The relationship of companies' environmental sustainability performance and the level of information voluntary disclosure quality

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ABSTRACT

The present paper has examined the relationship between environmental sustainability performance with quality of voluntary disclosure of 71 different companies during the period of 2012 to 2018 (total number of 497 year-company). In order to measure the environmental sustainability performance and voluntary disclosure of these companies, a content analysis of the board of directors’ reports was conducted. With this end in view, a checklist, consisting of 5 environmental sustainability performance components and 16 voluntary disclosure components, was prepared, and the multivariate regression method was used to test the research hypotheses. The research findings indicated that 279 year-company disclosed their information with high quality, compared with 218 year-company that provided their information with low quality. In other words, most of the investigated companies disclosed their information with significant disclosure. Moreover, it was notable that there was a statistically significant relationship between the high- and low-quality voluntary disclosed information and environmental sustainability performance of the investigated companies. The results also revealed that, based on the theory of voluntary disclosure, the superior sustainability performers preferred to disclose the information with high quality to demonstrate their performance superiority over the market, whereas based on the legitimacy theory, poor sustainability performers used low quality information disclosure to simultaneously conceal their actual performance and protect their justifications.

Keywords:

Environmental Sustainability Performance, Voluntary Disclosure of Information, High and Low Quality of Voluntary Disclosure.

1. Introduction

Environmental and social reports are tools for holding companies accountable for their performance. Such reports should provide unbiased information that allows stakeholders to have a reliable estimate of the organizations' environmental performance. Thus, corporate social responsibility has attracted the attention of the international community, which can be expressed as managing the potential conflict of interest between different stakeholders in relation to economic, environmental, social, and ethical issues (Abdur Rouf, 2011).

In addition, previous research has not yet established an understanding of the relationship between sustainability performance and voluntary disclosure. In essence, these are two interrelated theoretical concepts. On the one hand, the theory of voluntary disclosure predicts that a firm with good sustainability performance will be motivated to disclose information about its performance and market value. Legitimacy theory, on the other hand, argues that firms use sustainability disclosure to improve public perception of their sustainability performance (Deegan, 2002).

Nowadays, due to the increasing population growth and limited available natural resources, the environmental protection has become one of the most important issues of human society. From a systems perspective, the issue of environmental protection requires an environmental management system that can be implemented in an integrated manner with other management systems.

Accounting information system, as an important component of management information system, can play an important role in helping to protect the environment by exposing polluting manufacturing companies. Considering the fact that the pollution status of environment in Iran has been deteriorated in recent years, and manufacturing companies have a large share in this regard, in the current study, we aimed at investigating the role of accounting to help reduce pollution through the impact of expenses and financial disclosure and handing on appropriate information to the management in firms. The results of this study can be of interest to a wide range of audience, including various sources for the development of accounting standards, legislative bodies such as stock exchanges and their regulators, corporate executives, and other users of financial statements and accounting information, and in general, stakeholders in business units and citizens of any civilized society. In this study, 5 components of environmental sustainability performance and 16 components of voluntary disclosure were used, and control variables included book value concerning the market, institutional owners, company size, financial performance, financial leverage, and Tobin's Q Ratio, each explained in detail in later sections of the current paper.

2. Theoretical Framework

The term disclosure in its broadest sense means the provision of information. Accountants use the term more narrowly to refer to the disclosure of a company's financial information in financial statements (usually in the form of annual reports). The release of information in the balance sheets, income statements, and cash flow statements is often referred to as recognition and measurement. Thus, in the most limited sense, disclosure of information includes management discussions and analyses, notes to the financial statements, and supplementary invoices (Hendriksen & Van Breda, 2000).

Voluntary disclosure is the additional provision of information over legal requirements. Company management is free to provide accounting information and other information that facilitates and adequately meets the needs of its users. Companies may voluntarily disclose information in order to limit investors' unfavorable perceptions and raise awareness concerning the company's future prospects (Barth, Landsman, & Lang, 2008). Voluntary disclosure is primarily provided for shareholders, banks, and other funders.

Voluntary disclosure usually includes information on company strategy, competitive issues, production activities, marketing strategies, and human capital issues. Even with the increase in mandatory disclosure requirements, companies continue to provide voluntary information. Thus, the motivation for such behaviors has attracted a lot of attention, which in turn has made the issue of voluntary disclosure attractive.

