

YASAR UNIVERSITY
GRADUATE SCHOOL OF SOCIAL SCIENCES
DEPARTMENT OF BUSINESS

PHD THESIS

**ANALYZING THE IMPACT OF CORPORATE
GOVERNANCE ON SUSTAINABILITY
DISCLOSURE USING A GRI BASED
EVALUATION METHODOLOGY**

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PhD/PROFICIENCY IN ART THESIS JURY APPROVAL FORM

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ABSTRACT

**ANALYZING THE IMPACT OF CORPORATE GOVERNANCE
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EVALUATION METHODOLOGY**

Bengü Yardımcı

PHD Thesis, Business

Advisor: Assoc. Prof. Dr. Mustafa Gürol Durak

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The current research study aims to analyze the impact of corporate governance factors on the level of sustainability disclosure, using a newly constructed GRI based evaluation methodology. The sample of the study is composed of 79 companies, which are listed in Borsa Istanbul and disclosing information on sustainability practices. The quantitative and qualitative methods are employed for the data analysis in order to provide the best understanding of the research problems.

The examination of the levels of sustainability disclosure provided by companies reveals that the information disclosed varies significantly among the companies in different sectors. Additionally, the study finds that the existence of corporate sustainability committee, firm size, free float rate and the type of industry have significant influences on corporate sustainability disclosure practices in Turkey.

These findings present the emerging trends and practices related to sustainability disclosure by providing a knowledge about the current applications for the policy-makers. Moreover, this study contributes to the literature, since it proposes a new evaluation system that measures the level of sustainability disclosure, as well as reveals the association between the level of sustainability disclosure and factors of corporate governance and firm-specific factors in a developing country.

Keywords: Sustainability Disclosure, Corporate Governance, GRI, Scoring

ÖZ

KURUMSAL YÖNETİŞİMİN SÜRDÜRÜLEBİLİRLİK
AÇIKLAMALARI ÜZERİNDEKİ ETKİSİNİN GRI TEMELLİ
DEĞERLENDİRME METODOLOJİSİ KULLANARAK ANALİZİ

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Mevcut araştırma, kurumsal yönetim faktörlerinin, şirketlerin sürdürülebilirlik açıklamaları düzeyine etkisini, yeni oluşturulan GRI tabanlı değerlendirme yöntemini kullanarak incelemeyi amaçlamaktadır. Çalışmanın örneklemi, Borsa İstanbul'da işlem gören ve sürdürülebilirlik uygulamaları hakkında açıklamalarda bulunan 79 şirketten oluşmaktadır. Araştırma problemlerinin çözümüne yönelik analizler için hem nicel, hem de nitel yöntemler kullanılmıştır.

Şirketler tarafından sağlanan sürdürülebilirlik açıklamasının düzeylerinin incelenmesi, açıklanan bilgilerin farklı sektörlerdeki şirketler arasında önemli ölçüde değiştiğini göstermektedir. Ayrıca, çalışma, kurumsal sürdürülebilirlik komitesinin varlığının, firma büyüklüğünün, halka açıklık oranının ve sektör türünün, Türkiye'deki kurumsal sürdürülebilirlik açıklamalarının üzerinde önemli bir etkiye sahip olduğunu ortaya koymaktadır.

Bu bulgular, sürdürülebilirlik açıklamasına ilişkin ortaya çıkan eğilimleri, mevcut uygulamalar hakkında bilgi sağlayarak açıklamaktadır. Ayrıca bu çalışma, gelişmekte olan bir ülkede, hem sürdürülebilirlik açıklama düzeyini ölçen yeni bir sistem önerisinde bulunması, hem de şirketlerin sürdürülebilirlik bilgilerini açıklama düzeyleri ile kurumsal yönetim ve şirkete özgü faktörler arasındaki ilişkiyi ortaya koyması nedeniyle, literatüre katkıda bulunmaktadır.

Anahtar Kelimeler: Sürdürülebilirlik Açıklaması, Kurumsal Yönetim, GRI, Skor

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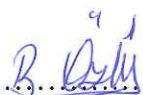
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TEXT OF OATH

I declare and honestly confirm that my study, titled “ANALYZING THE IMPACT OF CORPORATE GOVERNANCE ON SUSTAINABILITY DISCLOSURE USING A GRI BASED EVALUATION METHODOLOGY” and presented as a PhD Thesis, has been written without applying to any assistance inconsistent with scientific ethics and traditions. I declare, to the best of my knowledge and belief, that all content and ideas drawn directly or indirectly from external sources are indicated in the text and listed in the list of references.

Bengü Yardımcı

Signature

..........

August 27, 2018

TABLE OF CONTENT

ABSTRACT.....	iii
ÖZ.....	iv
ACKNOWLEDGEMENT	v
TEXT OF OATH	vi
LIST OF TABLES	x
LIST OF FIGURES	xi
LIST OF ABBREVIATIONS	xii
INTRODUCTION.....	1
CHAPTER 1 THE EVOLUTION OF CORPORATE REPORTING	6
1.1. The Brief History of Financial Reporting.	6
1.2. The Emergence of Non-financial Reporting	7
CHAPTER 2 SUSTAINABILITY	9
2.1. The Concept of Sustainable Development and Corporate Sustainability	9
2.1.1. The Concept of Sustainable Development.....	9
2.1.1.1. Milestones of Sustainability	11
2.1.1.2. Principles of Sustainable Development.....	16
2.1.1.3. Sustainable Development Goals.....	17
2.1.2. The Concept of Corporate Sustainability.....	19
2.1.2.1. The Conceptual Framework of Corporate Sustainability.....	19
2.1.2.2. The Theoretical Framework of Corporate Sustainability.....	20
2.1.2.3. The Principles of Corporate Sustainability	22
2.1.2.3.1. Environmental Integrity Through Corporate Environmental Management	22
2.1.2.3.2. Social Equity Through Corporate Social Responsibility.....	23
2.1.2.3.3. Economic Prosperity Through Value Creation.....	23
2.2.4. Triple Bottom Line.....	24
2.1.2.4. Economic Line of TBL	24
2.1.2.4.1. Environmental Line of TBL	25
2.1.2.4.2. Social Line of TBL.....	25
2.2. Sustainability Reporting.....	26

2.2.1. History of Sustainability Reporting	27
2.2.2. Reasons for Sustainability Reporting.....	29
2.2.2.1. The Environmental Challenge.....	30
2.2.2.2. The Social Challenge	30
2.2.2.3. The Economic Challenge	31
2.2.3. Regulations for Sustainability Reporting.....	32
2.2.4. Sustainability Reporting Frameworks.....	36
2.2.4.1. Global Reporting Initiative (GRI)	38
2.2.4.2. United Nations Global Compact (UNGC)	39
2.2.4.3. United Nations Principles of Responsible Investment (UNPRI):	40
2.2.4.4. The Organisation for Economic Co-operation and Development	
Guidelines for Multinational Enterprises (OECD MNE Guidelines)	40
2.2.4.5. ISO 26000 Social Responsibility	40
2.2.4.6. Accountability Principles Standard (AA1000APS) and AA1000AS	
Assurance Standard (AA1000AS)	41
2.2.4.7. Carbon Disclosure Project (CDP)	41
2.2.5. The Role of Accounting in Sustainability Reporting.....	41
2.2.6. Literature Review of Sustainability Reporting	42
2.2.6.1. Literature on Scoring Non-financial Reports	42
2.2.6.2. Literature on Factors Influencing Disclosure	45
2.2.6.2.1. Case of Developing Countries	46
2.2.6.2.2. Case of Developed Countries.....	48
CHAPTER 3 CONCEPTUAL FRAMEWORK AND HYPOTHESES	
DEVELOPMENT	51
3.1. Structure of the Research	51
3.2. Determinants of CSD and Hypotheses Development	52
3.2.1. Governance Related Factors	52
3.2.1.1. Board Composition and Sustainability Disclosure.....	52
3.2.1.2. Board characteristics and Sustainability Disclosure	53
3.2.1.3. Board Structure and Sustainability Disclosure	54
3.2.1.4. Board leadership and Sustainability Disclosure.....	54
3.2.2. Firm-Related Factors.....	55
3.2.2.1. Firm Size	55
3.2.2.2. Board Size	56

3.2.2.3. Profitability.....	57
3.2.2.4. Debt to Equity (DTE).....	57
3.2.2.5. Industry Type	58
3.2.2.6. Ownership Structure - Free Float Rate.....	59
3.2.2.7. Reputation	59
3.2.2.8. Auditor Firm (Big Four and Non-Big Four)	60
CHAPTER 4 RESEARCH METHODOLOGY	61
4.1. Research Objective.....	61
4.2. Research Design and Methodology	62
4.2.1. Data Source and Sample	62
4.2.2. Measuring Corporate Sustainability Disclosure (CSD).....	65
4.2.2.1. Developing an Evaluation System Using GRI Standards as Benchmark	66
4.2.2.2. Scoring Method	71
4.2.3. Measuring Corporate Sustainability Disclosure (CSD) Influencing Factors...	77
4.3. Research Limitations.....	78
4.4. Empirical Results	79
4.4.1. Descriptive Statistics.....	79
4.4.1.1. CSD Characteristics	79
4.4.1.2. Corporate Governance Variables	80
4.4.1.3. Firm-specific Variables	80
4.4.2. Associational Analysis.....	81
4.4.3. Regression Analysis.....	84
4.4.3.1. CSD and Corporate Sustainability Committee.....	90
4.4.3.2. CSD and Firm Size.....	91
4.4.3.3. CSD and type of Industry.....	92
4.4.3.4. CSD and Profitability	93
4.4.3.5. CSD and Free Float Rate.....	93
4.4.3.6. CSD and Reputation.....	94
CONCLUSION.....	95
REFERENCES.....	100
APPENDIXES	111
BRIEF CURRICULUM VITAE.....	126

LIST OF TABLES

Table 1: Sustainability Development Goals	18
Table 2: Percentage of Indicators Material to Each Sector	67
Table 3: Included Indicators (GRI standards) in Each Sector	69
Table 4: Constructed Scoring Tool.....	71
Table 5: Developed Two Step Scoring Methodology	73
Table 6: Example for the Implementation of the Devised Scoring System of Economic Performance Topic	74
Table 7: Weighted Reporting Indicators (Standards)	76
Table 8: Weights Given to Each Sustainability Dimension that Should Be Present in a Sustainability Report (Disclosure) in terms of Their Priorities	77
Table 9: Constructs of Dependent, Independent and Control Variables	78
Table 10: Descriptive Statistics: Dependent Variables	80
Table 11: Descriptive Statistics: Independent Variables	81
Table 12: Pearson Correlation Analysis	83
Table 13. Hierarchical Regression Analysis Results.....	89
Table 14: Summary of the Research Hypotheses and Findings	94

LIST OF FIGURES

Figure 1: Structuring Information Needs for Corporate Sustainability Challenges with the Sustainability Triangle.....	31
Figure 2: Reasons for and Against Mandatory and Voluntary Approaches	34
Figure 3: Format of Reporting Required by Instruments, 2016 vs 2013	35
Figure 4: Mandatory vs Voluntary Instruments by Region	36
Figure 5: Trends in Sustainability Reporting Instruments	36
Figure 6: Use of GRI Guidelines vs GRI Standards	38
Figure 7: Milestones of GRI	38
Figure 8: Reporting Principles of GRI Standards	39
Figure 9: The Effect of Corporate Governance on Sustainability Disclosure	49
Figure 10: Company Distribution by Sectors	64
Figure 11: Companies Listed and Non-Listed in BIST Sustainability Index	65
Figure 12: Existence of Social Responsibility Committee in the Observed Data	90

LIST OF ABBREVIATIONS

AA1000	: Accountability Principles
ACCA	: Association of Chartered Certified Accountants
BIST	: Borsa Istanbul
CDP	: Carbon Disclosure Project
CERES	: Coalition for Environmentally Responsible Economies
CEO	: Chief Executive Officer
CPA	: Certified Public Accountants
CSR	: Corporate Social Responsibility
CSD	: Corporate Social Disclosure
OECD	: Organization for Economic Co-operation and Development
GRI	: Global Reporting Initiative
IAS	: International Accounting Standards
IASC	: International Accounting Standards Committee
IFRS	: International Financial Reporting Standards
IIRC	: International Integrated Reporting Council
IR	: International Reporting
IUCN	: International Union for the Conservation of Nature and Natural Resource
NGO	: Non-Governmental Organization
SDG	: Sustainable Development Goals
SEC	: Securities and Exchange Commission
SSE	: Sustainable Stock Exchanges Initiative
UNCED	: United Nations Conference on Environment and Development
UNEP	: United Nations Environment Programme
UNPRI	: United Nations Principles of Responsible Investment
UNGC	: United Nations Global Compact
WBCSD	: World Business Council for Sustainable Development
WCED	: World Commission on Environment and Development
WCS	: World Conservation Strategy
WWF	: World Wildlife Fund

INTRODUCTION

The concept of sustainable development is defined as meeting the needs of the present without compromising the ability of the future generations to meet their own needs (WCED, 1987) and has become formally an implementation plan in the global arena since 1980s. The ability to meet the basic needs of people in the future requires the economic, social and environmental conditions be in interaction with each other. Further, a growth in population and a rise in living standards cause the disappearance of the environmental and social balance as well as the increased pressure on resources all over the world. Sustainable development is a process of change in which the use of resources, the direction of investments and technological progress together with institutional change, are in harmony with the needs of the future and today (WCED, 1987). Given these circumstances, issues of poverty reduction, equal use of natural resources, the prevention of environmental problems, and the control of population growth along with the climate change have been considerably related to sustainable development in recent years (Giovannoni, Fabietti, 2013). Signing of agreements for sustainable development in the international arena and adopting this concept in national economic policies require businesses to include sustainability practices in their business management.

As mentioned, the issues of economic development, the preservation of natural resources and environmental values, changes in social values come to the forefront, within the scope of definition in the Brundtland report. Although the importance of sustainable resources extends to the beginning of the 1800s, the basic principles of sustainable development initiated date back to the United Nations Conference on human-environment in 1972 which is an international attempt, appealing to the economic development going along with the environment (Strezov et al., 2016). However, the term 'sustainable development' was first proposed in 1980 by the International Union for Conservation of Nature and Natural Resources (IUCN, 1980).

In terms of the businesses, sustainability refers to the assessments of economic expectations and making strategic plans by taking into account the balance of environmental and social sensitivity. Nevertheless, businesses have become accountable for all their stakeholders. In other words, businesses noticed that gaining

long-term profits is possible by making strategic decisions through the consideration of sustainability issues. Today, stakeholders expect companies to become responsible legal entities, providing more information and transparency about the ways in which they create added value. When sector-based growing trends in the world are examined, wind energy in the energy sector, eco-tourism in the tourism sector, socially responsible investments in the investment sector and organic products in organic agriculture are apparently seems to be the most developing fields over the world (BIST, 2014).

On the other hand, a company might take concrete steps towards sustainability by; adopting the principles of “transparency”, “justice”, “accountability” and “responsibility” which are the basic principles of corporate governance. Additionally, the energy efficiency in manufacturing and operating processes can be increased. The innovative products, using eco-friendly technologies might be developed. In this context, providing the environmental protection awareness in all levels of the company and improving the working conditions of the employees as well as creating the necessary ethical rules are important policies to be adopted. Moreover, businesses attach importance to the sustainability-related issues for the reasons of rising to prominence “sustainability” criteria in international agreements. On the other hand, the emergence of sustainable and responsible investment concepts in international financial markets and the stock exchanges’ demand for social and environmental performance along with the financial statements among the listing requirements are other reasons for sustainability (Aksoy, 2016).

For this reason, companies need to gain legitimacy by disclosing their social and environmental issues. By means of a sustainability disclosure as a kind of communication tool and business strategy, companies can meet the needs of stakeholders (Dowling, Pfeffer 1975; Gray et al. 1995). Unerman and Bennett (2004) states that stakeholder engagement has a vital importance in the process of managing stakeholders’ expectations. Therefore, a good corporate governance should concentrate on dimesions of sustainability. A corporate board has important roles, such as providing consultancy (Mintzberg, 1983), legitimacy (Selznick, 1949), acting as a channel in internal and external relationships (Hillman, Dalziel, 2003). Furthermore, it is important to state that a corporate governance is an important pillar of being a sustainable company. A good corporate governance leads to lower cost of

capital, higher liquidity, overcoming crises easily and a growth in the lifespan of business.

In the context of Turkey, sustainability offers important tools at the point of providing a competitive advantage to businesses. It has become a requirement to consider the concept of sustainability in business policies, especially for the companies operating worldwide. Concordantly, there is a growing trend in the number of companies even publishing sustainability reports or disclosing sustainability related information within their websites in Turkey. Sustainability reports are seen as a means of accountability and communication providing the stakeholders with an assessment of the company's strategy, management approach and promises by forging a link between financial and non-financial performance (BIST, 2014). These reports are prepared on the basis of certain reporting frameworks as reporting tools which are serving to inform corporation's progress towards achieving sustainability goals (Siew, 2015), improving sustainability awareness, publicizing the sustainability practices of companies and thus, addressing more global institutional investors.

In the last 20 years, several approaches for judging the information provided within corporate non-financial reports, under scoring variants, have been proposed either by consultancy firms or academic researchers (Skouloudis et, al. 2009). Such rating systems allow a relevant comparison by focusing on the breadth and depth of topics discussed and a ranking of the evaluated reports in order to differentiate better reporters from others. Benchmarking sustainability reports according to a scoring tool might have potential benefits. In terms of transparency, it informs stakeholders in a systematic way regarding the applications of reporting organizations for the information they provide about their sustainability performances and additionally, it guides the companies themselves since they receive evaluation on the reporting procedures they are following and learn the ways of improving the effective stakeholder communication (Skouloudis et al., 2009).

The preceding discussion has shed light on the importance of corporate sustainability issues for Turkey. Accordingly, sustainability disclosures of listed companies in Turkey, a country where companies have relatively limited but improving trend of sustainability disclosures have been examined in terms of inclusiveness and materiality. The main research objective of the thesis is to investigate whether the extent of corporate sustainability disclosure is associated

with two groups of variables: “corporate governance” and “firm-specific properties”. In order to measure the sustainability disclosure levels of companies in the scope of the study, a new evaluation tool is constructed based on Global Reporting Initiative (GRI) standards. Following the study of Rouf (2011) and suggestions of Skouloudis and Evangelinos (2009), a survey study is conducted to define weights for scoring each cluster of criteria using an expert opinion regarding their relative importance¹.

Therefore, the following research questions are addressed in the light of the objective and aims of the current research study: What is the nature and extent of sustainability disclosure of companies in Borsa Istanbul? To what extent sustainability disclosures of companies meet the needs of stakeholders? Do corporate governance and firm-specific factors influence the sustainability disclosure practices of companies listed in Borsa Istanbul?

The present study contributes to literature in several ways. First, despite the substantial amount of studies on the concept of sustainability, additional empirical evidence of corporate sustainability disclosure from a developing country perspective still can contribute to understanding of the disclosure system further. For this reason, this study aims to present the emerging trends and practices related to this relatively new type of corporate communication.

Second, this study extends the knowledge of current sustainability disclosure practices of listed companies in an emerging capital market. In particular, this is important for Turkey as a developing country which is currently in the process of developing a non financial reporting system.

Third, there is still a gap in literature examining the relationship between corporate sustainability reporting and corporate governance factors in developing countries (Haniffa, Cooke 2005; Ntim, Soobaroyen 2013; Uyar et al., 2013; Alhazmi, 2017). Since the prior studies indicates that good corporate governance guides companies to promote their disclosure practices resulting in better provision of information to stakeholders (Haniffa, Cooke 2005; Uyar et al., 2013). The current research study investigates the influence of corporate governance factors on

¹ Skouloudis and Evangelinos (2009) proposes “to define weights for scoring each cluster of criteria using a multistakeholder panel of experts to arrive at consensus regarding their relative importance”. Rouf (2011) selected a list of 60 items and sent to various experts (professor, professional chartered accountant & Cost and Management accountant, etc.) for finalization on the basis of their feedback for an index creation. The current study take both of the studies into account and asked the opinions of financial analysts, financial auditors and certified public accountants regarding the relevance importance of each items to define weights for scoring process.

corporate sustainability disclosure practices in Turkey.

Lastly, this study develops a sustainability disclosure scoring system and proposes a new approach base on the Global Reporting Initiative (GRI) standards. The proposed benchmark tool allows sector-specific assessment of the current status of organization's reporting applications. It informs companies about how well they have implemented procedures, as well as stakeholders in a systematic way regarding their sustainability performances.

This dissertation is structured upon four chapters and a conclusion part. Chapter 1 reviews the evolution of corporate reporting. For this purpose, the brief history of financial reporting and transition process to non-financial reporting has been discussed.

Chapter 2 begins by laying out the historical background of the concept of sustainability along with the principles of sustainable development. Then, the theoretical framework of corporate sustainability is provided. Furthermore, by beginning with an overview, the milestones in and reasons for sustainability reporting are presented. Additionally, regulations and various frameworks of sustainability reporting is described.

Chapter 3 is concerned with the conceptual framework and hypotheses development by explaining the corporate governance and firm-specific characteristics based on previous literature.

Chapter 4 initially defines the aim of the thesis. Then, it describes the methodology adopted and research methods employed in this study. Steps taken in constructing the evaluation methodology, the corporate sustainability disclosure indicators and survey questionnaire are explained. Limitations of the study is discussed. The data collection procedures are provided. Following the research methods and the limitations, empirical findings are reported with explanations on results of descriptive analysis, correlation analysis and multiple regression analysis conducted for the observed data.

Conclusion section presents the main findings of the thesis by laying emphasis on the interpretation of both the quantitative and qualitative results, along with the implication and the contribution of this study. Finally, suggestions for possible areas of further research are provided.

CHAPTER 1

THE EVOLUTION OF CORPORATE REPORTING

1.1. The Brief History of Financial Reporting

The concept of accounting emerged from the social, economical and political factors developed in society spontaneously. Accordingly, the basis of corporate reporting extends to accounting records held over 4000 years ago in Mesopotamia (Schmandt-Besserat, 1983). Along with the beginning of the 20th century, providing accountability and transparency lead to several reforms in economy to contend with the corruption (Tschopp, Huefner, 2015). The Formation of an Accounting Profession, as described by Previts and Merino (1998), dates back to 1897 – 1918. Contrary to the notion explained by Previts and Bricker (1994) that reporting regulations induced corporations to disclose their financial information, no action was taken by corporations or the accounting profession until the Securities Act of 1933 and the Securities Exchange Act of 1934 in the U.S (Tschopp, Huefner, 2015). A financial report can be defined as the presentation of financial statements and accompanying footnote disclosures prepared within the framework of accounting principles in a particular accounting period to inform a corporation's stakeholders. In 1934, the use of financial reporting standards has become widespread with the establishment of the US Securities and Exchange Commission (SEC). When the companies perceived that transparency in their financial information increased investor reliability, they initiated similar regimes as other processor countries already adopted, accordingly, financial reporting soon became widespread worldwide. In 1944-45, the first consolidated reporting and financial statement footnotes were published. The period 1946-1972 was named as 'Expansion and Controversy: Accountants in an Age of Uncertainty' (Previts, Merino, 1998). However, the fact that companies from different countries report on different principles makes it difficult to make comparisons from investor's perspective. In 1973, the International Accounting Standards Committee (IASC) formed the International Accounting Standards (IAS) in order to enable investors and legal regulators to make credible comparisons and increase international nature of business, investment and trade.

Afterwards, the period between 1973 and 1995 defined as 'Accountancy and the Global Capital Market' by Previts and Merino (1998). The aforementioned standards were updated in 2001 and became "International Financial Reporting Standards (IFRSs)", through the needs of users as a common reporting language in many countries of the world today.

1.2. The Emergence of Non-Financial Reporting

The reporting has become an important guide for users since it provides information about the company performances, strategies and the value created in society (Aksoy, 2013). As social and environmental conditions change, market conditions as well as the needs and the expectations of stakeholders has shown an alteration. As a result, this is reflected in the purpose and contents of the reports that the business managers submit to their stakeholders. Until the 1970s, the company reports were including financial statements and financial performance indicators, and with changing conditions the need for non-financial information began to be debated. Although financial information of a business has a crucial importance to various stakeholders in terms of business performance, it is the indicator of status quo in the short run, without focusing on the long term value of a company (PWC, 2007). In the early stages of non financial reporting, US and Western Europe companies began to publish their social disclosure and the accounting information including social income statements and balance sheets, statements of compliance with standards and legislation, performance indicator reports with the purpose of managerial and accountability objectives (Epstein et al., 1976; Kolk, 2005). The main topics covered in the social reports are the use of ethical resources, the social dimension of products, the employment practices and public relations (Ranganathan, 1998). As a result of recession and unemployment, attention shifted more to the economy, market-oriented policies emerged and accountability on social and environmental issues apparently became less important. Social reporting declined, and only a small number of companies continued to present their activities.

In late 1980s and early 1990s, non-financial disclosure received considerable attention on environmental issues such as natural disasters, ecological disasters, increased carbon emissions and the climate change by both governments and corporations with most attention being paid to external, accountability dimensions,

influenced by pressure from non-governmental organisations (NGOs) (Kolk, 2005). In this regard, increasing concerns regarding environmental problems and the uncertainty as to the possibility of reducing industrial pollution have prompted the United Nations to address these issues as a “barrier to development” (Kidd 1992). Moreover, in some countries including Denmark, Australia, France, Norway, Sweden, the Netherlands, the United Kingdom, and the United States, environmental disclosures became mandatory (Jackson, 2005). Environmental reports were encapsulating the topics of emissions, energy consumption, materials use, effluents and waste inclusively.

In the 1990s, corporate social responsibility has become a necessity instead of a strategic choice. While being a concept that was solely handled by businesses in early 1990s, it was on the agenda of organizations such as the United Nations, the World Bank and communities of the European Union and the OECD in late 1990s. (Aslanertik, 2007). On January 31, 1999 at the World Economic Forum in Davos, United Nations Secretary-General Kofi Annan convoked the entire business community and civil society to support the Corporate Social Responsibility Agreement, both institutionally and publicly (Aslanertik, 2007). In their study, Epstein & Birchard, (1999) analyzed the status quo and applications of stakeholder reporting embracing both social and environmental disclosures of the corporations. In addition, they claimed the notion of integrated disclosure and being accountability in order to institutionalize in the corporations.

