



**THE RELATIONSHIP BETWEEN CORPORATE
GOVERNANCE PERFORMANCE AND OWNERSHIP
STRUCTURE TOPSIS APPLICATION ON XKURY
COMPANIES**

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ABSTRACT

THE RELATIONSHIP BETWEEN CORPORATE GOVERNANCE PERFORMANCE AND OWNERSHIP STRUCTURE: TOPSIS APPLICATION ON XKURY COMPANIES

Özkara, K Bala

Master Program in Business Administration

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This thesis analyzes the impact of the ownership structure on the corporate governance practices of Turkish companies listed in the Borsa Istanbul Corporate Governance Index (XKURY). Ownership structure (founding families, state ownership, foreign ownership from both developed and emerging markets, and institutional investors), and publicly available corporate governance scores were selected as indicators for corporate governance practices. Due to this aim, index of 20 manufacturing companies which are publicly traded and listed in BIST Corporate Governance Index along with their ownership structures for the years 2014 through 2018 are planned to be analyzed via TOPSIS. Time frame is chosen as 2014 and 2018 in this analysis in order to evaluate the current performance as accurately as possible in long term. In this analysis, the purpose is to find that whether the Corporate government Performance and Ownership Structure are related, also evaluating which ownership structure may indicate better performance (foreign ownership, local ownership, state ownership, and free float rate)

Keywords: XKURY, Corporate Governance, Corporate Governance Index, TOPSIS

ÖZET

KURUMSAL YÖNETİM VE ORTAKLIK YAPISI ARASINDAKİ İLİŞKİ: XKURY ŞİRKETLERİNDE TOPSIS UYGULAMASI

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Bu çalışmada, mülkiyet yapısının Borsa İstanbul Kurumsal Yönetim Endeksi'nde (XKURY) listelenen Türk şirketlerinin kurumsal yönetim uygulamalarına etkisinin incelenmesi amaçlanmaktadır. Ortaklık yapısı (kurucu aileler, devlet mülkiyeti hem gelişmiş hem de gelişmekte olan piyasalardan yabancı mülkiyet ve kurumsal yatırımcılar) ve kamuya açık kurumsal yönetim puanları kurumsal yönetim uygulamaları için gösterge olarak seçilmiştir. Bu amaçla, BIST Kurumsal Yönetim Endeksi'nde halka açık ve işlem gören 20 imalat şirketinin kurumsal yönetim endeks değerlendirmeleri ortaklık yapıları ile birlikte TOPSIS üzerinden analiz edilmiştir. Bu analizde, mevcut performansı uzun vadede olabildiğince doğru bir şekilde değerlendirmek için 2014 ve 2018 olarak zaman dilimi seçilmiştir. Bu analizde amaç, Kurumsal yönetim Performansı ve Mülkiyet Yapısının ilişkili olup olmadığını tespit etmek ve ayrıca hangi sahiplik yapısının daha iyi performans gösterebileceğini (yabancı sahiplik, yerel sahiplik, devlet sahipliği ve halka açıklık oranı) değerlendirmektir.

Anahtar Kelimeler: XKURY, Kurumsal Yönetim, Kurumsal Yönetim Endeksi, TOPSIS

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PREFACE

This thesis aims to find a new approach and contribution to improve the subject. The Code of conduct and management principles have been developed by various national and international organizations to secure investors and businesses. These codes were first associated with developed financial markets and then emerging markets. Although developed markets are subject to extensive research on corporate governance, emerging markets are in the early stages of formal application of those principles. In this study, it was aimed to determine the effect of ownership structure on the corporate governance performance. In the literature, company performances were handled by using different variables with the TOPSIS application. However, it was observed that there were not many studies on the variables used in this study.

Since studies on Corporate Management have a long history of implementation in developed countries, it had expected to see companies with a high share of foreign ownership to be at the top of the list. In contrast, Companies with high local investor shares and diversity formed ownership gave positive performance results in TOPSIS evaluation. It is a positive and motivating finding for Turkey, who has started the practices in the recent past and much later than developed economies.

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Kadriye Bala Özkara

TABLE OF CONTENTS

ABSTRACT.....	iii
ÖZET.....	iv
ACKNOWLEDGEMENTS.....	v
PREFACE.....	vi
TABLE OF CONTENTS.....	vii
LIST OF TABLES.....	ix
LIST OF ABBREVIATIONS.....	xi
CHAPTER 1: INTRODUCTION.....	1
CHAPTER 2: CORPORATE GOVERNANCE.....	2
2.1. Conceptual Framework.....	2
2.1.1. Conceptual Aspects of Corporate Governance.....	2
2.1.1.1. Agency Problem and Contract Theory.....	2
2.1.1.1.1. Agency Problem Between Shareholders and Management.....	4
2.1.1.1.2. Agency Problem Between Majority Shareholder and Minority Shares.....	6
2.1.1.2. Stakeholder Theory.....	6
2.1.2. OECD Corporate Governance Principles.....	8
2.1.3. Models of Corporate Governace Principles.....	10
2.2. Corporate Governance Practices in Turkey.....	11
2.2.1. Capital Markets Board Regulations.....	12
2.2.2. BIST Corporate Governance Index.....	13
2.2.2.1. Corporate Governance Rating.....	13
2.2.2.2. Quotation Conditions.....	15
2.2.2.3. Ownership Structure of Companies in Turkey.....	16

CHAPTER 3: LITERATURE REVIEW.....	18
3.1. <i>Corporate Governance And Shareholders.....</i>	<i>18</i>
3.2. <i>Corporate Governance and Stakeholders.....</i>	<i>20</i>
3.3. <i>Corporate Governance and Transparency.....</i>	<i>21</i>
3.4. <i>Corporate Governance and Board of Directors.....</i>	<i>24</i>
3.5. <i>Corporate Governance and Ownership Structure.....</i>	<i>24</i>
CHAPTER 4: METHODOLOGY.....	27
4.1. <i>Purpose and Importance of the Study.....</i>	<i>27</i>
4.2. <i>Method of the Study.....</i>	<i>27</i>
4.3. <i>Companies Included in the Study.....</i>	<i>27</i>
4.4. <i>TOPSIS Method.....</i>	<i>28</i>
4.5. <i>TOPSIS ApplicationIn.....</i>	<i>32</i>
4.6. <i>Result of Analysis.....</i>	<i>60</i>
CHAPTER 5: CONCLUSION.....	73
REFERENCES.....	76

LIST OF TABLES

Table 1. Manufacturing Companies in the Study.....	28
Table 2. Score Classification Criteria	33
Table 3. Decision Matrix of 2014 Year	34
Table 4. Decision Matrix of 2015 Year	35
Table 5. Decision Matrix of 2016 Year	36
Table 6. Decision Matrix of 2017 Year	37
Table 7. Decision Matrix of 2018 Year	38
Table 8. Normalized Matrix of 2014 Year.....	39
Table 9. Normalized Matrix of 2015 Year.....	40
Table 10. Normalized Matrix of 2016 Year.....	41
Table 11. Normalized Matrix of 2017 Year.....	42
Table 12. Normalized Matrix of 2018 Year.....	43
Table 13. Weighted Normalized Decision Matrix of 2014 Year.....	44
Table 14. Weighted Normalized Decision Matrix of 2015 Year.....	45
Table 15. Weighted Normalized Decision Matrix of 2016 Year.....	46
Table 16. Weighted Normalized Decision Matrix of 2017 Year.....	47
Table 17. Weighted Normalized Decision Matrix of 2018 Year.....	48
Table 18. Ideal Set of A+ and A- of 2014 Year.....	49
Table 19. Ideal Set of A+ and A- of 2015 Year.....	49
Table 20. Ideal Set of A+ and A- of 2016 Year.....	49
Table 21. Ideal Set of A+ and A- of 2017 Year.....	49
Table 22. Ideal Set of A+ and A- of 2018 Year.....	49
Table 23. Calculation of Ideal Distances of 2014.....	50
Table 24. Calculation of Ideal Distances of 2015.....	51
Table 25. Calculation of Ideal Distances of 2016.....	52
Table 26. Calculation of Ideal Distances of 2017.....	53
Table 27. Calculation of Ideal Distances of 2018.....	54
Table 28. Calculation of Negative Ideal Distances of 2014.....	55
Table 29. Calculation of Negative Ideal Distances of 2015.....	56
Table 30. Calculation of Negative Ideal Distances of 2016.....	57
Table 31. Calculation of Negative Ideal Distances of 2017.....	58
Table 32. Calculation of Negative Ideal Distances of 2018.....	59

Table 33. Calculation of Closeness Regarding Ideal Solution Between 2014 and 2018.....	60
Table 34. Ownership Structures of Firms with Ranking of Closeness Regarding Ideal Solution for 2014	61
Table 35. Ownership Structures of First Three and Last Three Firms with Ranking of Closeness Regarding Ideal Solution for 2014	62
Table 36. Ownership Structures of Firms with Ranking of Closeness Regarding Ideal Solution for 2015	63
Table 37. Ownership Structures of First Three and Last Three Firms with Ranking of Closeness Regarding Ideal Solution for 2014	63
Table 38. Ownership Structures of Firms with Ranking of Closeness Regarding Ideal Solution for 2016	64
Table 39. Ownership Structures of of First Three and Last Three Firms with Ranking of Closeness Regarding Ideal Solution for 2016.....	65
Table 40. Ownership Structures of Firms with Ranking of Closeness Regarding Ideal Solution for 2017	65
Table 41. Ownership Structures of First Three and Last Three Firms with Ranking of Closeness Regarding Ideal Solution for 2017	66
Table 42. Ownership Structures of Firms with Ranking of Closeness Regarding Ideal Solution for 2018	67
Table 43. Ownership Structures of First Three and Last Three Firms with Ranking of Closeness Regarding Ideal Solution for 2018.....	67
Table 44. Ownership Structures of Firms with Ranking of Closeness Regarding Ideal Solutions for 2014, 2015, 2016, 2017, and 2018	71

LIST OF ABBREVIATIONS

CG: Corporate Governance

TUSIAD: Turkish Industrialists and Businessmen's Association

TKYD: Turkey Corporate Governance Association

CMB: Capital Market Board

XKURY: BIST Corporate Governance Index

ISE: Istanbul Stock Exchange

OECD: Organization for Economic Corporation and Development



CHAPTER 1: INTRODUCTION

By the responsible units and authorities of the countries, studies about legal principles and events that regulate partnership structures and relationships have been initiated with the emergence of companies in history. Corporate governance has gained importance in developed countries since the beginning of the 20th century and since the 1990s; it has become a vital feature all over the world with the influence of OECD, World Bank and other elements of international economic activities. Although there have been old prior studies about corporate governance, it has gained great and rapid important progress in the past 15 years.

In today's sense, the concept of corporate governance was first introduced in the UK by a committee headed by Sir Adrian Cadbury in 1992, which was referred to as "Cadbury Report" (The Cadbury Committee Report: Financial Aspects of Corporate Governance). Today, it is known that studies and regulations on Corporate Governance Principles have raised in the world. The crisis and economic problems experienced at the end of the 90s are another reason that gives importance to studies on Corporate Management. After the Report prepared by the Organization for Economic Co-operation and Development (OECD), also known as the "Millstein Report", the OECD published a series of rules on Corporate Governance standards in 1999.

The OECD rules, introduced in 1999, are an important guide for public and private sector stakeholders, other people and institutions. Corporate governance principles are applied differently in each country. The OECD principles are not binding and the principles aim to create a reference when countries create their own rules. In addition to the corporate governance efforts of the countries, the OECD also accelerated its efforts. On November 15, 2002, a meeting was held in Paris with the participation of major international institutions, employee and employer representatives. In this meeting, the OECD corporate governance principles published in 1999 and existing corporate governance systems were tried to be identified in terms of the areas that need improvement and contain deficiencies.

The provisions relating to the concept of corporate governance in Turkey are presented in the Turkish Commercial Code and Capital Market Law. Corporate Governance in Turkey, as a defined discipline, is relatively new.

CHAPTER 2: CORPORATE GOVERNANCE

2.1. Conceptual Framework

Pauly and Reich's (1997) defined corporate governance as a comprehensive set of rules and norms that guide the internal relations between the various stakeholders of the business, which include firm owners, board members, managers, credit institutions, suppliers, employees, and customers. According to Shleifer and Vishny (1997), corporate governance is about ways in which investors who provide financing to a company feel safe about making a profit from their investments. Its purpose is to prevent the interests of shareholders from overtaking the interests of other groups. The definitions to be made may differ from country to country, sector to sector, economic structure, social and cultural factors and partnership structures of companies.

2.1.1. Conceptual Aspects of Corporate Governance

There are several theoretical approaches about the emergence of corporate governance in the literature such as agency theory, stakeholder theory, representation theory, managerial hegemony theory. It can be said that the most important of these and, the ones that are most accepted in practice are the agency theory, the contract theory, and the stakeholder theory approach. Below, these theories are explained.

2.1.1.1. Agency Problem and Contract Theory

One of the basis about the existence of corporate governance is to eliminate the agency problem arising from the contracts created within the production factors (Shleifer and Vishny, 1997). Production factors refer to the natural resources, raw materials, capital, labor and entrepreneurs that companies use to produce goods or services. The development of agency theory was accompanied by the development of the contract theory. For the first time, the agency problem was found in the literature by Berle and Means in their research on modern companies in 1932. The contract theory was first introduced in the literature by Coase in 1937. Then, It was developed by Jensen and Meckling (1976) and Fama and Jensen (1983). According to Fama (1980), companies are a set of contracts between production factors that each of them tries to maximize its benefit.

Jensen and Meckling (1976) defines agency as one or more executives empowering other persons to serve them and appoint them as decision-making bodies. The executive and agent groups aim to maximize their benefits. Therefore, the agent may not do the best for the executives in any case. In this case, the agent's actions will conflict with what the executives want. Jensen and Meckling (1976) argue that with the help of the right incentives or the cost of observing, executives can prevent agents from acting against the goals of top management. Besides, to prevent the agent from acting against the interests of the top management, the agent must bear the insurance costs to compensate for their losses. Yet, even in these cases, there is no guarantee that the agent will act in the interests of the executives at zero cost. These costs are positive in most cases. Also, there will be a difference between the decisions taken by the agent and the decisions that will maximize the welfare of the top management. This arises as a cost as well. In conclusion, Jensen and Meckling (1976) defined the agency cost as the sum of the observance cost of the executives, the insurance cost of the agent and the total residual cost.

When it comes to the agency problem in terms of contract theory, according to Fama and Jensen (1983), the reason for the problem is that the creation and implementation of contracts are not cost-free. According to them, the agency cost consists of contracting with the agents regarding creating structure, monitoring, and conflicts of interest. The ideal situation is that an excellent contract signed between executives and agents (Shleifer and Vishny, 1997). However, to create a perfect contract, it requires to predict all future conflicts of interest and to include the actions to be taken against them in the contract. Yet, it is not possible to make such a contract since it is not possible to know every possibility in advance. Grossman and Hart (1986) therefore divide the rights arising from the contract into two: specific rights and residual rights. Specific rights are the rights to be exercised when the conditions set out in the contract arise. Residual rights mean the rights that will be used in case of conditions that do not exist in the contract. In cases where it is costly to write contract specific rights, it is more optimal if residual rights are on one side. However, when all rights are on one side, these rights are lost for the other side, and this may cause corruption in the company. Therefore, the distribution of residual rights is important.

As stated above, the separation of ownership and management brings various costs, so corporate governance is considered as a cure for these costs. The agency problem can be viewed from two aspects as “Agency Problem Between Shareholders and

Management” and “Agency Problem Between Majority Shareholder and Minority Shares”.