Voluntary disclosure is considered as financial and non-financial information, recognized by management, which is beyond mandatory financial reporting of the company (Dhaliwal, Li, Tsang, & Yang, 2011). Voluntary disclosure can include strategic information (e.g., product, competition, and customers), financial information (e.g., management revenue forecast and stock price) and non-financial information (e.g., sustainable environmental and social and managerial performance).

The amount and type of voluntary disclosure depends on the costs of disclosure, corporate governance, the personal background of the managers, and the performance of the firm (Khan, Serafeim, & Yoon, 2016). Scientific research also supports the importance of the link between voluntary and mandatory information disclosure. The accounting and financial literature focuses on responding to managerial motivations for voluntary disclosure, predicted revenue, environmental and social sustainability, and corporate governance (Rezaee & Tuo, 2017). According to the stakeholder's theory, there are two aspects of sustainability, namely the disclosure of sustainability and the performance of sustainability, which are mutually beneficial to all stakeholders. Evidence shows that management often focuses on future sustainable performance plans that affect business operations to improve corporate governance effectiveness and align corporate interests with those of its shareholders (PricewaterhouseCoopers, 2016).

At present and at the company level in Iran, there is not any specific separate or integrated model and standard for voluntary disclosure of information and sustainability performance in annual reports. Due to the lack of such a model in accordance with the context of the Iranian companies, this study aims at scientifically and systematically identifying and evaluating the existing status of sustainability performance and disclosing information of Iranian companies. This was conducted with the aid of studying the research literature and various theoretical frameworks with the aim of considering the environmental conditions of the Iranian companies and the opinions of the Iranian experts. Moreover, a model for measuring the environmental dimensions of companies' sustainability performance in annual reports is provided in this manuscript, and its relationship with voluntary disclosure of companies is investigated. This research and its results can be an effective step for creating the necessary understanding of the above-mentioned aims and attracting the attention of Iranian managers and regulators to include this category in their voluntary or mandatory reports to stakeholders with a sustainable development perspective. In this study, for a better understanding of the above-mentioned variables and constructs, we investigate the relationship between environmental sustainability performance and voluntary disclosure of information. With this end in view, the main question of our research is: With a cross-sectional perspective, is there any statistically significant relationship between the performance of environmental sustainability and voluntary disclosure of information?

3. Literature Review

Voluntary disclosure has always been a controversial topic in accounting-related articles, and here is some research on it. Hashemi, Ghasemi, and rafiee shahraki (2019) investigated a sample of 14 companies through systematic elimination from the Listed cement companies of Tehran Stock Exchange during the period of 2007-2016. To measure the level of disclosure of sustainability, the content analysis of the annual reports of the board has been used. Also, for analyzing the data and testing the hypotheses, the multivariate regression model was used by the combination data method. The results of the estimation of research models showed that the effect of sustainability and disclosure at the level of socioeconomic performance of the company on the surplus of stock returns was inversely significant. Also, the effect of sustainability performance and disclosure level of socioeconomic performance of the company on profitability was not meaningful.

Khajavi, Hosseini Nia, and Nasiri (2019) investigated the relationship between corporate governance and environmental voluntary disclosure. With this end in view, the paper has examined 42 companies from chemical industries and pharmaceutical product, listed on Tehran Stock Exchange. According to the findings, there was not any diversity in the board size of Iranian companies, and the presence of independent managers in the board did not lead to any increase of environmental voluntary disclosure level. The separation roles of CEO with head of the board of directors led to an increase of controlling in Iranian companies and environmental voluntary disclosure.

Foroghi and Alidadi Shamsabadi (2017) inspected the effect of joint board of directors on voluntary disclosure of information and profit quality and showed that joint boards have a positive effect on profit quality so that the existence of such boards of directors will improve the quality of profits of sample companies. The joint board of directors also had a positive effect on the voluntary disclosure of information to the degree that the joint board members encouraged managers to voluntarily disclose information.

Pifeh (2016) inestigated the relationship between sustainability performance and financial performance and firm value. In order to measure the level of sustainability performance disclosure, a content analysis of board of directors' reports was used, and the findings showed that sustainability performance had a statistically significant and direct relationship with companies' financial performance and a statistically significant and inverse relationship with companies' value.