Sustainability reporting has emerged as an improved version of corporate social responsibility reporting, taking into account the triple performance criteria. Sustainability reports include not only the issues outlined in corporate social responsibility reports but also the impact of environmental and social performance on the economic performance of enterprises. Elkington (1999) describes a form of sustainability accounting referred to as triple bottom line (TBL), which aims to report on an organisation’s economic, social and environmental impacts. Additionally, sustainability reporting is described as ‘triple bottom line’ reporting including “people”, “planet”, “profit” (Daub, 2007). In a similar way, it was defined as “reports that include quantitative and qualitative information on their financial/economic, social/ethical and environmental performance in a balanced way by KPMG in its International Survey of Corporate Sustainability Reporting in 2002.

CHAPTER 2

SUSTAINABILITY

2.1. The Concept of Sustainable Development and Corporate Sustainability

This section seeks to put the concept of Sustainable Development (SD) into the context of this research by considering the emergence and evolution of CSR concept and provides a general overview of the its nature.

2.1.1. The Concept of Sustainable Development

Etymologically the origins of the words “sustainable” and “sustainability” derive from the Latin “*sustinēre*” with the meanings of “maintain”, “endure”, and “support” (Caradonna, 2014). The word “*sustinēre*” passed to old French as *sostenir* and to modern French as *soutenir*, then to English as “to sustain” (Caradonna, 2014). The word “sustainable” became “capable of being continued at a certain level” in 1965 (Wu, 2013). However, it was used for the first time in the UK with its contemporary meaning of “sustainability” in the context of man’s future in 1972, in the Unites States in 1974 and then, in a United Nation’s document encompassing the term “ecodevelopment” in 1978, respectively (Kidd, 1992). As mentioned, the growing concerns for growing population, increasing disparity among societies, environmentally deterioration, climate change, depletion of resources have expanded rapidly since the 1970s (Kidd, 1992; Giovannoni, Giacomo Fabietti, 2013).

On the other side, “sustainable development” is a concept that refers to the use of resources for satisfying human needs, without harming the environment by considering both present and future generations as well. The meaning of sustainable development indicates the compromise among nature and human (Ionel-Alin, Popa Irime Emil, 2013). Sustainable development is presumably the leading factor for humanity of 21st century with its rich, various and even involved sense (Ionel-Alin, Popa Irime Emil, 2013). There are multitude of definitions given by different individuals due to their political and ideological opinions (Hibbbbit, 2001). Along

with these diverse notions, it is important to consider the semantic differences between the terms “sustainability” and “sustainable development” since they have been used synonymously by various researchers. Gray (2010) approves the difference between these two concepts that ‘sustainability’ refers to a state while ‘sustainable development’ refers to the process of reaching this state. To achieve the principles of sustainable development, a company must set goals and thus heading towards sustainability (Ionel-Alin, Popa Irime Emil, 2013). In other words, it is possible to say that “sustainability” is the ultimate goal that an entity needs to achieve and the entire process towards this goal can be defined as sustainable development.

The most widely accepted definition of sustainable development was released by the United Nations’ World Commission on Environment and Development (WCED). The commission published a report which is known as Brundtland Report in 1987. In this report, the term sustainable development was defined as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED, 1987). Moreover, it states the importance of this term by emphasizing that “sustainable development is a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development, and institutional change are made consistent with future as well as present needs” (WCED, 1987). This definition encapsulates dimensions of economic development preserving the environment and environmental values, and improving social life and quality of life. In addition, it is important to mention three important issues in this definition: Firstly, the needs are not confined to the economy, but rather as more inclusive. Secondly, the issue of equality between generations (Saban et al., 2017). Although not explicitly mentioned in the definition, the third point that can be drawn from the report in general is the equality of intra-generational equations between countries and within the countries themselves (Bozdoğan, 2005).

Triple bottom line (TBL) construct was coined by John Elkington who is a co-founder and chair of Sustainability, a business consultancy company in 1994 (Elkington, 2004). In 1995, he developed 3P formulation which is formulating people, planet and profits later adopted by several countries over the world. The main inspiration of TBL is based on the Brundtland Report and provides a framework that

enables a successful language attainable to corporations and its stakeholders meaning a measurement of business's performance and achievement by economic, social, and environmental lines (Elkington, 2004; Goel, 2010). TBL has been widely used as a conceptual framework and according to this approach, neglecting one of these three lines will jeopardize all operations and future of the corporations. The goal is to benefit the companies, all stakeholders and the community in the long term economic, environmental and social aspects. The main objective is to provide benefits for all stakeholders and society regarding economic, environmental and social spheres of the corporation in the long run (Aras, Sarioglu, 2015).

2.1.1.1. Milestones of Sustainability

Although the time and location of emergence for the term “sustainable development” has not known precisely, it is believed to trace to middle age or even to the ancient Greek mythology (Campbell, 1996). On the other side, issues of unsustainability such as overuse of resources, overpopulation and uncontrolled materialism lead to destruction of the civilization of Easter Island was imbedded in history (Mulder, 2006).

Renewable resources such as agriculture, fisheries and forests are the first areas in which the concept of sustainability emerges (Bozdoğan, 2005).

In his Essay on Population published in 1798, Thomas Robert Malthus stated the fact that geometric growth in population would surpass the growth in food supply would cause critical problems (Dresner, 2008). For all that, the cruciality of resource famine and environmental destruction became a reality after world wars and industrial revolution. After the Second World War, these concerns were replaced by environmental awareness in the 1960s and 1970s. In particular, a book “Silent Spring” published in 1962 by scientist Rachel Carson was interested in environmental pollution aroused great interest in the Western world and focus its attention on the harmful effects of existing industrialization processes on the environment (Carson, 1962; Kidd, 1992; Tuozaan et. al., 2013). Despite being criticized for being unrealistic and causing panic, the book has been recognized as an important environmentalist movement (Dresner, 2008; Tuozaan et. al., 2013). In the following years, a research of the Roman Club founded in 1968 by the Massachusetts

Institute of Technology (MIT) was published as a book in 1972 titled "Limits to Growth". The aforementioned study had made it clear that there is a very important and strong relationship between economic development and the environment, then, the attention has turned to environmental issues again. In the study, in addition to population increase, agricultural production, nonrenewable resource depletion, industrial output, and pollution generation, the relationship among these five variables were emphasized by drawing pessimistic picture from the perspective of the world's future. Moreover, it is emphasized that if the existing development policies continue, the threat of extinction of humanity will be faced due to the shortage of raw materials and environmental problems (Meadows et al., 1972). However, in a fashion similar to "Silent Spring", "Limits to Growth (1972)" were criticized as being unscientific, inaccurate and intensely pessimistic among the global industrial community (Dresner, 2008; Tuozaan et. al., 2013).

It can be stated that since the environmental movements has developed during the 1970s, particularly the industrialized regions of the world have adopted a more holistic approach. In this context, the United Nations Conference on the Human Environment (Stockholm Conference) was held in Stockholm, Sweden, on June 5-16, 1972. The Declaration proposes that rational action can take place in a better environment that meets the needs of today's and future generations, and requires regular, attentive and decisive work. In the declaration, it is reported that in order to realize the purpose of developing the humanitarian environment for the present and future generations, the people, communities, enterprises, and organizations at all levels should undertake responsibility; on the other side, national governments and local governments should take action for comprehensive environmental policy within their jurisdictions and boundaries. Moreover, the importance of international co-operation for helping developing countries to meet their obligations and overcoming environmental problems are emphasized (The United Nations, 1972).

One of the most important studies to be considered in the historical progress of the sustainable development concept is undoubtedly the World Conservation Strategy (WCS) which was issued and published by International Union for the Conservation of Nature and Natural Resources (IUCN), World Wildlife Fund (WWF), United Nations Environment Programme (UNEP) in 1980. The term 'sustainable development' terminologically was first proposed in World

Conservation Strategy. One of the most important concluding remarks of this report was that 'human beings, in their quest for economic development and enjoyment of the riches of nature, must come to terms with the reality of resource limitation and the carrying capacities of ecosystems, and must take account of the needs of future generations'(WCS,1980). Additionally, there is a three-level approach to sustainability in the WCS including the prolongation of ecosystems, protecting genetic diversity of species and secure sustainable use of species and ecosystems supporting societies and industries (WCS, 1980).

As mentioned before, the "World Commission on Environment and Development" (WCED), composed of participants from twenty different countries by the United Nations, was prepared and published as "Brundtland Report" entitled "Our Common Future" in 1987. The vision of sustainable development set forth in the Brundtland Report, can be regarded as a policy-oriented convocation, which seeks to maximize the growth and, in essence, the need for economic growth. In this report, the concept of sustainable development was first officially defined as meeting the needs of generations present without jeopardizing the ability of future generations to meet their needs (WCED Report, 1987).

The United Nations Conference on Environment and Development was held in Rio de Janeiro, Brazil from 3 to 14 June 1992 with the participation of 178 governments. At the Rio Conference, "human beings are at the center of the sustainable development phenomenon, and every human being is entitled to a healthy and productive life that is in harmony with nature" (United Nations, 1992a: 5). In addition, the documentary titled "Agenda 21" (Agenda 21), which was published in the conference addressed the inequalities in the context of increasing poverty, hunger, diseases and ignorance, sustainable settlement, sustainable agriculture, discussing the deterioration in ecosystems, promoting and managing rural development, waste management, efficient use of water resources.

In 1997, the United Nations organized the "Rio + 5" Forum in New York. The aim of the Forum was to ensure the transition to the principles and day-to-day practice published in 1992. For this reason, the vision of the Forum was set to bring together a large group of participants to pass SD from the "agenda", to the "practice". At the Forum, sustainable development focuses on strategy and management systems that will survive at local, national and global levels, moreover, transferring each

participant's own cultural, historical and spiritual knowledge and experience was intended in the forum. Following “Rio + 5” in 2002, World Summit on Sustainable Development in Johannesburg was organized. The main objective of the conference was to make a general assessment for the process of implementing the decisions taken at the 1992 Conference on Environment and Development in Rio de Janeiro, Brazil. Unlike other conferences, this conference had participants including not only public institutions and trade unions but also private sector representatives, and this was the first time that the sustainable development was addressed from an institutional point of view.

In 1997, The Kyoto Protocol signed in Kyoto, Japan is the UN Framework Convention on Climate Change. Countries signing this Protocol have made certain commitments to reduce emissions of carbon dioxide and five other greenhouse gases. The protocol entered into force in 2005 with the participation of Russia. Turkey has signed the said Protocol in 2009. In the same year, The Global Reporting Initiative (GRI) was founded in US by non-profit organizations the Coalition for Environmentally Responsible Economies (CERES) and the Tellus Institute in partnership with the United Nations’ Environment Programme (UNEP) in order to develop reporting guidelines to promote economic, environmental and social sustainability with a framework widely used in the world (GRI)

Being established in 2000 with the support of world leaders in order to spread a common global development culture, the United Nations Global Compact Initiative (UNGC) aims to ensure that 10 universal principles are fulfilled in the direction of common vision, goals and values, with participation of thousands of companies, international labor and civil society organizations from all over the world. Borsa Istanbul started to support this Initiative in 2005 (BIST, 2014).

In 2005, UN Principles for Responsible Investment (UN PRI) Initiative was formed as an international network formed by 20 large institutional investors from 12 countries with more than 1,200 signatories globally. It is a platform publishing guidelines encouraging consideration of environmental, social and corporate governance issues in investment analysis and decision making processes and develop a more globally sustainable financial system. Borsa Istanbul has been the signatory of this initiative since 2010 (BIST, 2014).

In 2009, the Sustainable Stock Exchanges Initiative (SSE) was founded as a

UN-sponsored initiative that explores how stock exchanges can help investors, regulators and companies improve business transparency and performance in business and environmental, social and corporate governance issues and improve sustainable investments. The initiative gained a different dimension with the voluntary commitment of the five stockbrokers, including Stock Exchange Istanbul in 2012, to raise awareness of sustainability in their markets. In the following period, many different stock markets were involved.

"Rio + 20" The United Nations Conference on Sustainable Development is the 20th anniversary of the 1992 United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro, Brazil and the 10th World Summit on Sustainable Development in Johannesburg in 2002 organized in June 2012. For the purpose of reiterating the conference on sustainable development, the highest level of participation was attained, such as heads of state and government representatives, in order to support the economic, social and environmentally sustainable future, the world, the present and future generations (UNGC).

The International Integrated Reporting Council (IIRC) published the "International Integrated Reporting (IR) Framework" in December 2013. According to IIRC, integrated reporting is "a short and concise communication of strategy, management, performance and future expectations in the context of the external environment in which a company is creating value in the short, medium and long term".

While sustainable development is defined in different areas during its historical development, it is intended to ensure essentially intergenerational justice and to ensure the long-term viability of social and ecological systems. The following are some of the common points in the conferences held. Sustainable development practices should focus not only on environmental issues but also on fulfilling human needs. Each generation must be able to benefit from the inheritance of past generations in a fair way and guarantee that the needs of future generations can be met (Aksoy, 2013). The constituents of sustainable development are economic, social and environmental dimensions that should be considered equally (Aksoy, 2013).

2.1.1.2. Principles of Sustainable Development

The term sustainable development, approved by WCED has been accepted as the most dominant definition in the literature. Similarly, the principles of sustainable development, which are subject to focus of discussions are environmental integrity, economic prosperity, and social equity (Elkington, 1998; WCED, 1987).

The principle of environmental integrity is related to the finiteness of ecosystems; and refers to the factors that endanger environmental integrity, such as increasing consumption as a result of growth in population, depletion of natural resources that pose a threat to the environment and atmospheric release of harmful gases (IISD, 1995; WCED, 1987). If the natural environment is endangered, environmental integrity can not be ensured, because the resources that are essential and important for human life will be affected. More precisely, according to the principle of environmental integrity, sustainable development can be achieved if human activities do not adversely affect soil, water and air, respectively (WCED, 1987).

The economic prosperity principle identifies the high level of life quality by means of equal distribution of goods and services and the productive capacity of organizations and individuals in society that increases the living standards of human in the world (Holliday et al., 2002). Economic prosperity has a link to the the principles of social equity and environmental integrity (WCED, 1987). For instance, people will consume natural resources in the long run and destroy the environment in order to satisfy their fundamental needs of food, clothing and shelter (Bansal, 2005). A society that does not create economic prosperity will eventually jeopardize its own health and well-being (WBCSD, 2002).

Finally, the social equity principle states that every individual who creates society has equal rights to access natural resources and opportunities including basic needs of food, clothing, shelter along with a good quality of life such as health care, education, and political freedom (WCED, 1987).

2.1.1.3. Sustainable Development Goals

In September 2015, the 2030 Sustainable Development Goals (SDGs) were adopted with the signing of 193 countries at the UN Summit on Sustainable Development with a set of 17 goals and 169 subheadings. Each goal has specific targets to be achieved over the next 15 years. This new agenda is an action plan for people, the planet and prosperity, while at the same time aims to strengthen world peace in the sense of greater freedom including the elimination of poverty in every dimension is an indispensable requirement for sustainable development. These goals can be seen in

Table 1 below.



2.1.2. The Concept of Corporate Sustainability

This section presents the theoretical and conceptual frameworks of corporate sustainability. Afterwards, the principles of corporate sustainability and Triple Bottom Line are explained.

2.1.2.1. The Conceptual Framework of Corporate Sustainability

In recent years, the notion considering the prosperities and benefits of not only customers and shareholders but also of other parties (named as stakeholders) affected corporate activities. Additionally, the number of research studies have increased in this area, since it became important in academic literature and practice. From this point of view, companies should also be responsible for the economic, environmental and social consequences that arise as they strive to achieve their financial goals (Tokgöz & Önce, 2009).

Sustainable development provides social equality, environmental integrity and economic well-being by assuring the needs of today's generation without ignoring the needs of future generations. If this definition is taken into account in terms of businesses, achieving corporate sustainability refers to ensuring that the needs of the parties directly or indirectly related to the entity, can be met to meet the future needs of those parties. In this respect, “Corporate Sustainability” can be defined as taking into consideration the economic, environmental and social factors together with corporate governance principles in business activities and decision mechanisms and effectively managing the risks associated with these factors in order to create long term value in companies (BIST, 2014).

The definition of corporate sustainability covers several assumptions that enable the understanding of the role of the enterprise in the social system from the perspective of corporate sustainability (Zink et. al., 2008)

- Satisfying the needs of people is the goal of business activities and the reason for the existence of every company. This indicates a strong relationship between the notion of sustainable development and appropriate activities at business level. Businesses determine not only the needs of the people but also they create the needs and thus the influence consumption behavior and lifestyle.

- The economic success of a company continues if it fulfills the stakeholder's expectations. "A corporation which is not able to obtain a "license to operate" will not survive".
- The economic system has been constructed on the basis of continuity that can be seen as a broad understanding of the going concern principle. Even if a business does not have a general obligation of sustainability, it can still act in that direction (meeting the needs of current and future stakeholders).

In summary, the key elements of corporate sustainability include economic, social and environmental dimensions, and focus on the long-term business orientation to satisfy stakeholders' needs both in the present and the future and consider "capital" in a broader interpretation (Dyllick, Hockerts, 2002).

2.1.2.2. The Theoretical Framework of Corporate Sustainability

Corporate Sustainability and reporting have been investigated under the scope of some theories. The empirical studies on corporate social responsibility or sustainability disclosure have been observed through aforementioned theories. Namely, the agency, legitimacy, stakeholder and institutional theories are among the most commonly discussed theories in the literature (Kuzey, Uyar, 2017; Alhazmi, 2017).

Wheelen et al. (2015) state that "Agency Theory" is related to analysis and solution of two problems that occur in relationships between principles (owners/shareholders) and their agents (top management. First, this theory argues that conflict of interest occurs when the objectives of the owners and the managers contradict. Second, it is difficult for owners to control the manager (Wheelen et al., 2015). Thus, the shareholder interests require protection by separation of roles of board chair and the manager (Donaldson, Davis, 1991). Agency problem can be solved by using the board of director in a efficient manner (Fama, Jensen, 1983). Accordingly, corporate governance sets the goals, determine the corporate policy as well as the needs of stakeholders and how to communicate them. For this reason, board, together with the top management should give particular importance to corporate sustainability reporting issues (Kaymak, Bektas, 2017).

The second theory is the “Stakeholder Theory”. A stakeholder was defined by Freeman (1984) as "any group or individual who can affect or is affected by the achievement of the firm's objectives". Other researchers describe stakeholders by categorising them with different definitions, however, it is worth to say that there are various stakeholder groups with different and sometimes conflicting expectations (Fernando, Lawrence, 2014). Stakeholder theory presumes that companies are essential parts of the social system and the value they create are important to all constituents of business not only to shareholders (Rüdiger, Kühnen, 2013). For this reason, stakeholder theory argues that the needs of stakeholders should be well-established in order to monitor changes in the operational environment and to achieve business objectives (Joyce, 2005). As a result, a business has to construct long term value for the purpose of competitive advantage against its competitors in the industry by considering stakeholders it is affecting and being affected (Freeman, 1984; Deegan, 2002).

“Legitimacy Theory” proposes a more common framework in the sustainability reporting literature (Deegan, 2002). It identifies that organizations are perceived as social constructs which entail to be legitimate so as to operate within the society (Deegan, Samkin, 2009; Deegan, Soltys, 2007). The Legitimacy theory states that value system of an entity, which belongs to a society is in harmony with the value system of that society. The concept of legitimacy, is defined as a generalized perception of desirable, smooth and appropriate activities of an operator in the system of socially constructed norms, values, beliefs, and definitions (Dowling, Pfeffer, 1975; Suchman, 1995; Aksoy, 2013). Legitimacy ensues in the presence of value system of organization and society are concordant without any discrepancy (Suchman, 1995). The environmental, social and economic sustainability of business activities should also support the legitimacy of the business as a source of its life. As a matter of fact, companies in activities that society can not acknowledge will damage their corporate sustainability as they lose their legitimacy (Salzman, 2006).

Finally, “Institutional Theory” suggests that the companies can also legitimate their activities by considering and incorporating established institutions, such as culture and social norms, values, and taken-for-granted assumptions (Muthuri, Gilbert 2011; Fernando, Lawrence, 2014; Alhazmi, 2017). Deegan (2009) states that this theory connects all business practices, including CSR and other

accounting practices to the values and norms of a society, thus companies are directed to a legitimacy via this connection (Fernando, Lawrence, 2014).

2.1.2.3. The Principles of Corporate Sustainability

Environmental integrity, social equity and economic prosperity are the fundamental principles that need to be realized simultaneously in order to achieve sustainable development macroeconomically. These principles are necessary and valid to the development of institutional sustainability as well. Businesses should consider these three principles in their main activities and in determining the operating policy. That is to say, failure to fulfill any of these three principles, as in sustainable development, is also an obstacle to the development of the corporate sustainability of the businesses (Bansal, 2005).

2.1.2.3.1 Environmental Integrity Through Corporate Environmental Management

Corporate environmental management is being implemented to reduce the ecological footprint of businesses while they are performing their activities (Hart, 1995). According to developed taxonomies explaining the environmental management processes of firms, some head towards environmental laws and regulations while others go beyond the compliance to a more proactive approach (Bansal, 2005; Aragon-Correa & Sharma, 2003). However, every business has effect on environment whether it produces goods or services or not, such effects may arise from lighting the office buildings or through wastes and emissions occurred during the production processes. It is possible to achieve environmental integrity by reducing or eliminating these effects by a framework named as "natural resource based operation" developed for using in corporate environmental management (Hart, 1995). This framework consists of three strategies comprised of, "pollution prevention", "product stewardship", "sustainable development" policies. Controlling is applied where it is not possible to remove the harm, and the operator can begin to use the filter to prevent the harmful gases that are generated during production. On the other side, the application of pollution prevention can be exemplified as the development of new designs by contributing to the existing production process which

will prevent the emergence of waste. In conclusion, it is worth to say that companies improve their skills on the usage of their resources and the technologies implemented during their operations and in other organizational processes by adopting pollution prevention strategies (Russo & Fouts, 1997).

2.1.2.3.2. Social Equity Through Corporate Social Responsibility

Corporate social responsibility is an essential issue since it is a material approach for both business and society. Institutions should carry out their activities not only for business interests but also for social interests and fulfill their responsibilities towards them. Therefore, the social dimension of corporate social responsibility has focused on strengthening relationships with stakeholders such as employees, customers, local suppliers, indigenous people and competitors. In addition, the subjects of employee training programs, human rights, employee rights, freedom of association or collective bargaining rights, prevention of discrimination incidents, taking measures for the elimination of forced or compulsory labor and child labor are the main concern of societal case towards corporate social responsibility (Aslanertik, 2007). However, these applications may ratify goals while running into a contradiction with the convictions of all stakeholders (Bansal, 2005; Hillman & Keim, 2001). But considering social interests is related to responsible management, thus often connotes high corporate social performance (Frederick, 1994; Bansal, 2005).

2.1.2.3.3. Economic Prosperity Through Value Creation

A resource adds value to business as long as it reduces risks while creating opportunities. On the other side, the resource is also valuable if the needs of both shareholders and the corporation meet with a lower cost than their competitors have. Additionally, when the business is able to sell a good that can cover the cost of the product or service, it can retain the value it creates, which increases the financial performance of the business and distributes this value via dividends, goods and services and salaries (Bansal, 2005). Value creation is possible when resources can be used effectively and efficiently to fulfill strategies. That is to say, if corporations consider sustainable development from a business' point of view, it may have a

contribution in determining strategies and practices of the businesses (Hart & Milstein, 2003).

2.2.4. Triple Bottom Line

Today, companies are expected to act responsibly not only to their shareholders and investors but also to all stakeholders that they are in connection with. These responsibilities include economic liability to shareholders and clients, legal liability against the state or the law along with the ethical responsibility towards society and responsibility to the entire humanity (Carroll, 1979). Although sustainability initially appears to be a concept that requires corporations to be sensitive to the environment and reduce negative impacts on the environment, this approach has gradually left the approach of advocating a balanced approach to the economic, environmental and social objectives of companies defined as "three legs of sustainability" over time .

Triple bottom line (TBL) is a sustainability-related construct that was coined by John Elkington in 1994, who is Co-founder and Chair of SustainAbility, a British business consultancy founded in 1987 (Elkington & Rowlands, 1999; Elkington, 2004; Alhaddi, 2015). The concept of 'Triple Bottom Line' is a proposed framework that corporations should consider the social and environmental consequences of their economic activities. In other words, both the performance of the businesses and the success of organizations are measured by integrating economic, environmental and social lines referred to profit, planet, and people, respectively (Elkington & Rowlands, 1999; Alhaddi, 2015). TBL has become a commonly used conceptual standard for the fields of corporate social responsibility and sustainable development in the academia, political arena and the business world inclusive during the past two decades (Wu, 2013).

2.1.2.4. Economic Line of TBL

Economic performance refers to whether the entity has effectively used its financial assets, tangible (machinery, stocks, etc.) and intangible (know-how, design, software, etc.) capital and depends on financial indicators such as profit and earnings per share (Elkington, 1997). That is to say, the economic dimension of TBL

framework connotes the business practices of corporations that have an influence on the economic system (Elkington, 1997).

According to Dyllick and Hockerts (2002), there are two criteria explaining the business case for corporate sustainability; eco-efficiency and socio-efficiency. Eco-efficiency refers to the production of competitive products that meet people's living standards and responds to human needs with less natural resources, energy consumption and minimal waste.

Although corporate profitability and sustainability are sometimes seen as conflicting goals, they are regarded as concepts to support each other. By effectively utilizing natural resources that are vital to the continuation of their operations, they can secure long-term economic sustainability while ensuring raw material safety, reducing costs, transparent stakeholder communication and ensuring investors and consumers' confidence. In conclusion, economic sustainability focuses on economic value ensured by the organizations for the benefit of their environments by conserving the needs of future generations.

2.1.2.4.1. Environmental Line of TBL

Today, the operations of many companies are directly linked to sectors where sustainability is vital such as agriculture, forestry and energy. As natural resources and biodiversity are exhausted and destroyed and the ecosystem is damaged, companies will face the risk of not carrying out their basic operations.