2.1.1.1.1. *Agency Problem Between Shareholders and Management*

In any environment where two people work together, an agency problem can be mentioned (Grossman and Hart, 1986). When we look at the companies, the agency problem can be seen between the managers and the shareholders, between all the executive positions, between majority shareholders and minority shares. However, the most discussed among those is the agency problem between shareholders and managers. As mentioned earlier, Agency costs arise from the separation of ownership and control. It is often seen in today's modern company structures that ownership and control are separated. With the development of capital markets, investors can move their investments at low costs among various companies (Fama, 1980).

According to the portfolio theory, investors are not concerned with how a single company is managed, as risk can be minimized by diversifying investments between various companies. On the other hand, the agents have the necessary skills and knowledge to manage the company and are willing to make this human resource available to the company at an appropriate rate depending on the company's performance. As a result, investors do not have the quality and willingness to play a role in management or oversight in the company and are willing to delegate their management and decision control rights (Fama and Jensen, 1983). As a result, when ownership and control are separated, the agency problem starts to emerge between the shareholders and the managers. Since the agents try to maximize their benefits, they start to do what is good for their benefits rather than the best for the principal in their decisions and this leads to start a decrease in the principal's assets.

Shleifer and Vishny (1997), stated that it is optimal that residual rights to be kept by the principal where situations not specified in the contract, however, it is not possible for the principle to use these rights due to the lack of skills and knowledge required. Under these conditions, the majority of residual rights are in the hands of the agents, and with the authority granted by these rights, it will enable the agents to distribute the company's resources as their wish. As agents aim to maximize their benefits, they will use this opportunity to confiscate the principal's assets. Confiscation of these assets can take place in various ways. Shleifer and Vishny (1997) say that this can vary from country to country. In countries where investors are not well protected, this may be

more direct, such as embezzle or using transfer pricing. In investor-friendly countries, agents choose more indirect ways to smuggle principals' assets. These can be ways to grow the company more than the potential growth rate, focus on cash-generating operations.

The potential growth of the company is the growth rate that the company will achieve if all production factors are used the most effectively. The company's growth above this rate, will be at the loss of the company in the long run. However, since the agents' contracts with the company are short-term, they can focus on rapid and unhealthy growth in the short term rather than stable growth in the long term. The high net working capital of the companies indicates the success of the company in fundraising and can be interpreted positively among investors.

To prevent conflicts of interest between the principal and the agent and to establish an effective observing system, contracts that encourage the agent should be arranged between the principal and the agent (Jensen and Meckling, 1976). This incentive may be option contracts that allow the right to buy shares of the company at a certain price. With this agreement, agents may increase the stock price of the company to make use of the option contract right and make a profit, so that they can buy stocks at a lower price than the market price and then sell them at market price by using the right they have. For this, they need to increase the performance of the company. Another encouraging way is to make them shareholders. In this way, agents who are shareholders of the company match up with the benefits of the principals and the conflict of interests disappears while managing the company. Another method is to threaten to terminate their contracts if the performance of the agents decreases (Fama, 1980). Such incentive contracts are often seen in companies. It seems to be an effective way to control agents' decisions to solve the agency problem between the principal and the agent. However, when the partnership shares are distributed among many shareholders, it is not possible to participate in decision control by each shareholder separately and as mentioned earlier, the majority of shareholders do not have knowledge, skills, and desires in this regard. Also, if the shareholding structure of the company is concentrated in certain shareholders, this decision control is made by the partner who has a dense share (Fama and Jensen, 1983).

As shareholders with high shares have the power to control the company's decisions and strategies, they can help reduce the agency problem between the principal and the Proxy (Shleifer and Vishny, 1997). However, the intensity of partnership shares in

some shareholders brings another agency problem. This issue is the agency problem between majority shareholder and minority shares, as will be discussed in the next section.

2.1.1.1.2. Agency Problem Between Majority Shareholder and Minority Shares

Thanks to the concentration of company shares in certain individuals, the agency cost between the principal and the agent can be reduced by the main partner. However, besides this benefit, it can cause another agency problem. The agency problem may arise between the main shareholder and minority shareholders. Shleifer and Vishny (1997) stated that the concentration of shareholders is very common in modern companies in many countries and that the agency problem is frequently seen between the main controlling shareholders and minority shares. Especially in Continental European countries, it is seen that the partnership shares are not very dispersed and generally concentrated in certain individuals. It is observed that family companies are more common in these countries. The main partners work for their own interests, and their interests may not always be the same as those of other partners. In this case, the main partner would use his control rights to maximize his assets. In this context, there are some costs of having a main partner in the company that has the right to control (Shleifer and Vishny, 1997). These can be direct or indirect. Since the main partners have control of cash flows, they will see themselves as a priority in spendings. This occurs especially if their shares have the privilege right to vote, or if they run the company in a hierarchical structure (Grossman and Hart, 1986). In these cases, the main partner would use the cash flows only for their benefit, not for the other minority shareholders. Because he has not only the desire to do this but also the authority to do it. He can do this by distributing dividends specifically to his own shares, or by establishing business relationships with other companies he controls.

La Porta et al. (2000) described the main partners and executives of the company as insiders, and creditors and minority partners as outsiders. Whether the insiders are the main partner or the executives, when they gain the necessary authority to control the company, outsiders would always be damaged parties. Therefore, outside investors should be protected by law (La Porta et al. 2000).

2.1.1.2. Stakeholder Theory

The word stakeholder was first used in the management literature in a statement made at the Stanford Research Institute in 1963. Stakeholders include shareholders, unions,

financial institutions, employees, customers, suppliers, and society. In short, stakeholders are all groups and individuals that affect or are affected by the organization's achievement of its purpose (Freeman, 2010). In the eighties, the place and the role of companies in society started to be discussed. The interest of individuals and organizations in ethical rules has increased especially in developed countries. As a result, damages to nature by companies, inappropriate behavior towards employees, production errors that cause or disrupt customer dissatisfaction have started to appear in the media. Investors and mutual fund managers have started to take into account the social responsibility of companies as well as economic data. Consumers have become more sensitive about the social performance of companies in their purchasing decisions (Harrison and Freeman, 1999).

In recent years, green funds have been established for environmentally sensitive investors, in which only companies that do not harm nature can be included in the portfolio. According to the stakeholder approach, managers should design and implement processes that would satisfy all stakeholders of the company. The purpose of this approach is to manage relationships with shareholders, employees, customers, suppliers, communities, and other groups along with their interests by ensuring the company's success in the long term (Harrison and Freeman, 1999). Stakeholder theory has 3 main approaches. These are the normative approach, the descriptive (descriptive) approach and the instrumental approach (Donaldson and Preston, 1995).

The descriptive (descriptive) approach provides a model that describes and sometimes explains, what the company's specific characteristics and behaviors are (Donaldson and Preston, 1995).

The instrumental approach examines the link between the company's stakeholder management and the company's achievement of its traditional goals such as growth and profitability. Regardless of the method used, the purpose of the research is to show that the company's stakeholder management policies are better or at least as good as other approaches to achieving the company's traditional objectives (Donaldson and Preston, 1995).

The normative approach reveals the functions of companies, the moral and philosophical principles related to the operations and management of the company (Donaldson and Preston, 1995). According to this approach, no stakeholder has superior privileges than other stakeholders. Employees have the right to fair wages and customers have the right to buy a quality product for the price they give (Saint, 2005).

Stakeholder theory is criticized in the literature on the grounds that it is very difficult for companies to achieve a balance between many stakeholder interests (Maher and Anderson, 1999).

2.1.2. OECD Corporate Governance Principles

The OECD Corporate Governance Principles emerged at the OECD Council Meeting at the Ministerial level held on 27-28 April 1998, together with governments, other relevant international organizations and private sector representatives, calling for the development of a set of standards and guidelines on corporate governance. Due to the adoption of the principles in 1999, it provided a basis for similar corporate governance initiatives in OECD member countries and non-OECD countries. OECD Corporate Governance Principles were also recognized by the Financial Stability Forum as one of the Twelve Standards for Healthy Financial Systems. The World Bank / IMF Report on Observance of Standards and Codes (ROSC) forms the basis of the corporate governance element. Principles include the following fields:

- Establishing an Effective Corporate Governance Framework;
- Shareholders and Rights and Basic Ownership Functions;
- Equity Treatment of Shareholders; The Role of Stakeholders in Corporate Governance;
- Public Disclosure and Transparency Responsibilities and Board of Directors

The basic principles of corporate governance are explained in 4 main principles. These are the facts that a company should possess to manage it effectively. It is undoubtedly important for the shareholders those four basic principles. Shareholders who want to learn about the transaction of the board of directors have the right to know what these activities are and to be aware of the company's transactions. It is unthinkable that the members of the Board of Directors are irresponsible at the end of their actions. These principles are divided into four categories: fairness, transparency, accountability, and responsibility.

a. Fairness

According to the fairness principle, a person who owns a 1% share in the company and a person who owns a 50% share in the company shall have the same fundamental rights and shall be treated equally. The Turkish Commercial Code regulates the principle of the equal transaction in article 357 as “Shareholders are treated equally

under equal conditions”. When we look at the article of the equal treatment principle, it is stated that people under equal conditions will have equal rights. In line with the principle of equal treatment, the protection of shareholders' rights is a requirement of the principle of fairness (Pahlı, 2005). When the principle of fairness is considered separately from other principles, it cannot be expected to show the effect expected from it.

b. Transparency

Another principle of Corporate Governance is transparency. In the literature, this principle can be also defined as public disclosure. However, in some literature, transparency and public disclosure are considered as different principles. It is a principle regarding the necessity of periodic disclosure of information such as financial position, management and, performance. Of course, the company cannot be expected to share its trade secret information, which is the reason for its establishment or its existence in the market with the public. However, anyone who invests or will invest in the company, and who is, directly and indirectly, related to the company, for the future of their interests, it is quite normal that they want to be informed about the economic situation of the company (Tuzcu, 2004).

The principle of transparency has three important requirements.

- Accessibility of information: All parties affected by the Company's activities and those who are authorized to make decisions must use qualified information distribution channels about their decisions. The information should be available to all shareholders, either through legal regulations or by voluntary statements from parties to share the information. Various communication channels such as press releases, annual reports, and internal announcements can also be used in the transmission of information (SPK, 2005).
- The scope and relevance of the information: As well as the disclosed information is accessible, it must meet the information gap required by its users (SPK, 2005).
- Reliable and qualified information: Timing is extremely important in the evaluation of information. The information should be complete that it does not interfere with the decision-making of those who use it (SPK, 2005).
-

c. Responsibility

The principle of responsibility expresses “the compliance of all company management activities with the legislation, articles of incorporation and internal company regulations and their auditing” (SPK, 2005). This principle emphasizes the necessity to consider the interests of all parties affected by company activities in the decision-making process of the company management. The aim here is to provide a management approach that takes into account all economic, social and political functions of the company without limiting the legal regulations in relation to the activities of the company by the laws and all other regulations reflecting the social values (Oliver, 2004).

d. Accountability

Accountability principle refers to the accountability of the board of directors to the legal entity of the joint-stock company and company's shareholders (SPK, 2005). An accountability-based management system enables managers to show the required effort to achieve company goals in a certain discipline. The fundamental of effective corporate governance practices is the application of the principle in company management.

2.1.3. Models of Corporate Governace Principles

Corporate governance models or systems are possible to split into two; the market-based Anglo-Saxon system, also referred to as the shareholder model, whose typical application is seen in the US and the UK, and the continental European system, also known as the stakeholder model, which is typically seen in Germany, Japan, and Latin countries and is also known as the German system. Both models have their strengths and weaknesses stemming from the cultural environment in which they come from. Although these two systems have different aspects, the financial aspects of globalization accelerate the merging of these two systems at common points.

- Anglo-American Model

The corporate governance model created within the framework of the Anglo Saxon (Common Law) Legal System is named as "Shareholder Model", "Anglo-Saxon Model" or "Outsider Model", and it is shown as "External System"(İsmayilov, 2007:41).

In the model, priority is given to the shareholders who are affiliated with the right of ownership in the business management. Therefore, this model can also be called “corporate management based on shareholders”. In this model, it is seen that except for the expectations of the shareholders, the demands of the other groups that are related to the enterprise are not taken into consideration. The model, which is based on the relations between business top management and shareholders, approaches corporate management as the rules that determine the control and management of the business and explain the relationships among the priority participants of the business. This model is often referred to as the “outsider system”. Because the control of the business is provided by the owners of the business, who are outside the business and have no position in the business management or the board of directors (Mueller, 2006:628).

- **Continental European Model**

In the Continental Europe system, shareholding is not distributed. Banks, companies or families are the main partners of the enterprises. The control of the company is being held by the main partner. The members of the board of directors of the company are in contact with the main partner. The liquidity of capital markets is relatively low. There are close and fiduciary relationships among the company's executives. Long-term resources of companies are provided through commercial banks. The Continental European system approaches corporate governance in terms of stakeholders. It focuses not only on shareholders but also on other stakeholders, such as employees, customers, suppliers, and society (Baums, 1993). Germany, Belgium, Italy, and France can be given as example countries, where this system is applied.

2.2. Corporate Governance Practices in Turkey

Turkey has been carrying out contemporary corporate governance arrangements in parallel with the world. The necessary legal conditions have been arranged, but there are still issues of improvement in practice, and besides, the national organization has a corporate history in internal audit. Family firm structure whose institutionalization has not been completed yet, unstable and informal economy are one of the most important obstacles to applying international standards of corporate governance and internal control concepts in Turkey (Uzun, 2016: 1-2).

Corporate governance is a collective process for family businesses and cannot be considered only as a process for founding family elders or family members. Therefore, it has a process of change and learning and transition costs. Also, it should be noted that corporate governance is the right business and solution partnership, observation and audit process, sustainable company assurance and value-added, proactive, competitive and differentiation process (Uzun, 2016: 3).

2.2.1. Capital Markets Board Regulations

Studies carried out to establish a certain framework in corporate governance, is proceeding under the leadership of Global Corporate Governance Forum, World Bank, and OECD. In addition, many countries are re-creating, developing and publishing their laws within the the most effective framework of corporate governance principles. The Capital Markets Board has also set up a committee in order to establish the corporate governance principles by evaluating the general principles recommended and adopted in the world in accordance with the present practices (SPK, 2005:3).

By taking into consideration the developments in corporate governance in the world, the CMB first published the “CMB Corporate Governance Principles” in July 2003 and then in February 2005, the revised version of these principles. Although the corporate governance principles prepared by the CMB have been established on the basis of the OECD corporate governance principles by taking into account the special needs of Turkish firm structures, and considering Turkish corporate law and practices, it is based on the principle of "apply it, explain if you do not apply it" (SPK, 2005:4). Discussions on corporate governance generally focus on the role of shareholders, the structure and function of the boards of the companies, legal protection of investors and ownership intensity. These principles are listed below (SPK, 2005: 5):

- Shareholders
- Public Disclosure And Transparency
- Stakeholders
- Board of Directors

Principles play a leading role in improving the corporate governance environment in Turkey. Inefficiencies and losses caused by poor management and unfair earnings will disappear and the economy will gain a new dynamism, when these principles are correctly applied by firms operating in the public or private sector, especially by the firms under which are on the process of privatization (SPK, 2005: 5)

2.2.2. BIST Corporate Governance Index

At the meeting held by Borsa İstanbul Board of Directors on 23.02.2005, five companies in which companies applying corporate governance principles with a Corporate Governance Index (XKURY) with a corporate governance rating of at least six out of 10, in case notifying the Borsa İstanbul, It was decided to start calculating one week after the announcement made in Borsa İstanbul Daily Bulletin. Also, it has been stated that there will be a reduction in the registration or registration costs of the companies in XKURY to encourage firms in this direction (Kemahlı, 2006: 7).