Mahdavi, Daryaei, Alikhani, and Maranjory (2015) examined the relationship between the level of disclosure of environmental and social information and characteristics of companies. A non-weighted index was used to measure the level of disclosure of environmental and social information. Mahdavi et al. found that there was a statistically significant positive relationship between firm size and the level of disclosure of environmental and social information. However, there was no statistically significant relationship between the level of disclosure of environmental and social information and profitability.

Sajadi and Bonabi Ghadim (2015) studied the system and indicators affecting sustainable performance management. In their study, first the dimensions of sustainability accounting (environmental, social, and economic) and then the sustainable management accounting system, strategies, and performance indicators of sustainability were investigated. The results showed that sustainability management needs to define sustainability goals that must be constantly reviewed and evaluated through strategies and indicators.

Wasara and Ganda (2019) studied the relationship between disclosure of corporate sustainability and return on investment. The results showed that there was a statistically significant negative relationship between environmental disclosure and return on investment and a statistically significant positive relationship between social disclosure and return on investment.

Braam and Peeters (2018) investigated the relationship between corporate sustainability performance and the use of third party guarantees in sustainability reports and showed that companies with excellent sustainability performance used third parties to provide assurance in their sustainability reporting, compared to companies with low sustainability performance. In addition, companies with superior sustainability performance made different choices about using third-party guarantees in sustainability reports than companies with poor sustainability performance.

Rezaee (2016) investigated voluntary disclosure of non-financial information and its relationship with sustainable performance and showed that the content of information and managerial motivations play an important role in evaluating the implications and consequences of non-financial disclosure, and in particular, the quality of profit is a prominent factor in influencing non-financial disclosure.

Hummel and Schlick (2016) investigated the relationship between sustainability performance and sustainability disclosure and showed that according to the theory of voluntary disclosure, companies seek to show superior performance in the market by choosing high quality sustainability disclosure. In addition, based on the theory of legitimacy, they prefer sustainability, low-quality disclosure to conceal their actual performance.

Plumlee, Brown, and Marshall (2008) in a study entitled "the impact of voluntary environmental disclosure quality on firm value" examined the relationship between the quality of a firm's voluntary environmental disclosures and firm value, by exploring the correlation between the components of firm value (cost of capital and expected cash flows) and disclosure quality. Using an innovative index to capture variation in environmental disclosure quality, they documented a negative relation between cost of capital component of value and voluntary disclosure quality for firms that operated in environmentally sensitive or electrical industries and a generally positive association between the cash flow component of value and voluntary disclosure quality for firms that operated in environmentally non-sensitive industries. Their study provided a comprehensive rationale for a variety of firms to provide high quality voluntary disclosures, even though the means by which firm value was affected varied across firms. In addition, they documented that the venue for the voluntary environmental disclosures (within a stand-alone report or as part of the annual report) significantly affected the relations. Overall, their results suggested a complex inter-relationship between firm value and voluntary disclosure quality; one that requires an understanding of the association between both the cost of capital and cash flows and voluntary disclosures.

Gozali, How, and Verhoeven (2002) provided an analysis of environmental disclosure in companies' annual reports. The results indicated that companies did respond to the increased demand for environmental disclosure by providing more environmental-related information in their annual report. Although the requirement to disclose environmental information in annual reports has not kept pace with the legislative reform, there has been a significant increase of these disclosures from 1998 to 2000. Gozali et al. also found that most of the disclosures were covered in the director's report across industries. Gozali et al. also evaluated the economic consequences of these disclosures. The importance of the environmental disclosures to the value of the company was examined by investigating the relationship between the environmental information disclosed in the annual report and the company's share price.

Iatridis (2008) focused on the disclosure of accounting information in the financial statements of UK firms. The primary objective of the study was to analyze the financial characteristics of firms that provided extensive disclosures, and assess the financial impact of their motives such as the need to raise equity finance. The study examined the financial attributes of firms that disclosed information about key accounting issues including risk exposure, changes in accounting policies, use of international financial reporting standards and hedging practices. Firms were inclined to disclose accounting information in order to assure the market participants that their accounting policies were consistent with the accounting regulation and met the information needs of their stakeholders. The study showed that in order to raise finance in the capital and debt markets, firms tended to provide extensive accounting disclosures. Firms that provided informative accounting disclosures appeared to display higher size, growth, and leverage measures. The findings also showed that the disclosure of sensitive accounting information did not adversely affect firms' profitability. In fact, firms that provided detailed accounting disclosures tended to exhibit higher profitability.