In this context, solutions that provide more sustainable and efficient use of natural resources such as renewable energy, sustainable agriculture and fisheries, organic agriculture, recycling, waste management are being supported.

2.1.2.4.2. Social Line of TBL

The social line of TBL is derived from the use of two types of social capital in businesses; human capital and the community. Human capital refers to the skills, experience, knowledge, motivations and loyalty of business people and partners. Social capital refers to services provided by the enterprise such as infrastructure,

education and cultural incentives (Aksoy, 2013). “The idea is that these practices provide value to the society and “give back” to the community” (Alhaddi, 2015).

A business can only achieve social sustainability if it meets its stakeholders’ needs and communicates with them efficiently. A socially sustainable corporate enterprise operates by using human and social capital to add value to the business and the environment (Gladwin et.al, 1995). This is possible through the provision of social activity (socio-activity) and ecological justice (Schaltegger et al., 2006).

2.2. Sustainability Reporting

Today, companies have changed their influence and responsibilities in the society by going beyond merely producing goods and services. Additionally, considering all stakeholders and collective value creation rather than performing on their own behalf has influenced businesses positively in the long run. The concerns on issues such as pollution, climate change, human rights, social inequality, economic downturn and injustice all around the world also encourage the business world to develop its role in society in a more transparent, reliable, and responsive manner. In other words, stakeholders and investors attach great importance to reporting transparently their activities related to the issues such as climate change, natural resource consumption, economy, collective contribution, social responsibility and financial performances of the organizations, further they take investment decisions by evaluating these factors (SKD, 2017).

From this point of view, the sustainability reporting can be defined as a report giving information regarding the economic, environmental and social impacts occurred during the companies’ daily activities which originated from strategic decisions through sustainable goals. In Global Reporting Initiative (GRI), a sustainability report is defined as:

“A sustainability report is a report published by a company or organization about the economic, environmental and social impacts caused by its everyday activities. A sustainability report also presents the organization's values and governance model, and demonstrates the link between its strategy and its commitment to a sustainable global economy.”

2.2.1. History of Sustainability Reporting

Financial reporting has its roots in 19. Century focusing solely on monetary principles yields an incomplete picture of the firm to auditors, investors, and creditors for evaluating future prospects (Holder-Webb, et al., 2009). Initially, it has expanded its coverage to social directions in 1970s. The concept of financial disclosure is in the sphere of law regulators, investment communities and financial markets. However, in order to avoid the information asymmetry among management and stakeholders, the need for non-financial disclosure to hinder the information asymmetry come to forefront dramatically (Narayanan et al., 2000).

Historically, sustainability reports can be explained by tracking back to different types of non-financial reports namely, social reports, environmental reports, annual reports and corporate social responsibility reports. Kolk (2005) described the social reporting period as “first wave” of non-financial reporting practices in the 1970s. In the social reports, companies focused on presenting social aspects, social impact and partly social efficiency of their activities. This type of reports have been published relatively rarely. The main topics covered in the social reports are; employment, social relations, ethical procurement policies and social effects of the service or products offered explained under the headings of social effects, activities and social efficiency. Social reporting practices are applied by German-speaking countries resulted in a publication of German Trade Union Federation (Daub, 2007). However, in the 1980s, social reporting lose acceleration (Kolk, 2005).

In the years between 1980s and 90s the “second wave” of non-financial reporting emerged and the environmental reports were particularly published among multinational corporations. The main focus of environmental reporting is the impact of business activities on economic, environmental and social resources or, in other words, the absolute level of environmental impacts such as waste, energy consumption, air and water emissions. For instance, 35 percent of the 250 biggest Fortune Global 500 companies published environmental reports, and an additional 32 percent produced brochures on environmental topics in their annual reports (Kolk et al., 2001)

In the following years, reporting has started to establish a two-dimensional link between economic and environmental dimensions (eco-efficiency) or social and economic dimensions (socio-efficiency) instead of a one-dimensional perspective

between activities (Herzig & Schaltegger, 2006). After the mid-1990s, annual reports have been prepared including more information social, ethical and environmental aspects of company operations usually implying “corporate social responsibility”. The term corporate social reporting has received attention from both practitioners and academicians sometimes used synonymously with the sustainability reporting. According to the European Commission, Corporate Social Responsibility is a concept that companies voluntarily integrate social and environmental issues into their operations and relationships with their stakeholders. World Business Council for Sustainable Development defined this concept as a promise given by the business community to raise the living standard of its employees, their families, the people and the whole society and to contribute to economic development. Montiel (2008) in his study investigated the different definitions of corporate social responsibility and corporate sustainability by the review of top academic journals in the fields of general management. He states that in the past, the corporate social responsibility was investigated under social issues and it has a longer history than corporate sustainability. He also denoted studies on CS were published later than the papers on CSR and concluded that CS and CSR have different histories with a common future (Montiel, 2008). Thus, as was mentioned, the emergence of corporate social responsibility reports predate the publishment of corporate sustainability reports. In addition to the explanation above, in a report presented by KPMG & UNEP (2010) the meaning of sustainability reporting is used synonymously with other terms describing the reporting practices on economic, environmental and social issues such as triple bottom line, corporate social responsibility reporting. SR is defined as an application to evaluate, disclose, and be accountable to all stakeholders.

Apart from the two-dimensional framework, another reason for corporate social responsibility reporting is the occurrence of the concept of “responsible investment” (Aksoy, 2013). Responsible investment is an effort to make investment decisions with an understanding of sustainability and encourage investors to improve their companies' sustainability practices. In other words, it is an approach that the environmental, social and governance factors as well as financial returns have been taken into account by the institutional investors for their investment decisions in the country/sector/firms they prefer to invest (BIST, 2014). Responsible investment is an investment model that aims to maximize financial returns and social benefits

simultaneously. Thus, it is important for investors to be informed in the field of social responsibility in order to make a responsible investment decision.

Sustainability reporting has emerged in the form of improved corporate social responsibility reporting by taking the dimensions of “Triple Bottom Line” into account. Sustainability Reporting has two general goals one of which is to evaluate the economic, environmental and social aspects and activities of an organization and other is to share this progress with its stakeholders (Lozano & Huisinigh, 2011). Different types of reports are prepared; Sustainability reports in addition to financial reports, extended annual reports, various specific reports such as environmental reports, social reports, corporate social responsibility reports.

2.2.2. Reasons for Sustainability Reporting

There is globally a considerable amount of policy and regulations raised for reporting trends. Since there are many organizations disclose their sustainability performance through the reports. So many reasons motive this growth such as stakeholder expectation, peer coercion, economical and financial crisis, need for more transparent information, growing concerns on sustainability and reporting requirements specified by governments or stock exchanges.

The benefits of Sustainability Reporting is listed below (Herzig & Schaltegger, 2006; EY Report,2013):

- Increase in reputation and brand value
- Legitimizing not only financial but also environmentally and socially value creating products, services and activities
- Meeting the expectations of employees
- Comparison and benchmarking against competitors
- Gaining a competitive advantage
- Increasing organizational transparency and accountability
- Improving access to capital
- Increasing efficiency and waste reduction

For the purpose of providing detailed explanations regarding aforementioned benefits and rationales, the reasons of sustainability reporting has been explained through three group of challenges (Daub, 2007; Schaltegger et al., 2006).

2.2.2.1. The Environmental Challenge

Concerns regarding the impact of human on nature accordingly the global ecosystem have drawn attention since the early 1970s. However, a research of the Roman Club in 1972 has intensified the anxiety on global threat such as raising population, nonrenewable resource depletion, pollution generation. As mentioned in “Limits to Growth” which is the aforementioned report had a contribution on engendering strong relationship between economic development and the environment. Above-mentioned study drew all societies’ attention towards corporations by drawing such a pessimistic picture for the world’s future, along with the serious environmental scandals ensued by some companies such as the Exxon Valdez, Brent Spar and Schweizerhalle. As a result, due to the growing pressure on companies lead to an increase for regulatory requirements with regard to corporate environmental protection

Schaltegger et al. (2006) explained the environmental (ecological) challenge as the eco-effectiveness referring to the ability of businesses in reducing the environmental effects. This will be possible with the promotions in eco-efficiency (Daub, 2007).

2.2.2.2. The Social Challenge

The similar considerations related to public awareness and responsibilities of companies to society compelled companies to meet the expectations of stakeholders accordingly. There are two sides of social capital; human capital and societal capital. The former is related to employee skills, loyalty and motivation; the latter covers public services, educational system and infrastructure of the organization (Dyllick & Hockerts, 2002). In order to be a socially sustainable business, companies need to add value to the communities in which they operate. This challenge makes a sense of social-efficiency measuring the degrees of both the negative and the positive influences of company on society. For instance, ensuring security and rights of employees, preventing discriminations, giving importance to ethics, improving

2.2.3. Regulations for Sustainability Reporting

There is a growing number of policies and regulations for organizations that are reporting their sustainable performances. Several reasons motivate this mounting tendency towards reporting; such as, stakeholder and peer pressure, crises, importance of sustainability, requirements from governments and stock exchanges (KPMG, 2013).

While sustainability reporting has begun as a voluntary move, mandatory or voluntary regulations on sustainability have been introduced in many countries over the past 20 years. While some countries have introduced regulatory incentives for voluntary reporting on sustainability, some have taken it one step further and set minimum information requirements to be disclosed. Therefore, in many countries, regulations for sustainability or Environmental, Social and Governance (ESG) disclosure, stock exchange rules, safety and health protection laws, financial regulation, institutional or civil dialogue on approaches to environmental regulation are the ways applied by governments to promote sustainability reporting mandatorily (KPMG, 2013).

Today, reporting has become increasingly approved as a “report or explain” principle, rather than a preference between mandatory and voluntary approaches. The principle requires companies to report their sustainability performance using a mix of mandatory requirements (report) and voluntary prompts (the choice to report, and explain why if you do not) as hybrid version of both approaches. Global Reporting Initiative (GRI) supports this approach, stating that this principle provides a fairer competitive environment for companies by setting minimum criteria and provides flexibility in their reporting practices.

The advantage of “report or explain” approach is that it entails a minimum requirement that companies need to report on their sustainability performance but it does not direct them about reporting. Companies have opportunity to improve themselves in reporting practices and options in selecting a reporting framework.

A report presented by KPMG (2013) found that 12 countries among 44 countries under examination utilized this approach or make explicit reference to it and an increase was observed in the amount of published CSR reports of large companies. Additionally, the quality, completeness and comparability of reports have

improved. To sum up, “report and explain” approach has following benefits (KPMG, 2013);

- Create a level playing field by establishing the minimum common denominator of reporting
- Promotes transparency and trust through public sharing information
- Identify topics which are material
- Improve corporate governance
- Allow for flexibility

China, India, Brazil, South Africa and the United States, as well as many EU countries, are among the leading countries producing policies on sustainability reporting. At the United Nations Conference on Sustainable Development (Rio + 20) held in June 2012, governments recognized the importance of corporate transparency and sustainability reporting and noted that they would also play a role in further reporting in the conference's "The Future We Want" document. In April 2014, the European Parliament adopted the EU legislation on the disclosure of non-financial information by some large companies. According to this legislation, companies with more than 500 employees (listed companies, banks, insurance companies, public-interest entities) in the EU are required to inform the public about corporate policies, risks and impacts on issues such as environmental and social impacts, employee rights, human rights, fight against bribery and corruption, diversity in company boards. Companies may prepare their reports relying on international, European or national guidelines to produce their statements.

to guide organizations for their sustainability reporting process. The comparison of information gathered from reports prepared according to different standards and guidelines is a major obstacle to achieving accurate and reliable information in a way that affects investor judgment. In order to overcome these obstacles, international reporting principles have been issued by international organizations to support each other.

These internationally- accepted frameworks are United Nations Global Compact (UNGC), UN Principles for Responsible Investment (UNPRI), the Organisation for Economic Co-operation and Development (OECD) Guidelines for Multinational Enterprises. In addition to international organizations, sustainability principles and guidelines have also been published by not-for-profit organizations with multiple stakeholder structures. Among these Global Reporting Initiative (GRI), International Organization for Standardization 26000 (ISO 26000), Accountability Principles (AA1000APS), AA1000 Assurance Standard (AA1000AS), Carbon Disclosure Project (CDP) and Greenhouse Gas Protocol (GHG Protocol) Corporate Standard are the most prominent standards and guidelines. Some of those have focused on specific sectors or a single topic for example climate change, gas emissions while others are comprehensive in content.

One possible classification can be constructed among normative, management and reporting frameworks (KPMG et al., 2016):

UNGC and OECD Guidelines implement normative frameworks since they help companies to determine their vision and management method on sustainability. ISO 26000 is a management standard provides a guidance on the concept of social responsibility. Lastly, GRI' Sustainability Reporting Standards presents disclosure items, requirements and metrics that conspire with the normative frameworks to take advantage of each initiative's strengths.

In 2017, the KPMG Survey of Corporate Responsibility Reporting report revealed that %74 of N100 and 89% of G250 companies are adopting either a guidance or a framework for their reporting. The most widely applied framework is found to be GRI with 63% of N100 reports and 75 % of G250 reports.

2.2.4.3. United Nations Principles of Responsible Investment (UNPRI):

In 2005, representatives of 20-person investment group drawn from institutions in 12 different countries were brought together by the United Nations Secretary-General to develop "Responsible Investment Principles". The process was managed by UN Environment Programme Finance Initiative and UN Global Compact, and in 2006, six responsible investment policies were identified. According to these principles, the performance of investment portfolio is influenced by issues such as environmental, social and corporate governance. Therefore, investors should also take into account the relevant principles in their investment decisions (UNPRI) .

2.2.4.4. The Organisation for Economic Co-operation and Development Guidelines for Multinational Enterprises (OECD MNE Guidelines)

The OECD Guidelines provide recommendations established in the context of “responsible business” for multinational enterprises in areas such as employment and industrial relations, human rights, environment, information disclosure, combating bribery, consumer interests, science and technology, competition, and taxation (OECD). The Guidelines consist of two parts including “recommendations” and “non-binding principles and standards” and have been adopted by 45 countries (Reinert et. al., 2016).

2.2.4.5. ISO 26000 Social Responsibility

The ISO 26000 Standard is a standard published in November 2010, developed with extensive stakeholder involvement of businesses, governments, consumers and non-governmental organizations. It is not a standard subject to certification such as some other ISO standards as "ISO 14001" and "ISO 9001". "ISO 26000" guides businesses and organizations to apply the principles in effective actions and enables to share their best practices relating to social responsibility (ISO). It represents an international consensus contributed to its development among representatives from government, NGOs, industry, consumer groups and labour organizations around the world.

2.2.4.6. Accountability Principles Standard (AA1000APS) and AA1000AS Assurance Standard (AA1000AS)

AA1000AS is an assurance standard based on AA1000APS providing a comprehensive approach that refers to management, performance and reporting on sustainability issues by evaluating the adherence of an organization to the Accountability Principles (AA1000APS) and the reliability of the obtained performance information (KPMG et al., 2016). It is expected that businesses will adopt sustainability concepts, manage them, and increase their sustainability performance through these principles. Furthermore, it was developed by a multi-stakeholder process to meet the requirements and expectations of the stakeholders.

2.2.4.7. Carbon Disclosure Project (CDP)

CDP is a not-for-profit organization providing a widely used reporting framework that enables businesses to measure, direct and share their environmental performance. Today, CDP encourages so many companies and cities against the large economies to evaluate and disclose their green emissions, climate change risk and water policies. Today, approximately 6,000 institutions voluntarily disclose their aforementioned environmental information. CDP collaborates with other environmental organizations in partnership such as the United Nations' environmental organizations and projects (such as UNPRI, UNEP).

2.2.5. The Role of Accounting in Sustainability Reporting

Corporate sustainability forces businesses to choose a specific sustainability strategy and to have an accounting information system that enables business management to be successful while thriving despite changes in economy, society, and the natural environment. Furthermore, the need for businesses both to disclose and fulfill their economic, social and environmental responsibilities have also necessitated the reporting of environmental and social disclosure as well as financial information on business activities.

It is possible to say that sustainability reporting and financial reporting are similar in terms of their purposes. However, sustainability reports are not only a

reporting tool, but also explain the relationship between financial and non-financial information. They maintain business continuity in the long run by increasing corporate transparency, firm value, corporate reputation in terms of stakeholders, promoting innovation, developing management systems in social and financial environment, improving employee motivation and corporate commitment, attracting flow of funds on account of financial conditions (WBCSD, 2002).

Accounting has a very important function in the reporting process of corporate information. In addition, it fulfills this responsibility while determining the material topics that should be disclosed in the sustainability reports and reaches the evidence on the reliability of this information through audit.

Sustainability is an interdisciplinary field and the overall evaluation of business activities is possible through the accounting system. As the business activities, processes, stakeholders are variant from the business expectations, the requirements of reports differ due to the companies and the industries they operate in. It is the function of the accounting system in a company to present environmental, social and economic indicators and information to stakeholders holistically without diminishing transparency and ignoring reliability (Caliskan, 2012).

2.2.6. Literature Review of Sustainability Reporting

This section reviews the literature in two main parts. First, the studies on scoring non-financial reports and disclosures are presented. Second, the researches on factors influencing disclosures of firms presented are reviewed in both cases of developing and developed countries.

2.2.6.1. Literature on Scoring Non-financial Reports

In the past decade, variant scoring methodologies for the evaluation of non financial reports have been proposed as a benchmark tool by academicians and consulting companies. Such scoring systems assess reporting practices of businesses on the basis of their extensity prepared by individual companies allowing an appropriate comparison against their peers in terms of economic, social and environmental information that should be disclosed in the reports. On the other side,

by means of these systems companies assist themselves as they get feedback on the reporting procedures they perform and consequently, they ameliorate the relationship with their stakeholders (Skouloudis et al., 2009). As mentioned in the stakeholder theory, for an effective stakeholder communication and to build a good relationship with them, firms have to report explicitly how they do business (Freeman et al., 2004) and the value they possess while the assumption of the legitimacy theory focus on the actions drive firms into preparing sustainability reports to shape the stakeholder perceptions. Regardless of the goals of companies in providing sustainability reports, these reports are necessary for businesses in conducting a performance evaluation and information management system that enables spheres of financial, environmental and social be in balance with the sustainability culture of the business (Rahardjo et al, 2013).

In the literature, researchers have examined the quality of sustainability reports by checking the presence of predetermined indicators and scoring them (Kolk, 2008). Wiseman (1982) analyzed the extent of environmental disclosures in the annual reports of 26 largest US companies by developing an unweighted environmental disclosure index consisted of 18 topics including five categories. By assigning a score to each item ("3" points for quantitative, "2" points for non quantitative information, and "1" point for the presence of the disclosure, and "0" for no disclosure), total score is summed into an unweighted index, the number of sentences on each topic (Morhardt, 2009; Clarkson, 2008). Azzone and Manzini (1994) investigated the reports of 15 large corporations according to five different groups of environmental performance indicators and rank the companies by creating a disclosure index. The Pacific Sustainability Index (PSI) is an evaluation tool assessing environmental and social disclosures and ranking them due to two systematic questionnaires; one of which is related to sector-specific and other refers to all organization regardless of the industry. The items of the questionnaires are based on the issues that are mentioned frequently in sustainability reports of selected large companies (Skouloudis, Evangelinos, 2009). Morhardt et al. (2002) constructed a scoring tool by utilizing GRI 2000 reporting guidelines and ISO 14031 framework and examined the selected largest companies in various sectors worldwide. SustainAbility (1993) published the first of its series of benchmarking surveys based on environmental reports by ranking the reporting quality. Deloitte Touche Tohmatsu (2002) developed a sustainability reporting scorecard for

companies in three major sectors comprised of 30 items with 6 categories changing score between “0” and “4” from no mention to best practice accompanied by a specific guidance to users of the scoring tool (Skouloudis et al.; Morhardt, 2009) .

Similar to international studies, there are also national-level studies analyzing sustainability report practices of individual countries. Clausen et al. (2005) performed a ranking of sustainability reports as a follow up of former IÖW (Institute for Ecological Economy Research) rankings of environmental reports carried out between 1994 and 2000 in Germany. The assessment tool was consisted of 13 main weighted criterias with 48 items in total by encapsulating environmental, social and integrated requirements of a sustainability report. The methodology assigned scores of 0 for no fulfilment of requirements, 1 for poor fulfilment of requirements, 3 for good fulfilment of requirements and lastly, 5 for exceptional fulfilment of requirements. Eventually, the obtained value was multiplied by the weighted factor resulting in the main score. Daub (2007) implements the research project methodology of the Institute for Sustainable Management at the University of OAS in Aragan, Switzerland which was conducted in 2003 in order to evaluate sustainability reporting practices in Swiss companies. This methodology is based on GRI guidelines and weighted performance indicators by multiplying with “2” and assesses the disclosure between 0 to 3 points representing no meaningful information to full information, respectively. Clarkson et al. (2008) constructed an environmental disclosure index comprised of unweighted items however 79 of these items are considered as hard disclosures, while the remaining 16 are appointed as soft measures by the consultancy of an expert based on GRI guidelines. Then, the aforementioned index was implemented to a sample of most polluting industries in the US. Skouloudis et al. (2009) developed an assessment methodology based on GRI guidelines which is consisted of 141 topics by a scoring between a range of “0” to “4” points and the proposed tool was sent for consultation to the Union of Environmental Scientists of Greece. More recently, Habek and Wolniak (2015) assessed the quality CSR reports in selected European Union member states by the predetermined 11 selected criterion. In their study, the quality of reporting is examined by taking relevance and credibility of information into consideration. For evaluation process, a five-points scale was used between “0” and “4”. Yadava and Sinha (2015) evaluated the reporting practices of Indian private and public sector

companies based on GRI guidelines with a numerical score of “0” to “3” for the total 84 indicators.

2.2.6.2. Literature on Factors Influencing Disclosure

The importance of financial reporting is still critical for stakeholders especially for investors while they are making investment decisions (EY, 2017). While the initial non-financial reports were prepared over 25 years ago, only in the last 10 years reporting has been considered dramatically as a performance management tool. However, today the situation has completely changed. Sustainability reporting is increasingly considered as one of the main disclosures among open public commitments, either included in annual reports or as a separate report under various titles (KPMG et al., 2010). For improving accountability and transparency of business transactions and guiding investors to make proper assessments is procurable by disclosing non-financial subjects to stakeholders (Nobanee, Ellili, 2016).

Corporate sustainability reporting has been gaining attention through the voluntary practices of companies and industries stimulated by governments directly or indirectly (Kolk, 2008). Recent developments in the field of social and environmental reporting have led to an additional interest in financial dimension as well. As number of interest groups, several readers and users of sustainability reporting increase, it is seen to materialize various responsibilities of organizations towards society, particularly its stakeholders (Carroll, 1999, Kolk, 2008).

Financial disclosure practices of corporations differ from non-financial reporting practices due to their nature since, non-financial disclosure (sustainability disclosure in this study) focuses on multi-dimensional subjects of business operations and attracts the interest of wider stakeholder groups (Smith et. al., 2005). Analyzing sustainability disclosure influencing factors thrives company's accountability and contributes to business performance (Adams, 2002). Moreover, as it has progressed, the quality, and quantity, extensiveness, and credibility as well as the comprehensiveness of non-financial disclosure, set to become vital issues in reporting researches. In 1998, Adams, Hill and Roberts (1998) highlighted that not only measuring the extent and quality of social responsibility reports is sufficient, but

also analyzing the factors affecting these disclosures has a critical role in reporting practices.

2.2.6.2.1. Case of Developing Countries

In the literature, the relationship between corporate governance and sustainability has gained much attention due to the notion that companies giving importance to both issues will consider these concerns more completely (Aras & Crowther, 2008). Broadly speaking, corporate governance is described as “the system by which companies are directed and controlled” (Cadbury, 1992). Therefore, corporate governance is an essential issue to be considered since it is the board of directors that manages information disclosure in annual reports (Gibbins et al. 1990) and the disclosure may be a function of the characteristics of boards (Haniffa, Cooks, 2002). On the other side, corporate governance underlines the agency theory since it is concerned with the conflict of interest of the owners and managers. Reducing the agency problem is possible by means of corporate governance mechanisms such as the board of directors and ownership structure (Mangena et. al., 2012).

Corporate governance refers to the relationship among board of directors, top management and shareholders and other various interest groups. This aspect of corporate governance considers the importance of managing its stakeholders who are holding the firm resources such as proportion of ownership (Brammer, Pavelin, 2008).

While the agency theory argues that the obligations of the chairman and the manager of the company must be separated in order to protect the interests of the shareholders, the stewardship theory assumes that it is possible to maximize the interests of shareholders by shared liability of these roles. In other words, while agency theory supports the notion of separating responsibilities of a board chair and the CEO, stewardship theory emphasizes the superiority of having same person for two different roles by enabling unity of command for the shareholder interests (Donaldson, Davis, 1991). As stated by Solomon (2013), companies' internal and external control and balancing systems enable companies to fulfill their accountability to all stakeholders and to behave socially responsible in all fields of company operations. Thus, the importance of stewardship indicates the necessity of

an integrated approach for management of stakeholders in a socially minded way as stated by ACCA 2008 that board members are good stewards in conserving interests of shareholders and rights of stakeholders.

