher, namely us, and this issue is the inability of the researcher to compare the data from the periods when the monetarist school of thought was active with today's data. Our recommendation for future researchers is to re-compare the results of the implementation of monetary policy instruments and fiscal policy instruments in periods of declining nationalization in world economies.

We have found that the constraints of fiscal policy are exaggerated in the neo-liberal monetarist school of thought. We also found that the same stream of thought overestimates the effectiveness of monetary policy. Fiscal policy instruments are relegated to the background as the literature prioritizes monetary policy and its instruments in the neo-liberal monetarist school of thought. This stems from the perception that fiscal policy instruments are slow to function. The literature supports our hypothesis in only one aspect, namely that the effects of the implementation of fiscal policy instruments are permanent on the economic system. Our findings are not supported by the negative aspects of the neo-liberal monetarist school of economic thought against the instruments of fiscal policy. Our major limitation in this study is the point where the neo-liberal monetarist stream of economic thought gathers its prejudices against fiscal policy. The drawbacks of our study are that the arguments proving the invalidity of the contradictions put forward by neo-liberal monetarists take place under different conditions for each country. The misleading elements of our study are the arguments that each fiscal policy instrument's various mechanisms arising from its distinct structure are sources of inefficiency.

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Chapter 3

STRATEGIC MANAGEMENT IN HEALTHCARE ORGANIZATIONS: AN OVERVIEW AND FUTURE TRENDS

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1. INTRODUCTION

In today's complex and dynamic healthcare environment, strategic management plays a critical role in the success and sustainability of healthcare organizations. Healthcare organizations operate in a complex and fast changing environment caused by new technologies, evolving legal requirements, demographic shifts and new patient expectations. Managing healthcare organizations requires a deep understanding of industry trends, ethical considerations, and changing customer preferences. Organizations with effective strategic management are more likely to anticipate and adapt to these challenges through innovation, agility and continuous improvement (Ginter et al., 2018:13).

Strategic management in healthcare organizations involves setting specific, measurable, achievable, relevant ant time-bound goals that align with the organization's mission, vision and values. In healthcare context, setting goals for patient care, financial sustainability, quality improvement and staff development can be given as examples (Arbab Kash et al., 2014:252). Setting strategic goals provides direction and resource focus to healthcare organizations so that they can prioritize which challenges they address. Strategic management in healthcare requires a systematic approach to planning and implementation. Conducting a comprehensive environmental scan and assessing strengths and weaknesses through stakeholder participation are key elements (Huebner and Flessa, 2022:5). Building partnerships with patients, professional organizations, policy makers and other stakeholders will ensure their contributions in strategic planning and goal setting. Besides providing quality inputs to strategic decision-making process, stakeholder engagement also fosters ownership and support from the related parties and improves organizational reputation (Concannon et al., 2014:1695).

For the above reasons, strategic management of healthcare organizations has been a research topic with significant impact. As a result, considerable knowledge has accumulated on this topic especially in the recent decades. However, only a limited number of studies attempted to integrate this large literature. Therefore, the current study pursues this interest in order to provide a general picture of the literature. In this study, a comprehensive analysis of the literature on strategic management in health care will be performed. After identifying the main topics in the literature, impact and challenges of future trends for the healthcare industry will be discussed. In addition, practical implications and management advice are provided.

The paper is organized as follows. A background on the current healthcare context will be provided first. Next, the importance of strategic management for healthcare organizations will be discussed in detail. After this section, the literature review methodology will be explained. Following this, main topics

of the literature will be pinpointed. Next, future healthcare trends and their potential challenges to strategic healthcare management will be discussed. In the conclusion part, a summary of the study will be provided.

2. THE CURRENT HEALTHCARE CONTEXT

Today's healthcare industry is characterized by a variety of challenges and opportunities that is transforming the delivery of care, access to services and the overall healthcare management. First, technological advances are revolutionizing medicine, enabling improved diagnostics and innovative treatments (Naik et al., 2022:2). Telemedicine, wearable devices and artificial intelligence are among the new forces that are changing healthcare delivery. For example, telemedicine allows remote diagnostic services when patients and doctors are in separate locations, wearable devices enable healthcare providers to monitor patients in real-time and artificial intelligence can assist the improvement of diagnosis and treatment performance. While these technologies show promise, their deployment create challenges in terms of patient privacy, interoperability, and employee adoption (Naik et al., 2022:3). Healthcare organizations must navigate the evolving technology landscape to take advantage of its benefits while minimizing the potential negative impacts. On the other hand, demographic changes such as aging population, increasing prevalence of chronic diseases, and patient diversity are major drivers of change in healthcare (Cerveny et al., 2022:2). Meeting the complex needs of different populations requires individualized approaches that take into account cultural, social and linguistic factors. For example, culturally competent healthcare systems have the potential to reduce health disparities among groups from different racial and socio-economic backgrounds (Anderson et al., 2003). Inequalities in healthcare access is another issue that demographic changes are shaping.

Another important factor in healthcare is the regulatory system. Healthcare is often affected by changes in regulatory frameworks and policies that affect funding, reimbursement and quality standards (Oyri and Wigg, 2022:1). For instance, research shows that regulatory changes directly shape technology adoption strategies of healthcare organizations (Nair and Dreyfus, 2018). Ongoing health policy revisions, insurance reforms and privacy regulations are only part of the shifting context that healthcare organizations must adapt to.

The healthcare environment is also characterized by rising costs, resulting in economic pressures on healthcare providers and taxpayers. Factors such as expensive medical technologies, labor shortages and bureaucratic inefficiencies all contribute to the cost burden (Stadhouders et al., 2019:72). Healthcare leaders must pursue cost-containment strategies, explore innovative reimbursement models, and ensure efficient use of resources without compromising service

quality. Balancing financial sustainability and affordability is a key challenge for today's healthcare organizations.

Patient-centered care, which emphasizes active patient participation, shared decision-making and individualized care planning, is another trend shaping the future of healthcare services (Epstein and Street, 2011:100). Patients are increasingly able to access health information and actively participate in their care (Hobbs, 2009:52). Therefore, healthcare organizations should increase their efforts towards health literacy and incorporating patient preferences and feedback into healthcare delivery (Constand et al., 2014:6). Building trust and adopting a patient-centric approach are central to improving the healthcare experience and outcomes.

In summary, today's healthcare environment presents both challenges and opportunities in healthcare delivery and experience. By leveraging emerging technologies, controlling costs and adopting patient-centered care, healthcare organizations can manage the complexity of the current landscape. To overcome all these challenges, healthcare organizations must adopt an evidence-based strategic approach.

3. IMPORTANCE OF STRATEGIC MANAGEMENT IN HEALTHCARE ORGANIZATIONS

As outlined before, strategic management plays a key role in today's healthcare environment where organizations face numerous challenges and opportunities. By taking a strategic approach, healthcare leaders can respond to the dynamic environment, improve patient outcomes and operational efficiencies (Ginter et al., 2018:14). Adopting a strategic approach requires healthcare organizations to take the long term direction of the organization into account when deciding on current issues. In the healthcare context, strategic management approaches and tools can provide at least four types of contributions to health care organizations.

First, strategic controls help healthcare organizations interpret and comply with changing regulations while optimizing operations and minimizing risk (Stadhouders et al., 2019:7). By establishing effective governance structures, aligning policies with industry standards and monitoring regulatory changes, healthcare leaders can navigate the legal environment (Salgueiro-Capallos et al., 2020:106).

Second, strategic management helps healthcare organizations to proactively adapt to demographic changes. By conducting in-depth market research, engaging patients and communities, and leveraging patient feedback, healthcare leaders can identify and respond to emerging needs (Crisafulli et al., 2019:1). They can develop innovative service models, that meet the unique needs of diverse patient populations.

Third, financial sustainability is a pressing concern for healthcare organizations. Strategic management enables organizations by aligning resources with strategic objectives and identifying revenue-generating opportunities (Stabile et al., 2013:645). Financial planning, cost containment strategies and resource prioritization help the long-term viability of healthcare organizations (Stadhouders et al., 2019:73). Strategic management also encourages working with stakeholders for developing alternative payment models to improve financial stability while providing quality care.

Finally, strategic management can help foster a culture of innovation that ensures success in the healthcare industry (Sensmeier, 2019:10). Through strategic thinking, emerging trends are identified and technological advances are taken advantage of through evidence-based practices (Zuckerman, 2006:14).

To sum up, strategic management is a great advantage for healthcare organizations in managing regulatory complexity, meeting patient needs and achieving financial sustainability. Through a strategic approach, healthcare organizations can achieve resource optimization and dynamic adaptation.

4. METHODOLOGY

This study utilizes the systematic literature review method. Systematic literature reviews have advantages over other types of reviews because they follow a systematic method that can be reproduced by other researchers (Tranfield et al., 2003). Therefore, systematic reviews provide reliable insights on a topic of interest that can be validated by independent parties (Denyer et al., 2008). The first step was determining the search terms for the review. Scopus database was searched with the keywords "strategic management", "strategy", "healthcare" and "hospital". This search returned 113 articles. Then, abstracts of each article were read carefully in order to choose the final sample. Studies that were not published in academic journals were excluded because journal articles are subject to more meticulous evaluation procedures. At the end, 94 articles remained in the sample after applying the exclusion criteria. After the articles were selected, they were classified according to their main research topics.

5. FINDINGS

Classification of the literature shows that most of the strategic management research in healthcare is clustered around six topics: strategic management practices, strategic management for healthcare system improvement, implementation of strategic management tools, measurement of strategy performance, management of strategic knowledge and environmental adaptation.

The results of the literature analysis also show that strategic management research in healthcare encompasses a wide range of topics and perspectives. The characteristics of this literature can be grouped into eight categories. Firstly, strategic management research in healthcare benefits from insights from diverse research fields such as management, economics, public health and policy analysis. This interdisciplinary approach enables diverse contributions to the complex healthcare environment. Second, the primary focus of this literature is measuring the performance implications of strategic management initiatives. Researchers utilize metrics such as financial performance, cost effectiveness, quality of care or patient satisfaction to assess the effectiveness of strategic decisions. Third, the literature recognizes the importance of diverse stakeholders in the healthcare industry, including patients, service providers, taxpayers, regulators, and professional communities. Researchers investigate how strategic management practices can balance and optimize the interests of these stakeholders in a way that produces maximum benefit for healthcare quality while keeping organizations sustainable. Fourth, given the unique characteristics of the healthcare industry, the literature highlights the impact of contextual factors on strategic decision-making. These factors include regulatory frameworks, technological trends, socio-political dynamics, demographics, and more. Understanding these factors is critical to anticipating and designing strategic change initiatives. Fifth, strategic management research in healthcare emphasizes the need for innovation and adaptability in response to changing market conditions and emerging trends. Scholars are exploring strategies to develop innovation, manage change, and foster organizational learning. Sixth, the literature emphasizes the importance of cooperation and partnerships between medical institutions and external stakeholders. Researchers study how strategic alliances, networks and partnerships can improve efficiency, knowledge sharing and collective impact in healthcare delivery and governance. Seventh, strategic management research in healthcare recognizes the ethical challenges in healthcare decision-making process. It explores issues such as inequality of access to healthcare, patient agency and privacy, and social responsibility. Ethical considerations should guide strategic decisions and shape organizational culture in healthcare. The literature on strategic management in health care often contributes to policy debates and provides insights to policy makers. Researchers study the impact of policy changes on strategic decision-making and assess the effectiveness of different policy interventions to achieve desired outcomes.

6. FUTURE STRATEGIC MANAGEMENT CHALLENGES IN HEALTHCARE ORGANIZATIONS

The healthcare industry is evolving rapidly with technological advances, changing patient expectations, and new Strategic management is essential for healthcare organizations to manage the complexity of the healthcare industry,

achieve goals and deliver quality care. However, healthcare organizations face unique challenges that require careful consideration and effective strategies. This section examines key strategic business challenges in healthcare organizations under five categories.

6.1. Dynamic Regulatory Environment

One of the greatest strategic management challenges for healthcare organizations is the dynamic regulatory environment. Healthcare organizations face numerous regulations and standards imposed by government agencies and accreditation bodies. Complying with these regulations while achieving service quality, operational efficiency and profitability requires strategic planning and resource allocation.

6.2. Changing Reimbursement Methods

The transition from a performance-based reimbursement model to a value-based reimbursement model presents significant challenges for healthcare organizations (Koleva-Kolarova et al., 2022:501). Value-based reimbursement models focus on patient outcomes, quality of care and cost-effectiveness, basing payment structures on value rather than quantity (Henkel, 2015:4). This shift forces healthcare organizations to develop new delivery models, prioritize population health management and improve patient engagement.

6.3. Technological Advances

Rapid technological advances present both opportunities and challenges for healthcare organizations (Thimbleby, 2013:161). On the one hand, technology offers a great potential for better patient care, operational efficiency, and data-driven decision making (Incerti et al., 2019:576). On the other hand, implementing and integrating new technologies can be complex and expensive (Thokala and Duenas, 2012:1174). Healthcare organizations must strategically embrace new technologies such as telemedicine, medical informatics and artificial intelligence. Factors such as interoperability, data security, training and support should be taken into account in the application phase.

6.4. Workforce Management

Effective human resource management has always been a significant challenge for healthcare organizations (Harris et al., 2007:448). Labor shortages, turnover, and maintaining a skilled and engaged workforce are constant problems that healthcare organizations need to manage. Strategic management approaches such as talent acquisition and retention, training and development, and positive work environment designing can provide efficient solutions to this long-standing challenge. Healthcare organizations also need to adapt their workforce models to meet the changing nature of work through team-based care and interdisciplinary collaboration (Tursunbayeva, 2019:2).

6.5. Patient-Centered Care

Providing patient-centered care has become an imperative for healthcare organizations (Boggiano et al., 2017:57). Patient expectations and demands are evolving in a direction that patients are increasingly demanding active participation in healthcare decisions and personalized care experiences (Brown et al., 2017:36). In this new context, ealthcare organizations should improve patient engagement and tailor services to individual needs through implementing patient feedback mechanisms, and provide health literacy training to patients (Santana et al., 2018:430).

7. STRATEGIC MANAGEMENT IN THE CONTEXT OF FUTURE HEALTHCARE TRENDS

The healthcare industry is evolving rapidly with technological advances, changing patient expectations, and new global healthcare challenges. Strategic health management plays a key role in navigating this dynamic situation and ensuring high-quality, patient-centered care. This section examines the new healthcare trends that are expected to shape the industry under five categories.

7.1. Integration of Digital Health Technologies

Digital technologies such as telemedicine, artificial intelligence (AI) and wearable devices are transforming healthcare delivery and management (Mahajan et al., 2021:129). These technologies enable remote patient monitoring, improve diagnostic accuracy and patient agency in healthcare management (Ratcliff et al., 2021:1348). Strategic healthcare management offers solutions to integrate these technologies into existing systems to ensure interoperability, data security and effective use (Wisniewski et al., 2020:121). Additionally, healthcare organizations must invest in training and infrastructure to maximize the benefits of digital technologies while addressing their challenges (Trupia et al., 2021:9).

7.2. Shift Towards Value-Based Care

Value-based care focuses on achieving positive patient outcomes while effectively managing costs (Putera, 2017:1). This approach contrasts with traditional pricing models that incentivize volume-based care. Strategic health management requires a shift to a values-based model of care that emphasizes care coordination, preventive interventions, and patient engagement (Collden and Hellström, 2018:1). This change requires healthcare organizations to develop performance metrics and payment models that reward quality and results (Andersson et al., 2015:67). Strategic management also includes facilitating partnerships with payers, providers and patients to align incentives and improve population health outcomes.

7.3. Focus on Population Health Management

Population health management involves proactive policies for specific populations (Starfield, 2001:452). Strategic management of healthcare requires the prioritization of prevention strategies (Kruse et al., 2018:2). This approach requires health agencies to collaborate with local stakeholders like public agencies, social service organizations and local governments (Loeppke et al., 2008:287). Strategic approach to healthcare entails evidence-based innovative programs and targeted outreach to address health inequalities.

7.4. Ethical and Sustainable Practices

In an increasingly complex healthcare environment, ethical and sustainable practices are fundamental elements of strategic healthcare management. In this regard, objective access to healthcare, patient agency and autonomy, ethical considerations of emerging technologies are among the priority issues that should be addressed by healthcare leaders (Sacchini et al., 2009:453). Strategic management requires a proactive approach to ethics, including the development of ethical guidelines, policies and procedures to guide decision-making. In addition, healthcare organizations are expected to adopt environmentally responsible practices to contribute to long-term sustainability (Zadeh et al., 2016:264).

7.5. Embracing Data Analytics and Predictive Modeling

The future of healthcare management will rely heavily on data analytics and predictive modeling to support evidence-based decision-making (Dash et al., 2019:3). Strategic healthcare management will require the utilization of advanced analytics and machine learning techniques to improve medical and operational decisions (Mehta and Pandit, 2018:58). To effectively harness the power of data analytics, healthcare organizations must invest in data infrastructure and individuals with data skills (Wills, 2014:255).

8. CONCLUSION

Strategic management is a key contributor to achieving financial goals, improving patient outcomes and navigating a dynamic healthcare environment. This paper explored the significant issues of strategic management in healthcare organizations, focusing on challenges and future trends. Stakeholder engagement, data-driven decision-making, collaboration, and a patient-centric approach came to the fore among the study's findings.

Stakeholder engagement ensures the participation of related parties in decision-making and guarantees their commitment to mutual goals and principles. Data-driven decision-making tools, on the other hand, support environmental scanning, performance assessment, trend spotting and knowledge acquisition to facilitate evidence-based decision-making in

healthcare. Effective collaboration among healthcare providers, regulatory institutions and civil society organizations encourages innovation and coordination. The integration of digital health technologies such as electronic health records, telemedicine, internet of things and artificial intelligence improves service delivery, patient engagement, and operational efficiency.

A patient-centric approach should be put above all other principles in the strategic management of healthcare organizations. By putting the patient at the center of healthcare operations, healthcare organizations can improve patient outcomes, experience and satisfaction. This requires a focus on patient engagement, shared decision-making and individualized care.

Strategic healthcare management has to face important challenges in the near future due to the new trends in the industry. A dynamic regulatory environment, changing reimbursement models, technological advances, talent shortages, changing nature of work, changing patient expectations and changes in the ethical landscape are some of the biggest challenges that must be addressed by healthcare organizations. Overcoming these challenges requires leadership commitment, strategic approach, collaborative mindset and a culture of continuous learning.

In conclusion, strategic management is essential for healthcare organizations to thrive in a complex and rapidly evolving healthcare context. By adopting strategic management principles and practices, healthcare organizations can address challenges, seize opportunities, and ultimately fulfill their mission to deliver high-quality, patient-centered and financially sustainable healthcare service. As healthcare evolves, strategic management tools and approaches will keep their critical importance for healthcare leaders to drive organizational success and improve individual and community health outcomes.

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Chapter 4

AN ANALYSIS OF THE ECOLOGICAL DEGRADATION OF TURKEY: A MALTHUSIAN PERSPECTIVE

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1. Introduction

Sustainable development is widely recognized as a fundamental objective shared by all nations, as outlined in the "2030 Agenda for Sustainable Development" published by the United Nations (UN). Sustainable Development Goals (SDGs) cover a range of urgent concerns that are formulated to tackle local and global challenges. While these objectives exhibit a high level of inclusivity and encompass a wide range of dimensions pertaining to sustainable development, it is crucial to consider the impact of the dynamics of population on the attainment of sustainable development. Furthermore, certain goals are either directly or indirectly linked to demographic issues (Nabi et al., 2020; Pham et al., 2020). More specifically, SDG-1 and SDG-2 emphasize the need for global economies to work towards reducing poverty and hunger at the national level. SDG-13 stresses climate action to keep the global average temperature below 1.5 °C through the implementation of effective policy action plans.

Adverse environmental circumstances can arise from either a swift expansion in population, a rise in the utilization of scarce resources by the current population, or both factors. The issue of the potential consequences of population pressure on the environment has its origins in the early debate over the correlation between population dynamics and the scarcity of natural resources (Shi, 2003). Thomas Robert Malthus addressed this matter in his seminal work, "Essay on the Principle of Population" (1798). Malthus expressed apprehension regarding the capacity of the Earth and its limited resources to sustain a population that is increasing at an exponential rate (Panayotou, 2000). He stated that in the case of persistent population growth, the capacity of the food supply to satisfy the increasing demand would be insufficient, resulting in a significant crisis.

As the population experienced growth rates that exceeded the predictions of Malthus, there has been a corresponding expansion in food production that outpaced these population increases. As a result, according to the Malthusian view, environmental pollution occurs because of the strain exerted on natural resources by population growth. In addition, several researchers, such as Kuznets (1960), Ehrlich (1968), Boserup (1981), and Simon (1981), have

contributed to this ongoing discussion. Consequently, the debate on this issue shifted towards concerns regarding the effect of population on the depletion of additional natural resources, including minerals, fossil fuels, and renewable resources.