The aim of XKURY, which includes companies that comply with and use corporate governance principles, is to measure the price and return performance of companies that are traded in Borsa Istanbul markets (except for the close monitoring market) and have a corporate governance rating of at least six out of ten. Corporate Governance Principles Compliance Rating is given as a result of the analysis made regarding the company's corporate governance principles in an integrated manner by the rating agencies named in the list determined by the CMB (Uzun, 2006: 56).

The corporate governance index is very important for investors in the process of evaluating companies. Because investors want to check and find out whether they are managed well as well as financial reports of the companies to which they will transfer their funds. As the corporate governance index implementation develops, investors will also have the opportunity to choose companies that apply better corporate governance regulations (Keküllüoğlu, 2008: 61).

2.2.2.1. Corporate Governance Rating

At the core of corporate governance principles; It is important to show investors that the company is well managed and that the resources provided by investors are used effectively and profitably (Atamer, 2006).

It is important to disclose information to the public in an accurate, fast and timely manner that shows companies' compliance with corporate governance principles. The CMB's Communiqué Serial: VIII, No: 40, "Communiqué on the Principles Regarding Rating Activities and Rating Agencies in the Capital Markets" was published in the Official Gazette on 04.12.2003. This communiqué covers rating activities "Credit Rating" and "Corporate Governance Compliance Rating" activities. The Corporate Governance Compliance Rating, introduced by the Communiqué, is defined as "an independent, impartial and fair evaluation and classification of compliance with the

Corporate Governance Principles published by partnerships and capital market institutions”. The rating activities can be done by rating agencies authorized by the Capital Market Board which was established in Turkey and international rating agencies accepted by the Capital Markets Board. In the table below, there are organizations authorized to do corporate governance compliance ratings. Saha Kurumsal Yönetim ve Kredi Rating Hizmetleri A.Ş. is established in Turkey and authorized by the CMB. Core Ratings and, ISS Europe S.A are international rating agencies accepted by the CMB for rating activities in Turkey.

The financial scandals experienced have shown that only the credit rating results are not sufficient to inform the public and provide information about the risk status and reimbursability status of the companies. In this context, investors want to examine the quality of management, management processes, internal control mechanisms, and the quality of corporate governance practices, including non-financial data, as well as the financial status of companies. The quality of corporate governance understanding and practices in companies is possible with a corporate governance compliance rating. Rating agencies are the institutions that are trustworthy in financial markets and they play a key role for investors with their rating reports. Many investors in the market are informed by the ratings of those agencies and make their investment decisions in line with these evaluation grades (Birgül, 1997).

To ensure compliance with corporate governance principles, at the meeting of the Capital Markets Board, dated 10 December 2004, companies whose shares are traded on the ISE (Istanbul stock exchange), the Corporate Governance Compliance Report that is starting from the annual reports for 2004 to be published in 2005 was requested to be disclosed. Today, many companies have announced their corporate governance compliance statement to the public. The CMB requires that the corporate governance statements of the companies be included as a separate section in the annual reports of the company. Also, the CMB requests the declaration of the Corporate Governance Principles by specifying those that are complied with and those that are not, and disclosure of information about non-compliance reasons and conflicts of interest due to failure to fully comply with these principles. At the meeting of the CMB dated February 7, 2005, it was decided to make changes and additions to corporate governance principles and to create an ISE Corporate Governance Index. In this context, at the meeting of the ISE Board of Directors on 23.02.2005, for the companies that are in the Corporate Governance Index and applying the Corporate Governance

Principles, in case of reporting the 5 companies with a corporate governance rating of at least 6 out of 10 to the Stock Exchange, It was decided to start evaluating one week after the announcement made in the Stock Exchange Daily Bulletin. Within the framework of these arrangements, the evaluation of the ISE Corporate Governance Index (XKURY) started on 31.08.2007 (SPK, 2008). More recently formed in Turkey's Corporate Governance Index, similarly to the examples of other countries with these indexes; it is aimed to be a useful indicator that gives information to individuals and corporate, national and global investors about the corporate management trend of companies whose stocks are traded on the stock market (Gürbüz, 2008).

2.2.2.2. *Quotation Conditions*

The nature of the rules and regulations of the stock markets, which determine the listing conditions for issuers and manage their purchase and sale, is another important aspect of the corporate governance framework.

Custodian organizations holding stocks as an agent for their customers should not be allowed to vote on these stocks unless they receive specific instructions. In some countries, the quotation conditions allow for specific routine items, while it contains a large list of items the agent cannot vote without instructions. The rules require custodian organizations to timely inform shareholders about their options for exercising their voting rights.

Corporate governance laws and regulations governing companies listed in a country other than their home country should be clearly explained. In the cross quotation, the criteria and methods to be used for the recognition of primary quotation conditions should be transparent and written. It is becoming increasingly common for companies to be quoted or traded in a country other than the country where they were founded. This situation may create uncertainty among investors as to which corporate management rules and regulations will be applied to the company. This may be related to everything from the place and methods of annual general meetings to the minority rights. For this reason, the company should clearly explain which country legislation is applied.

In case the basic corporate governance obligations are subject to the legislation of another country other than the country where the transaction is processed, the main differences must be specified. Another important consequence of increasing

internationalization and the integration of stock markets is the spread of the secondary quotation (cross quotation) of a company that is already listed on another exchange. Cross-listed companies are generally subject to regulations and authorities in the country where their primary quotations are located. Exemption from local listing rules in the form of secondary quotes is generally given based on the recognition of the quotation conditions and corporate governance regulations of the stock exchange where the company's primary quotation is located. Stock markets should clearly explain the rules and methods applied to cross-quotes and exemptions from local corporate governance rules.

Countries may want to consider criteria such as discretionary goals, public disclosure obligations, board quotas and private initiatives to increase gender diversity in the board and senior management.

2.2.2.3. *Ownership Structure of Companies in Turkey*

Turkey is characterized by intense ownership. Government policies support local entrepreneurship (Yamak and Ertuna, 2012), but at the same time, the country is exposed to large foreign investment (Yamak and Ertuna, 2012; Ararat, Blackand Yurtoglu, 2017). Between 1992 and 2014, Atici and Gursoy (2015) analyzed the changing ownership structures in non-financial Turkish businesses in Borsa Istanbul. It was stated that Turkey's economy and Turkish firms have structural changes. In addition, they found a decrease in the number of shares held by large shareholders, an increase in the number of shares owned by minority shareholders in Turkish non-financial companies. According to International Finance Corporation (2016), corporate governance is based on obligatory and non-obligatory conditions in Turkey, and the key to improving corporate governance practices is to comply with nonforced rules.

In studies with data from Turkey, pyramidal ownership structure along with complex ownership structures are found to be common. In companies that are the dominant partner family, due to agency problem price/earnings ratio and stock returns are low (Gürsoy and Aydoğan, 1998). Firms that have different ownership and control rights registered in Istanbul stock exchange were found to have a lower market to book value ratio than others. In (Yurtoğlu, 2000, 2003) study with 2001 data, it was determined that the average ownership right was 50.56%, the average control leverage was 5.29 and the average rank level in pyramid structures was 1.86. Also, it was found that when

stocks with different voting rights are included, it is determined that only 73 companies have a pyramid structure. Moreover, it was stated that there is a relationship between high ownership right and high market value of the firm, and it was stated that the high control right led to lower market value / book value ratio. Furthermore, It has been determined that Holding companies and non-financial companies have high direct ownership rates, and the dominant partner of more than 80% of publicly traded companies consists of families. The reason for the high agency costs is considered as conflicts of interest between dominant partners and minority shareholders (Yurtoğlu, 2000, 2003). Demirağ and Serter (2003) determined a high concentration in the ownership structures of 100 large companies in the Istanbul stock exchange and stated that the families are the dominant shareholders.

In Turkey, the study carried out in terms of the company's investment performance, it is understood that investment performance is significantly better in firms using pyramid structures and two-class shares and other tools. Also, involvement in a holding has been stated to strengthen the company's relative market value and investment performance (Orbay and Yurtoğlu, 2006).

It is understood that the development levels of the countries affect the system, and also structures allow the distinction between ownership and control rights, and the value of the firm is negatively affected as the dominant partner's right to control increases (Yılgör and Yücel, 2012). In studies with data from Turkey, it is seen that by using pyramid ownership structures the distinction between ownership rights and control rights is provided.

CHAPTER 3: LITERATURE REVIEW

3.1. Corporate Governance And Shareholders

It is stated in the literature that ownership structure affects performance (Drobetz, Schihofer and Zimmerman, 2003) and there are differences between ownership intensity and company performance from country to country (Gedejlovic and Shapiro, 1998; Thomsen and Pedersen, 2000).

In some studies, some outcomes revealed such as that ownership structure is not related to performance (Demesets and Villalonga, 2001), and performance of dominant mixed ownership is higher than ownership intense companies (Xu and Wang, 1997), and increasing the ratio of administrative ownership reduces the agency cost (Ting, 2006), and higher external ownership also enhances transparency and company performance (Mitton, 2002), and block ownership structure can improve the company's performance (Renneboog, 2000), managerial ownership is positively associated with the company value (Hiraki et al., 2003).

İlkorkor (2013) aimed to analyze the ownership structure in public enterprises from various aspects, in this way increasing efficiency in public administration. In this framework, the author first evaluated ownership functions and types in various countries, and evaluated public enterprises in our country. She stated that issues such as collecting the ownership function in public enterprises in a single hand, carrying out the public ownership function within the framework of a written and shared publicity policy text, is important. Besides dividing the responsibilities and duties among the shareholders, board of directors, and company managers in an appropriate manner is essential.

The European Commission (EC, 2014) has reported an inadequate link between the salaries and performances of managers, the inadequate compliance of management incentives with the company's long-term interests, inadequate information on salaries, and inadequate oversight of shareholders on salaries. It has been documented in the EC report that in more than 50% of EU member states, shareholders do not have the means to express their views on the remuneration of managers as a result of repeated mismatches between managers 'wages and companies' performance. Finally, shareholders lose without receiving dividends because directors take in all the profits from the company through excessive pay.

A study by Chen et al. (2011) concluded that it is difficult to take control of shareholders, most of the best governance practices are designed primarily to resolve conflicts between shareholders and management, not for conflicts between controlling shareholders and minority shareholders. Boards are typically not independent of shareholder control.

However, Ararat and Dallas (2011) argued that the influence of independent directors is difficult to show. The inevitable problem is the unequal balance of power. Controlling shareholders will be open to other shareholder offers only if these offers are clearly in their interest.

Schlimm et al. (2010) argued that institutional investors would identify "red flags", which, for example, indicate that they control shareholder opportunism and can then try to persuade the board to develop corporate governance practices. Knowing these "red flags" by other shareholders and stakeholders will help put pressure on the board to correct bad practices and change the path of improper opportunistic shareholders, in this way preserving value for all shareholders and other stakeholders. Recently, institutional investors have moved away from focusing on short-term returns, including practices involving stakeholders to support investment strategies. As for this problem, Schlimm et al (2010) bring forward the idea of red flags.

Decentralized Sector Model or in other words, the dispersed shareholding model, is the most traditional model in the execution of shareholding. In this model, the ownership function is carried out by the ministries of the sector to which the public enterprise is concerned (Vagliasindi, 2008, s.9). Since the ownership function is divided among many ministries, it is very important to have a central unit that provides effective coordination between these ministries (OECD, 2012, s.13).

The double model or double ministerial model, in other words, is the most widely used in many countries until recently. In this model, shareholder function divided between the relevant sector ministry of public enterprises and a central ministry (usually Ministry of Finance, Ministry of Economy or Treasury) (OECD, 2005, s.40). The central ministry/institution, in general, is responsible for preparing consolidated reports regarding the system and appointing some of the members of the board of directors and in this context, it plays the role of coordination and centralization (OECD, 2005, s.44). In many countries, the emergence of the double ministerial model results from the result of the Ministry of Finance, the Ministry of Economy or the Treasury becoming a strong structure. In some countries, such as Australia and New

Zealand, the implementation of the double ministerial model is the result of detailed analysis and research (OECD, 2005, s.45).

Corporate governance is a set of management rules that regulate the management of companies and the relations between shareholders, the board of directors, managers and other stakeholders and try to protect all the elements within the company, especially stakeholders. In a study dealing with this relationship, the characteristics of the board of directors, ownership structure, management structure, and managers were classified under the titles of the oversight board, shareholder rights, and transparency. As a result of the review, it has been determined that the companies that generally apply corporate governance and adopt the principles of transparency and shareholder rights have relatively high performance, and in other subtitles, the results are contradictory (Meydan and Basim, 2007).

3.2. Corporate Governance and Stakeholders

Most of the traditional Company Law doctrine thinks that Companies should first of all develop the rights of shareholders. Activities in favor of non-shareholder groups such as suppliers, consumers, employees can be perceived as a management tool to increase their strength and personal prestige. The interests of stakeholders can be interpreted as opposing the right of shareholders to obtain fair income for their investments. The interests of the Shareholders and Stakeholders are coherent, and both help to corporate long-term efficiency and progress. A broad unanimity on how to control management actions is essential to support stakeholders' interests (Carrillo, 2007).

The stakeholder movement includes a recipe for companies to focus on goals that go beyond the interests of shareholders. It means that executives and officers must uphold the interests of others involved in the company activity. By doing so, the long-term interest of shareholders also benefits, consumers increasingly prefer to buy products from companies they trust, suppliers deal with partnerships with companies they can trust, employees prefer to work for companies they respect, large investment funds prefer companies with social responsibility, and the most respected non-governmental organizations prefer to cooperate with companies that reconcile their investment interests with Community objectives (Werther and Chandler, 2006).

3.3. Corporate Governance and Transparency

Karğın (2015) conducted a study. In this study, the effect of corporate governance on the quality of financial reporting was investigated. For this purpose, the financial reporting qualities of the companies included in the Borsa İstanbul Corporate Governance Index (XKURY) were compared with the profitability continuity of the companies not included in this index. As a result of the study, it was concluded that the profits of the companies traded in XKURY are more consistent and their financial reports have higher quality under theoretical expectations.

The aim of Pamukçu (2011) was to reveal the place and importance of public disclosure and transparency in the corporate governance approach. The corporate governance approach is to manage companies in a manner that will provide the highest benefit for all interested people and groups. Financial data disclosed by financial reporting is extremely important for both companies' current partners and future investors. Accounting and Financial Reporting Standards contain important regulations in terms of presenting reliable financial results in companies that have to implement them. However, accounting-related data in financial reports alone is not sufficient. Users of financial information want to be informed about all current and future situations about the company. To achieve this, companies must adopt and implement corporate governance principles. The transparency level of financial statements and reports must be high to meet all expectations. Transparency, which is one of the basic elements of corporate management; requires that all financial and non-financial information be disclosed to the public in a timely, accurate, complete and easily accessible manner. It has been reported that the adoption of the corporate governance approach in companies is directly related to the increased transparency of financial reporting and public disclosure.

In their studies, Frost, Gordon, and Hayes questioned the relationship between public disclosure/transparency and market liquidity on 50 exchanges that are members of the World Federation of Exchanges (WFE). The authors focused on the public disclosure systems of the stock exchanges. In this way, they observed the relationship between exchanges and government policies and the results associated with factors of market quality such as liquidity. As a result of the study, if the variables of stock market size, legal infrastructure, market development, and information environment are controlled, they determined that the public disclosure and transparency system will affect the market liquidity positively (Frost et al., 2002).