The relationship between corporate governance and reporting disclosure have received considerable attention by researchers (Adams, 2002; Amran et. al., 2013). Amran et. al., (2013) investigated the effect of board of directors on sustainability reporting quality in the region of Asia-Pacific. The findings of the study indicate that if the CSR concept is adopted throughout the organization, there will a road to the quality of the sustainability reports. Said, Zainuddin and Haron (2009) examined Malaysian listed companies in terms of corporate social responsibility and corporate governance characteristics and “government ownership”, “ownership concentration” and “audit committee” are found to be positively associated with the extent of disclosure. Haniffa and Cooke (2002) conducted a research on various corporate governance, cultural as well as firm-specific characteristics and voluntary disclosures of annual reports of Malaysian listed companies. Their study revealed a relationship between governance factors of non-executive director and domination of family members on boards and the extent of voluntary disclosure. Following this study, in 2005, Haniffa and Cook (2005) examined if there is any change in the extent of corporate social disclosure in the annual reports of Malaysian listed companies over time. Additionally, they analyzed whether there is a relationship between culture, corporate governance and firm-specific variables and the extent of the disclosure. Similar to prior researches, they conducted a content analysis to measure the dependent variables of Corporate Social Disclosure Index (CSDI) and Corporate Social Disclosure Level (CSDL). Particularly, the factors of “ethnicity”, “level of education” and “type of the firm” are expected to influence the managers’ decision making, therefore, it was presumed that number of Malay managers and Malay ownerships may have an important role on boards. Based on a sample of 139 non-financial listed firms’ reports, the findings support that there is a significant relationship between cultural effects, corporate governance factors and CSR. Especially when the board members are dominantly non-executive and have multiple managers, contribution to legitimacy of firm activities via reporting disclosures is more feasible. Khan, Muttakin and Siddiqui (2013) conducted a similar study investigating the association between corporate governance and the extent of corporate social responsibility (CSR) disclosures in the annual reports of

Bangladeshi companies. Similar to study of Haniffa and Cooke (2005), a legitimacy theory is considered to understand how the corporate governance attributes affect the organizational response to various stakeholder groups. Their results confirmed the positive relationship between CSR disclosures and managerial ownership in export-oriented industries. Additionally, their results revealed the association between CSR disclosures and public and foreign ownership, board independence and presence of audit committee except CEO duality. To sum up, corporate governance has an important role for providing legitimacy via corporate social reporting disclosures.

Recently, Kılıc et. al., (2015) investigated the association between the corporate social reporting disclosure level and the ownership and board structure in the Turkish banking sector. The results of this study indicated that the “free float rate”, “the number of independent board members” and “female directors” have a significant influence on CSD level, whereas “board size” and “square of board size” do not have any significant impact on corporate social responsibility disclosures.

2.2.6.2.2. Case of Developed Countries

According to stakeholder theory, managers take stakeholders into account for their statutory rights, and having information about stakeholders' demands helps to better manage the business (Ertugrul, 2008). Businesses need to pay attention to stakeholder contribution processes in order to provide and improve their legitimacy in their operations (Michelon, Pabonetti, 2012). The stakeholder theory argues that corporate social disclosure is a kind of communication tool between a company and its stakeholders that provides legitimacy in behaviors, change perceptions and prospects through transparent and accountable information (Gray et. al., 1995; Michelin, Pabonetti, 2012).

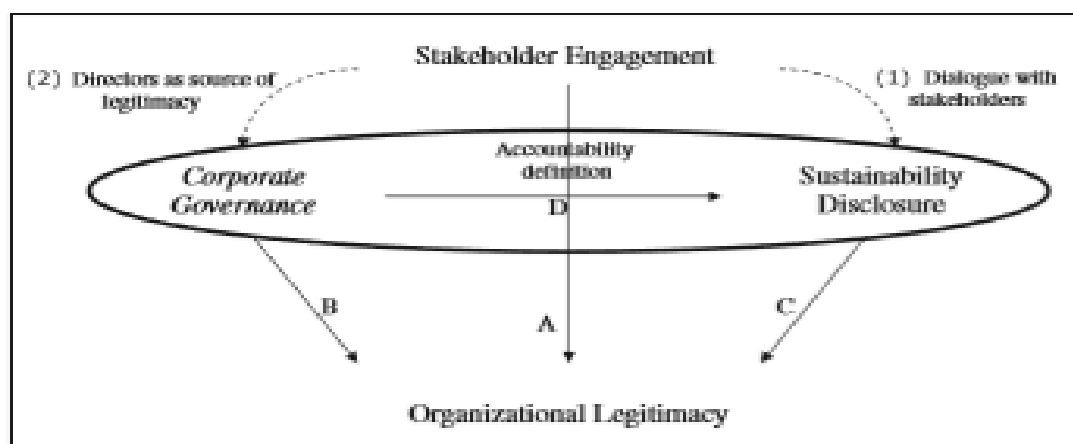
There is a vast amount of literature on corporate governance factors influencing disclosure but there is a road for studies analyzing the mutual interaction between corporate governance factors and sustainability disclosure. Cho and Patten (2007) argue that it is possible for firms to gain legitimacy by social and environmental disclosures. Additionally, Pfeffer and Salancik (1978) and Hillman et al. (2000) highlighted the importance of each directors for the legitimacy of the organization. In this context, the main reason for corporate disclosure procedures is

to legitimize the business operations to stakeholders, in the light of the different prospects of stakeholders.

Jizi et al. (2014) assessed the impact of various board characteristics on corporate social responsibility disclosure practices and confirmed the relationship between them. In similar vein, Giannarakis, (2014) examined the relationship between board characteristics and corporate social disclosure practices and found no association between these factors. Chan et. al., (2014) examined the association between corporate governance quality and corporate social responsibility disclosure practices of 222 listed firms in Australia Stock Exchange. Their results provide an evidence of significant positive association between the factors under investigation. Kaymak and Bektas (2017) explored the link between corporate social responsibility (CSR) programs and firm-level governance structures based on agency and stakeholder theories. The findings of the study revealed that board independence and board size have significantly positive relation with CSR practices.

Building on the literature, researches suggest that there is a need for a comprehensive theoretical approach on corporate governance encapsulating both stakeholder and legitimacy perspectives since they overlap with each other. Several studies, for instance, Gray et al. (1995) do not appear to support these theories as counter-views. In addition to this study, Deegan and Blomquist (2006) claim that legitimacy theory considers the society as a whole, however, stakeholder theory focuses on specific groups.

Figure 9: The effect of corporate governance on sustainability disclosure



Source: Michelon, G., Parbonetti, A. (2012). The effect of corporate governance on sustainability disclosure. *Journal of Management & Governance*, 16(3), 477-509.

In addition to corporate governance factors, there are studies evaluating the effect of firm-specific features influence the corporate social responsibility disclosures. For instance, Holder-Webb et al. (2009) analyzed the relationship between firm-specific factors such as firm size and industry and disclosure patterns of CSR and the findings demonstrate the effect of size and industry on the extent of CSRD. Likewise, da Silva Monteiro and Aibar-Guzmán (2010) explored the factors influencing environmental disclosure and their results revealed the positive relationship between firm size and the level of environmental disclosure. In developing countries, Naser et al. (2006), Ghazali (2007), Amran and Haniffa (2011) investigated the firm-specific factors and CSRD level in their studies. Among other factors, firm size is found to have a significant effect on the level of disclosures in the mentioned researches. In similar lines, Muttakin and Khan (2013) examined whether family ownership, firm size, type of the industry have an influence on CSRD practices in the Bangladesh. The results indicated the negative effect of family ownership, and positive effect of size on CSRD level. Furthermore, export-oriented industries were giving more importance to CSRD than other industries in Bangladesh. In the context of Bahrain, Juhmani (2014) examined the association between firm size, leverage, firm age and the size of the audit firm and CSRD. Among these factors, financial leverage and audit firm size have significantly positive relationship with the level of disclosure practices.

CHAPTER 3

CONCEPTUAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

3.1. Structure of the Research

Definition of a research conceptual framework by Rudestam and Newton (2014) is stated as:

“A conceptual framework, which is simply a less-developed form of a theory, consists of statements that link abstract concepts to empirical data.”

According to Miles and Huberman (1994), conceptual frameworks are means of expressing key factors, concepts, variables as well as their assumed associations with each other in terms of graphics that comprises events, settings, processes, and theoretical constructs. From another perspective, a conceptual framework enables researchers to share information with one another and hence, compare findings and the evidence.

For this reason, it is essential to compose a conceptual framework to represent the background and the main goal of the research. The conceptual framework of the present study was generated from the literature review and the theoretical background explained in Chapter 2.

The model employed a multi-theoretical perspective framework including agency theory, stakeholder theory, legitimacy theory and institutional theory as suggested in the CSD literature (Michelon, Parbonetti, 2012; Post, Rahman and Rubow 2011). In general, prior studies state that CSRD procedures are related to various factors. This research study focuses on CSD practices in Turkey by examining both the corporate governance factors and firms-specific factors. The corporate governance factors have four set of variables under investigation; “board composition”, “board characteristics”, “board structure” and “board leadership”. Accordingly, these variables and corresponding groups are; independent directors for board composition, community influential members for board characteristics, the

presence of corporate sustainability committee and corporate social director, lastly, CEO duality for board leadership were under estimation throughout the research.

Firm-specific factors include eight variables that are “firm size”, “profitability”, “gearing”, “number of board members”, “reputation of audit firm”, “type of industry”, “reputation” as a proxy for being listed in sustainability index”, “free float rate”. In the model, these three sets of variables are expected to influence disclosure levels of BIST listed firms. The following section discusses how factors affect CSD practices.

3.2. Determinants of CSD and Hypotheses Development

This section presents the hypotheses constructed on the level and extent of sustainability disclosure, corporate governance factors and firm-specific factors based on theories and previous studies in the literature and the constituted conceptual framework. In the present investigation, similar to Michelin and Parbonetti (2012), corporate governance factors are categorized as board composition, board characteristics, board structure and leadership. The association between sustainability disclosure and corporate governance factors have been examined by considering the firm-specific features of companies including firm size, free float rate, audit firm, reputation, return on assets, financial leverage, industry of the firm.

3.2.1. Governance Related Factors

This section gives information on relationship between sustainability disclosure and the governance related factors of “board composition”, “board characteristics”, “board structure” and “board leadership”.

3.2.1.1. Board Composition and Sustainability Disclosure

Board composition is attracting considerable interest since it indicates the qualifications of business environment, thus enable firms to procure the resources necessary for existence and expansion (Pfeffer, Salancik, 1978). It is the proportion of independent directors to overall number of directors in a board, hence distinguish between independent and executive directors (Haniffa, Cook, 2002). The presence of

more independent directors in the board is an indication of its impartiality, the board's ability to represent various viewpoints of business environment and to keep the balance among different stakeholder groups (Michelon, Parbonetti, 2012).

According to agency theory, the existence of outside directors would improve the corporate governance system by holding the power to affect management and preserve the interests and rights of shareholders and seen as decision experts (Fama, 1980; Alhazmi, 2017). Discussing the role of non-executives, Weisbach (1988) states that they are not expected to be intimidated by CEOs. Additionally, stewardship and stakeholder theories argue that managers focus primarily on collective interests, and they tend to act ethically against not only shareholders but all (Davis et al., 1997). In this context, non-executive directors in the board provide pressure on corporations to attach importance to social issues, sustainability disclosure for the long term organizational goals, societal values and corporate legitimacy (Jizi et al. 2014; Haniffa, Cooke, 2005). Considering the governing roles of non-executive directors mentioned in the literature, the following hypothesis has been constructed:

H₁: All being equal, sustainability disclosure is positively associated to the proportion of independent directors on the board of Turkish listed firms

3.2.1.2. Board characteristics and Sustainability Disclosure

A considerable amount of literature investigating the association between corporate governance and social disclosure examines principally the function of non-executive directors (Michelon, Parbonetti, 2012; Chen, Jaggi 2000; Haniffa, Cooke 2005). Due to their specific expertise, acting as representatives, holding the support of worthy stakeholders and enabling legitimacy to the company (Pfeffer, Salancik, 1978), independent directors have unique individual characteristics (Baysinger, Hoskisson, 1990). Following the study of Michelin, Parbonetti (2012), the influence of community influential board members on level of sustainability disclosure is analyzed from the point of corporate governance mechanism. Community influential members are independent directors whose role is to communicate with the business environment and provide reputation such as academicians, member of social and political organizations (Hillman et al. 2000; Michelin, Parbonetti, 2012).

Because of their relevance to social organizations, they can promote incentives for corporate sustainability in order to ensure harmony between organizational decisions, actions and social values, as they have an important role to play in strengthening the partnership with every aspect of the company's ability to understand the stakeholders' needs. Therefore, following is hypothesized:

H₂ All being equal, sustainability disclosure is positively associated to the proportion of community influential board members of Turkish listed firms

3.2.1.3. Board Structure and Sustainability Disclosure

According to Michelin and Parbonetti (2012), board structure refers to a committee or a person responsible from the activities and practices on sustainability issues. To put it more explicitly, having a sustainability committee or a person who is responsible from sustainability practices at the board level exhibits the sustainability perspective of the company in terms of stakeholders. In other words, a sustainability committee usually deals with the company's principles and commitments on sustainability issues by monitoring the company's policies and behaviors, and is involved in reporting on social and environmental information (Post et al. 2011). The presence of such a committee or responsible directors are important instruments for improving the extent of disclosures prepared for stakeholders (Michelon, Parbonetti, 2012). Hence, the third and the fourth hypotheses are presented below:

H₃ All being equal, sustainability disclosure is positively associated to the presence of a sustainability committee in Turkish listed firms.

H₄ All being equal, sustainability disclosure is positively associated to the presence of director in charge of sustainability issues in Turkish listed firms

3.2.1.4. Board leadership and Sustainability Disclosure

In this study, board leadership is investigated under the concept of CEO duality. CEO duality refers to role duality which means the CEO is also chair of the board (Haniffa, Cook, 2002). According to agency theory, it is better distributing the roles of CEO and the chairman of the board to different individuals in a board of directors. By this means, chairman of the board professionally coordinates the board,

allows the boards of directors to perform their principle intended activities and monitors the role of the CEO (Jizi et al., 2014; Jensen, Meckling, 1976). For this reason, CEO governs the firm through the interests of the shareholders.

However, several studies have been conducted through the CEO duality discussions by considering the stewardship theory. Contrary to agency theory, stewardship theory focuses on the benefits of unity of command in which same individual holds two separate roles of CEO and chairman. The evidence from the study of Donaldson and Davis (1991) observed that increasing the profitability of the company is the result of the unity of command, namely, the chairman of the board and the CEO in one person. Forker (1992) supports the notion that CEO duality might give harm to shareholders' interests.

In the literature, findings on the relationship between CEO duality and voluntary disclosure are diversified. For instance, Ho and Wong (2001) reported no association between CEO duality the extent of voluntary disclosure. In similar vein, Michelin and Parbonetti (2012) found no association between CEO duality and the level of sustainability disclosures. Gul and Leung (2004) reported a negative association between CEO duality and the extent of voluntary disclosure. In the context of Saudi Arabia, Alhazmi (2017) supported that there is no association between voluntary disclosure level and CEO duality. Based on the findings of Ho and Wong (2001), Michelin and Parbonetti (2012) and Alhazmi (2017), the following hypothesis is constructed:

H₅: All being equal, sustainability disclosure is has no association with CEO duality

3.2.2. Firm-Specific Factors

In this section, the firm-specific factors which are analyzed in the study are described and the related hypotheses are constructed.

3.2.2.1. Firm Size

According to agency theory, higher level of information disclosures may contribute to reduce agency costs (Jensen, Meckling, 1976). Additionally, since the larger companies are subject to pressure from various groups in society (Schipper,

1981); and monitored by regulatory authorities (Firth, 1979), they are in tendency to disclose more information (Alsaeed, 2006). Larger firms are likely to have more sophisticated systems requiring more information disclosure (Cooke, 1989). Previous studies have mainly observed the positive relationship between firm size and voluntary disclosure level (Hahn, Kuhnen 2013; Inchausti, 1997; Uyar et al., 2013).

Following the studies of, Michelon and Parbonetti (2012) supporting a significant association among disclosure level and firm size as well as the studies of Haniffa and Cook (2005; 2002) supporting the evidence that larger companies tend to disclose more information, the hypothesis is presented below:

H₆: All being equal, sustainability disclosure has a positive association with the size of a company

3.2.2.2. Board Size

According to agency theory, size of the board is an important factor affecting the performance and transparency of the company activities (Fama, Jensen, 1983). Concordantly, in a governance system, from monitoring and managing, controlling, coordinating perspectives, the role of board members have an essential to decrease agency problems (Ntim, Soobaroyen 2013; Alhazmi, 2017). Larger boards encourage members to engage in socially responsible practices and they affect the company managers to consider social activities and afterwards disclose the required information (Jizi et al. 2014).

Despite the fact that some researchers have evidenced the positive impact of large board size on corporate reporting extent (Samaha et. al., 2012); no evidence or theory of association among these factors was identified by other researchers (Uyar et. al., 2013; Michelon, Parbonetti, 2012). For instance, Rao et. al. (2012) detected a positive relationship between board size and environmental disclosure level in Australia, similarly, Jizi et al. (2014) observed a positive association between board size and the extent of social responsibility reporting in US banking sector. Lastly, as a developing country case, Alotaibi (2016) confirmed the positive association between the board size and quality of related CSR disclosure. Based on the previous literature, the subsequent hypothesis is developed:

H₇: All being equal, sustainability disclosure has a positive association with the board size

3.2.2.3. Profitability

According to the stakeholder theory, firms need to bring various components together to increase their performance and provide competitive advantage. In order to achieve these goals, it is therefore necessary to carry out activities and activities for more stakeholder groups. To that end, companies with high profitability will have a higher competitive advantage and cheap capital and by considering the social environment and strengthening communication with them allow them to improve their public image. Moreover, profitable companies are legitimizing their existence by giving attention to CSR practices and showing their contributions to society and distinguishing themselves from other companies demonstrating that they have not acquired profitability at the expense of society (Dhaliwal et al. 2011; Haniffa, Cooke 2005; Freeman 1984).

According to the agency theory, managers of profitable firms tend to disclose more information to the public in order to continue their present status and support compensation arrangements (Inchausti, 1997). The theory of signaling argues that companies tend to show their performances and qualities more to investors during periods of high performance (Inchausti, 1997).

In addition, the empirical evidence support the evidence of mixed results. For instance, Haniffa and Cooke (2002), Gul and Leung (2004) observed a positive significant association among profitability and disclosure level, whilst Michelin and Parbonetti (2012) and Uyar et. al., (2013) reported no significant association. Hence, the following hypothesis is constructed:

H₈: All being equal, sustainability disclosure has a positive association with the profitability

3.2.2.4. Gearing (Debt to Equity)

Powerful stakeholder groups who have control over company resources, policies and methods take an important place in maintaining the continuity and

profitability of a company (Freeman 1984). In this regard, the level of competence that creditors have within the stakeholder groups of the company depends on the management of that company's operations and the extent to which it needs external financing. Since the creditors control the financial resources that may be needed to reach the goals of a company (Roberts 1992). Thus, gearing is evidenced as an essential explanatory variable (Michelon, Parbonetti, 2012). Hence, companies with high gearing levels have a high level of disclosures of information to assure creditors (Schipper, 1981).

However, results seems to be inconsistent. For instance, in their studies, Haniffa and Cook (2005) ve (2002) found no significant association between gearing and level of disclosure. In similar vein, gearing of a firm is not found to be a determinant factor of CSRD practices in Saudi Arabia (Alhazmi, 2017). Alsaeed (2006) observed no relationship between gearing and voluntary disclosure practices in Saudi Arabia. Likewise, Muttakin and Khan (2014) asserted that the extent of CSRD practices are not related to gearing in Bangladesh case.

On the other side, some studies reported a significant association among gearing level and extent of disclosures, such as Naser et al. (2006) in Qatar. For instance, Chan et al., (2014) explained that high-g geared firms with high gearing tended to provide significantly more CSR information. Based on literature, the present research constructed the hypothesis below:

H₉: All being equal, extent of sustainability disclosure is greater for highly geared companies

3.2.2.5. Industry Type

Companies tend to present disclosures that are material to them (Dye, Sridhar, 1995). Therefore, the disclosure level may change due to industry in which a company operating (Haniffa, Cooke, 2002). Firms operating in specific sectors where responsibilities to regulators are politically important and critical, make further disclosures regarding their companies (Haniffa, Cook, 2002). For instance, labour intensive firms such as manufacturing are expected to disclose more information on employees, on the other side, firms operating in chemical sector will prefer to present information regarding environmental issues. Service sector companies may expected

to disclose information about social topics (Haniffa, Cooke, 2005). Hence, current research presents the following hypothesis:

H₁₀: All being equal, extent of sustainability disclosure is associated with the type of industry

3.2.2.6. Ownership Structure - Free Float Rate

Resarchers take into account the ownership structure in corporate social disclosure studies (Choi, 1999; Kılıc et. al., 2015). The main research question is whether the firms with higher free float rate enhances CSR practices and reporting activities. Due to raise in ownership diffusion, public companies tend to disclose information about their activities because of their tendency to fulfill transparency and accountability towards shareholders (Choi, 1999). In a similar vein, there is a considerable amount of literature supporting the similar assumption with the agency theory which states that the ownership diffusion motives firms to disclose more information (Haniffa, Cook, 2005; Raffournier, 1995). Furthermore, stock market listed companies are generally have to fullfil the requirements of regulations (Kılıc et. al., 2015). On the other hand, free float is a term defining the shares of a publicly traded company on the organized stock exchange. Accordingly, public companies tend to disclose their company information for transparency because they have a wide range of stakeholder groups, regulations and regulatory authorities to consider, as well as their relationships with the regulatory agencies they are in contact. A higher free float rate is an indicator of more stakeholders with a need for more transparency, which leads companies to disclose their activities. Thus, the hypothesis is presented:

H₁₁: All being equal, extent of sustainability disclosure is positively associated with the free float rate

3.2.2.7. Reputation

In recent years, stock exchanges, especially in developing countries, have begun to make some decisions to improve sustainability awareness, improve regulatory transparency, and publicize the sustainability practices of companies

traded to inform existing investors and address further global institutional investors. Some of these decisions and practices; the development of guidelines for sustainability, the organization of sustainability training programs and the promotion of research, and the development of sustainability indices, a tool that helps institutional investors to assess capital in a more sustainable way. In this context, a sustainability index is a benchmark for companies that attach importance to corporate sustainability and aim to increase awareness, knowledge and practices on this concept. For this reason, the constituent companies of a sustainability index are selected according to their economic, social and environmental performances (Michelon, Parbonetti, 2012). Since, reputation may be considered as a subjective appraisal of the firms' reliability with regard to the sustainable issues which conduce to higher profitability (DJSI, 2011a; Fombrun and Van Riel, 1997; Oberndorfer et al., 2013; Michelin, Parbonetti, 2012), the inclusion of companies in the sustainability index "provides a reasonable assurance of their higher reputation" against other companies through CSD benchmarkings. For this reason, similar to the study Michelin and Parbonetti (2012), the impact of reputation on disclosure level is analyzed by examining whether companies are included in the sustainability index or not. Therefore:

H₁₂: All being equal, extent of sustainability disclosure is associated with the reputation

3.2.2.8. Audit Firm (Big Four Effect)

The reputation of an audit firm has been related to disclosure level in several studies. Particularly, big four audit firms have been expected to lead companies through reporting practices to maintain their firm reputations (Chow, 1982; Haniffa, Cook, 2002). Auditing firms may use the information disclosed by their clients as a means of signalling their own quality (Uyar et. al., 2013). For this reason, being audited by big four or non-big four audit companies as an auditor reputation (Erdem et. al, 2017) can be considered to have an impact on the level of sustainability disclosure. Following is the constructed hypothesis:

H₁₃: All being equal, extent of sustainability disclosure is associated with the reputation of audit firms

CHAPTER 4

RESEARCH METHODOLOGY

This section consists of four main subsections. Firstly, the aim of the research is described. Secondly, research design and methodology, which provides information regarding data source and sample, the methods used in the analyses of measuring CSD score and the corporate governance factors along with the firm-specific factors influencing the level of CSD is presented. Thirdly, limitations of the research is explained. Lastly, the empirical results of the research, focusing on the descriptive, associational, and regression analyses are discussed, respectively.

4.1. Research Objective

The previous sections aimed to establish a conceptual framework for the development of research hypotheses and the determination of the research purpose of the present study. The principle research objective is to investigate whether the extent of corporate sustainability disclosure is associated with two groups of variables: corporate governance and firm-specific properties. In order to measure the sustainability disclosure levels of companies in the scope of the study, a new evaluation tool is constructed based on Global Reporting Initiative (GRI) standards.

The main research questions that have been tackled in the current study are:

- Research question 1 - What is the nature and extent of Sustainability Disclosure of companies in Borsa Istanbul?
- Research question 2 - To what extent sustainability disclosures of companies meet the needs of stakeholders?
- Research question 3 - Do corporate governance and firm-specific factors influence the sustainability disclosure practices of companies listed in Borsa Istanbul?

The implemented methods for the purpose of investigating the answers of these questions are explained in the following sections.

4.2. Research Design and Methodology

In light of the goals and research questions identified, this study applies both quantitative (created a multi-weighted scoring system based on GRI framework and devised a scoring tool for each of the topics) and qualitative (multivariate analyses) methods. Thus, the data analysis process in this study includes descriptive statistics to summarize the data, associational analysis for the strength or magnitude of the associative patterns and finally, regression analysis for the examination of influences between variables on an individual basis (Blaikie 2003).

4.2.1. Data Source and Sample

This research study is analyzing the sustainability disclosure practices of Borsa Istanbul listed companies and their association to corporate governance and firm-specific factors in Turkey context. For this reason, this study has three main steps for the each -s. Firstly, a disclosure scoring system based on GRI standards with a devised scoring tool is developed (Skouloudis, et al., 2009; Morhardt et al., 2002; Daub, 2007). Secondly, by using this system, not only sustainability reports of companies but also all sustainability-related information was analyzed. According to the assessments and explanations on the points assigned to each weighted topic were noted (Skouloudis et. al., 2009). Thirdly, the association between the scores obtained from disclosure evaluations and corporate governance factors by taking into account the firm-specific factors were measured.

Accordingly, the data for the present study was obtained from the Borsa Istanbul and Public Disclosure Platform (PDP)* database². Hence, “PDP is an electronic system through which electronically signed notifications required by the capital markets and Borsa Istanbul regulations are publicly disclosed” (KAP).

It is convenient to classify the PDP applications into two groups: The first group is Mandatory disclosures of financial and relevant material information such financial statements net asset value statements, while second group is “Voluntary

²“Within the framework of Capital Markets Board of Turkey's (CMB) 'Communiqué Regarding Principles of Submitting Electronically Signed Information, Documents and Notifications to the Public Disclosure Platform', all information and documents to be publicly disclosed must be sent to the PDP” (PDP, online, accessed 2018, <https://www.kap.org.tr/en/menu-content/About-PDP/General-Information>)

Disclosure Practices”. For instance, sustainability reports are voluntary reports that publishing these reports depends on the preference of the companies (KAP).