Grossman and Krueger (1991) concentrate on analyzing the correlation between income and the environment. The authors introduced the Environmental Kuznets Curve (EKC), which exhibits an inverted U-shaped pattern. This hypothesis notes that as income increases during the initial phases of development, the quality of the environment declines. However, at an intermediate level of per capita income, environmental quality reaches its lowest point. As income continues to rise beyond this point, environmental quality begins to improve. Empirical research on the EKC also accounts for the other potential determinants of the natural environment. For example, Panayotou (1993) proves that a rise in population causes a delay in reaching the turning point where further income growth starts to have a diminishing effect on deforestation. Similarly, Panayotou (1997) shows that population density has the potential to elevate the height of the EKC for sulfur dioxide (SO_2) emissions across all income levels. Lantz and Feng (2006) verify the EKC hypothesis between population and environment in Canada. They state that population expansion initially leads to an augment in carbon dioxide (CO_2) emissions as it drives the demand for essential products and services in the economy. However, over time, population growth also generates greater environmental conservation, resulting in a subsequent decrease in CO_2 emissions.

This study centers its attention on Turkey, a country that is now experiencing a demographic change. Turkey is currently situated in the third stage of the demographic transition model, characterized by a declining population growth rate. Despite the ongoing rise in population, the trend of the growth rate is downward. According to the Turkish Statistical Institute (TUIK), the population growth rate experienced a decline from 12.7 per thousand in 2021 to 7.1 per thousand in 2022. Figure 1 depicts the change in population and ecological footprint in Turkey over four periods, each spanning a duration of 20 years. This measurement serves as a quantitative indicator for environmental degradation. According to Figure 1, the

environmental condition is not sustainable in Turkey. Specifically, the ecological footprint of Turkey increased by approximately 508% from 47646922.01 gha in 1961 to 289719004.34 gha in 2022. On the other hand, the population has experienced a significant increase, from 28.5 million people in 1961 to nearly 85.5 million people in 2022. During this period, Turkey experienced population growth of nearly 200%. Based on the statistical evidence presented in Figure 1, it is possible to conclude that population growth could be a contributing factor to the environmental deterioration in Turkey.

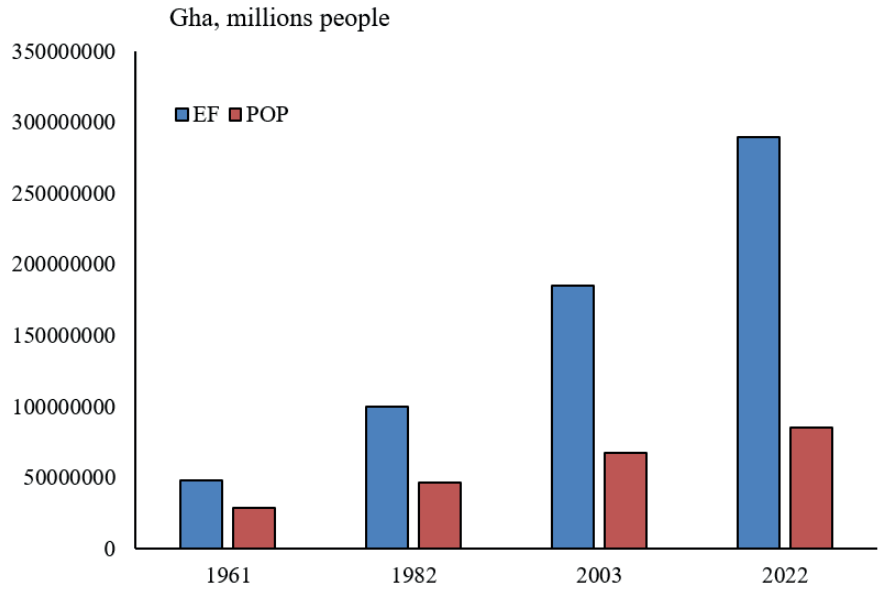

Figure 1. The ecological footprint and population in Turkey (gha, millions people).

Source: World Bank, 2021.

In this regard, the continuity of Turkey's environmental sustainability is crucial when considering its current population structure. Hence, focusing on the Malthusian view, this study examines the role of population growth on EFP in Turkey during the period 1961-2022. Together with population growth, other determinants of the environment, such as income, urbanization, and

trade, are also considered. To achieve the aim of this study, RALS technique is applied.

Section 2 provides a review of the prior studies, while Section 3 thereafter presents the data, model, and methodology. Section 4 discusses the results of the study. Lastly, Section 5 concludes the study.

2. Related Literature

2.1. Population and environment

The global population has exhibited a persistent upward trend, especially in developing nations. This demographic expansion consequently places additional strain on ecological capacity. Hence, it is imperative for a sustainable solution to incorporate population management, wherein the fundamental principle is that population growth should align with the rate of sustainable resource exploitation.

Malthus and Hollingsworth (1973) point out the presence of adverse discernible impacts of population growth on the ecological system. Human beings generate a demand for energy to fulfill their diverse range of needs. Assuming all other factors remain constant, an increase in population necessitates a greater amount of energy. In the same vein, Bidsall (1992) emphasize that population growth leads to increased energy consumption, resulting in a higher utilization of fossil fuels. In addition, it has the potential to contribute to deforestation, along with other alterations in land and resource utilization. As a result, these occurrences could potentially lead to an increase in emission volumes.

The research on the linkage between population and ecological deterioration provides evidence that supports the idea of a detrimental influence on the ecosystem. Khan et al. (2021) show that population growth degrades the environmental conditions in the United States (US). Rahman and Alam (2021) highlight that population density harms the environment in Bangladesh. Haouas et al. (2023) find that population worsen the environment in 16 Middle East and North African (MENA) countries. Jie et al. (2023) observe that population growth is a key factor that contributes to environmental pollution in China.

2.2. Urbanization and environment

Connecting urbanization with modernity, the ecological modernization hypothesis suggests that the process of urbanization positively contributes to the environmental condition. This is achieved through the utilization of advanced technologies, ecological consciousness, and significant changes in urban structures (Bekhet and Othman, 2017). Wang et al. (2021) emphasize the mitigating impact of urbanization on ecological pollution, but its influence is rather weak in OECD countries. Chatti and Majeed (2022) consider the integration of urbanization with digital technologies and reveal that the approach of smart cities positively contributes to the environmental quality in 94 countries. Rasool et al. (2022) prove that urbanization has the potential to contribute to the mitigation of ecological pollution in China. In the case of 116 countries, Su et al. (2022) emphasize that urbanization has positive implications for the environment by facilitating the adoption and integration of sustainable energy technologies.

In contrast, Yasin et al. (2021) find that urbanization is a significant catalyst for worsening environmental conditions in 59 countries categorized as less developed. Sun et al. (2022) show that urbanization plays a key role in the exacerbation of emissions in MENA countries. Pata et al. (2023) reveal the detrimental impact of urbanization on the natural environment in the United States. Zhu et al. (2023) find that both the present and elevated urbanization levels deteriorate the environmental situations in the E-7 nations.

2.3. Trade and environment

Scale, composition, and technology are three hypothesized channels by which trade liberalization disaggregates its effects on the environment. According to the scale effect, trade activities contribute to an escalation in energy utilization, leading to environmental pollution. Conversely, the technological effect of trade facilitates the adoption of more efficient production practices, thereby promoting a sustainable environment. Finally, the composition effect describes the reallocation of inputs and outputs toward polluting or eco-friendly products. Overall, the environmental impacts of trade activities differ across these channels (Chhabra et al., 2023).

Tachie et al. (2020) find that trade activities damage the environment in 18 selected European Union countries. Udeagha and Ngepah (2022) show that trade has a driving impact on the pollution of environment, despite its short-term environmentally positive effects. In the context of G7 countries, Wang et al. (2022) indicate that trade activities consume a higher level of resources, which therefore have a harmful impact on ecological quality. Chhabra et al. (2023) point out that trade drives pollution in the BRICS countries. On the contrary, Shahbaz et al. (2013) show that trade has an alleviating impact on environmental pollution in South Africa. Gozgor (2017) find that nominal trade alleviates the emission level in OECD countries. Rahman and Vu (2020) observe that trade volume reduces the level of pollution in Australia. Wang et al. (2023) prove that the diversification of trade contributes to a decrease in emissions. Additionally, the diversification of imports exhibits the most significant impact in terms of mitigating emissions.

3. Data and Model

The study aims to empirically analyze the role of population growth, urbanization, and trade on the environment within the specific framework of a Malthusian perspective. To this end, this study utilizes yearly data over the period of 1961-2022 for Turkey. Accordingly, the empirical model of the study can be found as follows:

$$\ln EFP_t = \tau_0 + \tau_1 \ln\text{GDP} + \tau_2 \ln\text{GDP} + \tau_3 \ln\text{POPG} + \tau_4 \ln\text{URBG} + \tau_5 \ln\text{TR} + e_t \quad (1)$$

where EFP is ecological footprint (per capita, gha), GDP stands for gross domestic product per capita (constant 2015 US$), POPG refers to population growth, URBG illustrates urban population growth, and TR is the trade. τ_0 is the intercept and e_t presents the error term. The logarithmic transformation is shown by ln. Table 1 contains the summary statistics regarding the variables.

Table 1. Summary statistics

Variables	lnEFP	lnGDP	lnPOPG	lnURBG	lnTR
Mean	0.3990	3.7439	0.2403	0.4815	1.4597
Median	0.3819	3.7279	0.2830	0.4601	1.5447
Maximum	0.5411	4.1458	0.4343	0.7856	1.9057
Minimum	0.2161	3.3923	-0.1770	0.0986	0.9208
Std. Dev.	0.0949	0.2035	0.1442	0.1721	0.2872

Skewness	-0.1638	0.2266	-1.0151	-0.1410	-0.5346
Kurtosis	1.9750	2.0724	3.6683	2.2664	1.8578
Jarque-Bera	2.9913	2.7534	11.8027	1.5956	6.3240
Probability	0.2241	0.2524	0.0027	0.4503	0.0423
Observations	62	62	62	62	62

Note: Author's computation.

GDP has the higher average value, whereas POPG has the lowest mean. According to the p-values of the Jarque-Bera test, Table 1 indicates that EFP, GDP, and URBG exhibit a normal distribution, while POPG and TR have a non-normal distribution. The variable exhibits the highest volatility, while EFP has the lowest level of volatility. In terms of skewness, EFP, POPG, URBG, and TR all have negative skewness, except for GDP.

3.1. Methodology

The study tests the stationary characteristics of the variables through the Augmented Dickey-Fuller (ADF) (Dickey and Fuller, 1979) and the Residual Augmented Least Squares ADF (RALS-ADF) (Im et al., 2014) unit root examinations. Following this step, the long-term linkage between ecological footprint and its potential determinants is determined using the Engle and Granger (EG) (Engle and Granger, 1987) and residual augmented least squares EG (RALS-EG) (Lee et al., 2015) methodologies.

The EG test is performed by a two-step cointegration methodology chosen on the basis of the residuals framework and standard t-statistics. The subsequent step entails the estimation of the regression through the application of the OLS technique.

$$y_t = \beta z_t + \varepsilon_t \tag{2}$$

Afterwards, the residuals, represented as ($\hat{u}_t$), are decomposed from the model, and the ADF test is applied to evaluate their integration level.

$$\Delta\hat{u}_t = \varphi_0 + \varphi_1\hat{u}_{t-1} + \sum_{i=1}^{p}\varphi_{i+1}\,\Delta\hat{u}_{t-1} + e_t \tag{3}$$

Im and Schmidt (2008) developed the RALS approach, which allows for using supplemental high-order moment information that is present in non-normal errors within linear model frameworks. This method may produce more reliable results in situations where the error term follows a distribution

that is non-normal. The RALS method is implemented by Lee et al. (2015) as an extension of the EG cointegration test. RALS is a new type of cointegration test that incorporates a novel term calculated from the second and third moments of the residuals from standard cointegration tests into its formulation. The RALS approach necessitates the addition of the following term to equation (3).

$$\widehat{\omega}_t = p(\hat{e}_t) - \widehat{K} - \hat{e}_t \widehat{D}_t, \quad t = 1,2,3,4,\dots,T,$$

The obtained residuals from Equation (3) are illustrated by $\hat{e}_t$ and $p(\hat{e}_t) = [\hat{e}_t^2 \hat{e}_t^3], \quad \widehat{K} = \frac{1}{T}\sum_{i=1}^{T} p(\hat{e}_t), \quad \widehat{D}_t = \frac{1}{T}\sum_{i=1}^{T} p'(\hat{e}_t)$. Furthermore, Equation (4) represents the RALS term proposed by Meng et al. (2017).

$$\widehat{w}_t = [\hat{e}_t^2 - m_2, \hat{e}_t^3 - m_3 - 3m_2\hat{e}_t] \tag{4}$$

Where $m_j = T^{-1}\sum_{i=1}^{T} \hat{e}_t^j$. By including $\widehat{w}_t$ into Equation (3), the RALS cointegration regression model is obtained.

$$\Delta\hat{u}_t = \varphi_1 \hat{u}_{t-1} + \sum_{i=1}^{p} \varphi_{i+1} \Delta\hat{u}_{t-1} + \widehat{w}_t\gamma + v_t \tag{5}$$

Equation 5 uses regular t-statistics to check for statistical significance against the null hypothesis ($\alpha_1 = 0$). The equation (6) allows for the determination of the asymptotic distribution under the assumption of the absence of cointegration.

$$t^* \to \rho.t + \sqrt{1-\rho^2}.Z \tag{6}$$

where t^* stands for the test statistics of RALS-EG, while t is used to represent the EG test statistics. The variable Z in Eq. (6) denotes the standard normal random variable, whereas ρ refers to the long-term correlations of the residuals from Eqs. (3) and (5).

Finally, long-run elasticities are obtained by employing fully modified least squares (FMOLS) (Philips and Hansen, 1990) method.

4. Empirical Results

As a first step, this study tests the stationarity situations of the EFP, GDP, POPG, URBG and TR through the application of ADF and RALS-ADF tests. Table 2 displays the associated outcomes.

Table 2. Unit root test results

Variables	ADF	RALS ADF	
	t-stat	t-stat	ρ^2
Level			
lnEFP	-1.4038 (1)	-2.3198 (1)	0.888
lnGDP	0.4329 (0)	1.2140 (0)	0.834
lnPOPG	-0.6943 (1)	-0.7158 (1)	0.805
lnURBG	-0.8812 (1)	-1.1768 (1)	0.582
lnTR	-0.6473 (0)	0.2157 (0)	0.888
First differences			
ΔlnEFP	-12.0971 (0)	-11.8040 (0)	0.954
ΔlnGDP	-7.6693 (0)	-9.0237 (0)	0.851
ΔlnPOPG	-4.4058 (1)	-4.7317 (1)	0.805
ΔlnURBG	-4.8993 (0)	-8.6920 (0)	0.590
ΔlnTR	-6.4256 (0)	-6.0134 (0)	0.817

Notes: (1) The optimal lag length, ascertained through recursive t-statistics, is indicated by the numbers in parentheses.

As shown in Table 2, the variables of interest exhibit non-stationarity at the level. The findings further indicate that EFP, GDP, POPG, URBG and TR have become stationary when examining the first difference values, I(1). After ensuring that all studied variables are I(1), this study employs the RALS-EG method to check for a cointegration linkage between EFP and its potential determinants.

Table 3. Cointegration results

Method	k	Test Stat	ρ^2
EG	0	-6.8359***	-
RALS-EG	0	-6.3321***	0.979

Notes: (1) *, ** and *** represent the significance level at 10%, 5% and 1%. (2) 1%, 5% and 10% significance level critical values for RALS-EG are −4.56, −3.94 and −3.62. (3) 1%, 5% and 10% significance level critical values for EG are −5.02, −4.32 and −3.98.

The test statistics for EG and RALS-EG, as presented in Table 3, reveal values that surpass the critical values associated with a significance level of 1%.

This result proves the long-term interaction among GDP, POPG, URBG, TR, and EFP and a cointegration connection is observed between these variables.

Following the confirmation of cointegration, the FMOLS method is applied to obtain the long-term elasticities of the variables of concern. The elasticities in Table 4 show the impacts of the corresponding variables on the ecological footprint.

The elasticities on GDP and GDP^2 are positive and negative, respectively. Specifically, the findings indicate that GDP is positively related to the ecological footprint, while GDP^2 is negatively correlated, thereby supporting the EKC hypothesis. This result reveals that the initial phase of GDP is associated with the occurrence of environmental degradation. However, once a certain level of growth is reached, the population recognizes the importance of the natural environment and is willing to pay more for better living conditions and sustainable energy. This outcome is in the vein of the results of Cetin et al. (2018) and Pata (2018) for Turkey.

The elasticity estimate for POPG points out that a 1% rise in population growth increases the EFP by 0.103%. This proves the environmentally degrading role of population growth in Turkey. This result supports the Malthusian perspective that population growth has a contributing role in the deterioration of the environment since the carrying capacity of the Earth is gradually becoming limited while the size of the population continues to expand. This is in line with the outcomes found by Jie et al. (2023) and Haouas et al. (2023).

Table 4. Long run coefficients

Variables	**Coefficients**	**t-stats**	**p-value**
lnGDP	3.2351***	6.6811	0.0000
$lnGDP^2$	-0.3631***	-5.8162	0.0000
lnPOPG	0.1036**	2.5953	0.0121
lnURBG	-0.0731**	-2.4014	0.0197
lnTR	-0.0369*	-1.7887	0.0792
Constant	-6.5405***	-7.1061	0.0000
R^2	0.960		

See the Note (1) in Table 3.

The coefficient regarding urbanization growth is negative, indicating that a 1% rise in URBG results in a 0.073% reduction in environmental degradation. Urban areas with higher levels of urbanization have modern energy infrastructure, which subsequently encourages residents to use sustainable energy technologies. Overall, the increased adoption of renewables in urban areas leads to an improvement in environmental conditions in Turkey. This result contradicts the conclusion of Destek and Pata (2023) for India.

With respect to trade, there is evidence of a negative correlation with EFP. A 1% upsurge in trade activities reduces environmental degradation by 0.036%. According to the results, the technological effect of trade is particularly strong in Turkey. This implies that the trade enables the implementation of more effective production methods, thereby fostering an environmentally sustainable ecosystem. The outcome is in line with the results obtained by Alola et al. (2019) for 16 European member countries, and Alvarado et al. (2021) for Latin American countries. However, Akhayere et al. (2023) present a contrasting perspective on the environmental implications of trade for Turkey.

5. Conclusion

The objective of the study is to examine the dynamic role of population growth on the environment, with a particular emphasis on the Malthusian perspective. To obtain more advanced outcomes, ecological footprint is chosen as a measurement for ecological deterioration. In addition, the impact of other determinants of the environment, namely income, urbanization, and trade, is also considered in the study. To fulfill the objective, the RALS method is conducted by using yearly data from the Turkish economy spanning the period of 1961 to 2022.

Based on the results, this study prove that population growth has a degrading impact on the environment in Turkey. This result is in line with the Malthusian tradition, which placed significant emphasis on the risk of the natural environment becoming depleted. In addition, the EKC hypothesis is valid for Turkey. This show that after a certain threshold level of income, the population of Turkey becomes aware of the significance of protecting the

environment, and the utilization of energy systems shifts towards more sustainable energy technologies, leading to improved environmental conditions. This result contrasts with the finding of Ojaghlou et al. (2023), who find an N-shaped EKC hypothesis for Turkey. Furthermore, urbanization and trade activities significantly contribute to environmental health in Turkey.

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Chapter 5

THE LEWIS MODEL AND THE LABOR MARKET IN TÜRKİYE

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1. Introduction

Arthur Lewis's seminal paper, "Economic Development with Unlimited Supplies of Labor" has left an indelible mark on the field of development economics. Published in May 1954 in The Manchester School, this groundbreaking work is not only recognized as one of the most influential contributions to the establishment of development economics as a distinct academic discipline but has also paved the way for a multitude of insights and theories that continue to shape our understanding of global economic progress (Fei & Ranis, 1964). In this paper, Lewis grappled with the profound implications of an economy characterized by an abundance of labor, exploring the dynamics of structural transformation, labor surplus, and the crucial role played by the Lewisian dual economy model in guiding policy decisions and development strategies. The well-known model which is formed in this paper is called the Lewis model[1] and it was in a classical manner[2] as Lewis explicitly said it at first sentences of his paper.

> *This essay is written in the classical tradition, making the classical assumption, and asking the classical question. The classics, from Smith to Marx, all assumed, or argued, that an unlimited supply of labour was available at subsistence wages.*
>
> (Lewis, 1954: 139)

The model that emerged from Arthur Lewis's pioneering paper is widely recognized as the Lewis model, and he explicitly labeled it as such in the opening sentences of his work, adhering to a classical style of presentation. This nomenclature not only serves as a testament to the model's enduring legacy but also underscores the clarity with which Lewis introduced his ideas. By aptly naming it the "Lewis model" from the outset, he ensured that the academic community and future generations of economists could readily grasp the significance and implications of his theoretical framework. This classical manner of exposition reflected Lewis's commitment to precision and his desire to establish a clear and foundational concept in the realm of development economics.