In the study of Chipalkatti in India, it was suggested that the theory that banks that offer more transparent information to their investors are rewarded by the market discipline is not valid for the sector banks. On the contrary, It was said that the market has a negative attitude towards public banks that give better public disclosure, and the market liquidity of these banks decreased. In the study, the importance of an institution that will oversee the banking sector independently from the governments and the bureaucratic sector is emphasized and, it has been proposed to ensure that an independent institution oversees the implementation of standards (Chipalkatti, 2002). Based on the data collected by Samir and his friends from various countries, it is seen that the companies applying IFRS have a higher import volume and, they have more quoted shares on foreign markets. It was stated in the study that having a low debt/equity ratio is related to appropriate IFRS application (Samir et al., 1999).

A series of transparency rankings created by Standard and Poors, one of the world's leading rating agencies, as a result of research in developed countries and financial markets, are carefully examined by investors around the world. Thanks to studies that began in 2004, Turkish companies investigated transparency public disclosure standards, and then the report of "Corporate Governance: Turkey Transparency and Public Disclosure Survey" were published. This study focused on whether companies make sufficient public disclosure under 3 main subtitles. These main titles are, respectively, "Ownership structures and Rights of Shareholders", "Financial Transparency and Financial Position and Board of Directors", and "Top Management Structure and Management processes". The research was evaluated over 10 points. Turkish companies received 4 points in the title of ownership structures and shareholders, 7 in the title of financial transparency, 5 in average transparency, and 3 in the title of executive board and management processes. According to the research results; The level of public disclosure in the titles related to financial transparency is highest, whereas public disclosures in the titles of the board of directors, top management structure and management processes are the lowest. This result in the report is not surprising because most of the binding regulations in Turkey are consist of obligatory public disclosure of the financial situation (Sabancı, 2008).

Niu (2006) was determined that In Canada, between 2001 and 2004, the quality of corporate governance had a positive effect on the return-to-profit relationship and negative effect on the level of abnormal accruals. Researcher concluded that in well-

functioning corporate management mechanisms the reported profits have higher information content, for this reason improving the quality of the profits.

Liu and Lu (2007) investigated the relationship between corporate governance and the quality of financial reporting between 1999-2005 in China. As a result of the research, they reported that earnings management is low in companies with high corporate governance levels.

Jiang et al. (2008), in their study in the USA between 2002-2004, found a negative relationship between self-developed corporate governance score and optional accruals. Researchers found that firms with poor corporate governance practices have more earnings management.

Hutchinson et al. (2008) investigated the effects of corporate governance reform on financial reporting quality in Australia in financial reports for 2000 (pre-reform) and 2005 (post-reform). As a result of the study, corporate governance limits earnings management practices and optional accruals, and thus, they found that it had a positive effect on the quality of profit.

Machuga and Teitel (2009), investigated the effects of firms' boards of directors' features on profit quality between 1998-2002, after the mandatory implementation of corporate governance principles in 2001 in Mexico. After the adoption of corporate governance principles, they found that the quality of profit increased.

Ebaid (2013) investigated the impact of voluntary corporate governance practices, which started in 2005, on profit quality and investors' perceptions by using survey methods in Egypt. As a result of the research, it has been found that the quality of the financial reporting process has increased in companies that voluntarily apply corporate governance principles.

Dalğar and Pekin (2011) investigated impact of corporate governance application on financial statement manipulation between 2006 and 2010 in Turkey. At the end of their study, they found that the fact that companies have strong corporate governance structures reduces the risk of manipulation and increases the reliability of financial statements.

Memiş and Çetenak (2012) investigated whether earnings management practices in businesses are affected by corporate governance between 2005 and 2009. At the end of their research, they found that factors such as being traded in the corporate governance index, partnership structure and independence of CEOs from the chairman of the board of directors do not affect profit management, however, they reported that

factors such as having a large board of directors and being audited by one of the big four auditing firms reduced earnings management.

3.4. Corporate Governance and Board of Directors

The "Board of Directors" is a body established to monitor the administration, however, as its size increases, it may be possible to move away from its purpose and to increase agency problems (Bozec, 2005). Mak and Roush (2000) state that large management boards will make it easier for top managers to follow, and it will be difficult for top managers to influence this big board of directors. Besides, it stated that external members can use political relations better (Fama, 1980), or it can also be noted that members close to the resources can reduce transaction costs (Daily and Dalton, 1993). In many studies, it was emphasized that ownership structure is an important characteristic in the board of directors, as the number of external participants (Li, 1994; Rediker and Seth, 1995; Bhatala and Rao, 1995; Prevost et al., 2002).

3.5. Corporate Governance and Ownership Structure

Shelton's (1998) study, examined the reasons why the corporate management approach is being adopted more and more every day in family companies. At the end of the study, it was concluded that Management failures and abuses in family businesses were seen as one of the reasons for failure to institutionalize, and corporate governance approach is necessary for the successful management of family businesses.

Gurarda, Ozsoz and Ates, (2016) focused on the ownership structure of 22 non-financial companies with the XKURY index, and they have analyzed the determinants of corporate governance score in Turkey. Establishing family ownership has been found to have a negative but weak effect on corporate governance scores. Overall, the literature on the role of family ownership was explained by conflicting factors and mixed results (Aguilera and Crespi-Cladera, 2016). On the one hand, the founding families focus on long-term investment rewards and have a strong incentive to monitor management (Aguilera and Crespi-Cladera, 2016). Besides, family members are more likely to participate in both strategic and operational activities (Gurarda, Ozsoz and Ates, 2016; Ormazabal, 2018). These arguments can lead to the hypothesis that establishing family ownership has a negative impact on corporate governance practices.

State ownership is considered a private and privileged shareholder category. It has greater access to and knowledge of organizations. The default effects of state ownership on corporate governance depends on the specific national context and general management system (Yoshikawa, Zhu and Wang, 2014; Grosman, Okhmatovskiy and Wright, 2016). Relatively, In Turkey which is an economy in transition with recent corporate governance codes, as a hypothesis, state ownership can be expected to affect corporate governance practices negatively.

Governance mechanisms designed to protect domestic ownership may not be equally effective for foreign ownership (Desender, Aguilera and Lópezpuertas-Lamy, 2016). For this reason, foreign investors try to implement additional governance practices for the information asymmetries they encounter in host countries (Ormazabal, 2018; Kang and Kim, 2010). Foreign ownership efforts affect the companies they invest in, and it is likely to increase the convergence of corporate governance practices around the world.

Gurarda et al. (2016.) found a positive but weak relationship between corporate governance of foreign ownership and Turkish companies. Foreign investors' countries of origin affect the practices they try to implement in invested companies (Gonzalez, Molina, Pablo and Rosso, 2017). Investors from developed or emerging markets can be expected to have a positive impact on corporate governance. Therefore, as a hypothesis, it can be stated that foreign investors have a positive effect on corporate management practices of the companies they invest in.

In another category of shareholders, commonly known as institutional investors, is a group of investors that hold public shares of companies through intermediary institutions. It was found that changes in corporate ownership improved the company's next management changes over time (Aggarwal, Erel, Ferreira and Matos, 2011). Active institutional investors are interested in direct profit maximization and high returns, so they're motivated to closely monitor the activities of companies and other shareholders (Kumar and Zattoni, 2015). However, if institutional investors are passive, they may not have an impact on corporate governance (Schmidt and Fahlenbrach, 2017). The participation and demands of institutional investors are related to the financial markets they invest (Yoshikawa, Zhu and Wang, 2014). Assuming that the domestic and foreign institutional investors in Turkey are sensitive to activities of invested companies and the general macroeconomic environment, It

can be thought that institutional investors have a positive effect on corporate management practices of invested companies.

Mehran, Taggart, and Yermack (1999) investigated the effect of executive ownership on firm performance. As a result of the research, they found a positive and significant relationship between manager ownership and leverage ratio.

Li et al. (2009) examined the impact of the ownership structure of firms operating in China on capital structure decisions. As a result of the research, they found that the ownership structure was effective on the leverage ratio. They also found that there was a negative relationship between foreign ownership and leverage.

Gürünlü and Gürsoy (2010) tested the relationship between foreign ownership and capital structure among 286 companies operating in BIST between 2007 and 2008. As a result of the study, they found a negative relationship between foreign ownership and long-term debt ratio.

Ruan, Tian, and Ma (2011) examined the relationship between management ownership and capital structure among 500 companies registered on the Chinese stock exchange between 2002 and 2007. As a result of regression models, they found a u-shaped relationship between manager ownership and leverage ratio. So they found a negative relationship between manager ownership up to 17.8% and leverage ratio; in contrast, a positive relationship with executive ownership, which is between 17.8% and 46.4%.

Similarly, Brailsford, Oliver, and Pua (2002) detected a u-shaped relationship between manager ownership and leverage in the research for Australia among 500 companies.

Wahba (2014) investigated the relationship between capital structure, executive ownership, and firm performance in terms of companies operating in Egypt. In the results of the research, it was found that the negative relation between leverage ratio and executive ownership, along with a statistically insignificant correlation.

CHAPTER 4: METHODOLOGY

4.1. Purpose and Importance of the Study

This study aims to determine the effect of companies' ownership structures which are within the corporate governance index on corporate governance principles (Shareholder, Transparency, Stakeholder, and BOD) notes within a certain time frame. Within the study, the impact of the principles, suggested by the corporate governance understanding, of company performance is measured by the TOPSIS method. Also, all corporate governance principles scores are rated one by one, by creating a matrix to evaluate. It was tried to establish a relationship between the evaluated outcomes and ownership structure of the selected companies. With this study, it was investigated how the ownership structure and the compliance scores with corporate governance principles affect each other.

4.2. Method of the Study

In the study, 2014-2018 financial year-end data of 20 firms within the manufacturing sector were used among 65 firms that are traded in BIST and included in the corporate governance index. Their performances were ranked and evaluated via the TOPSIS method and, their comparisons were made by gathering ownership structure from the public disclosure platform.

The weight of corporate governance index (under the principles of a shareholder, transparency, stakeholder and, bod) may vary every 2-3 years by taking consideration of economic conjecture, in other words, these weights given each principle may change considering economic fluctuations. In this study, to evaluate the principles equally, the weights allocated equally, so each weight assumed as 0.25 and the TOPSIS evaluation was made in that way.

4.3. Companies Included in the Study

Manufacturing industry sector companies, which its data are available within the specified period are included in the scope of the study. The 20 companies included in the study are given below. (Source: kap.org.tr/tr/bist-sirketler)

Table 1. Manufacturing Companies in the Study

No	Companies' Name	Code
1	AKSA Akrilik Kimya Sanayi A.Ş.	AKSA
2	Anadolu Efes Biracılık ve Malt Sanayi A.Ş.	AEFES
3	Arçelik A.Ş.	ARCLK
4	Aselsan Elektronik Ticaret A.Ş.	ASELS
5	Aygaz A.Ş.	AYGAZ
6	Coca Cola İçecek A.Ş.	CCOLA
7	ENKA İnşaat ve Sanayi A.Ş.	ENKAI
8	İhlas Ev Aletleri İmalat Sanayi ve Ticaret A.Ş.	IHEVA
9	Otokar Otomotiv ve Savunma Sanayi A.Ş.	OTKAR
10	Park Elektrik A.Ş.	PRKME
11	Pınar Entegre Et ve Un Sanayi A.Ş.	PETUN
12	Pınar Su Sanayi ve Ticaret A.Ş.	PINSU
13	Pınar Süt Mamulleri Sanayi A.Ş.	PNSUT
14	Tofaş Türk Otomobil Fabrikası A.Ş.	TOASO
15	Turcas Petrol A.Ş.	TRCAS
16	Tüpraş Türkiye Petrol Rafinerileri A.Ş.	TUPRS
17	Türk Prysmian Kablo ve Sistemleri	PRKAB
18	Türk Traktör ve Ziraat Makineleri A.Ş.	TTRAK
19	Türkiye Şişe ve Cam Fabrikaları A.Ş.	SISE
20	Vestel Elektronik	VESTL

4.4. TOPSIS Method

TOPSIS is one of the multi-criteria decision-making techniques, in another saying, it is a technique that allows you to choose the best option among various alternatives by sorting them. It was developed by Hwang and Yoon in 1981 and, TOPSIS is an acronym of the first letters of the words Technique for Order Preference by Similarity to Ideal Solution.

Multi-Criteria Decision Making methods require many mathematical operations and equations, that is why Microsoft Excel 2019 program was used since it provides eligibility at the mathematical stages.

When TOPSIS is used to decide, the chosen alternative is expected to be close to the ideal value (positive ideal) and far from the non-ideal value (negative ideal) (Lai, 1994: 486).

The implementation processes of the TOPSIS Method are as follows:

Step 1: Creating the Decision-Making Matrix

Firstly, a starting matrix is created in which the decision points which are rows desired to be ranked, and the evaluation factors to be used in decision making are in the columns (Köse and Bülbül, 2011).

$$A_{ij} = \begin{bmatrix} a_{11} & a_{12} & \dots & a_{1n} \\ a_{21} & a_{22} & \dots & a_{2n} \\ \cdot & \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot & \cdot \\ a_{m1} & a_{m2} & \dots & a_{mn} \end{bmatrix}$$

Step 2: Creating the Normalized Decision-Making Matrix

Firstly, the degree of weights (W_j) for the evaluation factors are determined. Then, normalized values calculated in the previous step are evaluated by W_j values to find normalized values.

$$N_{ij} = \frac{a_{ij}}{\sqrt{\sum_{i=1}^m a_{ij}^2}} \quad (i = 1, \dots, m \text{ ve } j = 1, \dots, n)$$

After applying the formula, the normalized matrix is created as follows:

$$N_{ij} = \begin{bmatrix} n_{11} & n_{12} & \dots & n_{1p} \\ n_{21} & n_{22} & \dots & n_{2p} \\ \cdot & \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot & \cdot \\ n_{m1} & n_{m2} & \dots & n_{mp} \end{bmatrix}$$

Step 3: Creating the Weighted Normalized Decision Matrix

Weighting is applied as w_{ij} for each value in the matrix, which is normalized according to its materiality level or a severity score. The only subjective criterion of the TOPSIS method is the weights. However, the sum of the given w_{ij} values that should be taken into account during weighting should be equal to 1.

$$\sum_{i=1}^n w_i = 1$$

In this step, the n_{ij} values obtained from the normalized matrix are multiplied by w_{ij} weights to create the weighted normalized matrix, which is the V matrix.

$$V_{ij} = \begin{bmatrix} w_1 n_{11} & w_2 n_{12} & \dots & w_n n_{1p} \\ w_1 n_{21} & w_2 n_{22} & \dots & w_n n_{2p} \\ \cdot & \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot & \cdot \\ w_1 n_{m1} & w_2 n_{m2} & \dots & w_n n_{mp} \end{bmatrix} \xRightarrow{V_{ij}} \begin{bmatrix} V_{11} & V_{12} & \dots & V_{1p} \\ V_{21} & V_{22} & \dots & V_{2p} \\ \cdot & \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot & \cdot \\ V_{m1} & V_{m2} & \dots & V_{mp} \end{bmatrix}$$

Step 4: Determination of Ideal Positive and Negative Values

After obtaining the V matrix, that is, the weighted normalized matrix, the maximum values for each column are determined by adhering to the purpose of the research. These determined values are ideal solution values. Then, the minimum values for each column are selected. These selected values are negative ideal solution values.

Positive-ideal values (+ A) and negative-ideal values (- A) values are defined among weighted normalized values.