There are several reasons under choosing the sustainability reports, corporate social responsibility reports, website sections under the sustainability headings and several other non-financial reports related to sustainability information for the first two steps of the study. In Turkey, non-financial reports are published under many titles; Non-financial reporting; Sustainability Report, CSR Report, Corporate Responsibility Report, UN Global Compact Progress Report, and in the sustainability sections of annual reports. For instance, some of the companies present their sustainability performances or activities in their annual reports, whilst others prefer to publish separate reports. Moreover, some use websites very effectively to release sustainable-related disclosure. In Turkey context, it is also observed that, some of the companies listed in the Borsa Istanbul Sustainability Index do not have separate sustainability reports to disclose their sustainability related disclosures and performances. Daub (2007) confirmed this notion by stating that the statements regarding quality or extent of sustainability disclosure of three sustainability dimensions can be made by considering all published information. Following this study, after scanning all websites of listed firms in Borsa Istanbul, it is found that only 79 companies have revealed sustainability-related information as a part of sustainability reports, annual reports, websites, social responsibility reports and any other kind of non-financial reports published in this field.

The sectors of selected companies cover manufacturing, electricity, gas and water, construction, wholesale and retail trade, hotels and restaurants, transportation, telecommunication and storage, financial institutions and technology. Within the scope of the research, all 79 companies that have disclosed sustainability related information regardless of their sectors are included. One of the main objectives of this research study is to reveal which companies are releasing their sustainable activities by considering the sectoral requirements. Thus, 79 companies in different seven sectors in total are included in the scope of the study. For instance, manufacturing and financial sectors appear to be among the largest sectors (36 companies in manufacturing and 27 companies in financial industry). On the other side, remaining sectors of Electricity, gas and water, construction, Wholesale and retail trade, hotels and restaurants, Transportation, telecommunication and storage

core and additional indicators of “1” and “0.5”, respectively. Likewise, Daub (2007) assessed the quality of sustainability reports in Swiss companies using an evaluation methodology developed by a research group in the Institute for Sustainable Management at the University of OAS in Switzerland, using GRI indicators as a reference. The aforementioned project team constructed a detailed list with the equally-weighted indicators with the exception of performance topics weighted by “2”. Clarkson et al. (2008) developed a content analysis index based on GRI guidelines to assess the extent the environmental and social disclosures in the U.S by working with an expert in the field of environmental reporting. Instead of weighting indicators, they prefer to categorize them into two groups as hard and soft disclosures.

In the following section describes the process of developing a multi-weighted disclosure scoring system, systematically.

4.2.2.1. Developing an Evaluation System Using GRI Standards as Benchmark

An assessment methodology for sustainability disclosure regarding performance topics (economic, environmental, social) was devised using GRI topic specific standards as a point of reference. By following some of the previous studies stating the importance of considering industrial differences of companies related to sustainability issues due to the discrepancies of their business models, inputs and outputs, and consumer base (Henriques, Sadorsky 1996; Yadava, Sinha, 2015; Azapagic 2003; Chand, Fraser 2006), different list of indicators were constructed for each sector.³ Table 2 shows the percentage of indicators perceived as material and disclosed in each performance topic for the each sectors. Thus after reviewing companies in all sectors, the common standards are selected and appointed as material. Hence, each company belonging to same sector should have common disclosed standards. For instance, after reading and scanning the companies in manufacturing sector, it is found to be that all performance standards in each topic considered material. For this reason, the companies belonging to manufacturing

³ The GRI standards were released in 2016. All performance standards, namely topic specific standards included in the study are economic environmental and social standards. In the present research, the term “standards”, “indicators” are used interchangeably.

industry should disclose all the standards (100%). However, as indicated in Table 2, according to companies in electricity, gas and water industry, among all, 83% of economic standards (indicators), 100% of environmental standards, and 74% of social standards perceived as material indicators, thus, those companies exist in electricity, gas and water industry should disclose these standards. To sum up, one of the important contribution of this study is constructing a scoring system according to material topics that should exist in each industry and then, assessing the disclosure levels of companies by taking their industrial differences account. Table 3 demonstrates all common indicators of each sector.

Table 2: Percentage of indicators material to each sector

Sectors	ECONOMIC	ENVIRONMENT	SOCIAL
Manufacturing	100%	100%	100%
Electricity, gas and water	83%	100%	74%
Construction and public works	100%	88%	74%
Wholesale and retail trade, hotels and restaurants	100%	100%	95%
Transportation, telecommunication and storage	83%	100%	100%
Financial institutions	100%	100%	100%
Technology	67%	88%	63%

The construction process of the scoring system was conducted by the following steps:

1. Firstly, all the companies presenting sustainability disclosures were identified and categorized according to their sectors.
2. Material topics regarding performance topics (economic, environmental and disclosures in reports or websites of each company were determined as discussed above. By this means, standard pools consisted of all material issues for each sector was created.
3. Based on the suggestions of the related prior studies (Rouf, 2011; Skouloudis and Evangelinos, 2009; SKD Turkey report, 2017), all performance topics were sent to 41 experts (financial audits, financial analysts and certified public accounts) to give weights to each topic regarding their relative importance for different sectors.
4. The level of sustainability disclosures were graded by checking whether the sample firms disclosed the industry-specific material items. For this purpose,

based on previous literature, a numerical scoring system was designed for each topic of the GRI standards by taking different disclosing manners of sample firms into consideration. Accordingly, this scoring tool is intrinsic to Turkey context. The aforementioned tool is described and exemplified in Table 4.

5. By means of the constructed scoring system and the scoring tool, the extent of sustainability disclosures of each company were analyzed four times by a same researcher for the consistency of the results.



Table 3: Included Indicators (GRI standards) In Each Sector

		Manufacturing Industry	Electricity, gas and water	Construction and public works	Wholesale and retail trade, hotels and restaurants	Transportation, telecommunication and storage	Financial institutions	Technology
	ECONOMIC PERFORMANCE DISCLOSURES							
1	Information on Economic Performance	+	+	+	+	+	+	+
2	Information on Market Presence	+	+	+	+		+	
3	Information regarding Indirect Economic Effects	+	+	+	+	+	+	+
4	Disclosures on Procurement Practices	+	+	+	+	+	+	+
5	Information related to Anti-Corruption assessments	+	+	+	+	+	+	+
6	Disclosures regarding Anti-Competitive Behavior	+		+	+	+	+	
	ENVIRONMENTAL PERFORMANCE DISCLOSURES							
1	Information reflecting environmental sensitivity in the selection and usage of materials	+	+		+	+	+	
2	Disclosures regarding the energy intensity and reduction of energy consumption	+	+	+	+	+	+	+
3	Information on sustainability and the consumption of water source	+	+	+	+	+	+	+
4	Information on conservation of biodiversity	+	+	+	+	+	+	+
5	Disclosures related to Emissions	+	+	+	+	+	+	+
6	Disclosures related to water effluents and discharges	+	+	+	+	+	+	+
7	Information on the level of compliance with laws and regulations	+	+	+	+	+	+	+
8	Information regarding the suppliers that were screened using environmental criteria	+	+	+	+	+	+	+

	SOCIAL PERFORMANCE DISCLOSURES							
1	Information related to organization's efforts to implement inclusive recruitment practices	+	+	+	+	+	+	+
2	Disclosures on minimum notice periods regarding operational changes	+	+		+	+	+	
3	Occupational health and safety	+	+	+	+	+	+	+
4	Information on employee training programs	+	+	+	+	+	+	+
5	Disclosures on diversity of governance bodies and employees	+	+	+	+	+	+	+
6	Disclosures regarding the actions taken to prevent incidents of discrimination	+	+	+	+	+	+	+
7	Information on freedom of association and collective bargaining	+	+	+	+	+	+	+
8	Disclosures on child labors	+	+	+	+	+	+	+
9	Disclosures on forced and compulsory labor	+	+	+	+	+	+	+
10	Information on the number of trained security personnel	+	+	+		+	+	
11	Disclosures on the rights of indigenous people	+			+	+	+	
12	Disclosures on human rights assessments	+	+	+	+	+	+	+
13	Information on operations with local community engagement, impact assessments, and development programs	+	+	+	+	+	+	
14	Disclosures on the suppliers that were screened using social criteria	+	+	+	+	+	+	+
15	Information reflecting the organization's participation in public policy development and lobbying	+		+	+	+	+	+
16	Disclosures on the incidents of non-compliance with regulations and/or voluntary codes concerning the health and safety impacts of products and services	+			+	+	+	+
17	Disclosures on the information and labels respond to the impact of a product or service on sustainability	+		+	+	+	+	
18	Disclosures on customer privacy policies	+			+	+	+	
19	Disclosures regarding the organization's compliance with laws and regulations in the social and economic area.	+	+		+	+	+	

4.2.2.2. Scoring Method

Academic researchers and consultancy firms have offered various methods for judging the disclosures of non-financial reports, under scoring options over the last two decades (Skouloudis et. al., 2009). Following the frameworks of previous sustainability disclosure evaluation methodologies (Daub, 2007; Skouloudis et al., 2009; Morhardt et al., 2002; Deloitte Touche Tohmatsu, 2002; Yadava, Sinha, 2015), a numerical scoring tool was constructed, where each one of the GRI performance (topic-specific disclosures including economic, environmental and social topics) was given a score between 0 and 3 points. If a specific indicator was not mentioned in the assessed disclosure, score of “0” was given. If any title or any generic definition of that indicator presents in the disclosure, a score of “1” was appointed. With a presence of extensive information more than only a sentence or a title including explanations, an indicator receives score of “2”. Lastly, the maximum score of “3” was given to an indicator when coverage was full and systematic, meeting the GRI requirements completely. Scores were assigned as shown in Table 4.

Table 4: Constructed Scoring Tool

Score	Scoring Levels
0	No information is provided
1	Generic Statements disclosed
2	The disclosure provides good information on the requirement
3	Full and systematic coverage is provided

Expert Assessments

As stated, in some of the studies investigating the level of disclosures and developing a scoring tool based on GRI framework, considering the relative importance of each topic requires engagement of stakeholder groups. However, because of the difficulty in the process of involving such experts into a research project to give weights to individual GRI topics and indicators for different sectors, some of the previous studies have given same weights to all indicators. Nevertheless, some studies put more weight on quantitative disclosures (Wiseman, 1982), some others use weighting factors by appointing them more points than others (Clausen et. al., 2005; Daub, 2007).

In the current study, all performance indicators included in the scope of the study based on GRI framework were sent to experts to give weights to each topic regarding their relative importance for different sectors. The reason for sending to financial experts is the importance of the ideas of this stakeholder group as mentioned in the studies of Rouf, (2011), Skouloudis and Evangelinos (2009), SKD Turkey report (2017). For instance, SKD Turkey report (2017) report expresses that sustainability, governance and finance experts need to work together to enable a company to disclose and report the potential impacts of sustainable issues such as climate change. For this purpose, a survey was consisted of GRI performance indicators by taking into consideration the sectorial differences was sent to financial experts. The survey was consisted of two parts. The first part covers constant sum scaling which the respondent is asked to distribute a certain point among the items, and the second part is consisted of 0-5 Likert scale in where the indicators disclosed by companies *in reference to its importance from* "1 = least importance" to "5 = most important" is ranked by the expert. The survey sent to experts can be found in Appendix E Then the weighted average of each indicator has given the score of each dimension. In addition to this average, the score of each performance dimension (economic, environmental and social) by taking the sectoral weights (based on results of constant sum scaling) into account, total score of each company has evaluated. To better understand these calculations see Table 5 below. Additionally, Table 6 presents an example for the implementation of the devised scoring system of economic performance topic. This new system can be applied similarly to environmental and social performance topics.

Table 5: Developed Two Step Scoring Methodology

STEP 1					
	Disclosure Score (0-3)	# of disclosures	Unweighted score	Experts assessments disclosure weight	Step 1 Standard Score
Acronym:	a	b	c	d	e
Formula:	a	b	=sum(a x b)	d	e
					=(c x d)/e

STEP 2				
	Experts assessments topic weight	Total Sectorial Topic Score (unweighted)	Total Sectorial Topic Score (weighted)	Step 2 Topic Score
Acronym:	g	h	i	j
Formula:	g	sum (f) x g	i	sum(i)
				sum(j)

Overall, after measuring total, economic, environmental and social scores as a result of the described methodology above, the associations among these company disclosure scores and corporate governance factors with the firm-specific factors as control variables were observed. Table 7 and Table 8 presents the weighted item as a result of expert opinions.

Table 6: Example for the Implementation of the Devised Scoring System of Economic Performance Topic

TOPIC: ECONOMIC PERFORMANCE		Disclosure Score (0-3)	# of disclosures	Unweighted score	Experts assessments disclosure weight	# standards	Step 1 Standard Score	Experts assessments topic weight	Total Sectorial Topic Score (unweighted)	Total Sectorial Topic Score (weighted)
Acronym:		a	b	c	d	e	f	g	h	
Formula:		a	b	=sum(a x b)	d	e	=(c x d)/e	g	=sum (f) x g	i
<i>Example for Manufacturig Sector</i>								0,40	11,35	4,54
GRI 201	Economic performance			3	4,34	6	2,17			
D201-1	Direct economic value generated and distributed	3	=1/4							
D201-2	Financial implications and other risks and opportunities due to climate change	3	=1/4							
D201-3	Defined benefit plan obligations and other retirement plans	3	=1/4							
D201-4	Financial assistance received from government	3	=1/4							
GRI 202	Market Presence			3	4,00	6	2,00			
D202-1	Ratios of standard entry level wage by gender compared to local minimum wage	3	=1/2							
D202-2	Proportion of senior management hired from the local community	3	=1/2							
GRI 203	Indirecet economic impact			3	3,48	6	1,74			
D203-1	Infrastructure investments and services supported	3	=1/2							
D203-2	Significant indirect economic impacts	3	=1/2							

GRI 204	Procurement practices			3	3,51	6	1,76
D204-1	Proportion of spending on local suppliers	3	=1/1				
GRI 205	Anti-corruption			3	3,73	6	1,87
D205-1	Operations assessed for risks related to corruption	3	=1/3				
D205-2	Communication and training about anti-corruption policies and procedures	3	=1/3				
D205-3	Confirmed incidents of corruption and actions taken	3	=1/3				
GRI 206	Anti-competitive behavior			3	3,63		1,82
D206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	3	=1/1				

Table 7: Weighted Reporting Indicators (Standards)

	Number of Disclosures	Experts assessments disclosure weight
ECONOMIC PERFORMANCE DISCLOSURES		
1 Information on Economic Performance	4,0	4,3
2 Information on Market Presence	2,0	4,0
3 Information regarding Indirect Economic Effects	2,0	3,5
4 Disclosures on Procurement Practices	1,0	3,5
5 Information related to Anti-Corruption assessments	3,0	3,7
6 Disclosures regarding Anti-Competitive Behavior	1,0	3,6
ENVIRONMENTAL PERFORMANCE DISCLOSURES		
1 Information reflecting environmental sensitivity in the selection and usage of materials	3,0	4,1
2 Disclosures regarding the energy intensity and reduction of energy consumption	5,0	4,2
3 Information on sustainability and the consumption of water source	3,0	4,3
4 Information on conservation of biodiversity	5,0	4,0
5 Disclosures related to Emissions	7,0	4,0
6 Disclosures related to water effluents and discharges	5,0	4,2
7 Information on the level of compliance with laws and regulations	1,0	3,9
8 Information regarding the suppliers that were screened using environmental criteria	2,0	3,7
SOCIAL PERFORMANCE DISCLOSURES		
1 Information related to organization's efforts to implement inclusive recruitment practices	3,0	4,3
2 Disclosures on minimum notice periods regarding operational changes	1,0	3,8
3 Occupational health and safety	4,0	4,4
4 Information on employee training programs	3,0	4,0
5 Disclosures on diversity of governance bodies and employees	2,0	3,8
6 Disclosures regarding the actions taken to prevent incidents of discrimination	1,0	4,0
7 Information on freedom of association and collective bargaining	1,0	3,8
8 Disclosures on child labors	1,0	4,4
9 Disclosures on forced and compulsory labor	1,0	4,2
10 Information on the number of trained security personnel	1,0	3,7
11 Disclosures on the rights of indigenous people	1,0	3,7
12 Disclosures on human rights assessments	3,0	4,3
13 Information on operations with local community engagement, impact assessments, and development programs	2,0	3,7
14 Disclosures on the suppliers that were screened using social criteria	2,0	3,2
15 Information reflecting the organization's participation in public policy development and lobbying	1,0	3,3
16 Disclosures on the incidents of non-compliance with regulations and/or voluntary codes concerning the health and safety impacts of products and services	2,0	4,2
17 Disclosures on the information and labels respond to the impact of a product or service on sustainability	3,0	3,8
18 Disclosures on customer privacy policies	1,0	4,1
19 Disclosures regarding the organization's compliance with laws and regulations in the social and economic area.	1,0	4,1

Table 8: Weights given to each sustainability dimension that should be present in a sustainability report (disclosure) in terms of their priorities

Sectors	Experts assessments disclosure weight (Survey)		
	ECONOMIC	ENVIRONMENT	SOCIAL
Manufacturing Industry	0,40	0,36	0,24
Electricity, gas and water	0,40	0,36	0,24
Construction and public works	0,38	0,35	0,27
Wholesale and retail trade, hotels and restaurants	0,44	0,27	0,29
Transportation, telecommunication and storage	0,42	0,30	0,28
Financial institutions	0,51	0,20	0,29
Technology	0,47	0,24	0,29
TOTAL SCORE	0,40	0,36	0,24

4.2.3. Measuring Corporate Sustainability Disclosure (CSD) Influencing Factors

For the answer of third research question, “Do corporate governance and firm-specific factors influence the sustainability disclosure practices of companies listed in Borsa Istanbul?” Two groups of corporate sustainability disclosure influencing factors were identified, as discussed in section 3. According to prior studies investigating the relationship between corporate governance and corporate social responsibility disclosure, the significant relationships among some of the factors are observed (Haniffa, Cooke, 2005); Michelon, Parbonetti, 2012; Chan et. al., 2014; Kılıc et. al., 2015).

Following Michelon and Parbonetti (2012), corporate governance factors are categorized as board composition, board characteristics, board structure and board leadership. Governance factors measured by the proportion of independent directors in the board (INDRC) for board composition, the proportion of community influential members (CIFMEM) for board characteristics, the presence of corporate sustainability committee (CSC) and corporate sustainability director (CSD) for board structure, and lastly for the board leadership, CEO duality (CEOD) was measured as independent variables, respectively.

Additionally, in previous literature, the effect of firm-specific variables on the disclosure levels was evaluated (Holder-Webb, et al., 2009; Uyar et al., 2013; Rouf, 2011; Alhazmi, 2017). Within the present study, these factors were used as control variables (Michelon, Parbonetti, 2012; Haniffa, Cook, 2005). Therefore, the second

group of factors consisted of eight variables including free float rate (FFR), big four effect of the audit firm (AUDITFIRM), reputation (REPUT), return on assets (ROA), board size (NBOD), firm size (SIZE), industry type (INDUSTRY) and gearing (DTE).

Table 9 demonstrates all variables included in the current study.

Table 9: Constructs of Dependent, Independent and Control Variables

Dependent Variables	Measurement
CSDI	Corporate sustainability disclosure index score
ECPD	Economic performance disclosure score
ENPD	Environmental performance disclosure score
SPD	Social performance disclosure score
Corporate Governance	
INDRC	Proportion of independent directors
CIFMEM	Proportion of community influential members of board of directors.
CSC	Dummy variable equal to 1 if company has a social sustainability committee, 0 otherwise.
CSD	Dummy variable equal to 1 if company has identified person in charge of sustainability issues, 0 otherwise.
CEOD	Dummy variable equal to 1 if CEO is also chairman, 0 otherwise.
Firm-Specific	
FFR	Free float rate
AUDITFIRM	Dummy variable equal to 1 if company is audited by 4-big audit firms, 0 otherwise.
REPUT	Dummy variable equal to 1 if company belongs to BIST sustainability index, 0 otherwise.
ROA	Return on asset.
NBOD	Number of board members
SIZE	Natural logarithm of net sales.-
INDUSTRY	8 Dummies
DTE	Debt to equity

4.3. Research Limitations

There are some limitations in the present study. Firstly, the data sample is limited to the companies listed in Borsa Istanbul, Turkey. Secondly, in the construction process of the evaluation methodology to assess the disclosure scores of companies, the limited number of experts' suggestions were received in order to weight each indicators. In order to generalize and use this system in international arena, views of a considerable amount of experts from different countries should participate in the analysis. As a result, it will be possible to arrive at consensus and

conducting such cross-cultural or comparative studies might enrich the experience regarding corporate sustainability disclosure practices. Thirdly, this study uses only one-year data of the selected companies. Thus, including the data of several periods could allow to analyze the progress of disclosure trends.

4.4. Empirical Results

This section presents the empirical results of the study. Descriptive study, correlation analysis, and hierarchical multiple regression analysis results are discussed. Among the variables entered into measurements which are found to be statistically significant were discussed in the present section.

4.4.1. Descriptive Statistics

Descriptive statistics are the sum of the numerical and graphical methods used to summarize data and reveal the underlying information. Numerical methods include "central tendency measures" and "variability (distribution) measures" (Padem et. al., 2012). In this research study, descriptive analysis is used to examine the features of CSD practices, as well as corporate governance variables and firm-specific variables.

The central tendency measures of mean, median and mode give information about the values representing the data set. Measures of variability including range, variance and standard deviation give information about the spread of the observation from the mean (Newbold et al., 2013:68).

4.4.1.1. CSD Characteristics

Table 10 provides descriptive statistics of the corporate sustainability disclosure index scores, the independent variables and control variables. The total corporate sustainability disclosure (CSDI) score including all topics (economic, environmental and social) ranges from lowest score of 0,16 to highest score 9,88, with a mean score of 4.64. The highest score of 9,88 (compared to the possible highest score of 11,70 which was calculated with a weighted factor) belongs to a manufacturing company listed in BIST Sustainability Index. On average companies

disclose more items of information about social topics (mean of 1,18, max. score of 3.39), economic topics (mean of 1.75, max. score of 5.09) and lastly, environmental topics (mean of 1.14, max. score of 3.39), respectively.

Table 10: Descriptive Statistics: Dependent Variables

	N	Minimum	Maximum	Mean	Std. Deviation
ECPD	79	0,00	5,09	1,7501	1,32289
ENPD	79	0,00	3,39	1,1353	0,80612
SPD	79	0,00	5,47	1,1795	0,92005
CSDI	79	,16	9,88	4,0644	2,61338

4.4.1.2. Corporate Governance Variables

Table 11 demonstrates the descriptive statistics of the independent variables. The mean and maximum values for the board size as measured by the total number of directors on board are 8.75 and 15, respectively. Based on the sample data the number of board directors changes from minimum 5 directors to maximum 15 directors. On average, 31% of board members are independent directors. The results support the results of previous studies of Chau and Gray (2010), Ho and Wong (2001) for Hong Kong cases, 35% and 34%, respectively, however lower than the mean of 61.7% found in the research of Michelon and Parbonetti (2012) investigating US and European countries. The mean proportion of community influential (CIFMEM) members is 37% while corporate sustainability committee (CSC) has a mean value of 0,44 and corporate sustainability director (CSD) has an average of 0,2.

4.4.1.3. Firm-specific Variables

As presented in Table 11, the average ROA is, 28% and free float rate (FFR) is 30% confirming the previous studies revealing that the ownership is not diffused at a high level (Uyar, 2011). One of the most interesting results is the size of the audit firm with a mean value of 97% indicating that majority of the firms are clients of Big-4 auditing firms. Debt to Equity (DTE) as a proxy of gearing indicates a high value of mean with 9.73 shows inconsistency with the previous studies conducted by Haniffa and Cook (2005) and Haniffa and Cook (2002), 14.5, 0.20, 2.08 respectively.

Table 11: Descriptive Statistics: Independent Variables

	N	Range	Minimum	Maximum	Mean	Std. Deviation
CEOD	79	1,00	0,00	1,00	,0506	,22065
CSC	79	1,00	0,00	1,00	,4430	,49992
CSD	79	1,00	0,00	1,00	,2025	,40445
INDRC	79	,25	,18	,43	,3070	,05911
CIFMEM	79	,86	0,00	,86	,3668	,19862
FFR	79	47,77	3,33	51,10	30,9006	12,74138
AUDITFIRM	79	1,00	0,00	1,00	,97	,15809
NBOD	79	10,00	5,00	15,00	8,7468	2,36138
REPUT	79	1,00	0,00	1,00	,5063	,50315
ROA	79	,49	-,21	,28	,0352	,07244
SIZE	79	3,32	8,25	11,57	9,7292	,79522
DTE	79	32,56	,20	32,76	3,7052	5,39597

4.4.2. Associational Analysis

For the purpose of understanding the bivariate relationships in quantitative data, there is a need for correlation analysis (Blaikie 2003). A correlation analysis is a linear relationship between two variables, or a statistical method used to test the relationship of one variable with two or more variables, if any, to measure the degree of this relationship. The purpose of correlation analysis is to see how the dependent variable (Y) changes when the independent variable (X) changes. Hence, the correlation analysis requires the variables to be continuous and have a normal distribution.

In the correlation analysis, a correlation of “0” is the indicator of no linear relationship between two variables. In other words, if the two variable are independent, the correlation is equal to “0”. A positive correlation indicates that the variables are positively dependent. It can accepted as perfect positive linear dependency, if the correlation is +1. Contrarily, a perfect negative linear dependency exists if the correlaton is -1 (Newbold, 2013; Field, 2013). The present study applied pearson correlation analysis to observe the linear relationship between CSRD, corporate governance and firm-specific variables.

In the light of the fact, parametric Pearson Correlation analysis was conducted. As seen on Table 12, these findings suggest that, overall corporate sustainability disclosure (CSDI) has a significant positive correlation with corporate sustainability committee (CSC), corporate sustainability directors (CSD), being listed in BIST sustainability index (REPUT), and lastly, firm size (SIZE).

Similarly, economic performance disclosure, ECPD has positive associations with the same independent and control variables as CSDI including CSC, CSD, REPUT and SIZE. Additionally, NBOD and DTE are among the associated variables with ECPD, both in 1% and 5% significance levels. All these mentioned variables have positive signs.