By this classical assumption, Lewis was indeed interested and optimistic about the 'hidden potentials'[3] of less-developed nations. He believed that if this hidden potential could be transformed into the modern sectors of the economy for industrialization, an employment opportunity created for them, and then a rapid economic development could be provided in these nations.

1 Figueroa (2004: 736) thinks that this model fails to capture Lewis's essential ideals in his paper, 'W.Arthur Lewis versus the Lewis Model: Agriculture or Industrial Development'.

2 Ranis (2004: 713) argues that the classical school actually depicted agriculture as a capitalist sector in contrast to Lewis model.

3 Here 'hidden potential' means surplus labor.

> *Even his (Lewis's) undergraduate essays on the labor in the West Indies had promoted industrialization as the solution to employment for the large peasant work forces trapped in the countryside.*
>
> (Tignor, 2004: 692)

Arthur Lewis firmly believed that by harnessing the latent potential residing within the surplus labor force and channeling it into the modern sectors of the economy, a robust foundation for industrialization could be laid. This process, he contended, would not only create employment opportunities for the abundant labor pool but also serve as the catalyst for rapid economic development in these nations. His visionary perspective painted a picture of a dynamic and self-sustaining transformation, where the transition from traditional agrarian economies to modern industrial ones would not only absorb excess labor but also ignite a virtuous cycle of growth, ultimately propelling these nations towards prosperity and economic advancement. Lewis explained this dynamic transformation process for a typical less-developed nation under the framework of a dualistic economic structure.

Within the scope of this paper, my primary aim is to offer a fresh interpretation of Türkiye's labor market dynamics through the lens of the dualistic framework introduced by Lewis. It is important to note that this interpretation will not encompass a comprehensive analysis of the entire Lewis model. Instead, it will focus on specific facets of the model, particularly those that delve into labor market dynamics and income distribution. These specific aspects will be given special emphasis when conducting the pertinent assessments. By doing so, we aim to shed new light on Türkiye's economic landscape by examining how the Lewisian framework can provide valuable insights into its labor market structure and income distribution patterns, offering a nuanced perspective on the nation's development trajectory.

The rationale for my choice to adopt the Lewis model from 1954, even half a century after its initial publication, lies in its enduring explanatory power. It continues to be a valuable tool used by development economists for comprehending the development processes of many less-developed nations. Moreover, in this paper, I specifically leverage the model to illuminate the development dynamics of Türkiye, a developing economy. The longevity and utility of the Lewis model in this context are a testament to its timeless relevance and its capacity to yield fresh insights into the intricate challenges and opportunities faced by nations like Türkiye as they navigate their developmental journeys. In this reasoning, some Manchester School scholars support my idea in their paper's introduction:

> *It is concluded that Lewis's insight into the dualistic structure of developing economies, and his concern with real world problem-solving, continue to yield valuable lessons for today's development economists.*
>
> (Kirkpatrick & Barrientos, 2004: 680)

In the subsequent sections of this chapter, we will follow a structured approach: Section 2 will offer a brief overview of the Lewis model, providing the theoretical foundation for our analysis. Section 3 will present a comprehensive summary of Türkiye's labor market dynamics over recent decades, offering crucial historical context. Section 4 will critically evaluate Türkiye's labor market by applying the Lewis model, with a focus on its dualistic economic framework. Section 5 will expand the scope by outlining our research objectives beyond the Lewis model, summarizing the key study findings, and culminating in a comprehensive conclusion. This sequential framework ensures a systematic and organized approach to our analysis.

2. The Lewis Model

Within this section, our focus is to offer a concise overview of the fundamental aspects presented in Lewis's seminal 1954 paper. As previously highlighted, Lewis maintained an optimistic stance regarding the latent potentials residing within less-developed nations. Operating under the banner of a 'developmentalist,' he subscribed to the belief that 'industrialization' was the key requisite for these nations to break free from the shackles of poverty and attain a higher socio-economic standing. Our objective in this section is to revisit these key tenets of Lewis's ideology, providing a foundational understanding for our subsequent analysis.[4] At this point, his breakthrough idea was dropping the neo-classic assumption that the supply of labor is fixed and the separation of the whole economy into two sectors.

> *One sector is that which is alternatively called that 'capitalist', 'formal', 'modern', 'industrial', or 'urban'. The other is that which is alternatively called that 'subsistence', 'informal', 'traditional', 'agricultural', or 'rural'.*
>
> (Fields, 2004: 724)

In this dualistic economic framework established by Lewis, the central premise revolves around the concept of 'surplus labor' within the agricultural sector. Lewis posited that the untapped potential within this surplus labor could be unlocked and channeled toward industrialization by orchestrating a strategic transition, moving this excess labor force from agriculture to the industrial sector. This shift, according to Lewis, represented a pivotal strategy for catalyzing economic development and transformation within a dualistic

4 Figueroa (2004) argued that Lewis did not only see the industrialization as a panacea, he also stressed the importance of agriculture, but this can be understood with a careful reading of the 1954 paper and other further papers of Lewis.

economic structure.[5] Within this dualistic economic context, the presence of 'surplus labor' in the agricultural sector plays a crucial role. This surplus labor effectively acts as a stabilizing factor in the industrial sector, ensuring that wages in this sector remain relatively constant and tend to be low, albeit slightly above subsistence levels. This phenomenon occurs because of the abundant and unrestricted supply of labor available, a key feature in Lewis's model. The unlimited availability of labor resources keeps wage rates in check, facilitating an environment where industrial growth can occur without significant upward pressure on labor costs.

In this system, the owners of the means of production, typically capitalists, are the beneficiaries of the surplus created because of the output exceeding wage expenses, and this surplus translates into profits. Lewis postulated that these profits would be saved and subsequently reinvested by capitalists, thus paving the way for sustained 'economic growth.' A critical underpinning of this economic structure is the assumption that the marginal productivity of surplus labor in the agricultural sector is either zero or potentially negative. This assumption plays a pivotal role in maintaining low wage levels, as it acts as a counterbalance, preventing significant upward movements in food prices and other essential goods. By doing so, it enables capitalists to accrue profits that can then be funneled into new investments, facilitating economic expansion and development. However, what if this surplus labor in agricultural sector is exhausted and wages begin to rise above the subsistence level in the national economy?

In his seminal 1954 paper, Arthur Lewis exhibited a comprehensive approach by considering both closed (national) and open (world) economic models. Within the open model, he envisioned a scenario where a country, situated among neighboring nations with surplus labor, would engage in significant immigration from these nations or export capital to them. This strategic approach aimed to curtail wage inflation and maintain wage levels at or near subsistence, thereby facilitating the country's economic stability. While the primary focus of Lewis's work was on the closed (national) model, he also recognized and explored the dynamics of the open model, highlighting its relevance and potential implications in the broader context of development economics. Nevertheless, this study is not much interested with the open model.

3. The Labor Market in Türkiye

Turkey's labor market outcomes reflect the interaction of demographic and economic factors. Like many other developing countries, Turkey is progressing through a rapid demographic transition, which has

5 Here it was assumed by Lewis that worker productivity is higher in industrial sector according to agricultural sector, because of the lack of capital and relatively primitive technologies in use. See Figure 4 for Türkiye.

> *generated a surge of youthful entrants to the labor market. While the increase in factor inputs represents a potential bounty, absorbing them quickly enough has been difficult. Meanwhile, the demographic trends have been accompanied by a transformation of a rural-agrarian society into an urban-industrial one. Cultural/institutional factors and an evolving occupational structure have led to changing roles, particularly for women, and have affected household preferences and labor force participation decisions.*
>
> (WorldBank, 2006: 1)6

This quotation from a report of the World Bank gives the core facts about the labor market in Türkiye. It highlights the intricate interplay between demographic and economic factors in shaping Türkiye's labor market outcomes. It is important to recognize that Türkiye, like many other developing nations, is undergoing a significant demographic transition. This transition involves a surge in the number of young people entering the labor force. While this influx of new workers represents a potential demographic dividend, the challenge lies in effectively absorbing and providing opportunities for this growing labor force.

Furthermore, the demographic shifts in Türkiye have coincided with the transformation of the country from a rural-agrarian society to a more urban-industrial one. This shift has profound implications for the labor market, as it encompasses changes in cultural and institutional norms, as well as shifts in occupational structures. As a result, the roles and participation of women in the labor force have evolved, reflecting broader societal changes.

The transformation of Türkiye's society and economy is undeniably complex, exerting a profound influence on household preferences and participation decisions into the labor market. As the nation progresses through this demographic and economic evolution, it is becoming increasingly evident that a one-size-fits-all approach to labor market policies is inadequate. Instead, there is a growing imperative for comprehensive and adaptable labor market policies that can effectively respond to the ever-evolving needs and aspirations of the labor force.

In this context, the integration of both demographic and economic considerations becomes paramount. To address the challenges and capitalize on the opportunities within Türkiye's dynamic labor market, policymakers must develop strategies that harmonize with the shifting landscape. This synchronization is not only essential for sustaining economic growth but also for fostering inclusivity, ensuring that the benefits of development reach all segments of the population. Achieving sustainable and inclusive development requires not only a deep understanding of the multifaceted dynamics at play

6 This report's full name is "Türkiye Labor Market Study", look references for details.

but also a commitment to designing policies that are flexible, equitable, and responsive to the diverse needs of the workforce in this period of profound societal and economic transformation.

In addition, Türkiye stands as a developing economy, not a less-developed one, but Lewis also was interested in the developing economies, which are overpopulated[7]. Türkiye is endowed with abundant labor resources. This characteristic reflects the presence of a significant workforce, a demographic dividend, and ample labor supply, which can potentially drive economic growth and development[8].

The labor market in Türkiye exhibits a diverse and heterogeneous structural composition. When we examine it within a recent historical context, a prominent feature that emerges is the predominance of employment in the agricultural sector, a trend that persisted until relatively recent times. This enduring pattern can be attributed to the dominance of economic activities that have traditionally sustained the majority of the population, with agriculture playing a pivotal role, particularly in rural areas. Nevertheless, there is a noticeable transformation underway, with the supremacy of the agricultural sector gradually giving way to the burgeoning service sectors in contemporary times. This shift reflects a dynamic evolution in Türkiye's labor market, driven by changing economic dynamics and the country's transition towards a more service-oriented economy.

As Arthur Lewis astutely noted in his paper, much like in the case of Türkiye, a substantial portion of the rural population has historically been engaged in the agricultural sector. However, a significant turning point occurred, particularly after the 1950s, with the mass migration of people from rural areas to urban centers. This demographic shift triggered a rapid acceleration of the urbanization rate in Türkiye. This urbanization trend is emblematic of the broader global pattern of rural-to-urban migration, and in the Turkish context, it signifies the significant transformation the country has experienced in terms of population distribution and economic development. Table 1[9] shows that in the 1965-1970 term, the urbanization rate was about 5.3 percent. Moreover, this rate rapidly increased up to the beginning of the millennium.

7 Here overpopulation means that internal resources are not enough to cover the population.

8 For Türkiye to think that there is an unlimited supply of labor is may be overdrawn, but to think that the labor supply is greater than labor demand is a reality, especially when the high unemployment level is thought.

9 Table 1 shows also total, urban, rural populations from 1970 to 2006.

Table 1. Urban and Rural Population

YEARS (1)	Total Population (In Thousands)	Urban Population (In Thousands) (2)	Proportion of Urban Population (%)	Rural Population (In Thousands)	Proportion of Rural Population (%)	Periods	Urbanization Rate (%)
1970	35.605	10.222	28,7	25.384	71,3	**1965-1970**	5,3
1975	40.348	13.272	32,9	27.076	67,1	**1970-1975**	5,4
1980	44.737	16.065	35,9	28.672	64,1	**1975-1980**	3,9
1985	50.664	23.238	45,9	27.426	54,1	**1980-1985**	7,7
2000	67.420	38.661	57,3	28.759	42,7	**2000**	2,9
2001	68.407	39.709	58,0	28.698	42,0	**2001**	2,7
2002	69.388	40.823	58,8	28.565	41,2	**2002**	2,8
2003	70.363	41.924	59,6	28.439	40,4	**2003**	2,7
2004	71.332	43.036	60,3	28.296	39,7	**2004**	2,7
2005	72.065	44.747	62,1	27.318	37,9	**2005**	4,0
2006	72.974	45.754	62,7	27.220	37,3	**2006**	2,3

Source: TURKSTAT, SPO.

(1) Years between 1970 and 2000 are census date results. The years between 2000 and 2006 are mid-year estimations.

(2) Urban refers to areas with a population of 20.000 or more.

Table 1 illustrates that during the 1965-1970 period, the urbanization rate stood at approximately 5.3 percent. What is particularly striking is the remarkable pace at which this rate surged in the subsequent years, leading up to the turn of the millennium. This escalation in urbanization is a testament to the profound societal and economic shifts that Türkiye underwent during this period, as it transitioned from predominantly rural to increasingly urban. This trend has had a profound impact on various aspects of the country's development and labor market dynamics, marking a critical phase in its modernization and transformation.

However, if we look at the employment statistics by sector in Table 2[10], the proportion of the agricultural sector is not as high as its records but it still guards its strong position by employing nearly one-third of the labor market. In 1980, the ratio of employment in the agricultural sector was 50 percent. In 2004, it was 34 percent[11].

10 Table 2 shows the industrial and services sectors' employment count data and proportions from 1988 to 2005.

11 Figure 1 and Figure 2 show the employment shares by sectors for the years 1980 and 2004.

Figure 1. Employment Shares, 1980

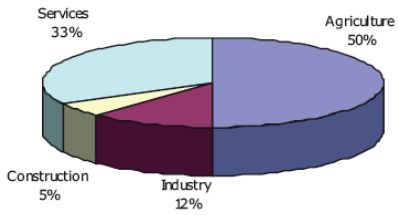
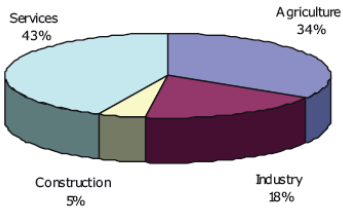


Figure 2. Employment Shares, 2004



Source: *TURKSTAT, Household Labor Force Surveys*

When we examine the employment statistics by sector, as presented in Table 2, it becomes evident that the proportion of the agricultural sector, while not as dominant as historical records might suggest, still maintains a significant presence by employing approximately one-third of the labor market. Notably, in 1980, the agricultural sector accounted for a staggering 50 percent of total employment, underscoring its historical importance. However, by 2004, this ratio had declined to 34 percent, indicative of the gradual shift away from agricultural employment towards other sectors. This decline reflects the ongoing transformation in Türkiye's labor market and is indicative of the diversification of employment opportunities beyond traditional agricultural roles.

Table 2. Employment by Sectors

(15+Age Group, Thousand)	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
AGRICULTURE	**8.249**	**8.639**	**8.444**	**9.212**	**8.718**	**7.862**	**8.813**	**9.080**	**9.259**	**8.837**	**9.039**	**8.856**	**7.769**	**8.089**	**7.458**	**7.165**	**7.400**	**6.493**
INDUSTRY	**2.806**	**2.847**	**2.845**	**2.952**	**3.135**	**2.868**	**3.295**	**3.295**	**3.487**	**3.715**	**3.723**	**3.783**	**3.810**	**3.774**	**3.954**	**3.846**	**3.988**	**4.284**
Mining	229	184	194	189	159	135	180	154	164	159	148	134	81	98	120	83	104	120
Manufacturing	2.550	2.635	2.625	2.736	2.949	2.706	3.013	3.027	3.237	3.445	3.463	3.555	3.638	3.581	3.731	3.664	3.801	4.084
Energy	27	28	26	27	27	27	102	114	86	111	112	94	91	95	103	100	83	80
SERVICES	**6.699**	**6.735**	**6.874**	**7.143**	**7.587**	**7.697**	**7.901**	**8.212**	**8.451**	**8.653**	**8.992**	**9.409**	**10.001**	**9.661**	**9.942**	**10.135**	**10.403**	**11.269**
Construction	1.012	942	893	**975**	1.049	1.238	1.208	1.238	1.298	1.320	1.325	1.364	1.364	1.110	958	965	1.029	1.173
Transportation	778	829	804	821	875	933	894	878	907	907	968	952	1.067	1.034	1.004	1.022	1.100	1.133
Trade	2.029	2.041	2.035	2.190	2.377	2.412	2.538	2.717	2.737	2.896	2.995	3.204	3.817	3.737	3.980	4.052	4.179	4.560
Financial Inst.	428	439	416	432	474	429	479	482	508	527	518	580	709	697	697	738	786	876
Other Services	2.452	2.484	2.726	2.725	2.812	2.685	2.782	2.897	3.001	3.003	3.186	3.309	3.044	3.083	3.303	3.358	3.309	3.527
TOTAL	**17.754**	**18.222**	**17.988**	**19.307**	**19.440**	**18.427**	**20.009**	**20.587**	**21.197**	**21.205**	**21.780**	**22.048**	**21.580**	**21.524**	**21.354**	**21.147**	**21.791**	**22.046**
AGRICULTURE (%)	**46,5**	**47,4**	**46,9**	**47,7**	**44,8**	**42,7**	**44,0**	**44,1**	**43,7**	**41,7**	**41,5**	**40,2**	**36,0**	**37,6**	**34,9**	**33,9**	**34,0**	**29,5**
INDUSTRY (%)	**15,8**	**15,6**	**15,8**	**15,3**	**16,1**	**15,6**	**16,5**	**16,0**	**16,5**	**17,5**	**17,1**	**17,2**	**17,7**	**17,5**	**18,5**	**18,2**	**18,3**	**19,4**
Mining	1,3	1,0	1,1	1,0	0,8	0,7	0,9	0,7	0,8	0,7	0,7	0,6	0,4	0,5	0,6	0,4	0,5	0,5
Manufacturing	14,4	14,5	14,6	14,2	15,2	14,7	15,1	14,7	15,3	16,2	15,9	16,1	16,9	16,6	17,5	17,3	17,4	18,5
Energy	0,2	0,2	0,1	0,1	0,1	0,1	0,5	0,6	0,4	0,5	0,5	0,4	0,4	0,4	0,5	0,5	0,4	0,4
SERVICES (%)	**37,7**	**37,0**	**38,2**	**37,0**	**39,0**	**41,8**	**39,5**	**39,9**	**39,9**	**40,8**	**41,3**	**42,7**	**46,3**	**44,9**	**46,6**	**47,9**	**47,7**	**51,1**
Construction	5,7	5,2	5,0	5,0	5,4	6,7	6,0	6,0	6,1	6,2	6,1	6,2	6,3	5,2	4,5	4,6	4,7	5,3
Transportation	4,4	4,5	4,5	4,3	4,5	5,1	4,5	4,3	4,3	4,3	4,4	4,3	4,9	4,8	4,7	4,8	5,0	5,1
Trade	11,4	11,2	11,3	11,3	12,2	13,1	12,7	13,2	12,9	13,7	13,8	14,5	17,7	17,4	18,6	19,2	19,2	20,7
Financial Inst.	2,4	2,4	2,3	2,2	2,4	2,3	2,4	2,3	2,4	2,5	2,4	2,6	3,3	3,2	3,3	3,5	3,6	4,0
Other Services	13,8	13,6	15,2	14,1	14,5	14,6	13,9	14,1	14,2	14,2	14,6	15,0	14,1	14,3	15,5	15,9	15,2	16,0
TOTAL (%)	**100**	**100**	**101**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Source: TURKSTAT, Household Labor Force Surveys

Within the framework of the Lewis model, the primary questions that arise in the context of Türkiye are twofold. First, there is the question of whether Türkiye can be accurately characterized as a labor-abundant country, aligning with the model's assumptions. This entails a comprehensive analysis of the country's labor market dynamics and the overall availability of surplus labor.

Secondly, a crucial aspect to explore is whether the decline in the agricultural sector's employment ratio within the total labor market can be directly attributed

to the movement of surplus agricultural labor into the industrial sector, as postulated by the Lewis model. This involves a nuanced examination of the causal relationships between these shifts and their implications for Türkiye's economic development.

These questions lie at the heart of the study, as they seek to ascertain the relevance and applicability of the Lewis model to Türkiye's unique economic and labor market conditions. Answering them will shed light on the model's suitability for understanding the nation's development trajectory.

The raw statistical data, upon initial examination, suggests that the movement of surplus agricultural labor into the industrial sector may not be as pronounced as the Lewis model assumes[12]. While employment in the industrial sector has indeed increased during this period, it has not significantly outpaced the employment levels in the agricultural sector.

However, it is essential to remember that the application of economic models to real-world scenarios is often complex, and numerous factors can influence outcomes. Whether this situation allows us to entirely reject the Lewis model in explaining Türkiye's development process under its unlimited supply of labor assumption is a more intricate question.

In the forthcoming discussion in the next section, a more detailed analysis and interpretation of the data will be provided. This will consider not only the raw employment figures but also the broader economic, social, and policy contexts that may influence the dynamics of labor market transitions and industrialization in Türkiye. The aim is to provide a nuanced perspective and evaluate the model's applicability within the specific conditions of Türkiye's development.