Positive ideal solution + A refers to the maximum values for each column, and has the form:

$A^+ v_1^+, v_2^+, \dots, v_n^+$	$max v_{ij}$
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Non-Ideal Solution- A refers to the minimum values for each column, and has the form:

$A^- v_1^-, v_2^-, \dots, v_n^-$	$minv_{ij}$
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Step 5: Measuring the Distance Between Alternatives

The distances from the positive and negative ideal solution set are calculated by the Euclidean distance approach. Deviation values of the obtained alternatives regarding the criteria are called as, positive ideal distance and negative ideal (non-ideal distance) distance.

Ideal Distance:

$$S_i^* = \sqrt{\sum_{j=1}^n (v_{ij} - v_j^*)^2}$$

Non-Ideal Distance:

$$S_i^- = \sqrt{\sum_{j=1}^n (v_{ij} - v_j^-)^2}$$

Where, i = criterion index, j = alternative index.

As a result of these calculations, S_i^* and, S_i^- values will be found as much as the decision point.

Step 6: Calculation of the Relative Closeness to the Ideal Solution

As for calculating the relative closeness, distances to non-ideal and ideal points are used. The relative proximity to the ideal solution is indicated by C_i^* symbol.

$$C_i^* = \frac{S_i^-}{S_i^- + S_i^*}$$

This value is in the range of $0 \leq C_i^* \leq 1$. The absolute proximity to the ideal solution is shown as $C_i^* = 1$, while the absolute proximity to the negative ideal solution is shown as $C_i^* = 0$.

4.5. TOPSIS Application

In the study, shareholders, transparency, stakeholder, and BOD scores, which are effective in determining the corporate governance performance, of 20 companies from the manufacturing firms traded in BIST were used. The required scores are gathered from XKURY Index for the 2014-2018 financial years. The calculated values have been reduced to the only number that will show the overall performance with the TOPSIS method, performance evaluation was made by sorting among themselves.

Step 1: Creating the Decision-Making Matrix

As the first step of the analysis, the decision matrix, the first step of the TOPSIS method, was created. In the decision matrix, 20 manufacturing firms within the XKURY Index, and 4 evaluation criteria were determined which are shareholder, transparency, stakeholder, and BOD.

In the formation of the matrix, the relevant corporate governance scores should be in the applicable form of the TOPSIS method. Therefore, the scores obtained from the XKURY Index were classified to make TOPSIS calculation using the following ranges.

Table 2. Score Classification Criteria

Score Classification		Classification	Definition
Score	Classification	Classification	Definition
0-79	2	1	Criteria are equally important
80-82	3	3	A little more important than the previous criterion
83-85	4	5	More important than the previous criterion
86-88	5	7	Too much important compared to the previous criterion
89-91	6	9	Extremely important compared to the previous criterion
92-94	7	2,4,6,8	Intermediate Values
95-97	8		
98-100	9		

After that, the applicable decision matrices were prepared. The decision matrices for all fiscal years between 2014-2018 are listed below.

Table 3. Decision Matrix of 2014 Year

No	COMPANIES	Shareholder	Transparency	Stakeholder	BOD
1	AKSA	8	8	8	5
2	AEFES	7	9	9	6
3	ARCLK	8	8	8	7
4	ASELS	4	9	7	6
5	AYGAZ	8	7	9	6
6	CCOLA	5	9	9	6
7	ENKAI	8	7	7	5
8	IHEVA	2	3	2	3
9	OTKAR	8	7	9	5
10	PRKME	5	7	5	6
11	PETUN	5	6	8	6
12	PINSU	8	6	9	7
13	PNSUT	5	6	9	7
14	TOASO	4	7	8	6
15	TRCAS	6	7	6	6
16	TUPRS	8	7	5	7
17	PRKAB	7	7	7	6
18	TTRAK	4	7	9	6
19	SISE	8	8	8	6
20	VESTL	7	6	6	6

Table 4. Decision Matrix of 2015 Year

No	COMPANIES	Shareholder	Transparency	Stakeholder	BOD
1	AKSA	8	9	9	6
2	AEFES	8	9	9	7
3	ARCLK	8	8	9	7
4	ASELS	4	9	8	7
5	AYGAZ	8	7	9	7
6	CCOLA	6	9	9	7
7	ENKAI	8	7	8	5
8	IHEVA	3	3	2	3
9	OTKAR	8	7	9	6
10	PRKME	5	8	5	6
11	PETUN	5	7	9	7
12	PINSU	8	7	9	7
13	PNSUT	5	7	9	7
14	TOASO	4	7	8	6
15	TRCAS	7	7	8	7
16	TUPRS	8	9	6	7
17	PRKAB	7	7	7	6
18	TTRAK	4	8	9	6
19	SISE	8	8	8	6
20	VESTL	8	7	6	6

Table 5. Decision Matrix of 2016 Year

No	COMPANIES	Shareholder	Transparency	Stakeholder	BOD
1	AKSA	8	9	9	7
2	AEFES	8	9	9	7
3	ARCLK	8	9	9	7
4	ASELS	4	9	8	6
5	AYGAZ	8	7	9	7
6	CCOLA	6	9	9	7
7	ENKAI	8	7	8	5
8	IHEVA	3	3	2	4
9	OTKAR	8	7	9	6
10	PRKME	5	9	5	6
11	PETUN	6	7	9	7
12	PINSU	8	7	8	7
13	PNSUT	5	7	9	7
14	TOASO	4	7	9	6
15	TRCAS	7	8	8	7
16	TUPRS	8	7	9	7
17	PRKAB	7	7	7	6
18	TTRAK	4	8	9	6
19	SISE	8	8	8	6
20	VESTL	8	9	7	7

Table 6. Decision Matrix of 2017 Year

No	COMPANIES	Shareholder	Transparency	Stakeholder	BOD
1	AKSA	9	9	9	7
2	AEFES	8	9	9	7
3	ARCLK	8	9	9	7
4	ASELS	4	9	9	6
5	AYGAZ	8	7	9	7
6	CCOLA	6	9	9	7
7	ENKAI	8	7	8	5
8	IHEVA	3	3	3	4
9	OTKAR	8	7	9	6
10	PRKME	5	9	5	6
11	PETUN	6	8	9	7
12	PINSU	8	8	8	7
13	PNSUT	5	8	9	7
14	TOASO	5	7	9	6
15	TRCAS	8	8	8	7
16	TUPRS	8	7	9	7
17	PRKAB	7	7	7	6
18	TTRAK	4	8	9	7
19	SISE	8	8	9	6
20	VESTL	8	9	8	7

Table 7. Decision Matrix of 2018 Year

No	COMPANIES	Shareholder	Transparency	Stakeholder	BOD
1	AKSA	8	9	9	8
2	AEFES	8	9	9	7
3	ARCLK	8	8	9	7
4	ASELS	4	9	9	6
5	AYGAZ	8	7	9	7
6	CCOLA	5	9	9	7
7	ENKAI	7	7	8	5
8	IHEVA	3	4	4	4
9	OTKAR	6	7	8	5
10	PRKME	5	8	5	5
11	PETUN	5	7	9	7
12	PINSU	8	8	8	7
13	PNSUT	5	7	9	7
14	TOASO	5	7	9	7
15	TRCAS	7	8	8	8
16	TUPRS	8	7	9	7
17	PRKAB	6	7	7	6
18	TTRAK	4	8	9	7
19	SISE	8	8	9	7
20	VESTL	7	8	9	7

Step 2: Creating the Normalized Decision-Making Matrix

Each value in the decision matrix, created in step 1, is divided by the square root of the sum of the squares along with other values in the column it is located, by doing so the normalizing process was applied. This process was repeated for each year, which is between 2014 and 2018, and the normalized matrices created are listed below.

Table 8. Normalized Matrix of 2014 Year

No	COMPANIES	Shareholder	Transparency	Stakeholder	BOD
1	AKSA	0,28	0,25	0,24	0,19
2	AEFES	0,24	0,28	0,26	0,23
3	ARCLK	0,28	0,25	0,24	0,26
4	ASELS	0,14	0,28	0,21	0,23
5	AYGAZ	0,28	0,22	0,26	0,23
6	CCOLA	0,17	0,28	0,26	0,23
7	ENKAI	0,28	0,22	0,21	0,19
8	IHEVA	0,07	0,09	0,06	0,11
9	OTKAR	0,28	0,22	0,26	0,19
10	PRKME	0,17	0,22	0,15	0,23
11	PETUN	0,17	0,19	0,24	0,23
12	PINSU	0,28	0,19	0,26	0,26
13	PNSUT	0,17	0,19	0,26	0,26
14	TOASO	0,14	0,22	0,24	0,23
15	TRCAS	0,21	0,22	0,18	0,23
16	TUPRS	0,28	0,22	0,15	0,26
17	PRKAB	0,24	0,22	0,21	0,23
18	TTRAK	0,14	0,22	0,26	0,23
19	SISE	0,28	0,25	0,24	0,23
20	VESTL	0,24	0,19	0,18	0,23

Table 9. Normalized Matrix of 2015 Year

No	COMPANIES	Shareholder	Transparency	Stakeholder	BOD
1	AKSA	0,27	0,26	0,25	0,21
2	AEFES	0,27	0,26	0,25	0,25
3	ARCLK	0,27	0,24	0,25	0,25
4	ASELS	0,13	0,26	0,22	0,25
5	AYGAZ	0,27	0,21	0,25	0,25
6	CCOLA	0,20	0,26	0,25	0,25
7	ENKAI	0,27	0,21	0,22	0,18
8	IHEVA	0,10	0,09	0,06	0,11
9	OTKAR	0,27	0,21	0,25	0,21
10	PRKME	0,17	0,24	0,14	0,21
11	PETUN	0,17	0,21	0,25	0,25
12	PINSU	0,27	0,21	0,25	0,25
13	PNSUT	0,17	0,21	0,25	0,25
14	TOASO	0,13	0,21	0,22	0,21
15	TRCAS	0,23	0,21	0,22	0,25
16	TUPRS	0,27	0,26	0,17	0,25
17	PRKAB	0,23	0,21	0,20	0,21
18	TTRAK	0,13	0,24	0,25	0,21
19	SISE	0,27	0,24	0,22	0,21
20	VESTL	0,27	0,21	0,17	0,21

Table 10. Normalized Matrix of 2016 Year

No	COMPANIES	Shareholder	Transparency	Stakeholder	BOD
1	AKSA	0,26	0,26	0,25	0,24
2	AEFES	0,26	0,26	0,25	0,24
3	ARCLK	0,26	0,26	0,25	0,24
4	ASELS	0,13	0,26	0,22	0,21
5	AYGAZ	0,26	0,20	0,25	0,24
6	CCOLA	0,20	0,26	0,25	0,24
7	ENKAI	0,26	0,20	0,22	0,17
8	IHEVA	0,10	0,09	0,06	0,14
9	OTKAR	0,26	0,20	0,25	0,21
10	PRKME	0,17	0,26	0,14	0,21
11	PETUN	0,20	0,20	0,25	0,24
12	PINSU	0,26	0,20	0,22	0,24
13	PNSUT	0,17	0,20	0,25	0,24
14	TOASO	0,13	0,20	0,25	0,21
15	TRCAS	0,23	0,23	0,22	0,24
16	TUPRS	0,26	0,20	0,25	0,24
17	PRKAB	0,23	0,20	0,19	0,21
18	TTRAK	0,13	0,23	0,25	0,21
19	SISE	0,26	0,23	0,22	0,21
20	VESTL	0,26	0,26	0,19	0,24

Table 11. Normalized Matrix of 2017 Year

No	COMPANIES	Shareholder	Transparency	Stakeholder	BOD
1	AKSA	0,29	0,25	0,24	0,24
2	AEFES	0,26	0,25	0,24	0,24
3	ARCLK	0,26	0,25	0,24	0,24
4	ASELS	0,13	0,25	0,24	0,21
5	AYGAZ	0,26	0,20	0,24	0,24
6	CCOLA	0,19	0,25	0,24	0,24
7	ENKAI	0,26	0,20	0,21	0,17
8	IHEVA	0,10	0,09	0,08	0,14
9	OTKAR	0,26	0,20	0,24	0,21
10	PRKME	0,16	0,25	0,13	0,21
11	PETUN	0,19	0,23	0,24	0,24
12	PINSU	0,26	0,23	0,21	0,24
13	PNSUT	0,16	0,23	0,24	0,24
14	TOASO	0,16	0,20	0,24	0,21
15	TRCAS	0,26	0,23	0,21	0,24
16	TUPRS	0,26	0,20	0,24	0,24
17	PRKAB	0,23	0,20	0,19	0,21
18	TTRAK	0,13	0,23	0,24	0,24
19	SISE	0,26	0,23	0,24	0,21
20	VESTL	0,26	0,25	0,21	0,24

Table 12. Normalized Matrix of 2018 Year

No	COMPANIES	Shareholder	Transparency	Stakeholder	BOD
1	AKSA	0,28	0,26	0,24	0,27
2	AEFES	0,28	0,26	0,24	0,24
3	ARCLK	0,28	0,23	0,24	0,24
4	ASELS	0,14	0,26	0,24	0,20
5	AYGAZ	0,28	0,20	0,24	0,24
6	CCOLA	0,17	0,26	0,24	0,24
7	ENKAI	0,24	0,20	0,21	0,17
8	IHEVA	0,10	0,12	0,11	0,14
9	OTKAR	0,21	0,20	0,21	0,17
10	PRKME	0,17	0,23	0,13	0,17
11	PETUN	0,17	0,20	0,24	0,24
12	PINSU	0,28	0,23	0,21	0,24
13	PNSUT	0,17	0,20	0,24	0,24
14	TOASO	0,17	0,20	0,24	0,24
15	TRCAS	0,24	0,23	0,21	0,27
16	TUPRS	0,28	0,20	0,24	0,24
17	PRKAB	0,21	0,20	0,19	0,20
18	TTRAK	0,14	0,23	0,24	0,24
19	SISE	0,28	0,23	0,24	0,24
20	VESTL	0,24	0,23	0,24	0,24

Step 3: Creating the Weighted Normalized Decision Matrix

In this step, weights were allocated equally to evaluate principles equally, so each weight, i.e. w_{ijs} , was considered as 0.25. The decided weights are multiplied by the values in the columns of the normalized decision matrix obtained in the second step. The values obtained are shown in the tables below.