Environmental performance disclosure, ENPD confirms the relationship with same variables discussed above. These are CSD, CSC, REPUT, ROA, MANUFAC and FINANC (significantly negative). The highest correlations are between ENPD and FINANC (negative) with the value -0,416, as well as REPUT (positive) 0,411.

Social performance disclosure, SPD have positive relationships with the CSC, CSD, REPUT and SIZE in similar lines with the dependent variables of CSDI and ECPD. The highest correlations are of CSC (0,486) and SIZE (0,491).

Overall, there seems to be some evidence to indicate that, all dependent variables are positively correlated to CSC, CSD, REPUT. While some of the results are consistent with the prior research, some do not. For instance, CSDI is positively correlated with SIZE (0.52) and REPUT (0.42) similar to study of Michelin and Parbonetti (2013). Furthermore, CSC and CSD are also positively correlated to each other. This may be attributed to the natural relationship among these two variables. Additionally, among the all independent variables, “SIZE - REPUT” and “CSD – CSC” are the pairs having the highest correlations. MANUC and FINAN sectors negatively correlated. Unlike Michelin and Parbonetti (2013), CEO duality is not correlated to SIZE. However, SIZE has relationships between all disclosure levels with the exception of ENPD, as well as independent variables of CSC, CSD, REPUT, NBOD, DTE, MANUFAC and FINANC. In summary, being consistent with the results of (Duraya, 2011), company size is found to be the variable which evidence the strongest association with other variables.

Table 12: Pearson Correlation Analysis

	CSDI	ECPD	ENPD	SPD	INDRC	CIFMEM	CEOD	SCC	SCD	FFR	AUDIT FIRM	REPUT	ROA	SIZE	NBOD	DTE	MANUFAC	ELEC	CONST	WHOLE	TRANS	FINAN	TECH
CSDI	1																						
ECPD	,910**	1																					
ENPD	,821**	,593**	1																				
SPD	,929**	,761**	,734**	1																			
INDRC	-,002	,020	-,043	,017	1																		
CIFMEM	,035	,123	-,033	-,002	,099	1																	
CEOD	-,074	-,051	-,064	-,054	,151	,100	1																
SCC	,475**	,419**	,335**	,486**	,027	-,060	-,090	1															
SCD	,327**	,360**	,240*	,262*	-,069	,014	-,116	,502**	1														
FFR	-,083	,005	-,175	-,096	,144	,017	,040	,053	,046	1													
AUDITFIRM	,201	,166	,178	,188	,145	-,070	,037	,144	,081	-,128	1												
REPUT	,422**	,399**	,411**	,340**	-,006	,209	-,003	,371**	,246*	,154	,163	1											
ROA	,161	,025	,222*	,205	,000	,046	-,133	,173	,253*	,092	-,019	-,015	1										
SIZE	,519**	,625**	,193	,491**	,158	,199	,090	,397**	,292**	,201	,126	,597**	-,050	1									
NBOD	,198	,249*	,083	,156	-,308**	,030	-,057	,096	,062	,086	,040	,458**	-,092	,438**	1								
DTE	,124	,230*	-,051	,094	-,056	-,020	,145	,055	,025	,105	-,086	,314**	-,467**	,464**	,347**	1							
MANUFAC	,093	-,132	,396**	,060	-,097	-,326**	-,217	,082	,032	,035	,151	-,037	,319**	-,395**	-,047	-,354**	1						
ELEC	,101	,071	,135	,095	-,107	-,022	-,037	,181	,119	-,029	,026	-,002	-,201	,015	-,077	,183	-,151	1					
CONST	,058	,068	,018	,079	,099	,097	-,037	-,144	-,081	-,017	-,487**	-,163	,053	,005	-,224*	-,101	-,151	-,026	1				
WHOLE	,041	,017	,039	,082	,056	,063	-,053	-,090	-,116	-,230*	,037	-,003	-,314**	-,173	-,027	,037	-,217	-,037	-,037	1			
TRANS	-,082	-,054	-,056	-,089	,156	,123	,210	-,206	-,116	,117	,037	,228*	-,115	,192	,038	,073	-,217	-,037	-,037	-,053	1		
FINAN	-,071	,161	-,416**	-,054	,043	,227*	,199	,056	,102	,041	,116	,018	-,102	,431**	,150	,281*	-,676**	-,116	-,116	-,166	-,166	1	
TECH	-,151	-,126	-,106	-,157	-,090	,014	-,046	-,044	-,100	-,027	-,390**	-,069	,034	-,077	-,017	,036	-,186	-,032	-,032	-,046	-,046	-,143	1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

4.4.3. Regression Analysis

The body of statistical methodology used to analyze simultaneous measurements on many variables is called multivariate analysis (Johnson and Wichern, 2016). Regression analysis is the process in which relations between a dependent variable and an independent or multiple independent variables are explained by means of an econometric equation (Gujarati and Porter 2009). Johnson and Wichern (2016) state that “Regression analysis is the statistical methodology for predicting values of one or more response (dependent) variables from a collection of predictor (independent) variable values. It can also be used for assessing the effects of the predictor variables on the responses”. If there are several response variables then it is named as multivariate multiple regression. Following Said et al. (2009), hierarchical regression analysis was employed in the current study. It is the type of analysis that the researcher determines which variables should be added in what order of the variables. This type of regression is similar in many respects to standard multiple regression, the only difference is how the independent variables are added to the model.

In the analysis of this study, there are one main and three sub-models under examination, main model of which is namely, Model 1. These models attempt to answer the third research question by examining the influences of corporate governance and firm-specific factors on CSD practices in the Turkish context. All of the measurements of variables have been described in the previous sections. The following is presenting the econometric models.

Model 1:

$$CSDI = a_0 + \beta_1 INDRC + \beta_2 CIFMEM + \beta_3 CSC + \beta_4 CSD + \beta_5 CEOD + \beta_6 FFR + \beta_7 AUDITFIRM + \beta_8 REPUT + \beta_9 ROA + \beta_{10} NBOD + \beta_{11} SIZE + \beta_{12} INDUSTRY + \beta_{13} DTE + \epsilon_{it}$$

Model 2:

$$ECPD = a_0 + \beta_1 INDRC + \beta_2 CIFMEM + \beta_3 CSC + \beta_4 CSD + \beta_5 CEOD + \beta_6 FFR + \beta_7 AUDITFIRM + \beta_8 REPUT + \beta_9 ROA + \beta_{10} NBOD + \beta_{11} SIZE + \beta_{12} INDUSTRY + \beta_{13} DTE + \epsilon_{it}$$

Model 3:

$$ENPD = a_0 + \beta_1 \text{INDRC} + \beta_2 \text{CIFMEM} + \beta_3 \text{CSC} + \beta_4 \text{CSD} + \beta_5 \text{CEOD} + \beta_6 \text{FFR} + \beta_7 \text{AUDITFIRM} + \beta_8 \text{REPUT} + \beta_9 \text{ROA} + \beta_{10} \text{NBOD} + \beta_{11} \text{SIZE} + \beta_{12} \text{INDUSTRY} + \beta_{13} \text{DTE} + \varepsilon_{it}$$

Model 4:

$$SPD = a_0 + \beta_1 \text{INDRC} + \beta_2 \text{CIFMEM} + \beta_3 \text{CSC} + \beta_4 \text{CSD} + \beta_5 \text{CEO } D + \beta_6 \text{FFR} + \beta_7 \text{AUDITFIRM} + \beta_8 \text{REPUT} + \beta_9 \text{ROA} + \beta_{10} \text{NBOD} + \beta_{11} \text{SIZE} + \beta_{12} \text{INDUSTRY} + \beta_{13} \text{DTE} + \varepsilon_{it}$$

In the process of multiple regression analysis, the most important part is meeting with the regression assumptions that can not be violated. These assumptions include testing for normality, multicollinearity, linearity, homoscedasticity, and autocorrelation, which are discussed below.

Parametric tests require at least one population parameter to be estimated from sample statistics. To make parametric estimations, specific assumptions should meet the conditions of parametric tests, the most the most important of which is that the variable assessed in the sample is normally distributed in the population to which it is to be generalized (Ashcraft, 1998). If the variables are normally distributed, many statistical estimates work well (Hamilton 2013). The variables that follows a normal distribution has a symmetric bell-shaped curve centered on the mean with the skewness and kurtosis values of 0 and 3, respectively. Skewness indicates the asymmetry, while kurtosis refers to the flatness of the curve (Bump, 1991; Ashcraft, 1998). er words, the aim of these measures is to demonstrate how the variables are distributed around the mean (Kalaycı, 2010). Additionally, tests for measuring normality may be either graphical (histograms) or nongraphical (Ashcraft, 1998) and both of the methods are used in the present study. In the case of non-normality, the observations are transformed to normality in order to change the sample distribution (Hamilton 2013). After transformation, the skewness values of normalized values are expected to be between -3 and +3 (Kalaycı, 2010; Garson, 2013).

No perfect multicollinearity between independent variables is the other assumption for multiple regression analysis. Multicollinearity occurs in the existence of high correlations between individual independent variables or one or more of the

independent variables have a strong linearship to the other independent variables or a combination of both (Newbold et. al., 2012). There are several methods in order to detect this problem (Gujarati, 2009). Firstly, the correlations between all pairs of independent variables were examined through the correlation matrix (Kalaycı, 2010 Duraya, 2011). The ground rule for detecting multicollinearity problem is when the correlation coefficient exceeds 0.8 (Gujarati, 2003; Kalaycı, 2010). Second method for multicollinearity is the assessment of the variance inflation factor (VIF). A VIF value above 10 is the indicator of the harmful degree of multicollinearity (Gujarati, 2003). Furthermore, as a rule of thumb, a tolerance value which is the reciprocal of VIF ($1/VIF$) should be estimated nearly 0 to meet the unproblematic multicollinearity (Tabachnick, Fidell 2013). As a result of the calculations no multicollinearity problem for the observed data is detected. Lastly, the eigenvalues and condition index results also confirm that multicollinearity should not be a point of concern for the existing data.

Hair (2006) states that “the linearity of the relationship between dependent and independent variables represents the degree to which the change in the dependent variable is associated with the independent variable”. In order to control linearity, the Cook’s distance test was used. If the observed variables are linear, the Cook’s distance exists less than value of 1 (Haniffa, Hudaib 2006). Alternatively, Linearity of any bivariate relationship is easily tested through residual plots. The case of well fitting curve, is one of the best available indications of linearity meaning as the model is on the right path (Carmenes, R. S., 1996). In the present study, Cook’s distance values range from 0.00 to 0.3 verifying the linearity.

Heteroscedasticity is the one most common assumption violation which refers to the presence of unequal variances (Hair, 2006). Plot of the regression standardized residual against the predicted value looks like a random sequence of dots evenly spread around zero represents that the assumptions of linearity and homoscedasticity have been met. (Field, 2009; Hair, 2006). Hair (2006) states that the violations of both assumptions appear simultaneously. If heteroscedasticity is observed, the estimated standard errors might be biased and unreliable (Kennedy 2008; Alhazmi, 2017). To sum up, if a funnel shape is evident, then chances are the model suffers from heteroscedasticity (Field 2013; Tabachnick, Fidell 2013). The visual inspection of the plot did not suggest the heteroscedasticity of variance in the current research

study.

In the present study, both measures of dependent variables of CSDI, ECPD, ENPD, and SPD were not normally distributed according to normality tests based on skewness and kurtosis as well as the Kolmogorov-Smirnov and Shapiro-Wilk tests. There are various mathematical functions for data transformation such as square, square root, cube, reciprocal and natural logarithms (Hamilton 2013; Alhazmi, 2017). By means of these calculations, data can be transformed into normally distributed data. In this study, some of the dependent and independent variables have been transformed for normality by taking their logarithms and square roots.

After the normalization process, correlation analysis was performed to detect for the possibility of multicollinearity problem. As mentioned in the previous sections, the correlation coefficients should be less than 0.80 (Gujarati, 2003; Koop 2008; Kalaycı, 2010). Furthermore, both the variance inflation factor (VIF) and tolerance (1/VIF) were used to test the presence of multicollinearity. Results indicated no multicollinearity problem for the observed data.

Besides testing for normality and multicollinearity, analysis of residuals confirmed the homoscedasticity and linearity meeting the assumptions of multiple regression model. Lastly, data was checked for autocorrelation by Durbin-Watson test which is concerned with the relationship between the values of the error term (Kennedy 2008).

With the completion of these steps, hierarchical regression analysis was used to predict the normalized data. Regression analysis revealed that Model 1(CSDI) Model 2 (ECPD), Model 3 (ENPD), and Model 4 (SPD) have the adjusted R squares of 46%, 41%, 47%, and 44% respectively. According to the results, as a corporate governance variable, only corporate sustainability committee (CSC) found to be significant. In terms of firm-specific variables, the results suggest that the free float rate (FFR), firm size (SIZE), type of industry (MANUFAC and FINANC), return on assets (ROA) and REPUT emerged as reliable predictors of dependent variables. In the sub-sections, each significant variable will be discussed in detail.

The analysis results of Model 1, Model 2, and Model 3, based upon the whole sample of 79 firms are shown in Table 13. According to the results of the first model, there is a positive and statistically significant association between CSC and CSDI (β

= ,229, $p < .05$), FFR has a negative and statistically significant impact on CSDI ($\beta = -.22$, $p < .05$), there is a positive and statistically significant association between SIZE and CSDI ($\beta = ,642$, $p < .01$) and MANUFAC AND FINAN positive ($\beta = -.18$, $p < .10$) and negative ($\beta = -.229$, $p < .10$) statistically significant associations with CSDI, respectively.

For the second model, there is a positive and statistically significant association between CSC and ECPD ($\beta = ,203$, $p < .05$). Additionally, SIZE has a statistically significant association between ECPD ($\beta = ,544$, $p < .01$).

According to the third model, FFR has a negative and statistically significant impact on ENPD ($\beta = -.287$, $p < .05$), there is a positive and statistically significant association between SIZE and ENPD ($\beta = ,388$, $p < .01$), REPUT has a positive and a statistically significant relationship with ENPD ($\beta = ,242$, $p < .05$) and MANUFAC AND FINAN positive ($\beta = -.329$, $p < .01$) and negative ($\beta = -.353$, $p < .01$) statistically significant associations with CSDI, respectively.

Last model, namely SPD has associations between CSC, FFR, ROA, SIZE, FINAN. CSC has a positive ($\beta = ,253$, $p < .01$), FFR has a negative ($\beta = -.193$, $p < .05$) associations with SPD level. Additionally, there is a positive and statistically significant relationship between ROA ($\beta = ,244$, $p < .05$) and SPD. There is a positive and statistically significant association with SIZE ($\beta = ,585$, $p < .01$) and SPD. FINAN has a negative and statistically significant association ($\beta = -.255$, $p < .01$) with SPD. Lastly, WHOLE industry is found to be positive and statistically significant ($\beta = ,195$, $p < .05$) in model 4.

Table 13. Hierarchical Regression Analysis Results

	Dependent Variables							
	Model 1 CSDI		Model 2 ECPD		Model 3 ENPD		Model 4 SPD	
	Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat
Corporate Governance								
INDRC								
CIFMEM								
CSC	0,229	2,415**	0,203	2,143**			0,253	2,715*
CSD								
CEOD								
Firm-Specific								
FFR	-0,221	-2,572**			-0,287	-3,377	-0,193	-2,234**
AUDITFIRM								
REPUT					0,242	2,206**		
ROA							0,244	2,698**
NBOD								
SIZE	0,642	5,971*	0,544	5,740*	0,388	3,122*	0,585	5,642*
WHOLE								
TECHN								
CONSTR								
ELECTR								
MANUFAC	0,18	1,510***			0,329	2,864		
FINAN	-0,229	-1,963***			-0,353	-2,979*	-0,255	-2,717*
WHOLE							0,195	2,135**
DTE								
Max VIF	2,055		1,188		2,263		1,575	
Adjusted R2	0,459		0,41		0,467		0,467	
F-Value	14,224		28,091		14,688		12,398	
Sig. F	0		0		0		0	
Durbin-Watson	2,175		2,179		2,208		1,782	
Observations	79		79		79		79	

4.4.3.2. CSD and Firm Size

With regard to firm-specific factors, the sixth hypothesis predicted that the sustainability disclosure level has a positive association with the size of a company in Turkey. Table 13 indicates that firm size coefficient values are 0,642 in Model of CSDI, 0,566 in Model of SPD, 0,544 in Model of ECPD, and 0,388 in Model ENPD, in a descending ranking. The results indicate that firm size is positively and significantly related to CSD practices across Model 1, Model 2, Model 3, and Model 4 at a 1% and 5% level across the four models in explaining the variations of CSD practices in Turkey. Moreover, the correlation results indicates the positive association between “SIZE and REPUT”, and “SIZE and INDUSTRY”. More explicitly, among two industries, a positive correlation with “MANUFAC” and a negative correlation with “FINANC are predicted. This refers to that the larger firms tend to be listed in BIST sustainability index (REPUT), additionally, manufacturing firms disclose more information on economic performance topics. However, firms in financial sector affects level of disclosure (total, environmental and social) negatively. To sum up, the sixth hypothesis is accepted based on the current research study data confirming that firm size is a significant predictor of CSD practices in Turkey.

Today, the concepts of sustainability issues such as sustainable development, sustainable goals are subject to society. Due to the financial crises and institutional scandals, it's been revealed that the companies' efforts to improve their financial results alone could not succeed in the long run (Aras, Sarioglu, 2015). Therefore, large

Turkish companies need to manage their relationships with various stakeholder groups to legitimize their existence and secure the required resources for their survival and growth (Freeman 1984).

The findings of the present research are consistent with prior studies related to effects of firm size on disclosure practices (Trotman, Bradley, 1981; Haniffa, Cook, 2002; Alhazmi, 2017; Michelon, Parbonetti, 2012).

4.4.3.3. CSD and type of Industry

For the purpose of assessing the impact of industry on corporate disclosure level, 7 dummy variables are composed. However, in order to regress dummies, dummy of transportation industry was excluded as a reference sector. Among the residual dummies, six different industries were regressed; manufacturing, electricity, construction, wholesale, financial, and technology. Among these industries, only manufacturing, financial, and wholesale industries are found to be statistically significant.

The regression results revealed that the type of manufacturing industry have positive influence, while financial industry has negative significant impact on model 1 (CSDI) and model 3 (ENPD), respectively. However, level of social disclosure was found to be affected by both by financial (-) and wholesales (+) sectors, respectively. The coefficient value of manufacturing industry (0,329) is the highest in disclosing environmental disclosure. Similarly, financial industry has the highest negative coefficient value (-0,353) representing the negative relationship with the environmental disclosure. Financial sector, as compared to transportation realizes a decrease whilst the manufacturing carries out an increase on overall corporate sustainability disclosure level. Similar associations exist in both ENPD. However, in model 4, financial sector realizes a decrease whilst the wholesale increases the dependent variable of SPD level.

As Dye and Sridhar (1995) mentioned that companies tend to present disclosures that are material to them. Thus, the disclosure level may vary due to industry in which a company operating (Haniffa, Cooke, 2002). If firms are obliged to disclose their sectorial issues by regulators, Firms make further disclosures regarding their sustainable performances (Haniffa, Cook, 2002; Whittred, Zimmer, 1990). Similar to Kaymak and Bektas (2017) suggesting that the negative coefficient of the industry variable, which is financial sector in the present study. The reason for the negative impact of the finance sector on disclosure level may be that this sector is subject to different characteristics, regulators as compared to other sectors. However, as predicted in the current study, manufacturing industries are more prone to disclose environmental disclosures. Confirming the findings of the current study, Kuzey, Uyar (2017) discussed that companies operating in the manufacturing industry are in tendency for presenting their sustainability performances with disclosures rather than

disclosures published by service companies, therefore, the relationship between these two factors have been evidenced in the literature (Brammer, Pavelin, 2008; Legendre, Coderre, 2013). Concordantly, it may be the case therefore that firms causing higher environmental impacts and being weaker environmental performers tend to disclose more information for their legitimacy (Braam et al., 2016).

4.4.3.4. CSD and Profitability

According to the regression analysis, return on assets (ROA) as a proxy for profitability has an influence on social performance disclosure (SPD). The empirical results confirmed the positive significant association between these two variables. As mentioned in the previous literature, profitable firms inclined to disclose more information than peers for their reputation and impression (Alsaeed, 2006). In line with the findings of Kuzey and Uyar (2017), profitability has no significant association for all disclosure levels with the exception of SPD.

4.4.3.5. CSD and Free Float Rate

Sustainability reporting or disclosures are means of assurance, enable transparency and lead to decrease in agency costs (Choi, 1999). In other words, higher free float show the level of visibility of firms against stakeholders and public domain (Kılıc et al., 2015). However, the empirical results do not confirm the previous literature. There is significantly negative affect of FFR on total sustainability disclosure (CSDI), environmental performance disclosure (ENPD) and social performance disclosure with the coefficients of -0,221, -0,287, and -0,228, respectively. On the other side, as Uyar et al. (2013) evidenced a significant negative association between disclosure level and FFR, the findings of the current study is in the same line with the results aforementioned study stating that the FFR has an negative influence on the level of sustainability disclosure.

Therefore, making an inference of firms with high level of ownership diffusions tend to disclose less information might be reasonable. Since, corporations with high free float rate have various type of stakeholders with diversified interests, they may prefer not to disclose too much information.

CONCLUSION

Changes influencing social and economic structure such as global crises, rapidly growing population, global warming along with the climate change, biodiversity loss, depletion of resources, hunger, poverty, discrimination, human rights violations and corruption are leading to the raising expectations from roles and responsibilities of public and non-governmental organizations and require the need for sharing the value created in the society and better communicating with the stakeholders (Aras, Sarioglu, 2015). These mentioned issues pushed humanity into a search for a new order. Additionally, being responsible not only for its own generation but also for future generations have become a goal in all parts of the conscious society.

There are several organizations, such as the World Council on Sustainable Development, Business for Social Responsibility and Ethical Corporate governs organizations to increase the consciousness of environmental and social changes along with the corporate implementations (Alhazmi, 2017). At this point, corporate owners and managers tend towards these developments and integrate the concept of sustainability into their strategic decisions and communicate with stakeholders through disclosures. Thus, today, the scope of the concept of "accountability" has expanded. Sustainability reports should not be seen only as means of communication and accountability. One of the key features of these reports is the emphasis on the link between financial and non-financial performance of companies (BIST, 2014). For this reason, the present study investigates the corporate sustainability disclosure.

In the literature, the research studies indicated the relationship between corporate governance characteristics, firm-specific features and the level of sustainability disclosure (Clarkson, 2008; Kilic et. al., 2015). Prior studies also demonstrated the differences among the various countries' applications. The variations in corporate sustainability disclosures may be due to the differences in accounting systems and regulations.

In the light of these explanations, this research study aims to fill the gap in the literature regarding disclosure practices in Turkey with a differently constructed system and by examining the relationship between corporate governance

characteristics and disclosure level of firms.

The preceding discussion has shed light on the importance of corporate sustainability issues for Turkey. In research study, sustainability disclosures of listed companies in Turkey, as an emerging country, where the disclosure practices are in the improving stage have been investigated in terms of inclusiveness and materiality. The main research objective is to analyze whether the extent of corporate sustainability disclosure is associated with two groups of variables: corporate governance and firm-specific properties. For grading the level of disclosures, a new scoring system is constructed based on Global Reporting Initiative (GRI) standards.

Therefore, the following research questions are addressed in the light of the objective and aims of the current research study:

- Research question 1 - What is the nature and extent of Sustainability Disclosure of companies in Borsa Istanbul?
- Research question 2 - To what extent sustainability disclosures of companies meet the needs of stakeholders?
- Research question 3 - Do corporate governance and firm-specific factors influence the sustainability disclosure practices of companies listed in Borsa Istanbul?

The main research methods employed in this study are as follows:

- A new scoring system is developed (weighted scoring method) to measure the extent of corporate disclosure.
- Descriptive statistics, correlation and regression analyses are used as quantitative methods to test research hypotheses.
- Survey study is conducted to utilize the opinions of experts for weighting the indicators.

Both quantitative and qualitative methods are used to answer the research questions. Therefore, the data is obtained from both primary (survey) and secondary sources (non-financial reports and websites). Companies included in this study were selected from Borsa Istanbul.

The examination of the level of sustainability disclosure in corporate non-financial reports revealed that, there are considerable discrepancies among the scores

of the firms ranging from as low as 0,00 to a maximum of 9,88. The average score achieved by the sample firms is around 4,06 of the maximum possible points, while considerable variation in the information provided and different practices in the presentation of issues covered were evident. Additionally, average environmental disclosure score is 1,13 with a minimum of 0,00 and maximum score of 3,39. Economic performance score has a mean of 1,75 with a maximum score of 5,09. Lastly, social performance disclosure has a mean of 1,18 with a minimum score of 0,00 and maximum score of 5,47. As these descriptive results present, companies in Turkey included in seven various sectors, the highest score is obtained from the social performance dimension, followed by economic and environmental, respectively. This means firm prefer to disclose social disclosures more than other dimensions. However, scores of social and economic performances are not too different. To sum up, the sustainability disclosure level in Turkey still needs improvements in disclosure practices and becomes prevalent for any other industries and companies with different sizes.

Following the scoring stage, the analysis of CSD influencing factor findings suggested that corporate governance and firm-specific factors determine the CSRD practices in Turkey but only one governance factor was found to be statistically significant. In particular, the findings revealed that the existence of corporate sustainability committee has a positive and significant impact on CSD practices in BIST listed firms across the total corporate sustainability disclosure, social disclosure, and economic disclosure. However, CSC as a board structure factor, was found not to be related to environmental performance disclosure practices in Turkey. Among the firm-specific characteristics, free float rate and finance industry have a negative influence on total disclosure level confirming the findings of Uyar et al. (2013). Nevertheless, firm size and manufacturing industry, profitability and being listed in sustainability index were found to be positively affecting the corporate sustainability disclosure level.

The present study makes several noteworthy contributions to the literature. First, despite the substantial amount of studies on sustainability, a new evidence of corporate sustainability disclosure from a different perspective may enhance the understanding of the disclosure system further. For this reason, this study aims to present the emerging trends and practices related to this relatively new type of

corporate communication.

Second, this study extends the knowledge of current sustainability disclosure practices of listed companies in an emerging capital market. In particular, this is important for Turkey as a developing country which is currently in the process of developing a non-financial reporting system. Unlike other studies related to sustainability disclosure, this study uses not only individual annual reports or sustainability reports, it also covers all kind of sustainability-related disclosures of firms under examination.