4. The Lewis Model and the Labor Market in Türkiye

First, in the summary part of his 1954 paper, Lewis argued that

> *The main sources from which workers come as economic development proceeds are subsistence agriculture, casual labour, petty trade, domestic service, wives and daughters in the household, and the increase of population. In most but not all of these sectors, if the country is overpopulated relatively to its natural resource, the marginal productivity of labour is negligible, zero, or even negative.*
>
> (Lewis 1954: 190)

This means that the source of surplus labor, which shifts to the industrial sector, may not be 'only' agricultural workers but also may be the other factors as mentioned by Lewis. Especially when we think about increasing population

12 See again Table 2.

growth[13], far away from its natural resources[14], in Türkiye, the thought that the hidden potential is formed by only agricultural workers[15] can be a misleading idea by interpreting Lewis.

Indeed, our observation highlights the complexity of labor market dynamics and the Lewis model's applicability in the context of a country like Türkiye. It is essential to recognize that the source of surplus labor moving into the industrial sector might not be solely limited to agricultural workers, as Lewis suggested. There are other contributing factors that can influence this transition.

In particular, factors like population growth, urbanization, and the diversification of economic activities all play a role in shaping the labor market landscape. Türkiye's increasing population and its expansion into sectors beyond agriculture demonstrate that the hidden potential for industrialization is not exclusively reliant on agricultural labor. This underscores the importance of considering a more comprehensive and multifaceted view of labor market dynamics when interpreting the Lewis model within Türkiye's specific circumstances. It reminds us economic development is influenced by a myriad of factors and is not solely contingent on surplus agricultural labor, as Lewis initially proposed.

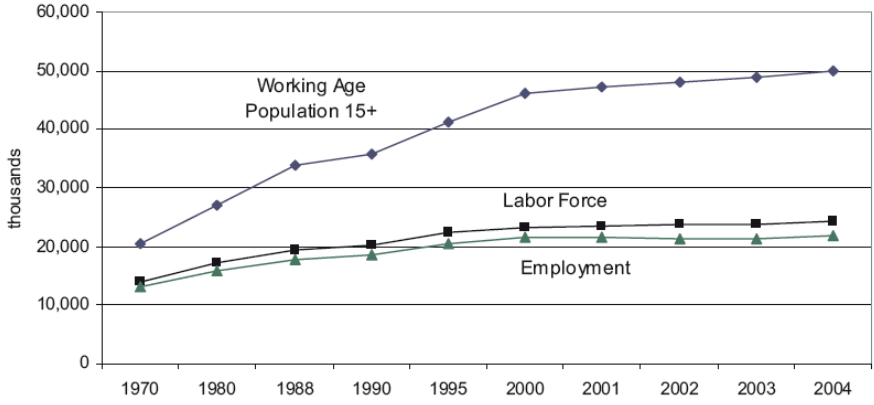
Table 3. Main Indicators in the Labor Market

	1988	1995	2005
Population 15 Years Old and Over	33.746	41.175	50.826
Labor Force	19.391	22.286	24.565
Labor Force Participation Rate (%)	57,5	54,1	48,3
Women (%)	34,3	30,9	24,8
Men (%)	81,2	77,8	72,2
Employment	17.755	20.586	22.046
Employment Rate (%)	52,6	50,0	43,4
Rural (%)	63,7	62,6	49,5
Urban (%)	42,0	40,3	39,7
Unemployed	1.638	1.700	2.520
Unemployment Rate (%)	8,4	7,6	10,3
Rural (%)	5,0	4,9	6,8
Urban (%)	13,1	10,8	12,7
Young Unemployment Rate (%)	17,5	15,6	19,3
Under Employment Rate (%)	6,6	7,0	3,3

Source: TURKSTAT, Household Labor Force Surveys

13 Table 3 shows the growth of 15 years old and over population for the years 1988, 1995, and 2005.
14 Figure 3 is useful to see the population growth that go beyond the natural boundaries.
15 Table 4 shows the numbers of labor force employed in agricultural and non-agricultural sectors.

Figure 3. Labor Force Participation and Employment has Trailed Population Growth



Source: *Bulutay (1995) for 1923-1987; SIS HLFS for 1988-2004*

Table 4. Agricultural and Non-Agricultural Labor Force by Rural-Urban Residence

	TOTAL		RURAL		URBAN	
	AGR.	NON-AGR.	AGR.	NON-AGR.	AGR.	NON-AGR.
1988	8.249	9.505	7.831	2.688	419	6.816
1989	8.596	9.627	8.243	2.551	354	7.075
1990	8.735	10.295	8.325	2.641	410	7.654
1991	9.078	10.131	8.756	2.354	322	7.776
1992	8.690	10.870	8.246	2.605	445	8.266
1993	7.606	11.073	7.270	2.695	336	8.378
1994	8.416	11.610	7.941	2.754	474	8.856
1995	9.205	11.707	8.753	2.560	452	9.146
1996	9.526	12.022	8.966	2.828	560	9.195
1997	8.321	12.761	7.912	2.853	409	9.908
1998	9.388	12.946	8.931	2.756	457	10.190
1999	7.894	13.613	7.407	3.431	487	10.182
2000	7.769	13.812	7.349	3.128	419	10.684
2001	8.089	13.436	7.605	2.843	483	10.593
2002	7.458	13.896	6.973	3.270	484	10.627
2003	7.165	13.982	6.687	3.173	478	10.809
2004	7.399	14.391	6.715	3.232	684	11.159
2005	6.493	15.553	5.820	3.660	673	11.893
2006	6.088	16.242	5.466	3.783	622	12.459
2007	6.387	16.973	5.698	3.924	689	13.049

Source: *TURKSTAT*

The other point that also should be considered in this analysis is the wage gap between agricultural and industrial workers. Lewis's argument about capitalists in the industrial sector offering wages slightly above subsistence level to attract agricultural workers to migrate from rural to urban areas is particularly relevant in Türkiye's labor market.

By adhering to this reasoning, Turkish capitalists can achieve two key objectives. First, by maintaining low wage costs, they can enhance their competitiveness and potentially achieve higher levels of production. Second, by luring labor from the surplus agricultural sector, they can continue this process until the labor surplus is eventually exhausted.

This perspective aligns with the historical and contemporary labor market dynamics in Türkiye, emphasizing the role of wage differentials in facilitating labor migration and sustaining economic growth. It underscores how the Lewis model's principles can still find resonance in understanding Türkiye's development process, especially when considering the interplay between wage differentials and labor migration.[16]. It is indeed valid to assert that this dualistic framework remains particularly relevant to Türkiye, given the unique characteristics of its labor market.

In Türkiye, the presence of a substantial number of unpaid family workers in rural areas, often living at or near subsistence levels, serves as a compelling illustration of the surplus labor pool.[17] Urban industrial sectors continue to be an attractive option for these individuals, offering the potential for an improved standard of living.

This aligns with Lewis's proposition of a dualistic economic structure, featuring a low-productivity rural, predominantly agricultural sector where the majority of the population is engaged in subsistence production. Concurrently, there is a more technologically advanced capitalist sector with higher worker productivity, which, as you noted, holds true for Türkiye as well. The connection between these two sectors, while not as weak as initially theorized by Lewis, is maintained through a robust labor supply link, contributing to significant rural-urban migration.[18] This migration dynamic is a fundamental aspect of Türkiye's labor market and development trajectory and underscores the model's suitability for explaining these complexities.

16 Table 5 shows the developments in labor costs, and according to this table not so much low labor costs prevails in Türkiye.

17 Table 7 shows the numbers of labor force according to employment-type.

18 Table 6 shows internal migration data by statistical regions.

Table 5. Labor Costs [1]

	1995	2000	2005
	Real Labor Costs Index (1994=100)		
Worker[2]			
Public	77,3	130,1	112,4
Private	85,6	140,8	114,9
Civil Servant	97,1	129,7	134,5
Minimum Wage[3]	95,9	155,8	181,8
	Real Change Over the Previous Year (Percent)		
Worker (2)			
Public	-22,7	20,8	6,6
Private	-14,4	13,4	3,4
Civil Servant	-2,9	-11,7	5,2
Minimum Wage[3]	-4,1	-13,0	6,4

Source: Public Sector Employer Unions, Turkish Confederation of Employer Association, Ministry of Finance, SIS, SPO

(1) SIS Wholesale Price Index (1994=100) is used in real calculations.

(2) The data provided by Public Sector Employer Unions and Turkish Confederation of Employer Association

(3) The figures are annual average labor costs for 16 age and over in industry and services sectors.

Another highly relevant aspect of the Lewis model when applied to Türkiye is the departure from neo-classical thinking regarding how agricultural workers are compensated. Unlike the neo-classical approach, Lewis did not assume that workers in the agricultural sector were paid strictly based on their marginal productivity, which would imply that they received nothing, an unrealistic scenario. Instead, he recognized that in the traditional sector, income would typically be distributed among extended families, particularly in the context of family-run farms where marginal productivity is not a primary consideration. Consequently, laborers tend to receive a share of the collective output, and while this distribution may not always result in perfectly equal shares, it emphasizes the communal nature of income within family-based agricultural activities. This notion strongly resonates with the economic realities of Türkiye, underscoring the Lewis model's applicability in this setting.

Table 6. Migration Statistics by Regions

Region (Level 1)	Population of place of residence in 2000	In-migration (1)	Out-migration (1)	Net migration	Rate of net migration ‰
Total	60 752 995	4 098 356	4 098 356	0	0,0
İstanbul	9 044 859	920 955	513 507	407 448	46,1
Western Marmara	2 629 917	240 535	172 741	67 794	26,1
Aegean	8 121 705	518 674	334 671	184 003	22,9
Eastern Marmara	5 201 135	432 921	351 093	81 828	15,9
Western Anatolia	5 775 357	469 610	378 710	90 900	15,9
Mediterranean	7 726 685	413 044	410 316	2 728	0,4
Central Anatolia	3 770 845	205 108	300 113	- 95 005	-24,9
Western Black Sea	4 496 766	219 008	450 799	- 231 791	-50,3
Eastern Black Sea	2 866 236	151 193	227 013	- 75 820	-26,1
Northeastern Anatolia	2 202 957	144 315	256 922	- 112 607	-49,8
Central Eastern Anatolia	3 228 793	170 568	280 156	- 109 588	-33,4
Southeastern Anatolia	5 687 740	212 425	422 315	- 209 890	-36,2

Source: TURKSTAT

Nonetheless, there are two prominent aspects where Arthur Lewis's convictions do not seem to align with Türkiye's economic growth trajectory. The first aspect, widely discussed in the literature, revolves around Lewis's belief that when a surplus of labor exists in the agricultural sector, offering a wage just above subsistence level in the industrial sector should lead to profits that can be reinvested in new physical capital, thus stimulating economic growth. However, this mechanism does not seem to operate as seamlessly in Türkiye. Profits do not always translate directly into new investments, potentially due to the country's volatile political cycles, which can result in detrimental economic consequences. Alternatively, the allure of investing profits in financial assets instead of physical capital, or even consumption, could explain the absence of significant investment, leading to sluggish or limited growth in the national output, a pattern observable in Türkiye.

The second point of contention is that, despite Lewis's further elaboration of his ideas in subsequent studies, his 1954 paper equated economic growth with development, a viewpoint that does not fully align with the Turkish context. Türkiye serves as a compelling case to challenge this perspective. Even though the country has achieved high levels of economic growth in recent years, the development process remains beset with significant challenges and disparities. The impressive economic growth performance has not necessarily translated into comprehensive development, leaving considerable gaps in areas such as education, healthcare, and income distribution, underscoring the notion that economic growth alone may not equate to holistic development in the Turkish context[19].

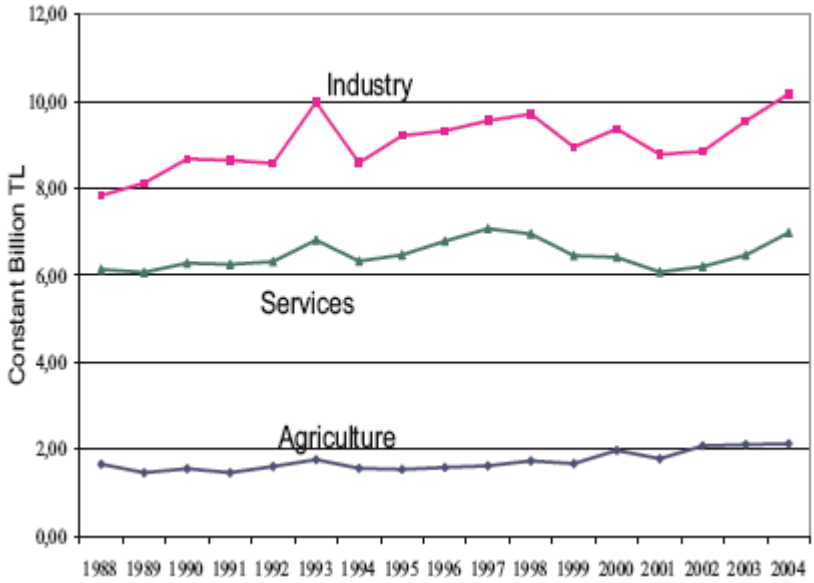
19 These uncoordinated movements of growth and development processes can be a subject of a further study.

Table 7. Labor Force by Employment Type

	TOTAL					
	Total	**Paid**	**Daily Worker**	**Employer**	**Own Account**	**Unpaid Family Worker**
2000	21.581	8.354	2.134	1.109	5.325	4.660
2006	22.330	11.017	1.600	1.201	5.246	3.266
	AGRICULTURE					
	Total	**Paid**	**Daily Worker**	**Employer**	**Own Account**	**Unpaid Family Worker**
2000	7.769	60	369	81	3.145	4.114
2006	6.088	114	416	110	2.694	2.754
	NON-AGRICULTURE					
	Total	**Paid**	**Daily Worker**	**Employer**	**Own Account**	**Unpaid Family Worker**
2000	13.812	8.294	1.765	1.028	2.179	546
2006	16.242	10.903	1.184	1.091	2.552	512

Source: TURKSTAT

Figure 4. Sectoral Labor Productivity



Source: TURKSTAT, WDI, ILO

5. Conclusions

The Lewis model, as we have discussed throughout this study, has proven to be an invaluable framework for understanding the intricacies of the labor market in Türkiye. Its enduring relevance in the field of development

economics is evident, as it provides insights into key factors that shape the economic landscape of the country. However, it is essential to acknowledge that the Lewis model is not without its fair share of criticisms and objections, two of which deserve particular attention.

First, critics argue that the model overlooks crucial institutional factors that influence the wage determination process within the industrial sector. Legal labor standards, such as minimum wages and the presence of labor unions, are notably absent from the model. It is worth considering whether the inclusion of these factors would significantly affect the model's applicability, especially in a country like Türkiye, where subsistence-level concerns still hold substantial influence over the labor market dynamics.

The second objection revolves around Lewis's assumption that native capitalist strata would reinvest their earnings into new production, driving economic growth. In reality, capital flight and conspicuous consumption of luxury imports might divert profits away from productive investments. These real-world scenarios, as frequently observed in Türkiye, challenge the model's optimism regarding the reinvestment of earnings.

In response to these objections, Lewis himself proposed government measures aimed at curbing conspicuous consumption through taxation and fostering an internal economic environment attractive to investors. This suggests that the Lewis model, while not immune to criticism, is adaptable and offers policy recommendations to address the challenges it may not fully account for.

In summary, our analysis has utilized the Lewis model to shed light on critical facets of Türkiye's labor market, including the source of surplus labor, rural-to-urban population shifts, productivity disparities, and wage differentials between agricultural and industrial workers. We have examined the model's strengths and limitations, considering its ability to explain the nuances of the Turkish context. In doing so, we highlight the enduring relevance of Arthur Lewis's seminal 1954 paper, which, even half a century later, continues to illuminate the complexities of economic development. Lewis's work was so influential that it merited a Nobel Prize in 1979, a testament to its enduring importance in the realm of development economics.

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Chapter 6

ALGORITHMIC TRADING: IN-DEPTH REVIEW OF THE LITERATURE

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1. Introduction

The introduction of new innovative technologies has revolutionized the financial markets and how financial assets are traded. This includes all the aspects within trading, starting with trading venues to order entries to the back office. Those processes became fully automated, drastically lowering the cost of intermediaries. By decreasing the expenses of trading, technological innovations will have the ability to create more efficient markets, improve liquidity, and facilitate hedging.

An example of a new innovative technology is Algorithmic trading (AT). AT is being used by many market participants. It is commonly defined as a computer program that follows instructions and automatically performs certain trading decisions, submits orders, and manages those orders. AT's unprecedented capacity to execute orders in seconds is due to the intricate design of AT algorithms and the continuous improvement of the trading framework. The number of orders placed, altered, or cancelled by AT resulted in a huge increase in the total number of orders that are occurring in the markets. Dubey et al. (2017) study showed the huge share that AT is responsible for in the financial markets.

There are various algorithms based on what suits the market participant at that time. Different algorithms could produce the desired results for the market participant. Brokers, dealers, and hedge funds use algorithms to supply liquidity to be able to compete with market makers and other liquidity suppliers (Jovanovic and Menkveld, 2010). Liquidity demanders frequently utilize smart order routers to decide where to transmit orders for assets that trade on numerous platforms (Foucault and Menkveld, 2008). Statistical arbitrage funds use algorithms to be able to process chunks of information in the price movements and order flows of multiple securities that are trading at high frequencies by pinpointing patterns in the data. Lastly, institutional investors use algorithms to trade huge quantities of stocks gradually over time.

Prior to the popularity of AT, if a pension fund manager wanted to acquire 3500 shares of Microsoft, he should hire a broker-dealer to search for a counterparty to execute the 3500 shares at once in a block trade. Another option would be for the investor to hire a floor broker on the New York Stock Exchange (NYSE) to stand at the Microsoft post and start acquiring small portions of the order over the course of the day so that the price does not increase by a significant rate and create a gap from the desired buy price. Hendershott et al. (2009) show evidence of the decline in NYSE floor broker activity due to trading becoming more digital and the introduction of AT, which made it cheaper and more efficient to trade without the need for floor brokers.

Currently, all large brokers offer various algorithms to their customers to aid them in executing orders. Algorithms dictate the timing, quantity, price,

and routing of orders simultaneously while observing market conditions among different securities and trading avenues, minimizing the impact on market prices by breaking down large orders into smaller ones and executing them gradually, and tracking benchmarks such as moving averages, and volume-weighted average price over the execution period. Algorithms usually use a mix of active and passive strategies while pursuing the desired position, utilizing both market and limit orders. As a result, algorithms function as liquidity suppliers and, at times, as liquidity demanders.

A large subgroup of AT is high-frequency trading (HFT). High-frequency trading (HFT) is a trading technique in which multiple orders are executed within a short amount of time using powerful computer programs. HFT analyses many markets using sophisticated algorithms, then places orders based on the state of the markets. Traders with the quickest execution times typically make more money than other traders who cannot keep up. High order-to-trade ratios and turnover rates are further traits of HFT. The technological capacity to deliver several orders with a short millisecond latency is advantageous for HFT. Systems that are computerized and automated operate far quicker than a person could ever react. This offers HFT algorithms a considerable competitive edge. Recently observed order submission trends demonstrate the dramatic growth of HFT engagement in financial markets (Ersan and Ekinci, 2016).

2. Algorithmic Trading

Identifying algorithmic trading in markets has been difficult for scholars; there is not a unifying method for detecting AT, and many researchers find creative methods for detecting AT. Engle, Russell, and Ferstenberg (2007) examined the role that AT has on execution timing by using data from Morgan Stanley, the study focused on the results that different execution methods have on risk and cost, the results of the study show that orders that are executed using AT that focuses on speed of execution leads to a higher cost for execution.

Domowitz and Yegerman (2005) compared the transaction costs of trades executed by using AT and trades executed without the use of AT on different trade sizes and using different providers, the results show that trades using AT were executed at lower costs compared to the trades that didn't use AT, but as the size of the orders increased the effectiveness of AT when it comes to reducing execution cost decreased.

Chadboud, Chiquine, Hjalmasrsson, and Vega (2009) studied algorithmic trading in the FX in three currency pairs: dollar-yen, euro-yen, and euro-dollar. The result of the study shows that there is a very minimal relationship between volatility and AT. Hendershott, Jones, and Menkveld (2011) studied the effects that AT has on liquidity. The result of the study shows that AT has a

positive effect on liquidity and improves the understanding of quotes.

Nawn and Banerjee (2018) study the effect that proprietary algorithmic traders have on liquidity in the limit order market, the result of the research shows that proprietary algorithmic traders increase the amount of limit orders when huge fluctuations are present in the marker. The result of this study contradicts the theory that claims when the markets are volatile, algorithmic traders leave the market and result in a decrease in liquidity.

Gsell (2008) studied the effects of AT on the electronic market venues by designing simulations that replicate the real market conditions, the result of the study shows that when AT is used to execute large orders the market prices are impacted negatively, on the other hand, AT was shown to lower volatility in the markets.

Lyle, Naughton, and Weller (2015) used limit order book data from the NYSE to examine the relation between AT and market quality. The result of the study shows that AT has a positive effect on liquidity, market function and market quality.