Table 13. Weighted Normalized Decision Matrix of 2014 Year

No	COMPANIES	Shareholder	Transparency	Stakeholder	BOD
	wij	0,25	0,25	0,25	0,25
1	AKSA	0,07	0,06	0,06	0,05
2	AEFES	0,06	0,07	0,07	0,06
3	ARCLK	0,07	0,06	0,06	0,07
4	ASELS	0,03	0,07	0,05	0,06
5	AYGAZ	0,07	0,06	0,07	0,06
6	CCOLA	0,04	0,07	0,07	0,06
7	ENKAI	0,07	0,06	0,05	0,05
8	IHEVA	0,02	0,02	0,02	0,03
9	OTKAR	0,07	0,06	0,07	0,05
10	PRKME	0,04	0,06	0,04	0,06
11	PETUN	0,04	0,05	0,06	0,06
12	PINSU	0,07	0,05	0,07	0,07
13	PNSUT	0,04	0,05	0,07	0,07
14	TOASO	0,03	0,06	0,06	0,06
15	TRCAS	0,05	0,06	0,04	0,06
16	TUPRS	0,07	0,06	0,04	0,07
17	PRKAB	0,06	0,06	0,05	0,06
18	TTRAK	0,03	0,06	0,07	0,06
19	SISE	0,07	0,06	0,06	0,06
20	VESTL	0,06	0,05	0,04	0,06

Table 14. Weighted Normalized Decision Matrix of 2015 Year

No	COMPANIES	Shareholder	Transparency	Stakeholder	BOD
	wij	0,25	0,25	0,25	0,25
1	AKSA	0,07	0,07	0,06	0,05
2	AEFES	0,07	0,07	0,06	0,06
3	ARCLK	0,07	0,06	0,06	0,06
4	ASELS	0,03	0,07	0,06	0,06
5	AYGAZ	0,07	0,05	0,06	0,06
6	CCOLA	0,05	0,07	0,06	0,06
7	ENKAI	0,07	0,05	0,06	0,04
8	IHEVA	0,03	0,02	0,01	0,03
9	OTKAR	0,07	0,05	0,06	0,05
10	PRKME	0,04	0,06	0,04	0,05
11	PETUN	0,04	0,05	0,06	0,06
12	PINSU	0,07	0,05	0,06	0,06
13	PNSUT	0,04	0,05	0,06	0,06
14	TOASO	0,03	0,05	0,06	0,05
15	TRCAS	0,06	0,05	0,06	0,06
16	TUPRS	0,07	0,07	0,04	0,06
17	PRKAB	0,06	0,05	0,05	0,05
18	TTRAK	0,03	0,06	0,06	0,05
19	SISE	0,07	0,06	0,06	0,05
20	VESTL	0,07	0,05	0,04	0,05

Table 15. Weighted Normalized Decision Matrix of 2016 Year

No	COMPANIES	Shareholder	Transparency	Stakeholder	BOD
	wij	0,25	0,25	0,25	0,25
1	AKSA	0,07	0,07	0,06	0,06
2	AEFES	0,07	0,07	0,06	0,06
3	ARCLK	0,07	0,07	0,06	0,06
4	ASELS	0,03	0,07	0,06	0,05
5	AYGAZ	0,07	0,05	0,06	0,06
6	CCOLA	0,05	0,07	0,06	0,06
7	ENKAI	0,07	0,05	0,06	0,04
8	IHEVA	0,03	0,02	0,01	0,04
9	OTKAR	0,07	0,05	0,06	0,05
10	PRKME	0,04	0,07	0,03	0,05
11	PETUN	0,05	0,05	0,06	0,06
12	PINSU	0,07	0,05	0,06	0,06
13	PNSUT	0,04	0,05	0,06	0,06
14	TOASO	0,03	0,05	0,06	0,05
15	TRCAS	0,06	0,06	0,06	0,06
16	TUPRS	0,07	0,05	0,06	0,06
17	PRKAB	0,06	0,05	0,05	0,05
18	TTRAK	0,03	0,06	0,06	0,05
19	SISE	0,07	0,06	0,06	0,05
20	VESTL	0,07	0,07	0,05	0,06

Table 16. Weighted Normalized Decision Matrix of 2017 Year

No	COMPANIES	Shareholder	Transparency	Stakeholder	BOD
	wij	0,25	0,25	0,25	0,25
1	AKSA	0,07	0,06	0,06	0,06
2	AEFES	0,07	0,06	0,06	0,06
3	ARCLK	0,07	0,06	0,06	0,06
4	ASELS	0,03	0,06	0,06	0,05
5	AYGAZ	0,07	0,05	0,06	0,06
6	CCOLA	0,05	0,06	0,06	0,06
7	ENKAI	0,07	0,05	0,05	0,04
8	IHEVA	0,02	0,02	0,02	0,03
9	OTKAR	0,07	0,05	0,06	0,05
10	PRKME	0,04	0,06	0,03	0,05
11	PETUN	0,05	0,06	0,06	0,06
12	PINSU	0,07	0,06	0,05	0,06
13	PNSUT	0,04	0,06	0,06	0,06
14	TOASO	0,04	0,05	0,06	0,05
15	TRCAS	0,07	0,06	0,05	0,06
16	TUPRS	0,07	0,05	0,06	0,06
17	PRKAB	0,06	0,05	0,05	0,05
18	TTRAK	0,03	0,06	0,06	0,06
19	SISE	0,07	0,06	0,06	0,05
20	VESTL	0,07	0,06	0,05	0,06

Table 17. Weighted Normalized Decision Matrix of 2018 Year

No	COMPANIES	Shareholder	Transparency	Stakeholder	BOD
	wij	0,25	0,25	0,25	0,25
1	AKSA	0,07	0,07	0,06	0,07
2	AEFES	0,07	0,07	0,06	0,06
3	ARCLK	0,07	0,06	0,06	0,06
4	ASELS	0,04	0,07	0,06	0,05
5	AYGAZ	0,07	0,05	0,06	0,06
6	CCOLA	0,04	0,07	0,06	0,06
7	ENKAI	0,06	0,05	0,05	0,04
8	IHEVA	0,03	0,03	0,03	0,03
9	OTKAR	0,05	0,05	0,05	0,04
10	PRKME	0,04	0,06	0,03	0,04
11	PETUN	0,04	0,05	0,06	0,06
12	PINSU	0,07	0,06	0,05	0,06
13	PNSUT	0,04	0,05	0,06	0,06
14	TOASO	0,04	0,05	0,06	0,06
15	TRCAS	0,06	0,06	0,05	0,07
16	TUPRS	0,07	0,05	0,06	0,06
17	PRKAB	0,05	0,05	0,05	0,05
18	TTRAK	0,04	0,06	0,06	0,06
19	SISE	0,07	0,06	0,06	0,06
20	VESTL	0,06	0,06	0,06	0,06

Step 4: Determination of Ideal Positive and Negative Values

Positive ideal values (+ A) and negative ideal values (- A) values are chosen among weighted normalized values. While Positive ideal solution + A refers to the maximum values for each column, Non-Ideal Solution- A refers to the minimum values for each column.

Table 18. Ideal Set of A+ and A- of 2014 Year

	Shareholder	Transparency	Stakeholder	BOD
A ⁺	0,07	0,07	0,07	0,07
A ⁻	0,02	0,02	0,02	0,03

Table 19. Ideal Set of A+ and A- of 2015 Year

	Shareholder	Transparency	Stakeholder	BOD
A ⁺	0,07	0,07	0,06	0,06
A ⁻	0,03	0,02	0,01	0,03

Table 20. Ideal Set of A+ and A- of 2016 Year

	Shareholder	Transparency	Stakeholder	BOD
A ⁺	0,07	0,07	0,06	0,06
A ⁻	0,03	0,02	0,01	0,04

Table 21. Ideal Set of A+ and A- of 2017 Year

	Shareholder	Transparency	Stakeholder	BOD
A ⁺	0,07	0,06	0,06	0,06
A ⁻	0,02	0,02	0,02	0,03

Table 22. Ideal Set of A+ and A- of 2018 Year

	Shareholder	Transparency	Stakeholder	BOD
A ⁺	0,069	0,066	0,060	0,068
A ⁻	0,026	0,029	0,027	0,034

Step 5: Measuring the Distance Between Alternatives

Ideal solution values and negative ideal solution values were previously determined by using distance formulas to ideal and negative ideal points.

Distance values to ideal points,

Table 23. Calculation of Ideal Distances of 2014

No	COMPANIES	Shareholder	Transparency	Stakeholder	BOD	s+
1	AKSA	0,000	0,000	0,000	0,000	0,022
2	AEFES	0,000	0,000	0,000	0,000	0,013
3	ARCLK	0,000	0,000	0,000	0,000	0,011
4	ASELS	0,001	0,000	0,000	0,000	0,039
5	AYGAZ	0,000	0,000	0,000	0,000	0,018
6	COLLA	0,001	0,000	0,000	0,000	0,027
7	ENKAI	0,000	0,000	0,000	0,000	0,028
8	IHEVA	0,003	0,002	0,003	0,001	0,094
9	OTKAR	0,000	0,000	0,000	0,000	0,024
10	PRKME	0,001	0,000	0,001	0,000	0,043
11	PETUN	0,001	0,001	0,000	0,000	0,037
12	PINSU	0,000	0,001	0,000	0,000	0,023
13	PNSUT	0,001	0,001	0,000	0,000	0,035
14	TOASO	0,001	0,000	0,000	0,000	0,040
15	TRCAS	0,000	0,000	0,000	0,000	0,033
16	TUPRS	0,000	0,000	0,001	0,000	0,033
17	PRKAB	0,000	0,000	0,000	0,000	0,025
18	TTRAK	0,001	0,000	0,000	0,000	0,039
19	SISE	0,000	0,000	0,000	0,000	0,014
20	VESTL	0,000	0,001	0,000	0,000	0,035

Table 24. Calculation of Ideal Distances of 2015

No	COMPANIES	Shareholder	Transparency	Stakeholder	BOD	s+
1	AKSA	0,000	0,000	0,000	0,000	0,009
2	AEFES	0,000	0,000	0,000	0,000	0,000
3	ARCLK	0,000	0,000	0,000	0,000	0,007
4	ASELS	0,001	0,000	0,000	0,000	0,034
5	AYGAZ	0,000	0,000	0,000	0,000	0,015
6	CCOLA	0,000	0,000	0,000	0,000	0,017
7	ENKAI	0,000	0,000	0,000	0,000	0,024
8	IHEVA	0,002	0,002	0,002	0,001	0,085
9	OTKAR	0,000	0,000	0,000	0,000	0,017
10	PRKME	0,001	0,000	0,001	0,000	0,039
11	PETUN	0,001	0,000	0,000	0,000	0,029
12	PINSU	0,000	0,000	0,000	0,000	0,015
13	PNSUT	0,001	0,000	0,000	0,000	0,029
14	TOASO	0,001	0,000	0,000	0,000	0,038
15	TRCAS	0,000	0,000	0,000	0,000	0,018
16	TUPRS	0,000	0,000	0,000	0,000	0,021
17	PRKAB	0,000	0,000	0,000	0,000	0,024
18	TTRAK	0,001	0,000	0,000	0,000	0,035
19	SISE	0,000	0,000	0,000	0,000	0,013
20	VESTL	0,000	0,000	0,000	0,000	0,027

Table 25. Calculation of Ideal Distances of 2016

No	COMPANIES	Shareholder	Transparency	Stakeholder	BOD	s+
1	AKSA	0,000	0,000	0,000	0,000	0,000
2	AEFES	0,000	0,000	0,000	0,000	0,000
3	ARCLK	0,000	0,000	0,000	0,000	0,000
4	ASELS	0,001	0,000	0,000	0,000	0,035
5	AYGAZ	0,000	0,000	0,000	0,000	0,014
6	CCOLA	0,000	0,000	0,000	0,000	0,017
7	ENKAI	0,000	0,000	0,000	0,000	0,024
8	IHEVA	0,002	0,002	0,002	0,001	0,081
9	OTKAR	0,000	0,000	0,000	0,000	0,017
10	PRKME	0,001	0,000	0,001	0,000	0,038
11	PETUN	0,000	0,000	0,000	0,000	0,022
12	PINSU	0,000	0,000	0,000	0,000	0,016
13	PNSUT	0,001	0,000	0,000	0,000	0,029
14	TOASO	0,001	0,000	0,000	0,000	0,037
15	TRCAS	0,000	0,000	0,000	0,000	0,013
16	TUPRS	0,000	0,000	0,000	0,000	0,014
17	PRKAB	0,000	0,000	0,000	0,000	0,023
18	TTRAK	0,001	0,000	0,000	0,000	0,035
19	SISE	0,000	0,000	0,000	0,000	0,013
20	VESTL	0,000	0,000	0,000	0,000	0,014

Table 26. Calculation of Ideal Distances of 2017

No	COMPANIES	Shareholder	Transparency	Stakeholder	BOD	s+
1	AKSA	0,000	0,000	0,000	0,000	0,000
2	AEFES	0,000	0,000	0,000	0,000	0,008
3	ARCLK	0,000	0,000	0,000	0,000	0,008
4	ASELS	0,002	0,000	0,000	0,000	0,041
5	AYGAZ	0,000	0,000	0,000	0,000	0,016
6	CCOLA	0,001	0,000	0,000	0,000	0,024
7	ENKAI	0,000	0,000	0,000	0,000	0,025
8	IHEVA	0,002	0,002	0,002	0,001	0,080
9	OTKAR	0,000	0,000	0,000	0,000	0,018
10	PRKME	0,001	0,000	0,001	0,000	0,043
11	PETUN	0,001	0,000	0,000	0,000	0,025
12	PINSU	0,000	0,000	0,000	0,000	0,013
13	PNSUT	0,001	0,000	0,000	0,000	0,033
14	TOASO	0,001	0,000	0,000	0,000	0,036
15	TRCAS	0,000	0,000	0,000	0,000	0,013
16	TUPRS	0,000	0,000	0,000	0,000	0,016
17	PRKAB	0,000	0,000	0,000	0,000	0,027
18	TTRAK	0,002	0,000	0,000	0,000	0,041
19	SISE	0,000	0,000	0,000	0,000	0,014
20	VESTL	0,000	0,000	0,000	0,000	0,010

Table 27. Calculation of Ideal Distances of 2018

NO	COMPANIES	Shareholder	Transparency	Stakeholder	BOD	s+
1	AKSA	0,000	0,000	0,000	0,000	0,000
2	AEFES	0,000	0,000	0,000	0,000	0,008
3	ARCLK	0,000	0,000	0,000	0,000	0,011
4	ASELS	0,001	0,000	0,000	0,000	0,039
5	AYGAZ	0,000	0,000	0,000	0,000	0,017
6	CCOLA	0,001	0,000	0,000	0,000	0,027
7	ENKAI	0,000	0,000	0,000	0,001	0,031
8	IHEVA	0,002	0,001	0,001	0,001	0,074
9	OTKAR	0,000	0,000	0,000	0,001	0,035
10	PRKME	0,001	0,000	0,001	0,001	0,046
11	PETUN	0,001	0,000	0,000	0,000	0,031
12	PINSU	0,000	0,000	0,000	0,000	0,013
13	PNSUT	0,001	0,000	0,000	0,000	0,031
14	TOASO	0,001	0,000	0,000	0,000	0,031
15	TRCAS	0,000	0,000	0,000	0,000	0,013
16	TUPRS	0,000	0,000	0,000	0,000	0,017
17	PRKAB	0,000	0,000	0,000	0,000	0,031
18	TTRAK	0,001	0,000	0,000	0,000	0,036
19	SISE	0,000	0,000	0,000	0,000	0,011
20	VESTL	0,000	0,000	0,000	0,000	0,014

Distance values to negative ideal points,

Table 28. Calculation of Negative Ideal Distances of 2014

No	COMPANIES	Shareholder	Transparency	Stakeholder	BOD	s-
1	AKSA	0,003	0,002	0,002	0,000	0,080
2	AEFES	0,002	0,002	0,003	0,001	0,086
3	ARCLK	0,003	0,002	0,002	0,001	0,087
4	ASELS	0,000	0,002	0,001	0,001	0,068
5	AYGAZ	0,003	0,001	0,003	0,001	0,084
6	CCOLA	0,001	0,002	0,003	0,001	0,079
7	ENKAI	0,003	0,001	0,001	0,000	0,073
8	IHEVA	0,000	0,000	0,000	0,000	0,000
9	OTKAR	0,003	0,001	0,003	0,000	0,081
10	PRKME	0,001	0,001	0,000	0,001	0,054
11	PETUN	0,001	0,001	0,002	0,001	0,063
12	PINSU	0,003	0,001	0,003	0,001	0,085
13	PNSUT	0,001	0,001	0,003	0,001	0,072
14	TOASO	0,000	0,001	0,002	0,001	0,063
15	TRCAS	0,001	0,001	0,001	0,001	0,062
16	TUPRS	0,003	0,001	0,000	0,001	0,074
17	PRKAB	0,002	0,001	0,001	0,001	0,070
18	TTRAK	0,000	0,001	0,003	0,001	0,069
19	SISE	0,003	0,002	0,002	0,001	0,083
20	VESTL	0,002	0,001	0,001	0,001	0,064