Third, there is still a gap in literature examining the relationship between corporate sustainability reporting and corporate governance factors in developing countries (Haniffa, Cooke 2005; Ntim, Soobaroyen, 2013; Uyar et al., 2013; Alhazmi, 2017). Since the prior studies indicate that good corporate governance guides companies to promote their disclosure practices resulting in better provision of information to stakeholders (Haniffa, Cooke 2005; Uyar et al., 2013). The current research study to sum extent presents the evidence of the influence of corporate governance on corporate sustainability disclosure practices in Turkey.

Finally, by developing a sustainability disclosure scoring system based on the Global Reporting Initiative (GRI) standards, this study provides a benchmark tool. This tool allows the organizations themselves and the stakeholders to assess the level of sustainability disclosures and practices of the companies. Since, sustainability reports or disclosures, alongside with providing an assessment of the company's strategy, management approach and promises, are also seen as means of accountability and communication.

This finding has important implications for developing countries such as Turkey. Since the financial markets are shifting from the traditional short-term profit approach, investors prefer to invest in sustainable firms for long-term gains. Accordingly, because of having high growth rates and seeking for the maintenance of economic growth, emerging markets need to attract international investors. Overcoming the problems of information asymmetry and agency costs and thus becoming more transparent through sustainable disclosures lead to improving markets.

The findings of this research are subject to some limitations that might open new opportunities for further research. First, the current study is limited to Turkey. Second, in the construction of the proposed scoring system, the limited number of experts' opinion were received. In order to generalize and use this system in international arena, more experts' views from different countries should be asked. By this means, it will be possible to arrive at consensus and conduct cross-cultural or comparative studies in different countries as this would enrich the experience regarding corporate sustainability disclosure practices. Third, the study uses the data of companies only for one year. Thus, using the data of several periods could allow to analyze the progress of disclosure trends.

Consequently, the current research suggests that corporate sustainability disclosure practices are present in BIST listed firms. Furthermore, the study has revealed that corporate sustainability and firm-specific factors have impacts on corporate sustainability disclosure practices in Turkey.

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APPENDIX A

COMPANIES	SECTORS	GRI4	GRI STD.	ANNUAL REPORT
ADANA ÇİMENTO SANAYİİ T.A.Ş.	Manufacturing Industry	GRI4		
ADEL KALEMCİLİK TİCARET VE SANAYİ A.Ş.	Manufacturing Industry	GRI4		
AFYON ÇİMENTO SANAYİ T.A.Ş.	Manufacturing Industry			
AKBANK T.A.Ş.	Financial institutions	GRI4		Annual Report
AKÇANSA ÇİMENTO SANAYİ VE TİCARET A.Ş.	Manufacturing Industry	GRI4		Annual Report
AKENERJİ ELEKTRİK ÜRETİM A.Ş.	Electricity, gas and water	GRI4		Annual Report
AKİŞ GAYRİMENKUL YATIRIM ORTAKLIĞI A.Ş.	Financial institutions	GRI4		Annual Report
AKSA AKRİLİK KİMYA SANAYİİ A.Ş.	Manufacturing Industry	GRI4		Annual Report
AKSA AKRİLİK KİMYA SANAYİİ A.Ş.	Electricity, gas and water		GRI STD.	Annual Report
AKSİGORTA A.Ş.	Financial institutions			Annual Report
ALBARAKA TÜRK KATILIM BANKASI A.Ş.	Financial institutions			Annual Report
ALTIN YUNUS ÇEŞME TURİSTİK TESİSLER A.Ş.	Wholesale and retail trade, hotels and restaurants			Annual Report
ANADOLU CAM SANAYİİ A.Ş.	Manufacturing Industry	GRI4		
ANADOLU EFES BİRACILIK VE MALT SANAYİİ A.Ş.	Manufacturing Industry		GRI STD.	
ANEL ELEKTRİK PROJE TAAHHÜT VE TİCARET A.Ş.	Construction and public works			
ARÇELİK A.Ş.	Manufacturing Industry		GRI STD.	Annual Report

ASELSAN ELEKTRONİK SANAYİ VE TİCARET A.Ş.	Technology			Annual Report
ASLAN ÇİMENTO A.Ş.	Manufacturing Industry	GRI4		
AYGAZ A.Ş.	Manufacturing Industry		GRI STD.	
BAK AMBALAJ SANAYİ VE TİCARET A.Ş.	Manufacturing Industry			Annual Report
BOLU ÇİMENTO SANAYİİ A.Ş.	Manufacturing Industry			
BORUSAN MANNESMANN BORU SANAYİ VE TİCARET A.Ş.	Manufacturing Industry		GRI STD.	
BOYNER PERAKENDE VE TEKSTİL YATIRIMLARI A.Ş.	Financial institutions			Annual Report
BRİSA BRIDGESTONE SABANCI LASTİK SANAYİ VE TİCARET A.Ş.	Manufacturing Industry	GRI4		Annual Report
COCA-COLA İÇECEK A.Ş.	Manufacturing Industry		GRI STD.	
ÇİMSA ÇİMENTO SANAYİ VE TİCARET A.Ş.	Manufacturing Industry	GRI4		Annual Report
DOĞAN ŞİRKETLER GRUBU HOLDİNG A.Ş.	Financial institutions			Annual Report
DOĞUŞ OTOMOTİV SERVİS VE TİCARET A.Ş.	Wholesale and retail trade, hotels and restaurants	GRI4		Annual Report
DYO BOYA FABRİKALARI SANAYİ VE TİCARET A.Ş.	Manufacturing Industry			Annual Report
ECZACIBAŞI YATIRIM HOLDİNG ORTAKLIĞI A.Ş.,	Financial institutions			Annual Report
ENKA İNŞAAT VE SANAYİ A.Ş.	Construction and public works			
EREĞLİ DEMİR VE ÇELİK FABRİKALARI T.A.Ş.	Manufacturing Industry	GRI4		Annual Report
FORD OTOMOTİV SANAYİ A.Ş.	Manufacturing Industry		GRI STD.	Annual Report
TÜRKİYE GARANTİ BANKASI A.Ş.	Financial institutions	GRI4		Annual Report
GARANTİ FAKTORİNG A.Ş.	Financial institutions			Annual Report

GLOBAL YATIRIM HOLDİNG A.Ş.	Financial institutions			Annual Report
GOODYEAR LASTİKLERİ T.A.Ş.	Manufacturing Industry			Annual Report
GÜNEŞ SİGORTA A.Ş.	Financial institutions			Annual Report
HACI ÖMER SABANCI HOLDİNG A.Ş.	Financial institutions	GRI4		Annual Report
TÜRKİYE HALK BANKASI A.Ş.	Financial institutions		GRI STD.	Annual Report
HÜRRİYET GAZETECİLİK VE MATBAACILIK A.Ş.	Manufacturing Industry			Annual Report
İNDEKS BİLGİSAYAR SİSTEMLERİ MÜHENDİSLİK SANAYİ VE TİC. A.Ş.	Technology			
İŞ GAYRİMENKUL YATIRIM ORTAKLIĞI A.Ş.	Financial institutions			Annual Report
TÜRKİYE İŞ BANKASI A.Ş.	Financial institutions		GRI STD.	Annual Report
KARDEMİR KARABÜK DEMİR ÇELİK SANAYİ VE TİCARET A.Ş.	Manufacturing Industry			Annual Report
KARTONSAN KARTON SANAYİ VE TİCARET A.Ş.	Manufacturing Industry			Annual Report
KOÇ HOLDİNG A.Ş.	Financial institutions	GRI4		Annual Report
KORDSA TEKNİK TEKSTİL A.Ş.	Manufacturing Industry		GRI STD.	
MİGROS TİCARET A.Ş.	Wholesale and retail trade, hotels and restaurants		GRI STD.	Annual Report
NETAŞ TELEKOMÜNİKASYON A.Ş.	Technology			Annual Report
OTOKAR OTOMOTİV VE SAVUNMA SANAYİ A.Ş.	Manufacturing Industry	GRI4		Annual Report
ÖZAK GAYRİMENKUL YATIRIM ORTAKLIĞI A.Ş.	Financial institutions			Annual Report
PEGASUS HAVA TAŞIMACILIĞI A.Ş.	Transportation, telecommunication and storage			
PETKİM PETROKİMYA HOLDİNG A.Ş.	Manufacturing Industry			Annual Report

PINAR ENTEGRE ET VE UN SANAYİİ A.Ş.	Manufacturing Industry			Annual Report
PINAR SU SANAYİ VE TİCARET A.Ş.	Manufacturing Industry			Annual Report
PINAR SÜT MAMULLERİ SANAYİİ A.Ş.	Manufacturing Industry			Annual Report
POLİSAN HOLDİNG A.Ş.	Financial institutions	GRI4		Annual Report
SODA SANAYİİ A.Ş.	Manufacturing Industry		GRI STD.	
ŞEKERBANK T.A.Ş.	Financial institutions	GRI4		
TÜRKİYE ŞİŞE VE CAM FABRİKALARI A.Ş.	Financial institutions	GRI4		Annual Report
TAV HAVALİMANLARI HOLDİNG A.Ş.	Financial institutions	GRI4		Annual Report
TEKNOSA İÇ VE DIŞ TİCARET A.Ş.	Wholesale and retail trade, hotels and restaurants			Annual Report
TÜRK HAVA YOLLARI A.O.	Transportation, telecommunication and storage	GRI4		
TOFAŞ TÜRK OTOMOBİL FABRİKASI A.Ş.	Manufacturing Industry		GRI STD.	Annual Report
TORUNLAR GAYRİMENKUL YATIRIM ORTAKLIĞI A.Ş.	Financial institutions			Annual Report
TRAKYA CAM SANAYİİ A.Ş.	Manufacturing Industry	GRI4		
TSKB GAYRİMENKUL YATIRIM ORTAKLIĞI A.Ş.	Financial institutions	GRI4		Annual Report
TURCAS PETROL A.Ş.	Financial institutions			Annual Report
TURKCELL İLETİŞİM HİZMETLERİ A.Ş.	Transportation, telecommunication and storage	GRI4		
TÜPRAŞ-TÜRKİYE PETROL RAFİNERİLERİ A.Ş.	Manufacturing Industry	GRI4		Annual Report
TÜRK TELEKOMÜNİKASYON A.Ş.	Transportation, telecommunication and storage			Annual Report
TÜRK TRAKTÖR VE ZİRAAT MAKİNELERİ A.Ş.	Manufacturing Industry			Annual Report

ÜLKER BİSKÜVİ SANAYİ A.Ş.	Manufacturing Industry		GRI STD.	
TÜRKİYE VAKIFLAR BANKASI T.A.O.	Financial institutions	GRI4		Annual Report
VESTEL BEYAZ EŞYA SANAYİ VE TİCARET A.Ş.	Manufacturing Industry			Annual Report
VESTEL ELEKTRONİK SANAYİ VE TİCARET A.Ş.	Manufacturing Industry			Annual Report
YAPI VE KREDİ BANKASI A.Ş.	Financial institutions		GRI STD.	Annual Report
ZORLU ENERJİ ELEKTRİK ÜRETİM A.Ş.	Electricity, gas and water	GRI4		Annual Report

APPENDIX B

COMPANIES	SECTORS
ADANA ÇİMENTO SANAYİİ T.A.Ş.	Manufacturing Industry
ADEL KALEMCİLİK TİCARET VE SANAYİ A.Ş.	Manufacturing Industry
AFYON ÇİMENTO SANAYİ T.A.Ş.	Manufacturing Industry
AKBANK T.A.Ş.	Financial institutions
AKÇANSA ÇİMENTO SANAYİ VE TİCARET A.Ş.	Manufacturing Industry
AKENERJİ ELEKTRİK ÜRETİM A.Ş.	Electricity, gas and water
AKİŞ GAYRİMENKUL YATIRIM ORTAKLIĞI A.Ş.	Financial institutions
AKSA AKRİLİK KİMYA SANAYİİ A.Ş.	Manufacturing Industry
AKSA AKRİLİK KİMYA SANAYİİ A.Ş.	Electricity, gas and water
AKSİGORTA A.Ş.	Financial institutions
ALBARAKA TÜRK KATILIM BANKASI A.Ş.	Financial institutions
ALTIN YUNUS ÇEŞME TURİSTİK TESİSLER A.Ş.	Wholesale and retail trade, hotels and restaurants
ANADOLU CAM SANAYİİ A.Ş.	Manufacturing Industry
ANADOLU EFES BİRACILIK VE MALT SANAYİİ A.Ş.	Manufacturing Industry
ANEL ELEKTRİK PROJE TAAHHÜT VE TİCARET A.Ş.	Construction and public works
ARÇELİK A.Ş.	Manufacturing Industry
ASELSAN ELEKTRONİK SANAYİ VE TİCARET A.Ş.	Technology

ASLAN ÇİMENTO A.Ş.	Manufacturing Industry
AYGAZ A.Ş.	Manufacturing Industry
BAK AMBALAJ SANAYİ VE TİCARET A.Ş.	Manufacturing Industry
BOLU ÇİMENTO SANAYİİ A.Ş.	Manufacturing Industry
BORUSAN MANNESMANN BORU SANAYİ VE TİCARET A.Ş.	Manufacturing Industry
BOYNER PERAKENDE VE TEKSTİL YATIRIMLARI A.Ş.	Financial institutions
BRİSA BRIDGESTONE SABANCI LASTİK SANAYİ VE TİCARET A.Ş.	Manufacturing Industry
COCA-COLA İÇECEK A.Ş.	Manufacturing Industry
ÇİMSA ÇİMENTO SANAYİ VE TİCARET A.Ş.	Manufacturing Industry
DOĞAN ŞİRKETLER GRUBU HOLDİNG A.Ş.	Financial institutions
DOĞUŞ OTOMOTİV SERVİS VE TİCARET A.Ş.	Wholesale and retail trade, hotels and restaurants
DYO BOYA FABRİKALARI SANAYİ VE TİCARET A.Ş.	Manufacturing Industry
ECZACIBAŞI YATIRIM HOLDİNG ORTAKLIĞI A.Ş.,	Financial institutions
ENKA İNŞAAT VE SANAYİ A.Ş.	Construction and public works
EREĞLİ DEMİR VE ÇELİK FABRİKALARI T.A.Ş.	Manufacturing Industry
FORD OTOMOTİV SANAYİ A.Ş.	Manufacturing Industry
TÜRKİYE GARANTİ BANKASI A.Ş.	Financial institutions
GARANTİ FAKTORİNG A.Ş.	Financial institutions
GLOBAL YATIRIM HOLDİNG A.Ş.	Financial institutions

GOODYEAR LASTİKLERİ T.A.Ş.	Manufacturing Industry
GÜNEŞ SİGORTA A.Ş.	Financial institutions
HACI ÖMER SABANCI HOLDİNG A.Ş.	Financial institutions
TÜRKİYE HALK BANKASI A.Ş.	Financial institutions
HÜRRİYET GAZETECİLİK VE MATBAACILIK A.Ş.	Manufacturing Industry
İNDEKS BİLGİSAYAR SİSTEMLERİ MÜHENDİSLİK SANAYİ VE TİCARET A.Ş.	Technology
İŞ GAYRİMENKUL YATIRIM ORTAKLIĞI A.Ş.	Financial institutions
TÜRKİYE İŞ BANKASI A.Ş.	Financial institutions
KARDEMİR KARABÜK DEMİR ÇELİK SANAYİ VE TİCARET A.Ş.	Manufacturing Industry
KARTONSAN KARTON SANAYİ VE TİCARET A.Ş.	Manufacturing Industry
KOÇ HOLDİNG A.Ş.	Financial institutions
KORDSA TEKNİK TEKSTİL A.Ş.	Manufacturing Industry
MİGROS TİCARET A.Ş.	Wholesale and retail trade, hotels and restaurants
NETAŞ TELEKOMÜNİKASYON A.Ş.	Technology
OTOKAR OTOMOTİV VE SAVUNMA SANAYİ A.Ş.	Manufacturing Industry
ÖZAK GAYRİMENKUL YATIRIM ORTAKLIĞI A.Ş.	Financial institutions
PEGASUS HAVA TAŞIMACILIĞI A.Ş.	Transportation, telecommunication and storage
PETKİM PETROKİMYA HOLDİNG A.Ş.	Manufacturing Industry
PINAR ENTEGRE ET VE UN SANAYİİ A.Ş.	Manufacturing Industry

PINAR SU SANAYİ VE TİCARET A.Ş.	Manufacturing Industry
PINAR SÜT MAMULLERİ SANAYİİ A.Ş.	Manufacturing Industry
POLİSAN HOLDİNG A.Ş.	Financial institutions
SODA SANAYİİ A.Ş.	Manufacturing Industry
ŞEKERBANK T.A.Ş.	Financial institutions
TÜRKİYE ŞİŞE VE CAM FABRİKALARI A.Ş.	Financial institutions
TAV HAVALİMANLARI HOLDİNG A.Ş.	Financial institutions
TEKNOSA İÇ VE DIŞ TİCARET A.Ş.	Wholesale and retail trade, hotels and restaurants
TÜRK HAVA YOLLARI A.O.	Transportation, telecommunication and storage
TOFAŞ TÜRK OTOMOBİL FABRİKASI A.Ş.	Manufacturing Industry
TORUNLAR GAYRİMENKUL YATIRIM ORTAKLIĞI A.Ş.	Financial institutions
TRAKYA CAM SANAYİİ A.Ş.	Manufacturing Industry
TSKB GAYRİMENKUL YATIRIM ORTAKLIĞI A.Ş.	Financial institutions
TURCAS PETROL A.Ş.	Financial institutions
TURKCELL İLETİŞİM HİZMETLERİ A.Ş.	Transportation, telecommunication and storage
TÜPRAŞ-TÜRKİYE PETROL RAFİNERİLERİ A.Ş.	Manufacturing Industry
TÜRK TELEKOMÜNİKASYON A.Ş.	Transportation, telecommunication and storage
TÜRK TRAKTÖR VE ZİRAAT MAKİNELERİ A.Ş.	Manufacturing Industry
ÜLKER BİSKÜVİ SANAYİ A.Ş.	Manufacturing Industry

TÜRKİYE VAKIFLAR BANKASI T.A.O.	Financial institutions
VESTEL BEYAZ EŞYA SANAYİ VE TİCARET A.Ş.	Manufacturing Industry
VESTEL ELEKTRONİK SANAYİ VE TİCARET A.Ş.	Manufacturing Industry
YAPI VE KREDİ BANKASI A.Ş.	Financial institutions
ZORLU ENERJİ ELEKTRİK ÜRETİM A.Ş.	Electricity, gas and water

APPENDIX C

SURVEY FORM

Dear Participant,

The title of this research study is “**Analyzing the Impact of Corporate Governance on Sustainability Disclosure Using a GRI Based Evaluation Methodology**”. The current survey is conducted for the engagement of experts for assessment of the individual indicators in sustainability reporting by the PHD- candidate Bengü Yardimci and her advisor Ass. Prof. Dr. Gürol Durak at Yasar University Izmir, Turkey.

The entire survey will require 10 minutes of your time to fill out at most. Please provide answers to all of the questions. All the information you give will be kept strictly confidential. The findings will be used only for research purposes and will not be shared with any third party. Thanks a lot for your valuable time and contribution.

Sincerely,

Bengü YARDIMCI

Ph.D. Candidate

Department of Business Administration

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What is the Sustainability Reporting?

Companies have social and environmental responsibilities as well as profit targets. Sustainability reports have been created in a transparent way to share how companies balance their economic, social and environmental impacts and address risks and opportunities with a sustainability perspective. In the study, a weighted scale will be composed by the points that you will give to each of the GRI indicators according to their importance. For instance,

Industrial Evaluation Questions		Economic Performance	Environmental Performance	Social Performance
1.	For companies operating in Agriculture, Forestry and Fisheries;	---	---	---
2.	For companies operating in the Mining sector;	---	---	---
3.	For companies operating in the Manufacturing industry (food, chemistry, petroleum, paper, metal goods, cement ...);	---	---	---
4.	For companies operating in the Electricity, Gas, Water sector (Energy and Electricity production ...);	---	---	---
5.	For companies operating in the Construction sector	---	---	---
6.	For companies operating in Wholesale, Retail Trade, Hotels and Restaurants sector;	---	---	---
7.	For the companies operating in the Transportation and Communication sectors;	---	---	---
8.	For companies operating in the Financial Institutions sector (Bank, insurance, investment partnership);	---	---	---
9.	For companies operating in the Education, Health, Sports Sector;	---	---	---
10.	For companies operating in the Technology sector;	---	---	---
11.	Occupational, Scientific and Technical Activities	---	---	---
12.	For companies operating in Administrative and Support Service Activities;	---	---	---
13.	For companies operating in the Real Estate Sector;	---	---	---

Bengü - Yardımcı

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Personal Information

Sex	Female
Date of Birth	02/11/1983
Marital Status	Married
Nationality	Turkish
Driving License	B

Education

PHD	Yasar University – İzmir Business Administration – 2014 – 2018
Postgraduate	Dokuz Eylul University – İzmir Department of Finance – 2007 – 2010
University	Dokuz Eylul University – İzmir Business Administration – 2001 – 2005

Work Experience

Yasar University – İzmir
Part time Lecturer 2018-

Katip Celebi University – İzmir
Part time lecturer – 2015 – 2018

CPA Office – Murat Bilgen- İzmir
Auditor – 2012 – 2014

CPA Office – Tayfun Karaok
Auditor – 2012

Academic Works

Sabri Erdem, Esra Aslanertik, Bengü Yardımcı, (2017). The Main Determinants of Differences in Compliance Levels of Disclosure Items for IAS 16 in BIST, *Journal of Financial Reporting and Accounting*, 15(3), 317-332.

Master Thesis,
“Factors Affecting Capital Structure of Commercial Banks in Turkey” 2010.

References

Esra Aslanertik	Dokuz Eylul University - Professor
Sabri Erdem	Dokuz Eylul University - Professor
Gürol Durak	Assos. Prof.Dr. – Yasar University

Table 1: Sustainability Development Goals

	Sustainable Development Goals
Goal 1	End poverty in all its forms everywhere
Goal 2	End hunger, achieve food security and improved nutrition and promote sustainable agriculture
Goal 3	Ensure healthy lives and promote well-being for all at all ages
Goal 4	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
Goal 5	Achieve gender equality and empower all women and girls
Goal 6	Ensure availability and sustainable management of water and sanitation for all
Goal 7	Ensure access to affordable, reliable, sustainable and modern energy for all
Goal 8	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
Goal 9	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
Goal 10	Reduce inequality within and among countries
Goal 11	Make cities and human settlements inclusive, safe, resilient and sustainable
Goal 12	Ensure sustainable consumption and production patterns
Goal 13	Take urgent action to combat climate change and its impacts
Goal 14	Conserve and sustainably use the oceans, seas and marine resources for sustainable development
Goal 15	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
Goal 16	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
Goal 17	Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development

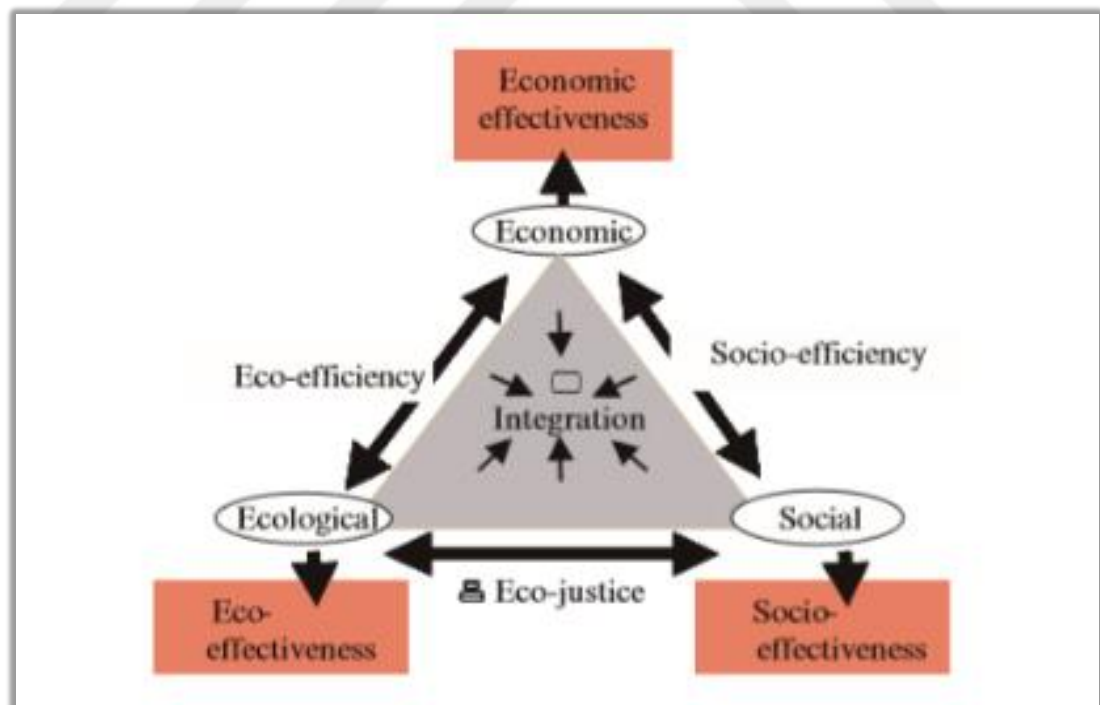
Source: UNGC, (2016). The Sustainable Development Goals Report. (online). <https://unstats.un.org/sdgs/report/2016/The%20Sustainable%20Development%20Goals%20Report%202016.pdf> (Accessed 10.06.2018).

working conditions, raising the social well-being are some of the issues of social dimension that organizations should take into consideration in their sustainability disclosures.

2.2.2.3. The Economic Challenge

Economic effectiveness is the classical management task which fundamentally aims to balance economic return and risk in corporate activities (Schaltegger et al., 2006). According to the literature on economic challenge of sustainability, the two terms “eco-efficiency” and “social efficiency” come into prominence in order to describe the relationships between an economic (monetary) measure and an environmental or social measure. Eco-efficiency can be defined as the ratio of an economic value to an ecological value, whereas socio-efficiency is the ratio of economic value to social impact added. These sum of negative social impacts stem from a company operations or activities (Daub, 2007; Schaltegger et al., 2006).