Frino et al., (2016) studied the impact of algorithmic trading on market liquidity when there is high information asymmetry in the periods before the introduction of AT and after AT was getting used in Borsa Italiana, the result of the study showed that during high information asymmetry AT improved liquidity in the markets especially during the times earnings were announced. Additionally, it was shown that during the same time AT improved depth and lowered the bid-ask spreads in the market.

Hatch et al., (2019) examined the relation between AT and firm value by using data from the NYSE, the results of the study show that AT has positive effects on liquidity, volatility, and firm value, the positive effects of AT was shown more for firms that have higher stock liquidity in the periods after 2007 when algorithmic trading's share in the market increased.

The majority of the empirical evidence shows that AT reduces spreads and improves price efficiency (Jones, 2013). Nonetheless, other research utilizing more current data shows that the positive effects of AT might not be consistent over time (Brogaard, Hendershott, and Riordan (2014); Menkveld and Zoican (2015)). However, most theoretical analyses contend that AT can have negative effects on the market quality. Yadav (2015) argues that although AT has many advantages, AT has negative effects on capital allocation, and because AT can execute orders faster than any human, this could lead to informed traders to stop participating in the markets and this will lead to a negative impact on prices. Biais, Foucault, and Moinas (2015) claim that because AT is able to process information at high rates, this creates adverse selection and lowers overall welfare in the market, this means that AT creates negative externalities.

Whenever AT is analyzed, models of liquidity supply and demand are included. Liquidity supply entails establishing strong trading commitments. Other traders have access to free trading through these standing orders. Thomas et al. (1983) used standard option pricing degrees to value the cost of the option granted by liquidity suppliers. With the introduction of new public information, existing orders might become stale and could move the trading option into money. Foucault, Roëll, and Sandas (2003) studied the optimal amount of effort liquidity providers should put in by tracking the market to minimize the risk. This type of monitoring and limit order modification in reaction to public information is made possible by AT, but AT may also be used by liquidity demanders to target liquidity suppliers who are slow to alter their limit orders in response to public information. It is consistent with AT having a significant part in the make/take liquidity cycle modelled by Foucault, Kadan, and Kandel (2008), in which market liquidity is monitored, taken when cheap, and made when expensive. Upson and Ness (2016) studied the effect that AT has on liquidity and trading activities by using data from NYSE firms. The results of the study show that AT has negative effects on NBBO depth and execution quality.

3. Types of Algorithms Used

There are multiple strategies that can be implemented using algorithmic trading because of the multiple types of algorithms that can be used. In Table 1, it can be seen that there is an increase in all types of algorithms in 2022, with % volume, dark liquidity seeking, and VWAP being the most used algorithms in 2022. The % volume algorithm functions by executing orders based on the volume and participation ratios that is specified by the trader; for example, if the stock trades 300,000 shares in one minute and % volume is 20, the strategy will trade 60,000 shares in the same minute.

Table 1 Types of algorithms used (% of response) (Long-Only, 2022)

Strategy	2022	2021	2020	2019
% Volume	73.42	56.96	49.02	60.92
Dark Liquidity Seeking	75.63	59.78	72.94	59.11
Implementation Shortfall (Multiple Stocks)	23.42	15.56	13.92	16.42
Implementation Shortfall (Single Stock)	49.68	46.22	53.14	45.32
TWAP	38.29	25.75	24.71	21.51
VWAP	80.7	59.51	54.71	63.87
Target Close Algos	53.8	-	-	-
Other	4.43	4.91	5.1	3.45

Dark liquidity seeking is an algorithm that aims to identify trades that are done on private exchanges where the transactions that occur are not available to the public. Dark pool liquidity is the trading volume created by institutional

orders that occurred in private exchanges, usually the trades occur after market hours. Few of those trades appear in the order books the next day or a few hours after the trades are executed. Once those algorithms detect the dark liquidity trades, it gives traders a signal of where the security might be headed. Dark liquidity seeking is the second most used algo at 75.63%. The reason for dark liquidity seeking algo being used at such a high rate is because detecting dark liquidity is extremely hard without using algos and this strategy has proven to be effective for traders to increase their returns.

Implementation shortfall is the difference between the trader's desired price to execute the order and the average traded price that the order is executed at. The reference price that the trader provides is used as the benchmark. The investor wants to take advantage of favorable price changes while limiting the market effect of their trade. The algorithm uses the historical volume profile, liquidity, and volatility of the stock to determine the best time horizon for executing the trade. For example, when the stock has significant volatility, a low bid-ask spread, and low momentum, the algorithm will attempt to fully execute the order in a short period of time. The algorithm may reduce participation rates when prices move against the benchmark price and boost participation rates when prices move in favor of the benchmark price after determining the best trading time.

The time-weighted average price (TWAP) strategy functions by breaking up big orders into smaller orders throughout a specific time period that the trader determines. The main purpose of using TWAP is that the trader is able to execute the orders to his desired price by breaking up the order into smaller orders, which minimizes the impact on the market.

Volume-weighted average price (VWAP) is similar to TWAP in the sense that both strategies break down big orders into smaller ones. The main difference is that VWAP breaks down the orders based on the historical volume profile of a stock and aims to execute the orders close to the VWAP, while TWAP breaks down the orders based on specific time intervals. VWAP is the most used strategy out of all of the algo strategies due to its effectiveness, as shown in Table 1.

Target close algos is a strategy that traders use when they want to execute their orders based on the closing price of the stock for the day.

Traders who are not familiar with the different types of algorithms could be overwhelmed by the choices, because every algorithm mentioned above functions completely different, knowing which algorithm to use will make a tremendous difference for traders. Yang and Jiu (2006) designed a framework that compares the different types of algorithms by qualitatively characterizing them and quantitatively comparing the algorithms to allow the trader to choose the most suitable algorithm for his/her desired outcome.

4. High Frequency Trading

Studies on high-frequency trading vary; scholars mainly focus on the effects of HFT on the markets or how effective HFT is when it comes to returns. Menkveld (2013) demonstrates that after subtracting exchange and clearing costs, high-frequency traders in Dutch equities generate a daily gross profit of 9,542 euros, with an annualised Sharpe ratio of up to 23,43. Similar findings were made by Brogaard et al. (2014), who discovered that high-frequency traders in large NASDAQ companies make an average daily profit of USD 5642. After accounting for trading commissions and rebates, the profit rises to USD 6651 since high-frequency traders that provide liquidity are eligible for significant refunds. Theory suggests that high-frequency trading could have positive and negative effects.

The positive effects are transferring information faster into the market (Jovanovic and Menkveld, 2010; Martinez and Rosu, 2013) and enhance liquidity in the market (Hoffmann, 2012; Foucault, 1999). The negative effects of HFT are increasing adverse selection costs for non-algorithmic traders, which could lead to negative externalities (Cartea and Penalva, 2012; Biais *et al.*, 2013). Cartea and Penalva (2012) create a model using HFT, market makers, and liquidity traders. The result of the study shows that HFT increases total trading volume, volatility, and liquidity traders' pricing influence. Additionally, market makers achieve parity: they receive larger incentives for their residual liquidity supply while losing market share (and corresponding earnings) to HF traders. According to Ait-Sahalia and Sagdam (2013), increased volatility decreases the liquidity provided by rapid traders. The HF traders in Jarrow and Protter's (2012) model also pick up on order-flow information more quickly than other traders. They demonstrate how HF trading activity influences prices and causes a brief mispricing that HF traders may economically take advantage of when demand curves are dipping downward. Less effective pricing in this instance, as well as a possible unwelcome shift from slow to quick traders, are the negative effects.

Pagnotta and Philippon (2012) look at how traders decide whether to submit orders and how exchanges decide how much money to invest in fast-trading technologies. They demonstrate that results are typically inefficient in comparison to the efficient outcome when all venues break even by allowing market structure and speed to emerge endogenously. Depending on the market structure, in equilibrium, trading speed and participation are both suboptimal.

Kirilenko et al. (2014) look at E-mini-S&P 500 futures trading around the flash crash of May 6, 2010. The study focuses on the role that HFT played in the market's decline and recovery. The results show that HFT was passive during that time and had no relation to the downturn. Moreover, the results also showed that HFT did not aid in the recovery of the market.

Hendershott and Riordan (2013) and Boehmer and Shankar (2014) use order-level identifiers for orders that originate from algo traders. The transactions made by a single HFT in the European market are inferred using broker identities in Menkveld's (2013) sample as well. Although they may be used to draw conclusions regarding HFT and algos, respectively, these samples are constrained to very small samples.

Foucault, Hombert, and Rosu (2015) the effects of HFT on price discovery, they designed a model to analyze the effects that HFT has on price discovery in both the short and long run, the results shows that HFT does effect price discovery in both the short and long run, the results of this study contradicts research that claims that HFT does not effect price discovery in the market because HFT relies on newly released information.

Han, Khapko, and Kyle (2014) examined the effects that HF market makers have on market liquidity, the results show that HF market makers forces low-frequency market makers to widen the bid-ask spreads, unless HF market makers are able to replace the liquidity provision of the low- frequency market makers the liquidity in the market will decrease.

Jarnecic and Snape (2014), studied the effects that HFT had on the liquidity in the limit order book, the results of the study show that HFT submit orders at multiple different prices in the limit order book, this leads to a constant supply of liquidity into the market, this means that HFT improves liquidity by solving the liquidity imbalances in the market.

5. Algorithmic Trading Market

The substantial growth of the AT market is due to the fact that AT offers various solutions depending on the desired results of investors. At the same time, AT helps in tracking of the portfolios and the trading activities that are done by traders. Additionally, AT offers a more efficient and simpler method of excecuting orders, which makes AT desirable for exchanges.

The various benefits that come with using algorithmic trading, such as instant and accurate trade execution, simultaneous automated tracking of multiple market conditions, increase in returns for investors, variation of algorithms, will create potential for market growth. As seen in Figure 1, the AT market was valued at 15.5 billion USD and is expected to grow at a CAGR of 12.2% between the years 2022 and 2030. Additionally, the algorithms that are being used by traders are improving yearly by becoming more effect and less prone to making errors. Moreover, new algorithms are expected to come which will offer even more variety and will solve issues that current algorithms cannot. All the points that are mentioned above show that the AT market is not slowing down and will continue to grow and even in higher rates as forecasted (Figure 1).

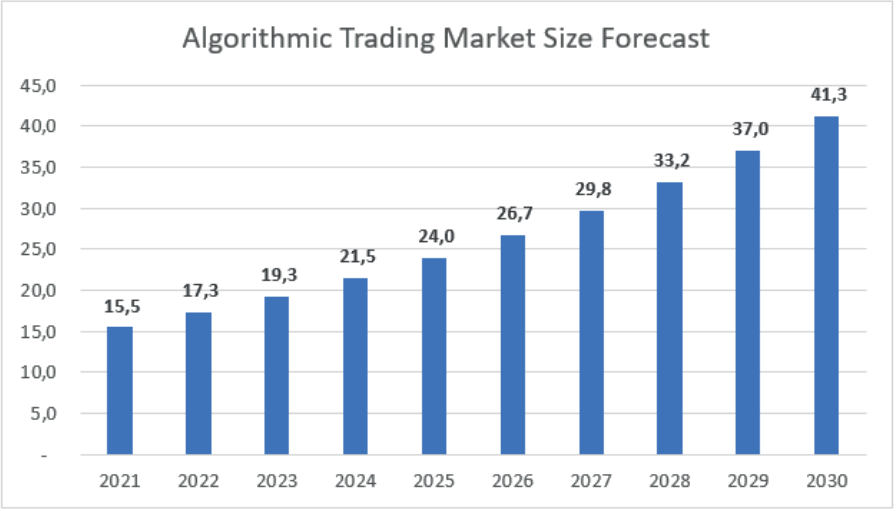

Figure 1 Algorithmic Trading Market Size Forecast (Fortune Business Insights, 2022)

5.1 AT Market Segments

In 2021, the institutional investor market contributed roughly 35% of the total market share of AT, as seen in Figure 2. Institutional investors utilize their capital to acquire a variety of financial assets. Additionally, institutional investors frequently employ algorithms to be able to execute trades when markets are volatile. The use of algorithmic trading techniques has proven to increase the return of traders and decrease the cost of transactions.

Figure 2 Algorithmic Trading Market (Fortune Business Insights, 2022)

The short-term trader's segment constitutes 20% of the algorithmic trading market share and is expected to grow more within the coming years due to the continuous improvement of algorithmic trading. In contrast to long-term fundamentals of an asset, price activity is the main focus of short-term traders. Short-term traders can profit quickly from the market by employing algorithmic trading systems. Investment strategies have a big impact on short-term traders, which increases the demand for algorithmic trading solutions.

6. Reasons for using AT

The reasons why algorithmic trading market has been booming for the past few years could be due to multiple reasons, including how versatile AT is. In Table 2, the reason why AT is used can be seen. The leading reasons for using AT include simplicity, decrease the effect on the market, enhance productivity of traders, and consistent execution of orders, account for 46% of the respondents. Responses to those four categories have steadily increased over time, reaching 43% in 2021 and 42% in 2020.

Anonymity, faster execution of orders, lower latency, decrease in commission fees, and results match pre-trade estimates were the four categories that experienced year-over-year declines. It's not that many of these are unimportant factors; rather, it's possible that the scores reflect the notion that these will be taken for granted in 2022.

Table 2 Reasons for using AT (% of response), (Long-Only, 2022)

Feature	2022	2021	2020
Simplicity	12.25	12.04	11.08
Decrease the effect on the market	12.03	10.45	10.29
Enhance productivity of traders	10.87	10.32	10.45
Consistent execution of orders	10.74	10.19	10.51
Better prices	7.94	6.68	6.65
Anonymity	7.85	8.96	9.93
Efficient tracking of trades	7.35	7.24	8.02
Faster execution of orders	6.87	7.64	6.56
Decrease in commission fee	6.77	8.69	6.83
Customization	6.33	6.21	5.74
Algo monitoring capabilities	5.67	5.3	7.2
Data on venue/order routing logic analysis	3.93	3.84	5.07
Results correspond to predictions.	1.39	2.45	1.67

According to the evaluations for 2022, respondents only wanted the deals to be completed quickly, fairly, and with the least amount of disruption. The data provided above is measured by conducting a global survey done on individuals and companies that have different rates of assets under management.

7. Conclusions

This is the first study that focuses on the literature of AT when it comes to the researches and results. Previous papers have done literature reviews on AT such Yong Hu et al. (2015) and Cohen (2022), but those papers focused on the technicalities of AT such as the coding aspect of AT and the methods of integrating those codes into AT. Mandes (2016) did a study on AT and HFT but the study mainly focuses on HFT and the types of AT and did not include the literature of AT. This paper's contribution to the literature by encompassing all relevant literature on algorithmic trading.

The research on AT which is included in this study provides the methods that scholars use to identify AT and evidence on the effects that AT has on the financial markets. Most scholars' studies showed that AT has a positive effect on liquidity, price efficiency and spreads in the financial markets. Other scholars argue that the positive effects that AT has on the financial markets are not sustainable in the long run. Theoretical analysts claim that AT could lead to negative effects on market quality.

Literature on HFT focuses mainly on the positive and negative effects of HFT. The positive effects of HFT are higher returns for traders, improving market liquidity, and increasing the rate at which information transfer into the market prices. As for the negative effects of HFT, studies show that HFT causes mispricing of stock prices and is harmful for traders who do not use HFT because they cannot catch up with the speed of HFT.

This paper examines the AT market and the segments in the market. The data shows that algorithmic trading has been increasing at a substantial rate and the reasons why investors use AT could be seen in Table 2. Additionally, the paper analyses data on the segments of AT market and the most used algorithms by investors, can be seen in Table 1 and Figure 2.

To conclude, AT market will continue to grow due to the multiple benefits that comes from using it, and more literature will be done on AT because of the continuing growth and innovation that is occurring in the AT market. More strategies and algorithms will be introduced, and scholars will examine the efficiency and benefits of them. As for future suggestions, more studies should be made into the effects of AT on crypto markets and examined if current strategies and algorithms are effective in such volatile markets.

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Chapter 7

CHARTERER RATING INDEX IN CONTAINER BUSINESS WITH SOCIAL NETWORK ANALYSIS

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Introduction

Container shipping is widely favored in international trade due to its capacity to offer secure and multimodal transportation options. It has led to significant changes in the world's economy and transportation geography, as production has shifted to Asian countries since the 1990s. From this perspective, it has revolutionized the maritime industry and the global transportation chain (Levinson, 2006; Ma, 2021). Ship chartering plays a crucial and ever-evolving role in container shipping operations. This feature allows container carriers to adapt their fleet capacity, enter new markets, handle seasonal fluctuations, and minimize potential hazards. The adaptability of container shipping businesses enables them to efficiently traverse the dynamic global trade environment, streamlining their operational processes and promptly responding to market variations, all while ensuring cost-effectiveness (Petersen, 2016). The charter market within the maritime transport business can be classified into two main areas, namely voyage charter and time charter. The practice of voyage charter, commonly observed in the transportation of bulk dry cargo and tankers, entails the contractual arrangement of a vessel for the explicit purpose of conveying defined goods between two specified ports. A time charter denotes a commercial agreement to lease vessels for a specified period, typically spanning several months to an extended duration of years. This approach is often observed in the container transportation sector. A bareboat charter refers to a specific form of time charter arrangement wherein the charterer accepts responsibility for the crew and maintenance of the vessel. Bareboat charters are frequently utilized when the proprietor assumes the position of a financial investor who does not actively engage in the daily shipping operations (Hübner, 2016).

The role of networks in maritime transportation is highly significant due to the complex and interdependent nature inherent in the industry. Marine transportation involves the worldwide transfer of goods, information, and services across oceans, and its effectiveness relies on utilizing various network infrastructures. Solid and reliable network connections facilitate adequate transportation and commercial activities across many nations and geographical regions. Moreover, in the context of the container shipping sector, it is imperative to analyze the interconnections and interactions among diverse stakeholders. Understanding the influence and significance of these entities can significantly affect investment choices, evaluations of risk, and the formation of financial partnerships, making it crucial from a financial perspective.

The network approach is a widely utilized methodology for examining maritime networks, emphasizing the analysis of inter-port shipping and container movements (Wang et al., 2019; Ducruet et al., 2021; Pan et al., 2022). Besides, social network analysis (SNA) has considerable potential in

examining the relationships and interactions among many players within the container shipping sector. SNA refers to the systematic approach of representing, conceptualizing, and exploring a group of individuals or entities within a community by employing a network framework comprised of nodes and linkages, demonstrating the interconnections between each individual or entity. Both actors and relationships hold equal significance in the SNA paradigm. When employing SNA for social modeling, it is crucial to consider graph theory and associated evaluations. A meticulous analysis of their relationships allows SNA to ascertain the accurate positions different players hold within a governance network (Yamaki, 2017). On the other hand, SNA is valuable for identifying and visualizing the interconnections among essential actors within the container ship chartering business. Gaining comprehension of the intricate web of relationships can yield helpful information about the key actors involved and their patterns of interaction. Moreover, SNA might be proposed as a valuable approach for examining the significance of social relationships that may not be readily evident (Gnyawali and Madhavan, 2001; Sözen et al., 2009).

The primary objective of this study is to improve the understanding of the interactions among charterers in the container charter business. This will be achieved by employing the SNA approach to identify critical participants using a rating index. The business implications of the proposed method include offering insights to shipping enterprises and charterers on their relative position in the market compared to competitors and supporting them in formulating possible cooperative and competitive strategies. The study is structured subsequently: Section 2 examines the scholarly research on applying SNA within the marine industry. Section 3 describes the data used in the empirical part and clarifies the methodologies followed in the study. The fourth section sheds light on the empirical analysis and resulting findings. The last section is the conclusion.

Literature Review

Various studies in the literature incorporated SNA approaches in the maritime business. To illustrate, Kanrak et al. (2019) focused on the methodologies employed in analyzing maritime transport networks, specifically emphasizing their structure, topology, and attributes. The authors also assessed various connectivity metrics, including density, degree distribution, centrality, and clustering coefficient. The researchers utilized multiple models, including the random graph, block, and exponential family random graph models, to examine and investigate the development of networks and the dynamics of node interactions. The researchers concluded that the currently available models had a high computational burden and relied on limited assumptions on establishing networks and the connections between ports. Buchnea & Elsahn (2022) examined historical research with SNA to investigate the evolution of

international networks throughout different periods. The researchers employed a mixed methods approach, integrating diverse archival sources with network graphs and textual analysis to present a holistic network perspective. The study underscored the significance of adopting a longitudinal approach when examining the development of global corporate networks. Deshmukh & Song (2022) reviewed the suitability of SNA as a method for empirically assessing the level of connectivity between ports and their hinterlands, with a particular emphasis on container ports. The authors highlighted the capacity of SNA to interpret the relationships inherent in a network. They proposed that robust interactions among entities within a network could impact the overall outcome of the network. The study by Nguyen & Kim (2022) examined the attributes of the marine transportation network in Northeast Asia and conducted a comparative analysis of the levels of connectivity across container ports in the region. The researchers utilized SNA to delineate the global interconnectivity of prominent container ports within the specified area. Their findings revealed a substantial level of interconnectedness within the maritime shipping network of Northeast Asia. However, it was observed that the COVID-19 pandemic had a profound impact on nearly all container ports in the region, leading to a notable decrease in both throughput and connectivity. D'agostini (2023) evaluated the marketing orientation exhibited in the Facebook advertisements of Maersk and MSC. The primary objective was to ascertain if these advertisements emphasized brand recognition, new transport services, or stakeholder value propositions. The study employed social media text mining and SNA techniques to examine the Facebook posts of both companies. The investigation disclosed a disparity in the substance of posts and a shared objective between both firms to enhance brand visibility and facilitate information dissemination through social media platforms.