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Table 29. Calculation of Negative Ideal Distances of 2015

No	COMPANIES	Shareholder	Transparency	Stakeholder	BOD	s-
1	AKSA	0,002	0,002	0,002	0,001	0,082
2	AEFES	0,002	0,002	0,002	0,001	0,085
3	ARCLK	0,002	0,001	0,002	0,001	0,082
4	ASELS	0,000	0,002	0,002	0,001	0,071
5	AYGAZ	0,002	0,001	0,002	0,001	0,079
6	CCOLA	0,001	0,002	0,002	0,001	0,079
7	ENKAI	0,002	0,001	0,002	0,000	0,068
8	IHEVA	0,000	0,000	0,000	0,000	0,000
9	OTKAR	0,002	0,001	0,002	0,001	0,075
10	PRKME	0,000	0,001	0,000	0,001	0,052
11	PETUN	0,000	0,001	0,002	0,001	0,069
12	PINSU	0,002	0,001	0,002	0,001	0,079
13	PNSUT	0,000	0,001	0,002	0,001	0,069
14	TOASO	0,000	0,001	0,002	0,001	0,058
15	TRCAS	0,001	0,001	0,002	0,001	0,070
16	TUPRS	0,002	0,002	0,001	0,001	0,075
17	PRKAB	0,001	0,001	0,001	0,001	0,062
18	TTRAK	0,000	0,001	0,002	0,001	0,067
19	SISE	0,002	0,001	0,002	0,001	0,074
20	VESTL	0,002	0,001	0,001	0,001	0,064

Table 30. Calculation of Negative Ideal Distances of 2016

No	COMPANIES	Shareholder	Transparency	Stakeholder	BOD	s-
1	AKSA	0,002	0,002	0,002	0,001	0,081
2	AEFES	0,002	0,002	0,002	0,001	0,081
3	ARCLK	0,002	0,002	0,002	0,001	0,081
4	ASELS	0,000	0,002	0,002	0,000	0,063
5	AYGAZ	0,002	0,001	0,002	0,001	0,074
6	CCOLA	0,001	0,002	0,002	0,001	0,074
7	ENKAI	0,002	0,001	0,002	0,000	0,065
8	IHEVA	0,000	0,000	0,000	0,000	0,000
9	OTKAR	0,002	0,001	0,002	0,000	0,072
10	PRKME	0,000	0,002	0,000	0,000	0,053
11	PETUN	0,001	0,001	0,002	0,001	0,066
12	PINSU	0,002	0,001	0,002	0,001	0,070
13	PNSUT	0,000	0,001	0,002	0,001	0,064
14	TOASO	0,000	0,001	0,002	0,000	0,059
15	TRCAS	0,001	0,001	0,002	0,001	0,069
16	TUPRS	0,002	0,001	0,002	0,001	0,074
17	PRKAB	0,001	0,001	0,001	0,000	0,058
18	TTRAK	0,000	0,001	0,002	0,000	0,063
19	SISE	0,002	0,001	0,002	0,000	0,071
20	VESTL	0,002	0,002	0,001	0,001	0,074

Table 31. Calculation of Negative Ideal Distances of 2017

No	COMPANIES	Shareholder	Transparency	Stakeholder	BOD	s-
1	AKSA	0,002	0,002	0,002	0,001	0,080
2	AEFES	0,002	0,002	0,002	0,001	0,076
3	ARCLK	0,002	0,002	0,002	0,001	0,076
4	ASELS	0,000	0,002	0,002	0,000	0,061
5	AYGAZ	0,002	0,001	0,002	0,001	0,069
6	CCOLA	0,001	0,002	0,002	0,001	0,068
7	ENKAI	0,002	0,001	0,001	0,000	0,060
8	IHEVA	0,000	0,000	0,000	0,000	0,000
9	OTKAR	0,002	0,001	0,002	0,000	0,066
10	PRKME	0,000	0,002	0,000	0,000	0,050
11	PETUN	0,001	0,001	0,002	0,001	0,064
12	PINSU	0,002	0,001	0,001	0,001	0,068
13	PNSUT	0,000	0,001	0,002	0,001	0,062
14	TOASO	0,000	0,001	0,002	0,000	0,055
15	TRCAS	0,002	0,001	0,001	0,001	0,068
16	TUPRS	0,002	0,001	0,002	0,001	0,069
17	PRKAB	0,001	0,001	0,001	0,000	0,053
18	TTRAK	0,000	0,001	0,002	0,001	0,060
19	SISE	0,002	0,001	0,002	0,000	0,069
20	VESTL	0,002	0,002	0,001	0,001	0,072

Table 32. Calculation of Negative Ideal Distances of 2018

No	COMPANIES	Shareholder	Transparency	Stakeholder	BOD	s-
1	AKSA	0,002	0,001	0,001	0,001	0,074
2	AEFES	0,002	0,001	0,001	0,001	0,070
3	ARCLK	0,002	0,001	0,001	0,001	0,067
4	ASELS	0,000	0,001	0,001	0,000	0,053
5	AYGAZ	0,002	0,000	0,001	0,001	0,064
6	CCOLA	0,000	0,001	0,001	0,001	0,058
7	ENKAI	0,001	0,000	0,001	0,000	0,050
8	IHEVA	0,000	0,000	0,000	0,000	0,000
9	OTKAR	0,001	0,000	0,001	0,000	0,044
10	PRKME	0,000	0,001	0,000	0,000	0,036
11	PETUN	0,000	0,000	0,001	0,001	0,050
12	PINSU	0,002	0,001	0,001	0,001	0,064
13	PNSUT	0,000	0,000	0,001	0,001	0,050
14	TOASO	0,000	0,000	0,001	0,001	0,050
15	TRCAS	0,001	0,001	0,001	0,001	0,062
16	TUPRS	0,002	0,000	0,001	0,001	0,064
17	PRKAB	0,001	0,000	0,000	0,000	0,043
18	TTRAK	0,000	0,001	0,001	0,001	0,052
19	SISE	0,002	0,001	0,001	0,001	0,067
20	VESTL	0,001	0,001	0,001	0,001	0,062

Step 6: Calculation of Relative Closeness to the Ideal Solution

Relative closeness formula was applied using the ideal and negative ideal distance values calculated in step 5 and then the following values were obtained.

Table 33. Calculation of Closeness Regarding Ideal Solution Between 2014 and 2018

No	COMPANIES	2014	2015	2016	2017	2018
		Ci*	Ci*	Ci*	Ci*	Ci*
1	AKSA	0,79	0,90	1,00	1,00	1,00
2	AEFES	0,87	1,00	1,00	0,90	0,89
3	ARCLK	0,89	0,92	1,00	0,90	0,86
4	ASELS	0,64	0,68	0,64	0,60	0,58
5	AYGAZ	0,82	0,84	0,84	0,81	0,79
6	CCOLA	0,74	0,83	0,82	0,74	0,68
7	ENKAI	0,72	0,74	0,74	0,71	0,61
8	IHEVA	0,00	0,00	0,00	0,00	0,00
9	OTKAR	0,77	0,81	0,81	0,78	0,56
10	PRKME	0,56	0,57	0,59	0,54	0,44
11	PETUN	0,63	0,70	0,75	0,72	0,62
12	PINSU	0,78	0,84	0,81	0,84	0,83
13	PNSUT	0,68	0,70	0,69	0,65	0,62
14	TOASO	0,62	0,60	0,61	0,60	0,62
15	TRCAS	0,65	0,79	0,84	0,84	0,83
16	TUPRS	0,69	0,78	0,84	0,81	0,79
17	PRKAB	0,74	0,73	0,72	0,67	0,58
18	TTRAK	0,64	0,66	0,64	0,59	0,59
19	SISE	0,85	0,85	0,84	0,83	0,86
20	VESTL	0,65	0,70	0,84	0,87	0,81

4.6. Result of Analysis

In the study, 2014-2018 financial year-end data of 20 firms within the manufacturing sector were used among 65 firms that are traded in BIST and included in the corporate governance index. Their performances were ranked and evaluated via the TOPSIS Method and, their ownership structure was gathered from the public disclosure platform to do comparisons.

Relationships between the ownership structure and corporate governance principles are shown in the tables below.

Table 34. Ownership Structures of Firms with Ranking of Closeness Regarding Ideal Solution for 2014

No	Ci*	COMPANIES	Founding Families & Local Investors	Foreign Ownership	Free Float Rate
1.	0,89	ARCLK	74,8		25,2
2.	0,87	AEFES	43	24	33
3.	0,85	SISE	52,87		47,13
4.	0,82	AYGAZ	51,21	24,52	24,27
5.	0,79	AKSA	58,31		41,69
6.	0,78	PINSU	66,77		33,23
7.	0,77	OTKAR	69,49		30,51
8.	0,74	CCOLA	54,46	20	25,45
9.	0,74	PRKAB		83,75	16,25
10.	0,72	ENKAI	69,56		30,44
11.	0,69	TUPRS	51,00		49,00
12.	0,68	PNSUT	62,05		37,95
13.	0,65	TRCAS	69,6		30,4
14.	0,65	VESTL	77,54		22,46
15.	0,64	ASELS	84,7		15,3
16.	0,64	TTRAK	37,57	37,5	24,93
17.	0,63	PETUN	66,76		33,24
18.	0,62	TOASO	37,86	37,86	24,28
19.	0,56	PRKME	68,01		31,99
20.	0,00	IHEVA	22,03		77,97

Table 35. Ownership Structures of First Three and Last Three Firms with Ranking of Closeness Regarding Ideal Solution for 2014

No	Ci*	Companies	Founding Families & Local Investors	Foreign Ownership	Free Float Rate
1.	0,89	ARCLK	74,8		25,2
2.	0,87	AEFES	43	24	33
3.	0,85	SISE	52,87		47,13
18.	0,62	TOASO	37,86	37,86	24,28
19.	0,56	PRKME	68,01		31,99
20.	0,00	IHEVA	22,03		77,97

As a result of the comparison of the Ci score in 2014, data evaluations indicate that the first three company which are located at the top, have a higher share of local investors.

When we look at the last three companies, it was observed that local investor density is low. Moreover, although PRKME has a high density in terms of local shares, the content of that local share is completely different than the first three companies. Also, PRKME and IHEVA kept located in the last two compared to the other companies during the evaluation years, this situation will be commented at the next lines. Nevertheless, as for the general evaluation of 2014, the last three companies' common point is that they have no variety in the distribution within the local investment shares. In other words, all local shares are mostly gathered under the same roof of homogeneous local ownership.

Table 36. Ownership Structures of Firms with Ranking of Closeness Regarding Ideal Solution for 2015

No	Ci*	COMPANIES	Founding Families & Local Investors	Foreign Ownership	Free Float Rate
1.	1,00	AEFES	43,05	24	32,95
2.	0,92	ARCLK	74,8	0	25,2
3.	0,90	AKSA	58,31	0	41,69
4.	0,85	SISE	74,04	0	25,96
5.	0,84	AYGAZ	51,21	24,52	24,27
6.	0,84	PINSU	66,77	0	33,23
7.	0,83	CCOLA	53,95	20,09	25,96
8.	0,81	OTKAR	69,49	0	30,51
9.	0,79	TRCAS	69,59	0	30,41
10.	0,78	TUPRS	51	0	49
11.	0,74	ENKAI	69,56	0	30,44
12.	0,73	PRKAB	0	83,75	16,25
13.	0,70	PETUN	67	0	33
14.	0,70	PNSUT	62,05	0	37,95
15.	0,70	VESTL	77,54	0	22,46
16.	0,68	ASELS	84,7	0	15,3
17.	0,66	TTRAK	37,57	37,5	0
18.	0,60	TOASO	37,856	37,856	24,288
19.	0,57	PRKME	68,01	0	31,99
20.	0,00	IHEVA	22,03	0	77,97

Table 37. Ownership Structures of First Three and Last Three Firms with Ranking of Closeness Regarding Ideal Solution for 2015

No	Ci*	Companies	Founding Families & Local Investors	Foreign Ownership	Free Float Rate
1.	1,00	AEFES	43,05	24	32,95
2.	0,92	ARCLK	74,8	0	25,2
3.	0,90	AKSA	58,31	0	41,69
18.	0,60	TOASO	37,856	37,856	24,288
19.	0,57	PRKME	68,01	0	31,99
20.	0,00	IHEVA	22,03	0	77,97

When it comes to 2015, the top three companies which are evaluated via TOPSIS and ranked regarding ci score, have high local shares again. In the research, during the other following years the top three companies that have this distinctive feature have not changed. According to Ci scores rankings, the top three companies sustained their place. Their common aspects will be mentioned in the next lines. Looking at the companies in the last three in 2015 as a consequence of the low domestic investor rate, the same results were reached as in 2014

Table 38. Ownership Structures of Firms with Ranking of Closeness Regarding Ideal Solution for 2016

No	Ci*	COMPANIES	Founding Families & Local Investors	Foreign Ownership	Free Float Rate
1.	1,00	AKSA	58,31		41,69
2.	1,00	AEFES	43,05	24	32,95
3.	1,00	ARCLK	74,8		25,2
4.	0,84	VESTL	77,54		22,46
5.	0,84	SISE	74,43		25,57
6.	0,84	TRCAS	69,52		30,48
7.	0,84	AYGAZ	51,21	24,52	24,27
8.	0,84	TUPRS	51,00		49,00
9.	0,82	CCOLA	53,95	20	25,96
10.	0,81	PINSU	66,77		33,23
11.	0,81	OTKAR	69,49		30,51
12.	0,75	PETUN	67		33
13.	0,74	ENKAI	69,71		30,29
14.	0,72	PRKAB		83,75	16,25
15.	0,69	PNSUT	62,05		37,95
16.	0,64	TTRAK	37,57	37,5	24,93
17.	0,64	ASELS	84,7		15,3
18.	0,61	TOASO	37,856	37,856	24,288
19.	0,59	PRKME	68,01		31,99
20.	0,00	IHEVA	22,03		77,97

Table 39. Ownership Structures of First Three and Last Three Firms with Ranking of Closeness Regarding Ideal Solution for 2016

No	Ci*	Companies	Founding Families & Local Investors	Foreign Ownership	Free Float Rate
1.	1	AKSA	58,31		41,69
2.	1	AEFES	43,05	24	32,95
3.	1	ARCLK	74,8		25,2
18.	0,61	TOASO	37,856	37,856	24,288
19.	0,59	PRKME	68,01		31,99
20.	0,00	IHEVA	22,03		77,97

In 2016 evaluations, the same result was obtained like in previous years. Companies with a high local investor rate ranked in the top three, while low ones ranked last.