4. Research Hypotheses

From a theoretical point of view, almost all previous empirical studies indicated a relationship between performance and sustainability disclosure based on voluntary disclosure theory or legitimacy theory (e.g., Al-Tuwaijri et al. 2004; Cho et al. 2007; Cho, & Patten, 2007; Clarkson et al. 2011). According to the theory of voluntary disclosure, 'ignorance' of private information acts as a basic model for the company. This surprising result exposes a number of circumstances, including the disclosure of facts at no cost. However, because disclosure is not free, logical managers refrain from providing unpleasant information.

Although this theory essentially refers to the voluntary disclosure of financial information, researchers also use it to explain the voluntary disclosure of non-financial information, arguing that a company with superior sustainability discloses voluntary non-financial information to show the nature of actual performance and increase market value (Bewley & Li, 2000; Clarkson et al. 2011). In addition, companies can provide high quality information on topics that are of interest to them (superior performance) while disclosing only low quality information on topics that may override their interests (poor performance) (Cho, & Patten, 2007; Clarkson et al. 2008, 2011). The argument of voluntary disclosure theory is mainly intended for high-quality disclosure, as such disclosure provides the necessary transparency for companies to ensure the reliability and comparability of information. Companies with superior sustainability performance in relation to specific performance indicators prefer to provide high quality information to show their true (invisible) type of performance (Clarkson et al. 2008). Following this argument, our first hypothesis is expressed as follows:

Hypothesis 1: There is a statistically significant relationship between the environmental sustainability performance of companies and voluntary disclosure of high quality information.

The theory of legitimacy provides another theoretical explanation for the voluntary disclosure of information. Suchman (1995) defines legitimacy as a general perception or hypothesis as the exercise of a desirable or appropriate entity in certain social systems, norms, values, beliefs, and definitions. This concept was more precisely developed by Freeman (2010) in defining stakeholders as a group that can influence or be influenced by the goals of the organization (Wood, 1991). If the legitimacy of the company is threatened, the stakeholders consider the operation of the company and the continuation of its activity at risk. Such negative effects may be due to poor image, customer dissatisfaction, hiring issues, litigation and strict regulations, or other factors (Ameer & Othman, 2012; Wood, 1991). Legitimacy theory shows that particularly weak companies use sustainability disclosure as a legitimate tactic for influencing their sustainability performance publicly (Deegan, 2002; O'donovan, 2002). Therefore, companies that measure their efficiency based on an index prefer to use information that is superficial, incomplete, or vague, in order to address their unpleasant situation while maintaining legitimacy. As a result of these arguments, we make the second hypothesis of the current study as follows:

Hypothesis 2: There is a statistically significant relationship between the environmental sustainability performance of companies and voluntary disclosure of low quality information.

5. Method

The current study is of experimental type and in the domain of positivist accounting research. In this research, financial information is obtained from the financial statements and notes related to the companies under study and with the help of CDs of the Tehran Stock Exchange and Securities Organization. Therefore, the research method of the present paper is both deductive and inductive, which means that the theoretical foundations and background of the research was through library studies, articles, and sites in a deductive way, and collecting information and data to test the hypotheses followed an inductive procedure.

Since the results of this research can be used in the decision-making processes, this research is applied in terms of its research purpose. This study investigates the relationship between voluntary disclosure of information and the environmental dimension of firm performance in companies listed on the Tehran Stock Exchange. In this study, voluntary disclosure of information was the dependent variable and the environmental dimension variable of corporate sustainability performance was the independent variable. Information concerning these variables were collected through financial statements and corporate board reports. In order to test the research hypotheses, descriptive statistics, multivariate regression, and other related tests were used.

The statistical population of the study included the companies listed on the Tehran Stock Exchange in the period of 2012 to 2018. In this research, a systematic elimination method has been used for sampling. Thus, first all companies listed on the Tehran Stock Exchange were selected, and finally companies that had the following conditions were selected:

The financial year of the companies during the whole period of the research period has ended at the end of March, and they had been listed on the Tehran Stock Exchange before 2012. In addition, companies must not have changed the fiscal year during the research period and must not have been part of financial and investment companies such as banks and insurance companies. Finally, the required financial information must have been available, and their shares must not have stopped trading during the period under review. Finally, according to the above conditions, 71 companies in the research period were selected as the statistical sample. To investigate the relationship between sustainability performance and voluntary disclosure of companies' information, the incexes of the voluntary disclosure research model and its relationship with sustainable performance were used (Hummel & Schlick, 2016).