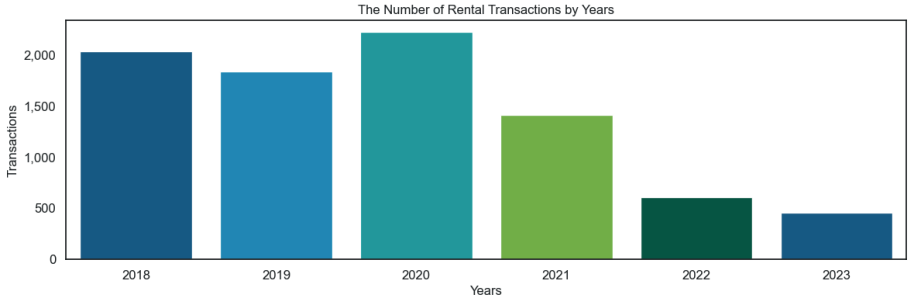
However, limited research has employed SNA to investigate the interactions and relationships among individuals involved in container shipping. The primary objective of this research is to fill the existing gap in the scholarly literature by examining the interactions among charterers using a network-based method. This investigation aims to ascertain the relative status of charterers by employing a rating index developed using network centrality metrics.

Data and Methods

The dataset utilized in the study's empirical analysis was obtained from the Clarkson research database (Clarksons Research Portal, 2023). The information encompasses a total of 8,559 rental transactions of container ships, spanning from January 2018 to August 2023. The columns included the rental transaction date, ship name and built year, twenty-foot equivalent unit (TEU), charterer, laycan date and period, daily rate, and ship owner for six different container fixture types. The observations included 233 unique charterers, 494 owners, and 2,787 ships. The frequency of the transactions is depicted

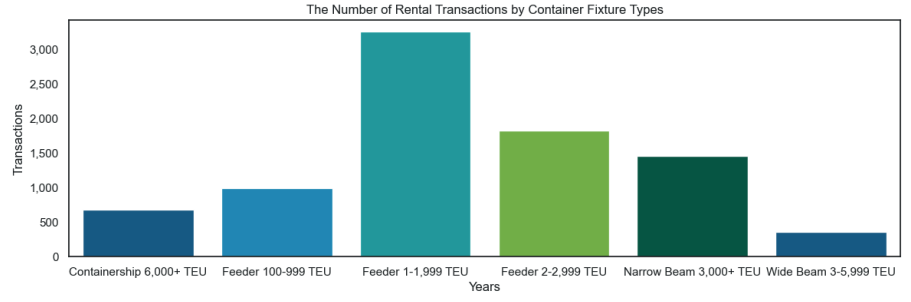
in Figure 1. As Figure 1 disseminates, the rental transactions experienced a decline from 2,030 to 1,833 when transitioning from 2018 to 2019, followed by a subsequent increase to 2,223 in 2020. After 2020, a discernible reduction in transaction numbers became evident starting from 2021, with figures of 1,411, 608, and 454 recorded consecutively. The period encompassing 2023 corresponds to the initial seven months of the calendar year.

Figure 1. The Number of Rental Transactions by Years



Regarding the distribution of transaction weights based on container fixture types, it is observed that 38% of the total rental agreements were executed with feeders ranging from 1,000 to 1,999 twenty-foot equivalent units (TEU). This was followed by feeders with a capacity of 2,000 to 2,999 TEU, accounting for 21% of the agreements. Narrow beam vessels with a capacity of 3,000 TEU or more constituted 17% of the total rental contracts. The feeders with a capacity of 100-999 TEU had a weight distribution of 12%. In addition, containers with a capacity of 6,000 or more TEU were found to have a weight distribution of 8%. In comparison, containers with a capacity ranging from 3,000 to 5,999 TEU exhibited a weight distribution of 4%. During the research period, it was found that middle-class container ships were the most commonly chosen vessels for rental purposes.

Figure 2. The Number of Rental Transactions by Container Fixture Types



Following the exclusion of 248 entries from the primary dataset on account of incomplete charterer information, a sub-dataset was generated to establish a connection between ships and charterers based on the transactions derived from the aforementioned primary dataset. The charterers were interconnected through the vessels they leased during the specified period. Thus, the newly acquired dataset consisted of a cohort of charterers engaged in rental transactions with a particular vessel. The ships excluded from consideration were those chartered by a single party, as they did not permit the involvement of multiple charterers. By employing this methodology, a novel dataset consisting of a network of charterers was established. The ultimate dataset comprised 4,503 observations, encompassing two interconnected columns of charterers.

The study utilized an SNA methodology, wherein a graph object was constructed to represent the interconnected charterer companies. Thus, charterers served as the nodes within a network, establishing connections through ships as links. Once the graph object was instantiated and its distinctive features were identified, it was represented as a circular diagram to visually convey information about the charterer network.

The concept of centrality plays a pivotal role in network analysis as it identifies an entity's fundamental position within a network. Centrality metrics categorize entities according to their position, enabling the ability to compare and comprehend their respective roles. Various centrality indices, such as degree, closeness, betweenness, and eigenvector centrality, rely on calculating shortest paths that connect pairs of entities within a network (Laghridat & Essalih, 2023). Accordingly, an analysis was conducted to calculate network centrality measures, such as degree, eigenvector, pagerank, closeness, and betweenness metrics. The resulting descriptive statistics were subsequently presented. Ultimately, the centrality measure for each node was integrated into an index to obtain a rating score for charterers.

Empirical Results

The empirical analysis commenced by generating a graph object for visual examination. The network under consideration consisted of 212 nodes, exhibiting a multigraph structure that facilitated the establishment of multiple connections between these nodes. The multigraph consisted of 212 nodes connected by a total of 4,503 edges. Figure 3 depicts the network of charterer companies, wherein the nodes were placed along the circumference of the circular configuration. The figure displays multiple links, with the darker lines representing the intensity of rental transactions conducted by a specific charterer. These darker lines can be understood as indicative of weights. The connection between the nodes in the plot was established based on the ships the charterers rented. Darker lines connecting two nodes indicated a

greater frequency of transactions between the corresponding companies. This observation suggested a potential similarity in the business requirements that led to the rental agreements.

The edges in the multigraph object were affected by the number of transactions in the initial dataset, which could be deemed as weights. To impose limitations on multiple transactions, a singular graph object was instantiated, wherein the formation of a single link between any two nodes was permitted. The network, which was both unweighted and undirected, consisted of 212 nodes and 1,659 edges. With a density score of 7.41%, the charterer network was not dense, implying that the charterers' interest in a typical ship was limited. The observed phenomenon can be attributed to the heterogeneity of the vessels in the primary dataset, characterized by variations in TEU capacity, daily rental rate, rental period, and age. These differences have resulted in providing diverse solutions to meet the specific business requirements of charterers. That is to say, some charterers may be conducting business that precludes them from working with certain types of ships.

The number of degrees each node had in the network provides insight into the level of connectivity between nodes. The data analysis in the graph indicated that the charterers CMA-CGM, Maersk, and Sea Consortium held the highest positions in terms of degree centrality. CMA-CGM had the highest degree of centrality with 140 links to other charterers, Maersk with 112 links, and Sea Consortium with 108 links. Table 1 presents the numerical values representing the degrees and degree centrality scores of the initial ten nodes within the network.

Figure 3. The Visualization of the Charterer Network

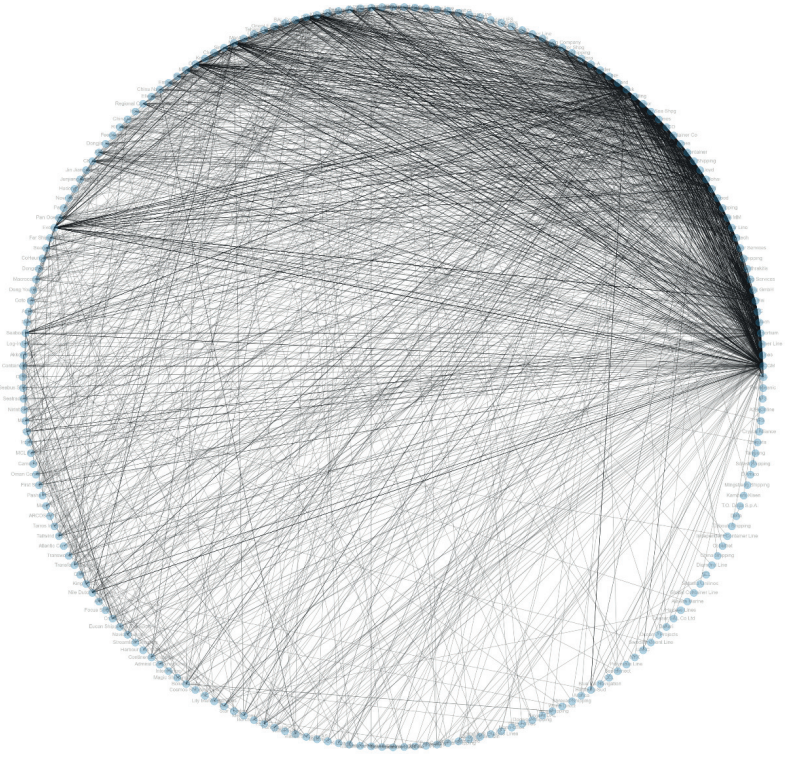


Table 1. The Degrees and Degree Centrality of Top 10 Nodes

Node	Degree	Degree Centrality
CMA-CGM	140	0.66
Maersk	112	0.53
Sea Consortium	108	0.51
Hapag-Lloyd	80	0.38
COSCO	69	0.33
ZIM	66	0.31
Wan Hai	65	0.31
SITC	63	0.30
MSC	62	0.29
TS Lines	61	0.29

Nodes exhibiting more significant levels of eigencentrality might be interpreted as nodes connecting with the network's most influential or essential nodes. Table 2 summarizes the ten most prominent nodes based on their eigenvector centrality.

Table 2. The Eigenvector Centrality of Top 10 Nodes

Node	Eigenvector Centrality
CMA-CGM	0.25
Maersk	0.23
Sea Consortium	0.22
COSCO	0.18
Hapag-Lloyd	0.18
Wan Hai	0.18
TS Lines	0.17
SITC	0.17
ZIM	0.17
MCC Lines	0.16

A node exhibiting a high pagerank centrality is characterized by a substantial quantity of incoming links, particularly from nodes deemed significant or central. Additionally, the link propensity of the nodes providing these links is notably high. The pagerank centrality ratings of the top ten nodes may be observed in Table 3.

Table 3. The Pagerank Centrality of Top 10 Nodes

Node	Pagerank Centrality
CMA-CGM	0.04
Maersk	0.03
Sea Consortium	0.03
Hapag-Lloyd	0.02
COSCO	0.02
ZIM	0.02
MSC	0.02
Wan Hai	0.02
SITC	0.02
X-PRESS FEEDERS	0.02

Closeness centrality is a measure that quantifies the degree to which a node is proximate to other nodes within a network, indicating the shortest path distance to other nodes. Table 4 illustrates the closeness ratings of the initial ten charterers.

Table 4. The Closeness Centrality of Top 10 Nodes

Node	Closeness Centrality
CMA-CGM	0.74
Maersk	0.67
Sea Consortium	0.66
Hapag-Lloyd	0.60
COSCO	0.58
ZIM	0.58
SITC	0.57
Wan Hai	0.57
TS Lines	0.56
MCC Lines	0.56

The concept of betweenness centrality pertains to quantifying the extent to which a particular node is situated on the shortest pathways connecting pairs of nodes relative to the total number of possible node pairs. Table 5 presents the betweenness scores of the top ten nodes inside the network.

Table 5. The Betweenness Centrality of Top 10 Nodes

Node	Betweenness Centrality
CMA-CGM	0.26
Maersk	0.12
Sea Consortium	0.12
Hapag-Lloyd	0.06
COSCO	0.04
X-PRESS FEEDERS	0.03
Unifeeder	0.03
Sinokor	0.03
MSC	0.03
MCC Lines	0.03

Table 6 displays the descriptive statistics of the 212 nodes in the dataset, focusing on the five chosen network centrality measures. The table provides insights into the variation of centrality metrics, explicitly highlighting the range between the minimum and highest values. Two noteworthy observations are that all centrality measures exhibited a minimum value of zero. Additionally, it is worth noting that the average pagerank centrality had a mean value of zero, which persisted until the third quartile. The highest observed value for pagerank centrality was 0.04.

Table 6. Descriptive Statistics of Centrality Measures

Centrality Measure	Count	Mean	Standard Dev.	Min	25%	50%	75%	Max
Degree	212.00	0.07	0.10	0.00	0.02	0.04	0.08	0.66
Eigenvector	212.00	0.05	0.05	0.00	0.01	0.03	0.06	0.25
Pagerank	212.00	0.00	0.01	0.00	0.00	0.00	0.01	0.04
Closeness	212.00	0.45	0.08	0.00	0.42	0.46	0.48	0.74
Betweenness	212.00	0.01	0.02	0.00	0.00	0.00	0.00	0.26

The centrality scores were then integrated into an index score by taking the geometric mean of each centrality score. Applying the geometric mean, as depicted in Equation 1, is a prevalent approach for calculating the average values with equal weights, particularly in situations involving percentages (DeFusco et al., 2017).

$$G = [X_1 X_2 \ldots X_n]^{1/n} \quad (1)$$

The provided equation establishes G as the geometric mean of a series, where $X_1 \ldots X_n$ denotes the values of the observations for which the geometric mean is being sought.

Figure 4 illustrates the distribution of the computed index values, which exhibits a right-skewed pattern. The mean index score is 0.02, while the median is 0.01.

Figure 4. The Distribution of the Charterer Rating Index

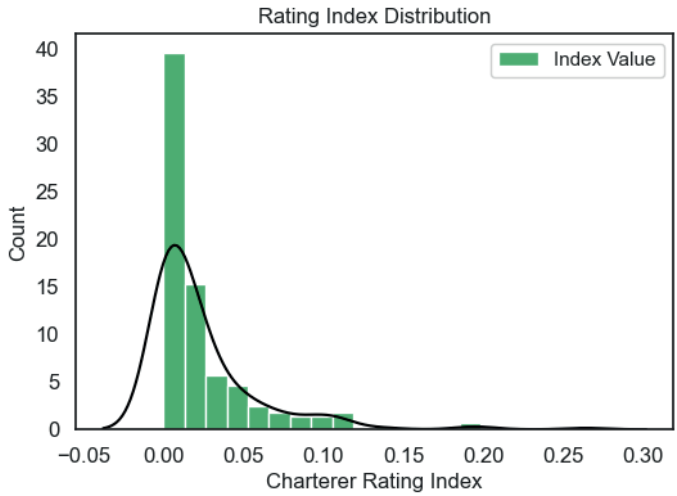


Table 7 presents the top ten charterers with centrality and index values. Based on the data provided, it can be observed that CMA-CGM obtained the highest rating of 0.26, followed by Maersk, with a rating of 0.20, and Sea Consortium, with a rating of 0.19.

Table 7. Rating Index of Top 10 Nodes

Node	Degree	Eigenvector	Pagerank	Closeness	Betweenness	Index
CMA-CGM	0.66	0.25	0.04	0.74	0.26	0.26
Maersk	0.53	0.23	0.03	0.67	0.12	0.20
Sea Consortium	0.51	0.22	0.03	0.66	0.12	0.19
Hapag-Lloyd	0.38	0.18	0.02	0.60	0.06	0.14
COSCO	0.33	0.18	0.02	0.58	0.04	0.12
ZIM	0.31	0.17	0.02	0.58	0.03	0.11
MSC	0.29	0.16	0.02	0.56	0.03	0.11
SITC	0.30	0.17	0.02	0.57	0.03	0.11
Wan Hai	0.31	0.18	0.02	0.57	0.03	0.11
X-PRESS FEEDERS	0.28	0.15	0.02	0.56	0.03	0.11

Notably, using the geometric mean as the computational approach necessitates that every charterer has a centrality score exceeding zero since a null centrality value will result in a corresponding index score of zero. Therefore, the index score assesses the conditions wherein the charterer is connected to a wide range of charterers, engages in business transactions with central charterers, and holds a significant position within the network.

Conclusion

Container shipping plays a crucial role in facilitating global trade. The analysis of the interconnections among players within the container shipping industry, encompassing many entities and activities, is vital for comprehending the complex nature of this sector. The practice of ship chartering holds significant importance and is crucial in the container shipping industry. This study aimed to identify the leading charterer companies in the container business and improve understanding of market participants' interactions. The information, including rental transactions for specific ships and contractual agreement parameters, was converted into nodes and links, creating a network representing charter companies based on the ships they rented. In addition to the network's graphical depiction, degree, eigenvector, pagerank, closeness, and betweenness centrality measures were computed for every node. Finally, the charterers were assessed using a composite index that calculated the geometric means of the centrality metrics. Accordingly, it was concluded that CMA-CGM, Maersk, and Sea Consortium obtained the first three places out of 212 charterers with ratings of 0.26, 0.20, and 0.19, respectively.

As for practical implications, the proposed network approach may yield significant insights into the intricate interactions, interdependencies, and potential advantages inside the container shipping sector, with the potential to offer valuable insights into the competitive dynamics inside the sector. By examining the network rating index score, charterers may determine their

standing within the market, recognize prospective competitors, and formulate competitive or cooperative strategies.

Concerning the study's limits, it is essential to acknowledge that the created network solely incorporated one market player, the charterers. Furthermore, the suggested index exclusively incorporated network centrality measurements, encompassing five factors. These identified constraints have the potential to stimulate further research endeavors aimed at enhancing the SNA approach. One possible avenue for improvement is to incorporate additional actors within the sector. Additionally, the index's composition can be expanded to include factors specific to charterers and the sector. Moreover, it is recommended that future studies emphasize investigating link prediction approaches to gain valuable insights into potential collaborations and strategic alliances within the business.

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Chapter 8

THE EFFECT OF E-COMMERCE ON INTERNATIONAL TRADE AND ECONOMIC GROWTH: A SWOT ANALYSIS OF TÜRKIYE

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Introduction

As the globalization process gained momentum in the 1990s, international trade adopted a relatively more liberal framework, consequently leading to increased global competitiveness. This heightened competition also spurred rapid technological transformations. Within this context, substantial advancements significantly impacted various facets of societal life in the realm of information and communication technologies (ICT). These developments in ICT brought about significant alterations in the methods of conducting trade. In particular, the proliferation and progress of internet technology facilitated its incorporation into the commercial sphere. Enabled by its rapid transaction speeds, time efficiency, and cost-effectiveness, commercial exchanges began to transition to virtual networks through electronic platforms, giving birth to the concept of e-commerce.

In contrast to direct face-to-face interactions, e-commerce, defined as commercial transactions conducted by buyers and sellers over computer networks like the internet, has significantly impacted international trade. The internet presents substantial opportunities for international e-commerce transactions, ranging from business-to-business (B2B) to business-to-consumer (B2C). It not only allows businesses to expand their target market by catering to customers worldwide through their websites but also provides consumers with the capability to engage with sellers directly, without the need to visit the seller's physical location, in a fast and cost-effective manner.

E-commerce not only reduces information costs but also enables buyers and sellers from diverse physical locations to converge in the digital environment, thereby mitigating the importance of geographical distances and conventional business processes. Especially, due to the advancement and widespread adoption of internet technology, the delivery of digital products like computer software, films, and music albums has become feasible within the e-commerce realm, resulting in significant cost savings and enhanced time efficiency (Artan et. al, 2021).

The transformations brought to the business world by the digital age, especially the rise of e-commerce, have had profound effects on international trade and economic growth. These digital innovations, which have fundamentally altered the traditional understanding of commerce, are reshaping the dynamics of trade worldwide. The new paradigm of e-commerce not only increases growth opportunities for businesses on the international stage but also integrates with the economic growth strategies of many countries.

This study aims to examine the impact of e-commerce on international trade and economic growth and, more specifically, the opportunities it presents for Türkiye. Furthermore, it provides a SWOT analysis to understand

how this transformation may shape Türkiye's international trade.

In this context, the first section of the paper explores the position of e-commerce in the literature. Subsequently, the impact of e-commerce on international trade and economic growth is addressed separately for both the global and Turkish contexts. In the final part of the study, a SWOT analysis is conducted to identify the strengths and weaknesses, as well as the opportunities and threats that Türkiye faces.