Figure 1: Structuring information needs for corporate sustainability challenges with the sustainability triangle



Source: Schaltegger, S., Bennett, M., Burritt, R. (2006). Sustainability Accounting and Reporting: Development, Linkages, and Reflection, Eds. Schaltegger, S., Bennett, M., Burritt, R, Netherlands, Springer, 1-33.

Figure 2: Reasons for and against mandatory and voluntary approaches

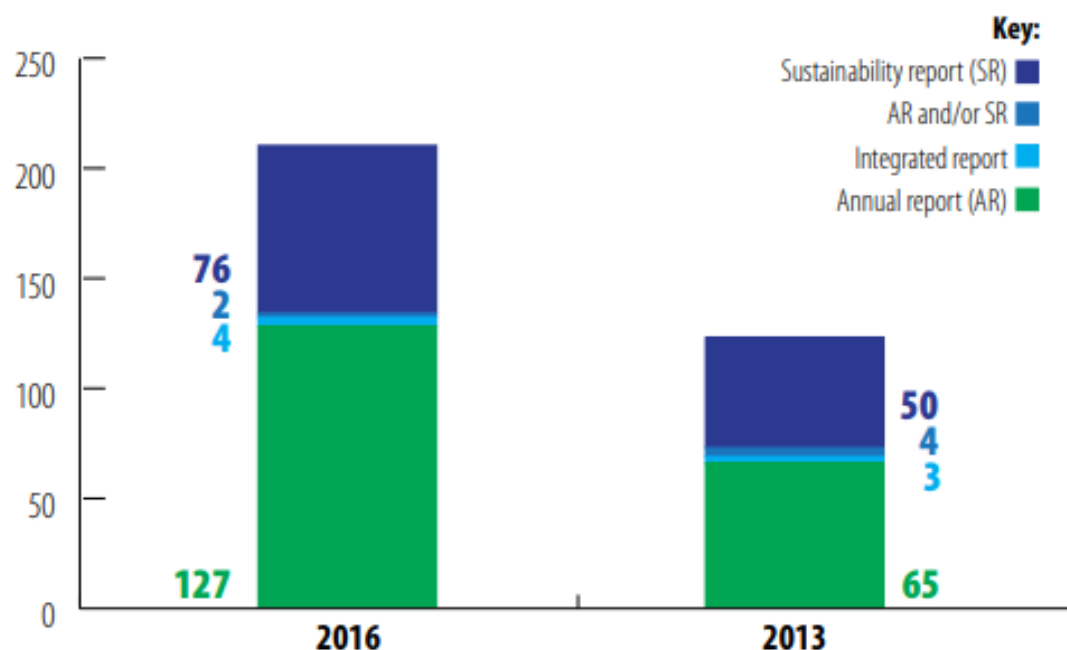
	Reasons for	Reasons against
Mandatory approaches to reporting	• Changing the corporate culture – leaders will continue to innovate above minimum requirements • Incompleteness of voluntary reports • Comparability • Non-disclosure of negative performance • Legal certainty • Market failures – theory of regulation • Reduction of non-diversifiable market risk free rider problem • Cost savings • Standardisation • Equal treatment of investors	• Knowledge gap between regulators and industry • One size does not fit all • Inflexibility in the face of change and complexity • Lack of incentive for innovation • Constraints on efficiency and competitiveness
Voluntary approaches to reporting	• Flexibility • Proximity • Compliance • Collective interest of industry	• Conflicts of interest • Inadequate sanctions • Under-enforcement • Global competition • Insufficient resources

Source: KPMG, GRI, UNEP, Centre for Corporate Governance in Africa. (2010). Carrots and Sticks – Promoting Transparency and Sustainability; An Update on Trends in Voluntary and Mandatory Approaches to Sustainable Reporting, (online) <https://www.globalreporting.org/resource/library/Carrots-And-Sticks-Promoting-Transparency-And-Sustainability.pdf> (Accessed 10.03.2018), p.8.

Reporting is an important link between goals and the data that indicates the steps being taken to achieve these goals, and how much of these goals are being reached. In other words, without reporting, it is not possible to observe what is being done or how close, or how far, organizations are from where the world should be. In fact, year of 2015 was a turning point for sustainability with important agreements signed by many countries including the Sustainable Development Goals. Thanks to this development, sustainability reporting became more crucial to global community on environmental and social problems leading to more policies, regulations, standards and instruments that promote organizations to report (KPMG,2016).

The term ‘reporting instruments’ is any instrument, mandatory or voluntary, that requires or encourages organizations to present their sustainability-related disclosure in many forms in annual financial or sustainability reports, on websites, in documents required by stock exchanges for listing purposes, and in data published in response to questionnaires and specific regulations (KPMG,2016).

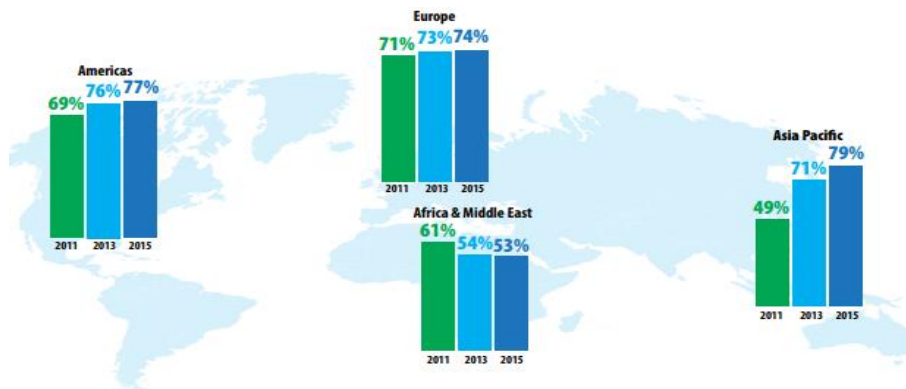
Figure 3: Format of reporting required by instruments, 2016 vs 2013



Source: KPMG, GRI, UNEP, Centre for Corporate Governance in Africa. (2016). Carrots and Sticks – Global Trends in Sustainability Reporting Regulation and Policy. (online) <https://assets.kpmg.com/content/dam/kpmg/pdf/2016/05/carrots-and-sticks-may-2016.pdf> (Accessed 10.03.2018), p.12.

There is an upward trend in the number of reporting instruments representing the significantly rising amount of organizations reporting their sustainability information worldwide. For instance, regulation of governments possesses the largest proportion of sustainability reporting and mostly encourage companies to disclose information in terms of annual reports. The disclosure in stand-alone sustainability reports have also increased but by a lower proportion. Figure 4. Presents the format of reporting by comparing the years 2013 and 2016 in the world. The years of 2013 and 2016 are included in the figure, since the third and the fourth reports of “Carrots and Sticks” Reports were published in years of 2013 and 2016.

Figure 4: Mandatory vs voluntary instruments by region



Source: KPMG, GRI, UNEP, Centre for Corporate Governance in Africa. (2016). Carrots and Sticks – Global Trends in Sustainability Reporting Regulation and Policy. (online) <https://assets.kpmg.com/content/dam/kpmg/pdf/2016/05/carrots-and-sticks-may-2016.pdf> (Accessed 10.03.2018), p.13.

The ratios of mandatory and voluntary reporting instruments are indicated in Figure 5 which refers to a tendency towards mandatory reporting instruments. On the other hand, approximately 10% of the instruments adopted “report or explain” approach.

Figure 5: Trends in sustainability reporting instruments

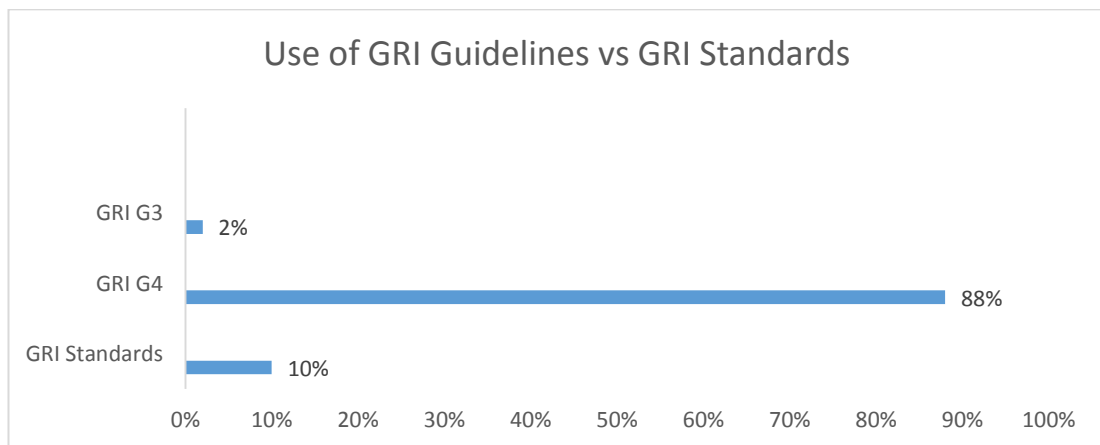
		2006		2010		2013		2016	
Reporting Instruments	Mandatory	35	58%	94	62%	130	72%	248	65%
	Voluntary	25	42%	57	38%	50	28%	135	35%
	Total	60		151		180		383	
Countries and Regions		19		32		44		71	
								64 with instruments	

Source: KPMG, GRI, UNEP, Centre for Corporate Governance in Africa. (2016). Carrots and Sticks – Global Trends in Sustainability Reporting Regulation and Policy. (online) <https://assets.kpmg.com/content/dam/kpmg/pdf/2016/05/carrots-and-sticks-may-2016.pdf> (Accessed 10.03.2018), p.9.

2.2.4. Sustainability Reporting Frameworks

As mentioned earlier in the study, sustainability reporting, also referred to as corporate social responsibility, prepared by mandatory, voluntary or "report or explain" approaches is described elaborately. There are many frameworks, standards, ratings and indices as international sustainability reporting tools offered by initiatives

Figure 6: Use of GRI Guidelines vs GRI Standards



Source: KPMG, (2017). International Survey of Corporate Responsibility Reporting. (online) <https://assets.kpmg.com/content/dam/kpmg/xx/pdf/2017/10/kpmg-survey-of-corporate-responsibility-reporting-2017.pdf> (Accessed 13.06.2018), p.28.

2.2.4.1. Global Reporting Initiative (GRI)

GRI is an independent international organization that has lead sustainability reporting founded by the Coalition for Environmentally Responsible Economies in 1997. GRI is the most widely adopted sustainability reporting framework presenting standards and disclosures, enabling organizations and their stakeholders to make better decisions based on important information (KPMG et al, 2016).

GRI helps businesses, governments and other organizations understand and communicate the impact of business on critical sustainability issues such as climate change, human rights, corruption and many others. With thousands of reporters in over 90 countries, GRI provides trusted and widely used standards on sustainability reporting, enabling organizations and their stakeholders to make better decisions based on information that matters. GRI is currently referenced by 39 countries and regions while they are reporting their economic, environmental, social, and governance performance and impacts (KPMG et al., 2016).

Figure 7: Milestones of GRI



Source: Adapted from www.globalreporting.org

The GRI standards are the latest evolution of the GRI's original sustainability reporting Guidelines. The concept has been restructured into a set of universal and topic-specific standards. In fact, new GRI standards covers the key concepts and disclosures from the G4 Guidelines with a new structure and format.

Figure 8: Reporting Principles of GRI Standards

Reporting Principles for defining report content	Reporting Principles for defining report quality
• Stakeholder Inclusiveness • Sustainability Context • Materiality • Completeness	• Accuracy • Balance • Clarity • Comparability • Reliability • Timeliness

Source: GRI Standards, GRI 101: Foundation 2016, <https://www.globalreporting.org/standards>, (Accessed 18.10.2017), p.7

2.2.4.2. United Nations Global Compact (UNGC)

UN Global Compact has a vision to create a sustainable global economy that benefits society, markets and people within the framework of sustainability and corporate responsibility concepts. UNGC launched in 2000, aims to support initiatives in the fields of human rights, labor standards, environment, anti-corruption and strategic measures for the realization of that vision. This platform is viewed as an innovative corporate responsibility approach that proposes universal principles to create a common development culture for the business world. Global compact which includes not only the United Nations bodies and civil society but also private sector businesses and public institutions, is based on ten globally recognized principles on human rights, labor standards, the environment and against corruption. Additionally, this initiative supports companies to consider sustainable development goals with an emphasis on colaboration and innovation (UNGC).

and Technology are among the sectors with lower number of firms (3, 2, 4, 4, 3, respectively). Figure 10 clearly demonstrates the variations in the number of companies operating in each industry.

Figure 10: Company Distribution by Sectors

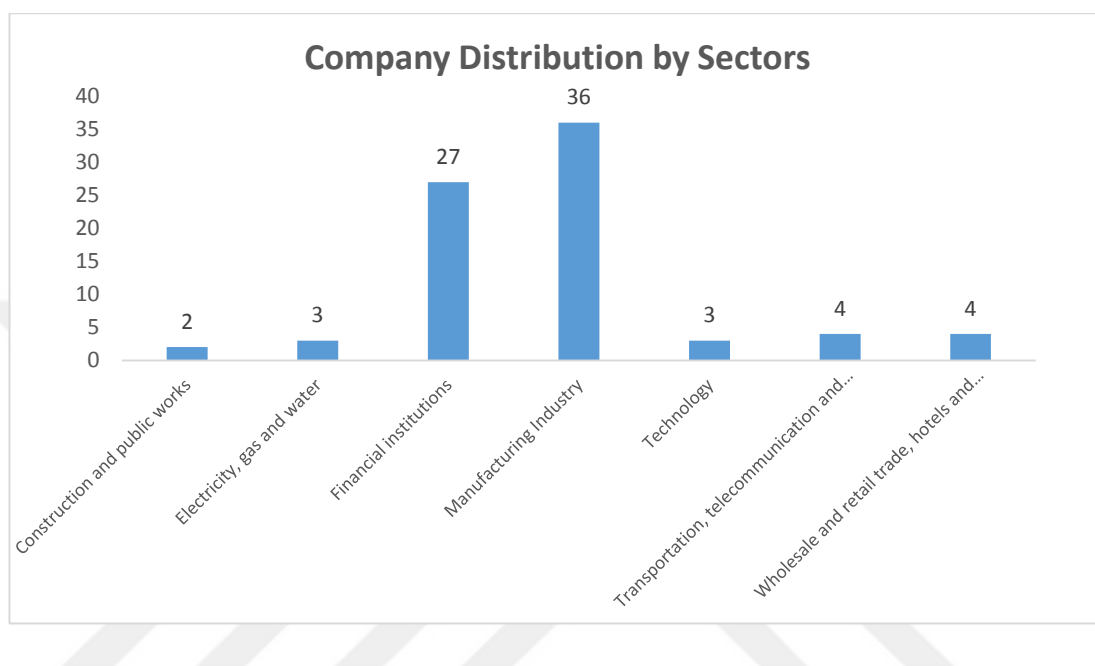
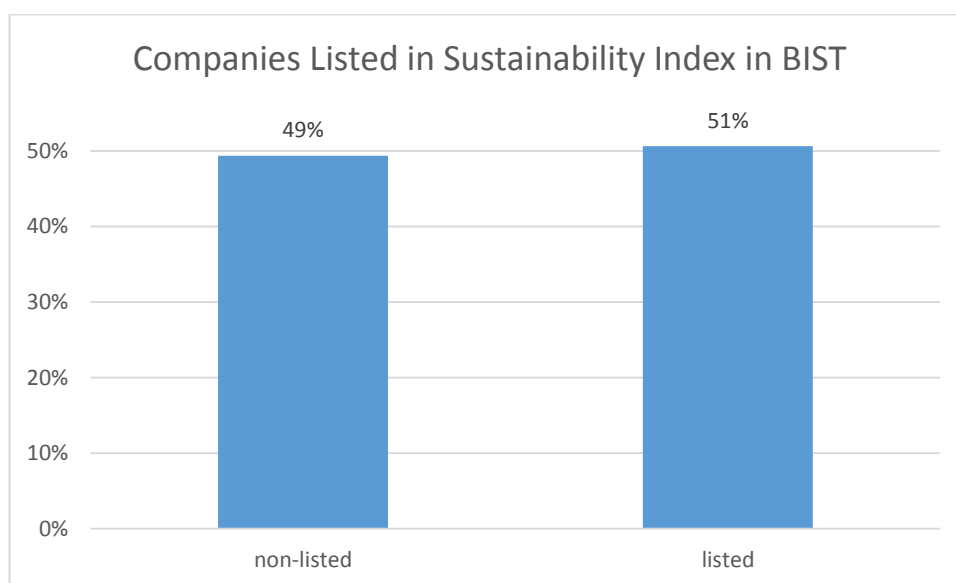


Figure 11 presents the proportion of listed and non-listed companies in BIST Sustainability Index according to observed data in the present study. Among 79 companies under examination, 51% of companies are listed in BIST Sustainability index, whilst 49% of companies do not exist in the sustainability index.

Figure 11: Companies listed and non-listed in BIST Sustainability Index



Additionally, the required data of sampled companies is gathered for the year 2016. Only two companies are included with their sustainability reports for the year 2015. Since, it is not the case for all companies to publish sustainability reports in Borsa Istanbul, these two companies who have been reporting sustainability reports for several years more lately than others are not excluded from the sample.

Lastly, for the third part of the study investigating the relationship among sustainability disclosure scores and corporate governance factors, “corporate governance compliance reports” and “annual reports” of the sample companies published in 2016 were downloaded from firm websites.

4.2.2. Measuring Corporate Sustainability Disclosure (CSD)

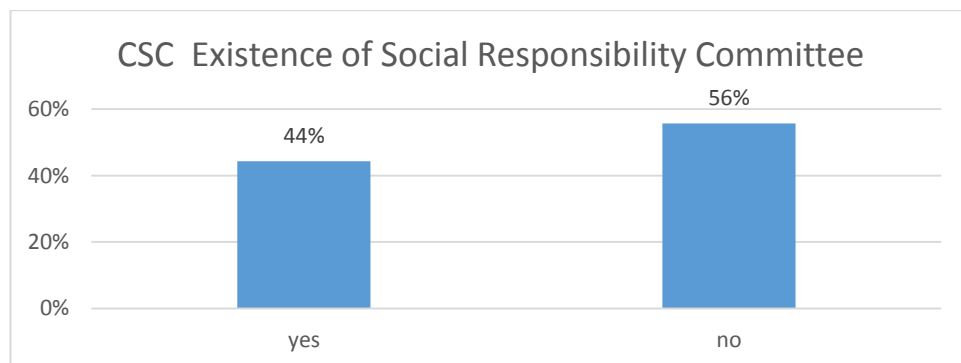
Using an inductive approach, this research investigates the state of the art of best sustainability disclosure practices of Turkish listed companies considering industrial differences with a systematically developed multi-weighted scoring system based on GRI framework and devised a scoring tool.

As Skouloudis et. al. (2009) stated, providing convenient weights to each topic requires focus groups, engagement with stakeholders and potential candidates for evaluation in order to assign the importance of each GRI indicators. Romolini et al (2014), Mio (2010) adopted similar approaches by assigning different weights to

4.4.3.1. CSD and Corporate Sustainability Committee

Table 13 summarizes the regression results using normal values for these variables. According to Michelin and Parbonetti (2012), having a sustainability committee or a person responsible from sustainability practices at the board level exhibits the sustainability perspective of the company in terms of stakeholders. Similar to the study conducted by Micheloni (2012), the level of corporate sustainability disclosure index in the current research is found to be positively associated with the existence of a corporate sustainability committee in a company. In two of other sub-performance models of ECPD and SPD, a presence of positive relationship was detected. For this reason, CSC is the only hypothesized variable among other corporate governance related variables, that is not rejected as a result of evaluations. The presence of such a committee is an important agency for improving the extent of disclosures prepared for stakeholders. Among the models, coefficient of each significant variable range from positive values of 0,257 to 0,203. Additionally to these predictions, the results of pearson correlation analysis reveals the bivariate positive relationship among CSC and SIZE. The higher the firm size, the higher the presence of a sustainability committee. The current research findings may suggest that since the larger companies are subject to more pressure from various groups in society (Schipper, 1981) and monitored by regulatory authorities (Firth, 1979), sustainability committees deal with the company's principles and commitments on sustainability issues (Post et al. 2002), by motivating them to disclose more information (Alsaeed, 2006).

Figure 12: Existence of Social Responsibility Committee in the observed data



4.4.3.6. CSD and Reputation

In recent years, stock exchanges have increased the number of sustainability indexes both as a benchmarking tool, performance evaluation tool to increase transparency, firm awareness and reputation for interests of stakeholders and firms themselves. Therefore, this will create a competitive opportunity for companies that are in different will increase their awareness and reputation among the public and investors and they will be preferred by more investors. However, contrary to the expectations, reputation which shows that companies are included in the sustainability index or not. In model 3, there is statistically positive significant association was detected only for environmental performance disclosure and reputation with coefficient of 0,242.

Table 14: Summary of the Research Hypotheses and Findings

H. No	HYPOTHESIS	Finding
H ₁	All being equal, sustainability disclosure is positively associated to the proportion of independent directors on the board of Turkish listed firms.	Rejected
H ₂	All being equal, sustainability disclosure is positively associated to the proportion of community influential board members of Turkish listed firms.	Rejected
H ₃	All being equal, sustainability disclosure is positively associated to the presence of a sustainability committee in Turkish listed firms.	Accepted *, **
H ₄	All being equal, sustainability disclosure is positively associated to the presence of director in charge of sustainability issues in Turkish listed firms.	Rejected
H ₅	All being equal, sustainability disclosure has no association with CEO duality.	Accepted
H ₆	All being equal, sustainability disclosure has a positive association with the size of a company	Accepted *
H ₇	All being equal, sustainability disclosure has a positive association with the board size.	Rejected
H ₈	All being equal, sustainability disclosure has a positive association with the profitability.	Accepted **
H ₉	All being equal, extent of sustainability disclosure is greater for highly geared companies.	Rejected
H ₁₀	All being equal, extent of sustainability disclosure is associated with the type of industry.	Accepted *, **, ***
H ₁₁	All being equal, extent of sustainability disclosure is positively associated with the free float rate.	Rejected
H ₁₂	All being equal, extent of sustainability disclosure is positively associated with the reputation	Accepted *, **
H ₁₃	All being equal, extent of sustainability disclosure is associated with the reputation of audit firms.	Rejected

Note: In Table 14, *, **, and *** denotes 0.01, 0.05, and 0.10, respectively.

Part 1: Evaluate the issues according to your views that companies operating in 13 sectors under the heading "Industrial Evaluation Questions" in the questionnaire should take priority in sustainability reports. (Please score three dimensions of each question over a total of 100 points)

<i>Industrial Evaluation Questions</i>	Economic Performance	Environmental Performance	Social Performance
1. For companies operating in Agriculture, Forestry and Fisheries;	30	40	30
2. For companies operating in the Mining sector;	35	45	20

Part 2: Please rank the importance of indicators disclosed by companies in reference to its importance to you "1 = least importance" and "5 = most important". For instance;

SOCIAL PERFORMANCE DISCLOSURES	<i>Give points 1 to 5</i>
1. Information related to organization's efforts to implement inclusive recruitment practices	5
2. Disclosures on minimum notice periods regarding operational changes	3

Part 1: Please score three dimensions of each question over a total of 100 points as in the example above.

Part 2: Please rank the indicators disclosed by companies *in reference to its importance to you* "1 = least importance" and "5 = most important".

ECONOMIC PERFORMANCE DISCLOSURES		Give points 1 to 5
1. Information on Economic Performance (Income, operating costs, employee wages and benefits, payments to providers of capital, payments to government, community investments, financial implications and other risks and opportunities due to climate change, estimated value of liabilities, defined benefit plan obligations and other retirement plans, percentage of salary contributed by employee, participation in retirement plans, financial assistance received from the government, etc.)	...	
2. Information on Market Presence (The labor force created by the region in which it operates, how it contributes to the economic prosperity of its employees, the effects of wages on the local labor market)	...	
3. Information regarding Indirect Economic Effects (Infrastructure investments and services supported, employment created in the supply or distribution chain, economic effects of using products and services, economic development in areas of high poverty)	...	
4. Disclosures on Procurement Practices (Local purchases)	...	
5. Information related to Anti-Corruption assessments.	...	
6. Disclosures regarding Anti-Competitive Behavior .	...	

ENVIRONMENTAL PERFORMANCE DISCLOSURES		Give points 1 to 5
1. Information reflecting environmental sensitivity in the selection and usage of materials	...	
2. Disclosures regarding the energy intensity and reduction of energy consumption	...	
3. Information on sustainability and the consumption of water source	...	
4. Information on conservation of biodiversity	...	
5. Disclosures related to Emissions	...	
6. Disclosures related to water effluents and discharges	...	
7. Information on the level of compliance with laws and regulations	...	
8. Information regarding the suppliers that were screened using environmental criteria	...	

SOCIAL PERFORMANCE DISCLOSURES		Give points 1 to 5
1. Information related to organization's efforts to implement inclusive recruitment practices		...
2. Disclosures on minimum notice periods regarding operational changes		...
3. Occupational health and safety		...
4. Information on employee training programs		...
5. Disclosures on diversity of governance bodies and employees		...
6. Disclosures regarding the actions taken to prevent incidents of discrimination		...
7. Information on freedom of association and collective bargaining		...
8. Disclosures on child labors		...
9. Disclosures on forced and compulsory labor		...
10. Information on the number of trained security personnel		...
11. Disclosures on the rights of indigenous people		...
12. Disclosures on human rights assessments		...
13. Information on operations with local community engagement, impact assessments, and development programs		...
14. Disclosures on the suppliers that were screened using social criteria		...
15. Information reflecting the organization's participation in public policy development and lobbying		...
16. Disclosures on the incidents of non-compliance with regulations and/or voluntary codes concerning the health and safety impacts of products and services		...
17. Disclosures on the information and labels respond to the impact of a product or service on sustainability		...
18. Disclosures on customer privacy policies		...
19. Disclosures regarding the organization's compliance with laws and regulations in the social and economic area.		...