Table 40. Ownership Structures of Firms with Ranking of Closeness Regarding Ideal Solution for 2017

No	Ci*	COMPANIES	Founding Families & Local Investors	Foreign Ownership	Free Float Rate
1.	1,00	AKSA	58,31		41,69
2.	0,90	AEFES	43,05	24	32,95
3.	0,90	ARCLK	74,85		25,15
4.	0,87	VESTL	77,54		22,46
5.	0,84	PINSU	66,77		33,23
6.	0,84	TRCAS	68,16		31,84
7.	0,83	SISE	73,75		26,25
8.	0,81	AYGAZ	51,21	24,52	24,27
9.	0,81	TUPRS	51,00		49,00
10.	0,78	OTKAR	69,49		30,51
11.	0,74	CCOLA	53,17	20	26,74
12.	0,72	PETUN	67		33
13.	0,71	ENKAI	69,81		30,19

Table 40 (continued)

No	Ci*	COMPANIES	Founding Families & Local Investors	Foreign Ownership	Free Float Rate
14.	0,67	PRKAB		83,75	16,25
15.	0,65	PNSUT	62,05		37,95
16.	0,60	TOASO	37,856	37,856	24,288
17.	0,60	ASELS	84,7		15,3
18.	0,59	TTRAK	37,5	37,5	25
19.	0,54	PRKME	68,01		31,99
20.	0,00	IHEVA	22,03		77,97

Table 41. Ownership Structures of First Three and Last Three Firms with Ranking of Closeness Regarding Ideal Solution for 2017

No	Ci*	Companies	Founding Families & Local Investors	Foreign Ownership	Free Float Rate
1.	1,00	AKSA	58,31		41,69
2.	0,90	AEFES	43,05	24	32,95
3.	0,90	ARCLK	74,85		25,15
18.	0,59	TTRAK	37,5	37,5	25
19.	0,54	PRKME	68,01		31,99
20.	0,00	IHEVA	22,03		77,97

In the evaluations of 2017, the first three companies continued to give the same result as in previous years. When looking at rankings of last firms, the companies in the last two places have not changed. It is observed that the companies whose rankings are at the bottom have low local investment rates, and the content of their local investments are gathered on a homogeneous roof.

Table 42. Ownership Structures of Firms with Ranking of Closeness Regarding Ideal Solution for 2018

No	Ci*	COMPANIES	Founding Families & Local Investors	Foreign Ownership	Free Float Rate
1	1,00	AKSA	58,31		41,69
2	0,89	AEFES	43,05	24,00	32,95
3	0,86	ARCLK	74,85		25,15
4	0,86	SISE	75,39		24,61
5	0,83	PINSU	66,77		33,23
6	0,83	TRCAS	71,98		28,02
7	0,81	VESTL	77,54		22,46
8	0,79	AYGAZ	51,21	24,52	24,27
9	0,79	TUPRS	51		49
10	0,68	CCOLA	52,93	20,09	26,98
11	0,62	PETUN	67		33
12	0,62	PNSUT	65,05		37,95
13	0,62	TOASO	37,86	37,86	24,28
14	0,61	ENKAI	70,01		29,99
15	0,59	TTRAK	37,5	37,5	25
16	0,58	ASELS	74,3		25,7
17	0,58	PRKAB		83,75	16,25
18	0,56	OTKAR	69,49		30,51
19	0,44	PRKME	68		32
20	0,00	IHEVA	22,03		77,97

Table 43. Ownership Structures of First Three and Last Three Firms with Ranking of Closeness Regarding Ideal Solution for 2018

No	Ci*	Companies	Founding Families & Local Investors	Foreign Ownership	Free Float Rate
1.	1,00	AKSA	58,31		41,69
2.	0,89	AEFES	43,05	24	32,95
3.	0,86	ARCLK	74,85		25,15
18.	0,56	OTKAR	69,49		30,51
19.	0,44	PRKME	68		32
20.	0,00	IHEVA	22,03		77,97

Finally, when we look at 2018, we one more time observe that the organizations in the top three have not changed. When we look at the last ranks, it is observed that the companies in the last two remained unchanged consistently during the years evaluated. Within the scope of the research, when the last three companies analyzed, it was observed that IHEVA "İhlas Ev Aletleri İmalat Sanayi ve Ticaret A.Ş" ranked at the bottom for five years with a low local capital rate. Also, the content of the local capital of this firm was examined. This share consists of İHLAS PAZARLAMA YATIRIM HOLDİNG AŞ (17,6%) and İHLAS HOLDİNG AŞ (4,43). To understand why the company remained in the last ranks, the capital structure information of these companies was checked. No public data of İHLAS PAZARLAMA YATIRIM HOLDİNG AŞ (17,6%) was found. The data of İHLAS HOLDİNG AŞ (4,43) was checked. When the capital structure of this company is checked, it was observed that a small percentage of domestic investment exists with 13,63%. This percentage contains only ownership of individuals who exist in the same family. At this point, this thought might make sense that a low level of local investments along with the single power-based ownership negatively affects corporate governance evaluation. Besides, PRKME "Park Elektrik A.Ş", one of the companies that remained in the last ranking, was examined in more detail. Likewise, some common features were seen, like in the review of the IHEVA "İhlas Ev Aletleri İmalat Sanayi ve Ticaret A.Ş". PRKME "Park Elektrik A.Ş", has not low local investment rates with 68,01%. Yet, when the content of its local shares checked, it consists of PARK HOLDİNG A.Ş (61,25%) and, sole individual, TURGAY CİNER, (6,76%). One more step forward was taken and seen that the ownership structure of Park Holding which has been keeping the majority consist of a single individual "Turgay Ciner" with 99% percent. Although the PRKME has local investor share that covers more than half of its ownership, this majority belongs to one person. One person has the majority of power. Since there is no variety exist on ownership, it influences negatively corporate governance evaluations. However, when we look at the top companies at with high local shares, the share consists of various companies. There is not homogeneity but, mostly heterogeneity.

In the research process, IHEVA "İhlas Ev Aletleri İmalat Sanayi ve Ticaret A.Ş.", which ranked last in the ranking, consistently maintained its last place with the low local investor rate ownership based on a single base. When we look at PRKME "Park

Elektrik A.Ş.", OTKAR "Otokar Otomotiv ve Savunma Sanayi A.Ş.", and companies that are at the bottom of the ranking with partially high domestic investor rates, but it was observed that the content of the domestic investment rate was generally homogeneous, in other saying, most of them have a single company dominance and, this would imply there is no variety in terms of local shares and it may mean that it negatively affects corporate governance performance in terms of evaluation run by TOPSIS.

On the other hand, when we generalize the top three companies in the ranking, it can be said that the local capital shares are high. The contents of these companies' local capital shares checked, and it was seen that the shares are not gathered under a single roof, instead, the local shares consist of more than one organization. In other words, it can be said there is diversity or the structure of local investments is heterogeneous.

Considering the company AKSA "AKSA Akrilik Kimya Sanayi A.Ş.", which ranked first in the ranking most often, it is seen that the share of domestic investors did not consist of a single company during the five years. The shares of AKSA "AKSA Akrilik Kimya Sanayi A.Ş." consist of AKKÖK HOLDİNG AŞ. and EMNİYET TİCARET VE SANAYİ AŞ. and more than half of its capital is local. AKKÖK HOLDİNG AŞ constitutes the majority of the domestic capital share. Then, one more step further was proceeded, to see the capital structure of AKKÖK HOLDİNG AŞ. 99% of its shares are local, and its shares are composed of equally divided three different domestic companies which are ARD Holding AŞ., Atlantik Holding AŞ., and NDC Holding AŞ. Briefly this can be said that the high local invested shares rates and the diversity of those shares among different local organizations give positive results in corporate governance evaluations. In other words, higher local diversified investments cause better corporate governance performance regarding TOPSIS evaluation

Table 44. Ownership Structures of Firms with Ranking of Closeness Regarding Ideal Solutions for 2014, 2015, 2016, 2017, and 2018

Year 2014	Ci* (Corp. Gov. Ev.)	Companies	Founding Families & Local Investors	Foreign Ownership	Free Float Rate
1.	0,89	ARCLK	74,80		25,20
2.	0,87	AEFES	43,00	24,00	0,00
3.	0,85	SISE	52,87		47,13

Year 2015	Ci* (Corp. Gov. Ev.)	Companies	Founding Families & Local Investors	Foreign Ownership	Free Float Rate
1.	1,00	AEFES	43,05	24	32,95
2.	0,92	ARCLK	74,8	0	25,2
3.	0,90	AKSA	58,31	0	41,69

Year 2016	Ci* (Corp. Gov. Ev.)	Companies	Founding Families & Local Investors	Foreign Ownership	Free Float Rate
1.	1	AKSA	58,31		41,69
2.	1	AEFES	43,05	24	32,95
3.	1	ARCLK	74,8		25,2

Year 2017	Ci* (Corp. Gov. Ev.)	Companies	Founding Families & Local Investors	Foreign Ownership	Free Float Rate
1.	1,00	AKSA	58,31		41,69
2.	0,90	AEFES	43,05	24	32,95
3.	0,90	ARCLK	74,85		25,15

Year 2018	Ci* (Corp. Gov. Ev.)	Companies	Founding Families & Local Investors	Foreign Ownership	Free Float Rate
1.	1,00	AKSA	58,31		41,69
2.	0,89	AEFES	43,05	24	32,95
3.	0,86	ARCLK	74,85		25,15

Year 2014	Ci* (Corp. Gov. Ev.)	Companies	Founding Families & Local Investors	Foreign Ownership	Free Float Rate
18.	0,62	TOASO	37,86	37,86	24,28
19.	0,56	PRKME	68,01		31,99
20.	0,00	IHEVA	22,03		77,97

Year 2015	Ci* (Corp. Gov. Ev.)	Companies	Founding Families & Local Investors	Foreign Ownership	Free Float Rate
18.	0,60	TOASO	37,856	37,856	24,288
19.	0,57	PRKME	68,01	0	31,99
20.	0,00	IHEVA	22,03	0	77,97

Year 2016	Ci* (Corp. Gov. Ev.)	Companies	Founding Families & Local Investors	Foreign Ownership	Free Float Rate
18.	0,61	TOASO	37,856	37,856	24,288
19.	0,59	PRKME	68,01		31,99
20.	0,00	IHEVA	22,03		77,97

Year 2017	Ci* (Corp. Gov. Ev.)	Companies	Founding Families & Local Investors	Foreign Ownership	Free Float Rate
18.	0,59	TTRAK	37,5	37,5	25
19.	0,54	PRKME	68,01		31,99
20.	0,00	IHEVA	22,03		77,97

Year 2018	Ci* (Corp. Gov. Ev.)	Companies	Founding Families & Local Investors	Foreign Ownership	Free Float Rate
18.	0,56	OTKAR	69,49		30,51
19.	0,44	PRKME	68		32
20.	0,00	IHEVA	22,03		77,97

Overall, the findings can be listed as, domestic investors have a relationship with corporate governance scores, the other ownership structures which are foreign ownership, free-floating rate, and state ownership have no strong relationship with corporate governance scores, and the heterogeneous ownership structure positively impacts corporate governance while the effects of the homogeneous ones negative.

Since studies on Corporate Management have a long history of implementation in developed countries, it had expected to see companies with a high share of foreign ownership to be at the top of the list. In contrast, Companies with high local investor shares and diversity in this ownership gave positive performance results in TOPSIS evaluation. It is a positive and motivating finding for Turkey, that has started the practices in the recent past and much later than developed economies.

In the literature, company performances were handled by using different variables with the TOPSIS application. However, it was observed that there were not many studies on the variables used in this study. Therefore, this study is a pioneer and can be handled and developed using different variables in the future.

CHAPTER 5: CONCLUSION

This study aimed at determining the effect of ownership structure on corporate governance. Scores of companies have been subject to the corporate governance index over a certain period and function, according to corporate governance principles (having shareholders, transparency, stakeholders and a board of directors).

In the Agency Theory, it is argued that managers will not act in favor of shareholders because, in public enterprises, when the ownership and executive powers are in the hands of different people, each individual will be working for their own interests.

In recent years, unfortunate events in financial markets, consistent with Agency Theory, have led to the view that a series of measures should be taken to prevent them from happening again. In this context, a series of corporate governance practices such as Sarbanes-Oxley in the USA, the Financial Security Act in France, the Cadbury and Greenbury Reports in the UK, and the OECD Corporate Governance Principles, have been implemented into financial practice in order to prevent such scandals.

Through the notices issued by the Capital Markets Board in our country (Turkey), it is observed that a number of regulations have been made regarding corporate governance and a Corporate Governance Index has been established within the Istanbul Stock Exchange.

The general purpose of businesses and investors is to achieve the highest profit possible. However, the priority should be business continuity over profit maximization. When the financial statements are prepared, they show the results of the activities of enterprises. By comparing their own performances with those of competitors, they can decide on a more advantageous and precise direction in future operations. In addition, accurate and clear information for investors will increase the reliability and investment capability of the firm.

In general, it has been observed that investors are affected by environmental factors as well as financial statements when making their decisions. They also do not ignore the corporate governance practices of the company while making decisions on the purchase of stocks in different stock markets around the world. This situation indirectly affects the provision of financial resources for the enterprises and commercial transactions with their partners, because the business image perceived by the target audience must include the criteria of credibility, trust building and

sustainability that will shape the future of businesses in today's competitive environment.

One of the beneficial consequences of corporate governance, besides improving the performance of businesses, is that the prices of stocks increase in direct proportion to the increase in demand. This assists the businesses to get more funds in a comfortable manner.

Global investors tend to avoid the stocks of companies that do not abide by corporate governance principles, often displaying reluctance towards them.

In this context, the independence of the members, their transparency, and having a separate audit committee are paramount.

Some businesses which operate in international investment markets tend to be hesitant to trade in stock markets which do not have these features.

In companies that are successful at corporate governance, there are positive benefits such as low capital costs, and increased liquidity with convenience of financing opportunities. Also they are less affected by economic crises, and have a solid position in the capital markets at a company level.

In addition when viewed on a country-wide basis; a number of opportunities may arise such as contributing positively to the country's image, preventing flight of capital abroad, increasing investment of foreign capital, increasing the competitive power of capital markets, being less affected by economic crises, using the resources of commercial and economic life effectively, increasing the level of national welfare, and, finally, being sustainable.

Attention was paid to the fact that 65 companies in our research are included in the XKURY Index according to the financial year-end data between 2014-2018, and 20 of them were used. The corporate governance performances and ownership structure have been evaluated according to their images using the TOPSIS method.

In order to ensure equality in corporate governance principles, the coefficient for each principle was kept constant at 0.25 in Weighted Normalized Decision Matrix calculations and this value was used in all calculations.

Our research has been limited to a 5-year period. In addition, another limitation is that only manufacturing companies were considered. However, change in the weighted scores used in the study group is a factor that may affect the study.

By analyzing all these companies in detail, we have reached the following conclusions:

A structure with multiple and diverse participants, where founding families and local investors work together, results in better corporate governance.

However, it has been shown that this structure does not have a strong direct proportional relationship with the corporate governance score in other ownership forms, such as foreign investor partnership, partnership from the stock market and state partnership. On the other hand, while a positive effect of heterogeneous (multiple ownership) structure was observed, partnership shares in homogeneous (single ownership) structure led us to find negative data.

One more constraint may be mentioned at this point. It should be taken into account that the rating of companies that adopt corporate governance principles by different rating agencies and the limited number of companies included in the index may have an effect. In future studies, it can be said that approaching the issue from different angles by using econometric models and increasing the number of companies in the index will be very important for the Turkish capital market, considering the increasing importance of corporate governance all over the World.

If the time intervals used in the study are increased, the results may change. Likewise, changing the variables which the study was based on, changing the preferred weight of 0.25, and adding different variables, may cause differences in the results. The numerical changes in the practices of rating agencies and the economic situation in the years which the study was based on are other factors that may affect the result.

In previous studies, the performances of companies have been evaluated using different methods and variables. However, with the TOPSIS method, there has so far not been much work on the variables used in this study (capital structure, corporate governance success score). Therefore, this study is a pioneering one with the potential to be developed further using different variables and examples, in order to improve understanding of corporate governance.

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