This paper serves as an essential resource for readers interested in comprehending the impact of e-commerce on international trade and economic growth and how Türkiye can compete in this rapidly evolving economic landscape. It delves into how e-commerce will shape the future of international trade and how Türkiye can adapt to this transformation.

1. An Overview of E-Commerce

According to the definition provided by the World Trade Organization (WTO), electronic commerce encompasses the production, advertising, selling, and distribution of goods and services through telecommunication networks (WTO, 2016). In an alternative definition, e-commerce transactions involve the sale or purchase of goods or services that are intentionally designed to occur over computer networks, with the primary purpose of receiving or placing orders (OECD, 2011).

E-commerce serves a twofold purpose, functioning as both a more efficient channel for information exchange and aggregation, and as a prospective mechanism for outsourcing economic activities that were traditionally managed in-house to external suppliers who compete in these areas (ECLAC, 2002).

The Internet is markedly enhancing the potential for cross-border e-commerce transactions, whether in business-to-business or business-to-consumer scenarios. Particularly in the context of business-to-consumer dealings, the internet is laying the foundation for a possible transformation in global commerce marked by individualized trade. It empowers consumers to directly participate in transactions with foreign sellers, doing away with the necessity to be physically present at the seller's site. Furthermore, the Internet allows sellers to present their virtual storefronts through web pages to a global audience. Technological advancements have significantly broadened the consumer market to an unprecedented degree (Ham & Atkinson, 2001).

The Internet and e-commerce are undergoing a revolutionary transformation in the way businesses operate, fundamentally altering the processes involved in back-end operations. These operations encompass various aspects such as product design, procurement, manufacturing, inventory management, distribution, post-sales support, and even marketing.

In the course of this transformation, the Internet and e-commerce play a pivotal role in redefining the roles and interactions of diverse stakeholders, fostering the emergence of novel supply networks, services, and business models. The ultimate results include heightened operational efficiency, more efficient resource utilization, accelerated time-to-market, reduced order fulfillment durations, and enhanced customer service (ECLAC, 2002).

E-commerce made its debut in the mid-20th century and has since undergone rapid expansion. It is worth noting that Europe, the United States, and other developed nations captured the majority of the market share during this period. This evolution in e-commerce has led to the emergence of various B2B e-commerce enterprises, including well-known names like Alibaba and Globalsources, all of which have introduced user-friendly online trading platforms. These platforms have facilitated the collaboration of tens of thousands of international and domestic traders in conducting their business affairs.

In Figure 1, it is seen that the ranking by revenue in the e-commerce market in 2022 is led by China with 1.2 trillion U.S. dollars and is followed by the United States (811.03 billion U.S. dollars). In contrast, the ranking is trailed by Indonesia with 43.3 billion U.S. dollars, recording a difference of 1.2 trillion U.S. dollars to China.

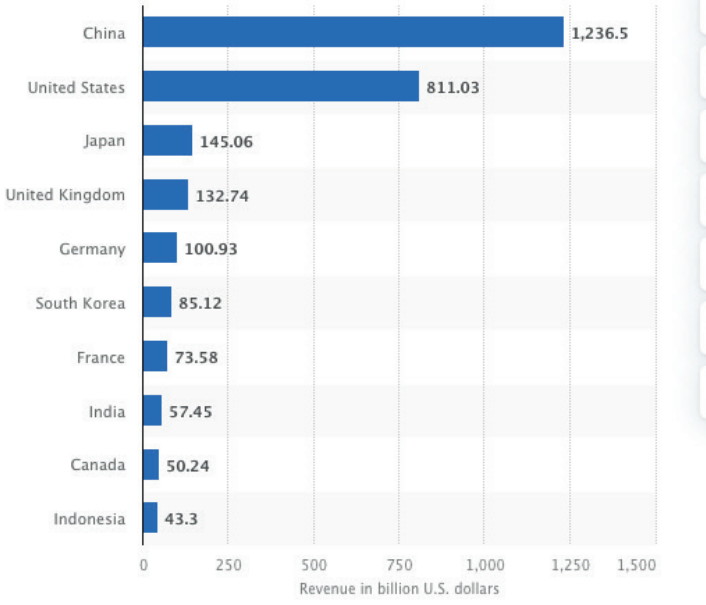

Figure 1. *Revenue of E-Commerce Worldwide in 2022, Top Ten Countries*
Source: *Statista, 2023, https://www.statista.com/forecasts/1283912/global-revenue-of-the-e-commerce-market-country*

In practice, e-commerce takes on different forms based on the participants involved. Among the various types, business-to-business (B2B) and business-to-consumer (B2C) e-commerce applications have emerged as prominent players in commercial activities. Specifically, B2B e-commerce contributes significantly to the current e-commerce volume, primarily due to the substantial transactions conducted between businesses. Conversely, B2C e-commerce enjoys broader usage in the business world when considering transaction volume and the number of users (Artan et. al. 2021).

1.1. Business to Consumer E-Commerce-B2C (Retail E-Commerce)

In recent years, e-commerce has become an integral part of the global retail industry. Like various other sectors, the process of buying and selling goods has undergone a significant transformation with the advent of the internet. This continuous digitization of modern life has empowered consumers worldwide to enjoy the advantages of online transactions. As global internet accessibility and adoption continue to expand rapidly, with over five billion internet users worldwide, the number of individuals participating in online purchases is steadily increasing. In 2021, the total value of global online retail sales reached nearly 5 trillion USD (Coppola, 2023), in 2022, they were estimated to exceed 5.7 trillion USD (Gelder, 2023) and this figure is expected to surpass 7 trillion USD by 2025 (Coppola, 2023).

Individuals using the internet have the option to explore and make purchases from a diverse array of online platforms. While certain websites are designed for B2B (business-to-business) clientele, there's an abundance of digital opportunities available to individual consumers as well. In the year 2022, online marketplaces represent the most substantial portion of worldwide online transactions. Amazon stands at the forefront of the global list of online retail websites in terms of web traffic (Gelder, 2023).

E-commerce has assumed an increasingly substantial role in the retail industry. In 2022, online sales constituted approximately 19% of total retail sales on a global scale. Projections suggest that by 2027, the digital commerce segment will comprise nearly 25% of the entire worldwide retail sales (Coppola, 2023).

While the average order value of online shopping through smartphones and tablets still lags behind that of traditional e-commerce conducted on desktop computers, e-retailers worldwide have made significant progress in mobile e-commerce (M-commerce) sales. Online shopping via smartphones is notably prevalent in Asia. By the conclusion of 2021, Malaysia stood out as the leading digital market in terms of the percentage of the population making mobile purchases weekly, with nearly 45% engaging in such transactions. South Korea, Taiwan, and the Philippines completed the upper tier of this ranking. In 2023, smartphones accounted for more than 70% of global retail website

visits, and as a result, they also generated the majority of online orders when compared to desktops and tablets. With the rapid adoption of mobile devices, especially in regions with limited digital infrastructure, the incorporation of mobile technology will continue to shape the future shopping experience. M-commerce has become highly popular in Asia, with countries like China and South Korea generating over two-thirds of their total online sales through mobile devices (Gelder, 2023).

In Figure 2, the total retail e-commerce revenue worldwide by region can be examined for 2022.

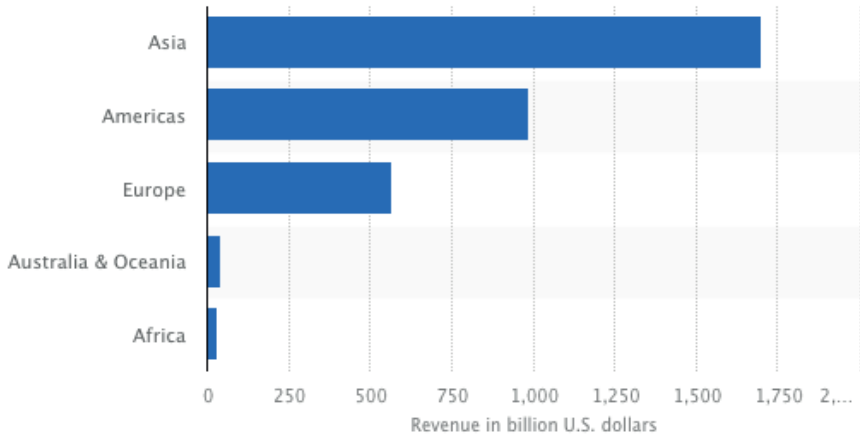

Figure 2. *The total retail e-commerce revenue worldwide 2022, by region*
Source: *Statista, Industries, B2C E-Commerce, https://www.statista.com/markets/413/topic/457/b2c-e-commerce/#overview*

Due to its exceptionally high population density and some of the world's most thriving economies, it comes as no shock that the e-commerce market in Asia is the most extensive. In 2022, China alone is projected to have more than 1 billion e-commerce users. The e-commerce revenues in Asia for the same year are expected to surpass 2 trillion USD. To put it in perspective, the entire retail e-commerce revenue in the Americas amounts to 1 trillion USD (Statista, 2023b).

1.2. Business to Business E-Commerce-B2B

Businesses are increasingly turning to online platforms to source products and services. In the realm of B2B e-commerce, a relatively small single-digit percentage of online sales takes place through marketplaces. This is especially pertinent in sectors like retail and wholesale, where large corporations hold

sway. In these scenarios, buyers often initiate purchase orders via alternative digital procurement methods. Nonetheless, e-commerce marketplaces are gradually gaining traction by offering more personalized and flexible supply options for businesses. They can adapt to diverse demands and provide an interactive customer experience.

When considering the gross merchandise volume (GMV), B2B e-commerce sales in Asia region supreme globally, with North America closely behind. Notably, the period from 2012 to 2020 witnessed an astounding fourfold increase in the value of B2B e-commerce transactions in China alone (Statista, 2023c).

Asia accounts for approximately 80% of the worldwide B2B e-commerce market. The Chinese market has been on a consistent growth trajectory, with a valuation of 27.5 trillion yuan, a trend that has been ongoing since 2012. This enduring expansion also encompasses B2B retail platforms catering to small and medium-sized enterprises, which are witnessing a boost in their revenues. In the United States, there is a gradual but consistent growth in B2B e-commerce transactions within both the wholesale and manufacturing sectors (Statista, 2023c).

In numerous countries, the limitations imposed by the COVID-19 pandemic have driven businesses to boost their online sales of products and services. Specifically within the B2B sector, e-commerce platforms are being improved and customized to better align with business needs. Suppliers are implementing strategies and introducing additional features that draw from the B2C e-commerce model, including improved customer service, personalization, and integration with various other online platforms.

The primary factor driving the superior development and scale of B2B e-commerce compared to B2C is the significantly larger volume of business in B2B, even though the number of participants is smaller than in the consumer sector. The consistent year-over-year growth in B2B e-commerce sales has empowered organizations to streamline their operations, ultimately leading to increased profitability. A microeconomic examination reveals that the ongoing expansion of B2B e-commerce has led to substantial reductions in costs related to transportation, sourcing, warehousing, and material management. On a macroeconomic level, the expansion of B2B e-commerce has contributed to a decrease in inflation, resulting in enhanced productivity, greater profits, and heightened competitiveness among companies. Since 1999, B2B e-commerce has stood out as the fastest-growing sector worldwide, surpassing all other industries, including trade and manufacturing (Nair, 2017).

2. The Effect of E-Commerce on International Trade

E-commerce holds substantial promise for both developing and developed countries. The evolution of e-commerce is anticipated to generate direct and indirect impacts on both international trade and economic growth (Terzi, 2011).

Before the 21st century, some scholars foresaw the potential influence of e-commerce on international trade. In the early stages of e-commerce's emergence, specific researchers delved into this subject, with a particular focus on the Internet and Intranet. For instance, scholars like Quelch & Klein (1996) scrutinized the manifold opportunities and challenges that the Internet presented to both large and small global companies. Their work extended to examining the implications for global markets, the development of new products, the advantages of Intranet adoption for large corporations, and the essential need for support and cooperation from foreign governments. As e-commerce continued to evolve, scholars began to conduct more direct investigations into its impact on international trade. For instance Fariselli et. al. (1999) delved into three interrelated aspects: globalization, the roles played by small and medium-sized enterprises, and the domain of e-commerce.

The utilization of electronic methods and the internet can simplify and expedite the process of initiating and conducting trade while reducing associated costs. The acquisition of information, especially across national boundaries, is an expensive endeavor, to the extent that these expenses can be viewed as substantial trade barriers. Additionally, the process of identifying the right supplier, specifying product requirements and quality, price negotiations, arranging deliveries, and marketing products is also highly costly. However, the internet and e-commerce applications have the potential to facilitate many of these activities, even when the buyer and seller are not in close physical proximity. In this regard, the internet is expected to promote trade in a manner similar to the removal of other trade barriers. Consequently, the volume of international trade is likely to increase (ECLAC, 2002).

Specifically, when the internet is organized through electronic markets using e-commerce applications, it reduces information costs and enables electronic connections between buyers and sellers. This diminishes the significance of physical closeness and traditional business networks (Terzi, 2011).

The extent to which e-commerce encourages international trade will hinge on the characteristics of the product. For certain goods that have historically relied on physical delivery, digital networks can now deliver them in digital format. This category includes media products like text, films, and computer software. On the contrary, a majority of internationally traded goods cannot be delivered digitally, so transportation costs will remain a crucial factor (ECLAC, 2002).

E-commerce will have a substantial impact on the trade of services, particularly in transforming non-tradable services into tradable ones through the capabilities of e-commerce and information technology. Services that were once considered non-tradable, such as research and development, computing, inventory management, quality control, accounting, personnel management, marketing, advertising, and distribution, can now be traded via e-commerce. The key requirement is ensuring that communication between buyers and sellers is of sufficient quality, speed, and cost-effectiveness. This approach extends to various international services like finance, legal, telecommunications, and customized software, which are increasingly being conducted electronically (ECLAC, 2002).

The Internet effectively unlocks markets that were previously beyond reach, akin to a form of trade liberalization. Technological advancements result in lower transaction costs, yielding more significant benefits than the triangular efficiency gains achieved through trade liberalization. This cost reduction enhances the potential advantages of trade liberalization across a range of service sectors (Panagariya, 2000). Nonetheless, there exist studies in the academic literature that present a contrasting viewpoint. According to Wang et. al (2017); once transaction costs are factored into the conventional comparative advantage model, it becomes apparent that minimal transaction costs can be instrumental in promoting the expansion of international trade. This is because a reduction in transaction costs serves as a means to establish a comparative advantage. However, the rise of cross-border e-commerce might elevate tariff and transportation expenses associated with international trade, and the net effect on overall transaction costs remains uncertain. Consequently, in theory, the proliferation of cross-border e-commerce does not necessarily equate to an increase in international trade.

With the continuous reduction in communication expenses, the scope for international outsourcing is expanding, underscoring the importance of managing outsourcing and production activities. Certain sectors and activities on a global scale are more vulnerable to the impacts of e-commerce. Consequently, endeavors have been made to identify the industries or sectors most susceptible to the influence of e-commerce and technological advancements. For instance, a study, which formulated an Internet intensiveness index based on criteria such as cost savings, productivity enhancements, industry readiness, and product compatibility with e-commerce, has pinpointed the most internet-intensive sectors (Mann, 2001).

Numerous research findings propose that trade plays a role in driving the increased use of the internet (Terzi, 2011). According to Onyeiwu (2002); The level of a nation's integration into the global economy can influence its accessibility to IT. Countries with increased connections to the external world

through trade, tourism, or geographical proximity tend to have more advanced digital technology compared to those with fewer such connections. Likewise, Caselli & Coleman (2001) suggest that nations that engage in imports from high-income OECD countries will gain from the transfer of knowledge and, consequently, have a higher likelihood of embracing new technologies.

In conclusion, generally; the internet will facilitate international trade much like the removal of other trade obstacles would. Consequently, e-commerce is expected to boost the volume of international trade. Nations that are receptive to imports from high-income economies will experience advantages through the transfer of knowledge. E-commerce can also exert a substantial influence on the trade of services.

3. The Effect of E-Commerce on Economic Growth

When computing national income through the expenditure approach, the outlays of all economic decision-making entities are taken into account. The influence of e-commerce on economic growth can be assessed across consumption, investment, government expenditures, and net exports. The association between e-commerce and economic growth can be elucidated using the following equation (Liu, 2013).

$$Y = C + I + G + (X - M)$$

To begin, in terms of consumption expenditures, the advancement of e-commerce fosters the expansion of emerging sectors, such as logistics, and the generation of fresh employment opportunities within these industries. Consequently, it spurs consumption. E-commerce offers a diverse array of products to individuals, substantially fulfilling their requirements (Malkawi, 2007). This also signifies that e-commerce exerts a positive influence on consumers' spending habits.

From an investment standpoint, companies involved in e-commerce will necessitate substantial capital, especially in areas like transportation infrastructure, to remain competitive with other firms. Consequently, this is expected to lead to an upsurge in fixed capital investments by these companies. Moreover, the expansion of e-commerce is predicted to contribute to the growth of the advertising industry, particularly in the domain of online advertising (Liu, 2013). Thus, a rapid increase in digital advertising investments is on the horizon.

When evaluating the impact of e-commerce on government outlays, the swift expansion of e-commerce will drive an augmented demand for services such as energy production and communication networks. Simultaneously, the growth of the e-commerce sector is likely to result in an increase in government expenditures related to security procurement (Qu & Chen, 2014). This signifies that e-commerce plays a role in bolstering government spending

and consequently fostering economic growth.

Finally, e-commerce provides companies with a competitive edge in the global market during the process of globalization. It has been suggested that businesses with internet connectivity tend to export more than their counterparts lacking such connectivity (Clarke, 2001). Therefore, e-commerce can be considered a contributing factor to a country's exports. E-commerce will stimulate economic growth by stimulating the expenditures of economic decision-making units within the economy.

There are numerous studies in the literature that investigate the impact of e-commerce on the economic growth. Georgiou (2009) endeavors to examine the influence of e-commerce on economic growth. The study elucidates that e-commerce positively contributes to economic growth by stimulating consumption, subsequently enhancing the performance of companies.

Rao et al. (2010) investigate the influence of e-commerce growth on China's economic development through an empirical approach. By utilizing data on e-commerce transactions, GDP, and an error correction model, the study determined that e-commerce transactions have a positive effect on economic advancement. In a similar vein, Liu (2013) explores the mechanism through which e-commerce development impacts a nation's economic growth. Various variables related to e-commerce development in consumption, investment, government purchases, and net exports were employed, ultimately establishing that e-commerce indeed acts as a catalyst for economic growth.

Anvari and Norouzi (2016) conducted a research study to examine the influence of Research and Development (R&D) and e-commerce activities on economic growth across 21 countries. The study incorporated data from the years 2005 to 2013 and applied panel data analysis. The findings from this research reveal a noteworthy and favorable impact of R&D and e-commerce on economic growth.

In a study conducted by Parishev et. al. (2020) in the year 2020, titled "E-commerce Impact on Economic Growth," the effects of e-commerce on economic growth were investigated. This study employed a panel data analysis covering 31 European Union countries over a period of 16 years. The research used the number of e-commerce users as an indicator of the e-commerce volume. The study analyzes the impact of the proliferation of e-commerce usage on economic growth and compares it with the effects of capital formation.

Upon examining the findings and recommendations of the study, it is emphasized that increasing investment in information technologies is of primary importance. Making the telecommunications market more competitive enables consumers to access the internet and information at

lower costs. Enhancing internet speed, implementing security measures, improving infrastructure, and widespread use of the e-commerce ecosystem are also encouraged. Additionally, the integration of services provided by the government to businesses and consumers into digital environments, i.e., increasing digital government applications, helps users adapt to the digital environment. Another point emphasized in the study is the need for investment in human capital. Investing in human capital is required to develop e-commerce. The establishment and enhancement of such technological infrastructure necessitate a qualified workforce. Furthermore, the expansion of usage is directly proportional to the number of individuals who possess knowledge.

Facilitating the integration of society into the digital world is another key recommendation, aimed at addressing the information gap that significantly hinders e-commerce. Protecting intellectual property rights, securely storing digital information, and ensuring a reliable digital environment are matters that governments need to prioritize (Parishev et. al, 2020).

As clearly indicated by the review of existing literature, there is an abundance of empirical evidence substantiating the notion that the expansion and progress of e-commerce have the potential to make a positive contribution to a country's economic growth. This impact is expected to be particularly significant in developed nations, given their early investments in the development of this industry due to more favorable conditions.

4. A SWOT Analysis for Türkiye

As per the "Digital 2023: Türkiye" report by Datareportal, Türkiye has a total of 71.38 million internet users, signifying an internet penetration rate of 83.4% as of January 2023 (Datareportal, 2023). According to the same report, during the same period, there were 62.55 million individuals using social media in the country, representing 73.1% of the entire population. Furthermore, there were 81.68 million active cellular mobile connections, which account for 95.4% of the total population.

In Türkiye, for the year 2022, there were a total of 548,688 businesses engaged in e-commerce activities. Out of these, 31,320 businesses were operating as registered entities in the Electronic Commerce Information System (ETBİS), and the number of registered e-commerce websites in ETBİS had reached 37,256. Additionally, 533,019 businesses were conducting e-commerce activities on e-commerce marketplaces. Furthermore, 15,651 businesses conducted e-commerce activities on their own websites and also sold their products on e-commerce marketplaces (ETBİS, 2022a). In addition to private enterprises, this sector encompasses digital sales platforms owned by diverse legal entities, including non-governmental organizations and sports clubs. The local e-commerce landscape predominantly revolves around a B2C

orientation, with its core focus on reaching individual consumers rather than catering to businesses. The fundamental goal of entering the online commerce realm is to expand the customer base and enhance sales volume.

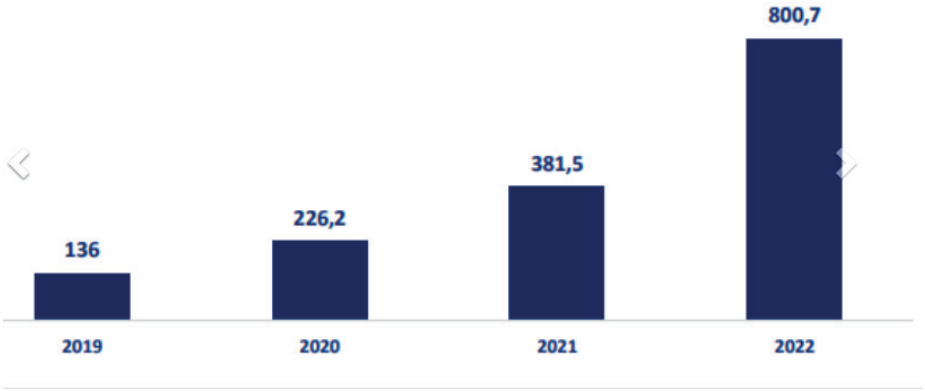

Figure 3. *E-commerce Volume in Türkiye Over the Years (in billion TL)*
Source: *ETBİS, 2022b.*

Figure 3 illustrates the e-commerce volume over the years 2019 to 2022. As depicted in the figure, there was an average annual growth of around 65% in e-commerce volume from 2019 to 2021 for each year, and this percentage surged to 109% when comparing 2022 to 2021. This substantial increase is thought to be significantly influenced by the impact of COVID-19. This continuous and significant rise in Türkiye influences the economic growth in a positive way.

The emergence of the COVID-19 pandemic has triggered an upsurge in e-commerce activities, both globally and within Türkiye. The pandemic has induced a noteworthy shift from traditional brick-and-mortar commerce to the virtual sphere, largely driven by factors like constraints on physical interactions and widespread lockdown measures. Notably, the retail sector has borne the brunt of the pandemic, primarily due to the stringent lockdowns, disruptions in supply chains, and a deceleration in operations. COVID-19 has significantly expedited the transition of commercial transactions from the physical landscape to the digital realm (Güven, 2020). This transition has been further accentuated by the amplified demand for mobile applications, extended internet usage, and the assimilation of various facets of daily social life into the digital domain, resulting in a discernible surge in e-commerce activities (Gençyürek Erdoğan, 2020).

Amid the COVID-19 era, firms that had already concluded their digital transformation seamlessly assimilated into the emerging consumer landscape. Homebound individuals witnessed a substantial surge in internet

usage, leading to remarkable expansion within the e-commerce sector. It is essential to underscore that the pandemic has inflicted severe crises across numerous global industries. When examining the key factors contributing to the ascent of e-commerce during this crisis, one can enumerate elements such as a diverse array of digital product offerings that facilitate comparisons, the opportunity to capitalize on promotional campaigns and discounts, the absence of temporal and spatial constraints, user-friendly features catering to individuals confined to their homes or voluntarily doing so, and the convenience of online payment methods (Gençyürek Erdoğan, 2020).

Deloitte (2020) analyzed the impacts of the Covid-19 pandemic on different categories in Türkiye through consumer digital interaction. In their research on the effects of the pandemic, they reported a 200% change in digital interaction in mobile retail between January and April 2020 (Deloitte, 2020). In this context, it is possible to assert that global-scale pandemics like COVID-19 have significant economic and trade-related impacts.

The statistics related to the card payments can illustrate the e-commerce potential within a country. The information presented in Table 1 is the commercial card payments made on internet transactions in Türkiye.

Table 1. *The Commercial Card Payments Made on Internet Transactions in Türkiye*[1]

	Number of Transactions	Transaction amount (million TL)	Percentage of Use[2] (%)
2018	513.146.902	132.626,77	14,8
2019	679.084.054	178.284,16	16,7
2020	956.362.352	259.515,44	20,8
2021	1.489.745.964	445.714,77	23,9
2022	2.069.112.072	1.001.482,18	24,8
2023 as of August	1.610.003.927	1.341.226,32	25,7

Source: *Bankalararası Kart Merkezi, 2023*

The credit card usage data in Türkiye highlights the e-commerce potential in the country. The volume of e-commerce transactions has surged by a factor of four from 2018 to 2022, accompanied by a tenfold increase in transaction amounts when measured in Turkish Lira. Particularly, the increase in 2022 is quite substantial, which is attributed to the impact of COVID-19. The fact that there is no decrease in credit card spending online in 2023 indicates that consumers have continued their consumption habits from the pandemic even after the pandemic.

1 While compiling the table, only the domestic usage and international usage of local cards were considered, excluding the domestic usage of foreign cards.

2 Percentage of use refers to the ratio of domestic and international online usage of domestic credit and debit cards to the total domestic and international use of domestic credit cards.

A SWOT analysis, created by the initial letters of "Strengths," "Weaknesses," "Opportunities," and "Threats," is designed to pinpoint the internal and external factors affecting businesses in the market, offering guidance on their potential for success upon market entry. Moreover, this analytical method is also employed by non-profit organizations. Generally, SWOT analysis assesses an organization's internal environment, appraising its strengths and weaknesses, while also considering external factors, opportunities, and threats.

In this research, a SWOT analysis will be conducted by amalgamating the findings from secondary data and empirical literature studies related to foreign trade. To carry out a SWOT analysis for e-commerce in Türkiye, the official reports on e-commerce in Türkiye issued by national and international institutions, as discussed and examined in preceding sections, secondary data, and the results of practical studies will be taken into account. Therefore, extensive research and data collection will be performed using an inductive approach. The primary objective of this study is to investigate the potential advantages of e-commerce in Türkiye and assess its impact on the country's competitive position within the framework of strategic plans.

Strengths

In Türkiye, companies that place a strong emphasis on innovation and venture into the e-commerce sector typically seize a position of leadership by entering the market before their competitors. Notable illustrations of such pioneers in e-commerce are platforms like Sahibinden, GittiGidiyor and Hepsiburada. These initial participants in e-commerce command a considerably larger portion of the market. Furthermore, e-commerce enterprises with substantial market presence achieve a competitive edge by providing high-quality products at competitive prices.

The annual increase in e-commerce market share in Türkiye, driven by growing customer interest and foreign investments, highlights one of the most robust aspects of e-commerce. Specifically, in Türkiye, the e-commerce market share, measured in dollars, saw a 13% growth between 2015 and 2019. During this period, the e-commerce market size escalated from $9 billion in 2015 to $14.6 billion in 2019. Notably, the holiday and travel category observed the most substantial increase in market share among e-commerce websites. Additionally, there was an 11% growth in the share of online legal betting websites within the digital realm. Although there was a decline in the multi-channel retail category in 2018, where products are sold through both online (websites, tablets, mobile) and physical (stores, booths) channels, it still exhibited a 9% growth. Multi-channel retail examples in Türkiye encompass well-known brands like LcWaikiki and Ninewest in the clothing and footwear category, Turkish Airlines and ETS Tur in the holiday and travel sector, and

Teknosa and MediaMarkt in the electronics industry. In the online-only retail category, where products are exclusively sold via the internet, there was a notable 15% growth. Prominent instances of online-only retail in Türkiye include Kitapyurdu in the vertical e-commerce category, Tatilsepeti and Tatilbudur in the holiday and travel segment, and GittiGidiyor, N11, and Sahibinden in the marketplace category (TÜBİSAD, 2019).

In Türkiye, 40% of consumers engaged in online shopping make purchases when they come across an advertisement or content on social media platforms such as Facebook. Social media advertisements provide an opportunity to observe how consumers perceive products and establish direct communication with customers to understand the demand generated in the e-commerce market. Thanks to the advantages offered by these advertisements, businesses that are either entering or have already ventured into e-commerce gain insights into how to effectively deliver their products to customers (TÜSIAD, 2019).

Weaknesses

The most significant weakness of e-commerce in Türkiye is infrastructure deficiency. Having complete infrastructure and hardware specifications for e-commerce websites enables them to provide uninterrupted and seamless connectivity. While the internet allows for speedy transactions and access to information, technical issues can lead to operational disruptions. Situations like website crashes or cyberattacks can result in interrupted shopping or delays in product deliveries. This situation places e-commerce at a disadvantage for consumers. Therefore, businesses operating e-commerce websites need to seek professional support to meet these requirements. Other weaknesses are presented in Table 2 in a categorized manner.

Opportunities

The Turkish government's active promotion and support of the e-commerce sector significantly contribute to the country's economic progress while fostering technological advancement. The key governmental bodies such as the Ministry of Economy, TÜBİTAK (The Scientific and Technological Research Council of Türkiye), and the Ministry of Science, Industry, and Technology play pivotal roles in bolstering the e-commerce domain. Their provision of incentives and engagement in educational endeavors in this domain ensures Türkiye's enduring role as a global player in the e-commerce arena. Consequently, government institutions' backing of the e-commerce sector gives rise to a competitive edge and prospects for the nation within this industry (Ay et al., 2018).

The Eleventh Development Plan (2019-2023) outlined by the Presidency of Strategy and Budget of the Republic of Türkiye presents a multitude of

objectives and incentives to stimulate the growth of the e-commerce sector. These goals and incentives can be delineated as follows (PSB, 2019):

- Implementation of regulations to streamline and secure the execution of e-commerce in the agricultural products domain.
- Completion of endeavors to establish trust in e-commerce, particularly in regions where Türkiye holds a competitive advantage due to geographical and cultural proximity, thereby enhancing market shares.
- Finalization of software processes for the Electronic Commerce Information System, designed to facilitate access and traceability of e-commerce data, followed by its operationalization.
- Establishment of a regional hub near Istanbul Airport to position Türkiye as a central player in e-commerce, allowing coordinated management of storage, customs clearance, shipping, and return processes by relevant institutions.
- Encouragement of domestic companies to participate in electronic marketplaces, fostering increased exports through e-commerce channels.
- Introducing and implementing legislative regulations aimed at simplifying the product returns process in cross-border e-commerce, with the coordination of relevant institutions.
- Development of a model to ensure product safety inspections in e-commerce and the enactment of necessary legal regulations.

As supported by research findings, the number of internet users continues its annual upward trajectory. Between 2019 and 2020, an additional 2.4 million individuals embraced internet usage. Furthermore, households with internet connectivity have now reached a remarkable 90%. The user base engaging in online shopping experiences a consistent annual expansion (TÜİK, 2020). This persistent growth in both internet users and online shoppers offers a significant opportunity for the e-commerce sector. Additionally, there is the prospect of foreign investors channeling investments into thriving and maturing e-commerce platforms in Türkiye or acquiring these platforms at premium valuations, presenting a distinct opportunity within the e-commerce domain.

E-commerce platforms are proactively developing a range of applications designed to fortify the security of payment systems during online transactions. One of the latest innovations in this regard is the implementation of the National Security Platform known as 3D Secure, endorsed by payment systems such as Amex, Visa, MasterCard, and Discover. This technology is instrumental in verifying the true ownership of the credit card used by an individual making a purchase on an e-commerce site.

Another noteworthy opportunity within the e-commerce sector revolves around the stimulation of demand through competitive pricing strategies. The heightened competition among producers has led to reduced product prices, rendering products more accessible to consumers at affordable rates. Moreover, consumers are presented with the convenience of acquiring desired items through websites offering favorable installment options. As the demand for e-commerce continues to surge, product procurement and post-purchase support services have expanded and matured. This has fostered increased competition among companies, elevating service quality, and prompting consumers to expedite their product purchases.

Following the completion of a consumer's purchase transaction, they retain the right to return any products that are either defective or unsatisfactory. These products can be efficiently delivered to the consumer's address at minimal shipping costs or, in some cases, free of charge. If a product exhibits any damage, degradation during transportation, or does not meet the desired specifications, it can be returned within a 7-30 day window, in compliance with the contractual terms outlined by the e-commerce websites. Contracted courier companies typically accept these defective products without imposing charges. Additionally, consumers have the option to monitor the delivery progress of their purchased products online until they are received at their designated address.

The Electronic Commerce Law in Türkiye stands as a pivotal legal framework that consolidates a spectrum of administrative and legal regulations and innovations. Most notably, it amalgamates all pre-existing regulations and introduces several pivotal obligations that pertain to intermediary service providers and service providers. This encompasses individuals and entities that facilitate e-commerce activities or provide the necessary infrastructure for such operations. These obligations encompass requirements for informed consent, negotiating processes, and the safeguarding of personal data. Given the substantial and expansive commercial transaction capacity within the e-commerce sector, adherence to these regulations, along with their effective enforcement, underscores the importance of oversight and supervision by public authorities to ensure safety and security (Atamer, 2014).

Threats

Despite the advancements Türkiye has made in the ICT sector, the country is still perceived to be lagging behind in the global digital transformation. Türkiye ranked 54th among 63 countries according to the IMD 2022 World Digital Competitiveness Ranking Report (2022) While these rankings offer hope for developing countries like Türkiye, it's important to note that they still represent a relatively low position. To further enhance this ranking, addressing the deficiencies in communication technology infrastructure and

actively promoting high-speed broadband implementation is imperative.

In the context of cross-border e-commerce in Türkiye challenges related to trust in the quality of "Turkish Products" have emerged. Additionally, doubts about the quality of e-exports from Türkiye hinder the realization of the full potential of e-exports. The most significant challenge in Türkiye's e-exports is the absence of a globally recognized and trustworthy brand image for Turkish products, particularly outside Europe. To address this, one potential solution could involve identifying unique product attributes through international oversight and inspection firms, leading to the creation of a quality certification (UTİKAD, 2019).

In today's rapidly evolving technological landscape, the costs associated with information technology continually rise. This is due to the swift changes in information technology driving up the expenses of information systems. E-commerce websites leverage these software systems to provide users with improved and faster services. However, the costs related to these software and information systems have become a potential threat to businesses.

For Turkish e-commerce companies, exporting products abroad presents challenges in terms of both time and costs. In contrast, global giants such as Amazon, Alibaba, and eBay offer free shipping to various parts of the world. Consequently, the international competitiveness of Turkish e-commerce companies is significantly impacted. Another concern for businesses stems from the product return processes in e-exports. When customers living abroad wish to return products, they encounter significant delays due to products being held in postal depots by Turkish Post (PTT), resulting from postal correspondence processes. To avoid extended waiting periods, businesses may be compelled to undertake import procedures to retrieve their products, incurring additional customs duties as a result (TÜSİAD, 2017).

The issue of e-commerce taxation raises numerous concerns, both on a global and national scale. Among these challenges, SMEs entering the global market may confront unfamiliar tax practices and regulations. The primary issue in tax matters relates to jurisdiction. Problems arise due to web servers being remotely operated, posing challenges in terms of taxation. Additionally, a critical tax-related concern is the anonymity or misinformation surrounding e-commerce transactions, where the identities of sellers and buyers may not be disclosed or may be falsely provided. In virtual transactions, without the voluntary declaration of these transactions by the involved parties, third-party entities, including tax authorities, may remain unaware of them, leading to uncertainties in the taxation process. This ambiguity also creates an environment conducive to tax evasion. To address these challenges, the Revenue Administration Presidency should develop a mechanism for verifying the identities of taxpayers, accessing revenue administration data,

and ensuring the accuracy of the acquired information. Furthermore, a system applicable at an international level should be developed for the collection and supervision of taxes (Çoşkun, 2005).

Table 2. A Swot Analysis of Türkiye for E-Commerce

STRENGTHS	WEAKNESSES
• The increase in the number of businesses interested in e-commerce and international recognition. • Strong infrastructure and expanding network of courier companies. • Decreased transaction costs. • Enhanced customer interactions. • The existence of supportive associations and organizations. • Continual growth in market share. • The entry of reliable and major brands into the sector • An increase in the number of social media users; the utilization of trends that will influence the younger population to stimulate online consumption.	• Unsafe payment systems and order systems • Increased fraud • Structural problems • Promotion and recognition issues • Limited product availability • Inadequate infrastructure, slow and limited internet access.
OPPORTUNITIES	**THREATS**
• Reaching a dynamic and youthful demographic. • Rise in mobile device users. • Entry into new markets. • Legal infrastructure adjustments. • Ongoing expansion of internet user base. • Advancement in payment systems. • Increasing foreign investments. • Access to market opportunities. • Encouraging demand through competitive pricing • A vast business landscape.	• Privacy concerns. • Customers continuously seeking novelty in products. • Taxation issues. • Rising costs in IT. • Existence of customers who prefer traditional shopping due to the lack of direct interaction in negotiating during purchases. • Decreased trust in e-commerce among individuals exposed to fraud. • Insufficiency of support and consultancy services. • Competition with rivals.

Conclusion

The widespread adoption of online sales in today's world brings substantial advantages to the global economy. E-commerce provides fresh opportunities for improving service delivery while marketing products and attracting new customers. This shift towards electronic sales is giving rise to innovative customer-centric approaches. An analysis of the e-commerce landscape in the

context of international trade highlights that China, the United States, and the leading economies in Europe and Asia dominate the e-commerce market.

The dynamic landscape of international trade and economic growth has undergone a substantial transformation in recent years, with e-commerce playing a pivotal role. This phenomenon is not exclusive to Türkiye, as the SWOT analysis conducted in this essay demonstrates. This analysis sheds light on the critical facets of Türkiye's e-commerce sector within the broader context of international trade and economic growth, offering valuable insights.

Foremost, the strengths of Türkiye's e-commerce sector have positioned the nation favorably on the global stage. Türkiye has harnessed the growing number of internet users and the widespread use of mobile devices to expand its e-commerce industry, resulting in remarkable growth. The presence of a young and tech-savvy demographic further augments the country's potential for success in the e-commerce arena. Furthermore, Türkiye has witnessed the emergence of a plethora of e-commerce businesses, attracting significant foreign investments. Competitive pricing, coupled with a diverse array of products and services, has been the driving force behind sectoral growth. Consequently, Türkiye has capitalized on its ability to enter new markets, enhance the customer experience, and stimulate demand through affordable pricing.

Nevertheless, several weaknesses must be addressed for Türkiye to fully exploit the e-commerce sector's potential. The absence of trust in the quality of Turkish products on the international stage, particularly when compared to the strong brand image within Europe, remains a prominent concern. Measures must be implemented to differentiate Turkish products and cultivate a dependable global brand image. Moreover, the e-commerce sector grapples with issues related to security, privacy, insufficient support and advisory services, as well as concerns regarding taxation and rising IT costs. These challenges underscore the need for a robust regulatory framework and mechanisms to protect consumer rights and nurture the sector's growth.

The landscape also presents a myriad of opportunities for Türkiye, including the continued expansion of internet users, advancements in payment systems, an influx of foreign investments, and the potential to explore new markets. E-commerce enterprises can capitalize on these opportunities to expand their reach, diversify their offerings, enhance services, and bolster their market presence.

However, it is crucial to acknowledge the existence of external threats and challenges. These include intense competition with established global players, the ever-growing consumer demand for innovation, consumer preference for traditional retail due to the absence of in-person negotiations in e-commerce, diminishing trust in e-commerce due to fraud, and the need for efficient support and advisory services.

In light of these findings, it is evident that e-commerce plays a pivotal role in shaping Türkiye's international trade and economic growth landscape. While the strengths and opportunities within the sector have the potential to further propel Türkiye's economic growth, concerted efforts are required to address weaknesses and effectively mitigate threats.

To ensure the sustained growth of Türkiye's e-commerce sector and its positive impact on international trade and economic growth, a multifaceted approach is imperative. Türkiye should continue to invest in its digital infrastructure, promote the reliability and quality of its products on the global stage, and implement effective regulatory measures. Moreover, a collaborative endeavor involving businesses, government entities, and industry associations is essential to foster innovation, enhance the sector's trustworthiness, and address security and taxation challenges.

As Türkiye continues to harness the potential of e-commerce, it can solidify its position as a key player in the global digital economy, making substantial contributions to international trade and economic growth. By capitalizing on its strengths, addressing its weaknesses, seizing opportunities, and mitigating threats, Türkiye's e-commerce sector has the potential to become a driving force in the nation's economic prosperity. However, this journey necessitates strategic planning, innovation, and an unwavering commitment to adapt to the ever-evolving global e-commerce landscape.

As a recommendation, it is wise to propose the development of uniform legal principles for governing both cross-border and domestic online commerce. These principles should be formulated at the international level and subsequently embraced by all stakeholders at the national level. The defining trend in the evolution of e-commerce's role in international trade is the emergence of new tools utilized by sellers, who have established dedicated trading entities to enhance their sales volume.

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