1) $HQ\_ VSD = \beta_1 + \beta_2 ESP + \beta_3 BM + \beta_4 Inst Owner + \beta_5 SIZE + \beta_6 FCF + \beta_7 LEV + \beta_8 TOBIN + e_{i,t}$

2) $LQ\_ VSD = \beta_1 + \beta_2 ESP + \beta_3 BM + \beta_4 Inst Owner + \beta_5 SIZE + \beta_6 FCF + \beta_7 LEV + \beta_8 TOBIN + e_{i,t}$

Dependent variable: Voluntary disclosure of information is the research dependent variable here. If the voluntary information is presented in the annual reports of a sample company, number 1 is assigned to it; otherwise, 0. The average of environmental and social performance indexes is used to calculate this. This information is taken from Global Reporting Initiative (GRI) as follows.

Environmental indexes include the used materials (in terms of weight or volume), energy consumption (direct and indirect and renewable energy sources), water abstraction (by source, such as wells, tributaries, etc.), greenhouse gas emissions (disclosure of measures and costs the company has done to reduce greenhouse gas emissions), effluents and wastes (disclosure of how effluents and wastes were dealt with including measures and costs in companies for wastewater treatment), waste (disclosure of how waste is dealt with including sale, recycling, or burial), products (disclosure of the extent to which the environmental effects of products are reduced), and environmental laws (cases of violations of environmental laws and regulations, including the amount of money and fines imposed).

Social indexes include labor force (type of employment, employment contract, degree), staff turnover (total number of employees who have left for any reason), collective agreements (percentage of total labor force covered by collective agreements), occupational health and safety (types of measures and expenditures for health and safety at work), education and training (duration of related training), gender discrimination (disclosure of women's participation in the operation process), financial support (disclosure of consumption resources and financial assistance to support social activities, education and arts), and social investment (disclosure of infrastructure to the public).

Independent variable: The performance of environmental sustainability is the independent variable of the current research, and the following ratios are used to calculate it**:**

1) Energy consumption = fuel and energy costs/number of employees
2) Water outflow = cost of water consumption/number of employees
3) Environmental measures = number of measures taken to total measures including pollution control, environmental damage, recycling or waste prevention, natural resource conservation, research and development, environmental policy, environmental investment, and other environmental issues.
4) Waste = cost of waste/number of employees
5) Environmental investment = area of environmental projects/number of employees

This study relies on previous research to select control variables, as many previous empirical studies have shown an association between these variables and voluntary disclosure of information (Branco & Rodrigues, 2008; Dawkins & Fraas, 2011; Kolk, 2003).

Book value to market (BM): the calculated ratio of book value to the stock market.

Institutional Owners (InstOwner): indicates the percentage of shares held by insurance companies, financial and investment institutions, banks, state-owned companies and other government components (large shareholders, those with 3% or more than shares).

Company size (SIZE): is the natural logarithm of the total assets of the company.

Financial Performance (FCF): (Cash flow from operating activities - total capital expenditures) divided by the number of employees

Financial leverage (LEV): the ratio of total debt to total assets.

Q Tobin: is obtained by dividing the total book value of debt and the market value of equity divided by the total assets of the company to book value.

Before analyzing the data, in order to determine the level of voluntary disclosure of information and environmental sustainability performance in companies, a checklist was developed and based on it, a questionnaire was designed to use the opinion of experts. The questionnaire was collected through email as well as in person, and the data of the current study were analyzed from 42 collected questionnaires

Table (1): Distribution and Collection of the Questionnaire

Explanation	Number	
Distribution questionnaires (in person)	-	15
Incomplete and invalid questionnaires	-	-
The final in-person questionnaires completed	15	-
Number of emails sent	-	40
Completed web-based questionnaire	-	27
Incomplete and deleted web-based questionnaire	-	13
Completed web-based questionnaire	27	-
The sum of the final analyzed questionnaire	42	-

The results of Table (1) showed that 32 of the respondents were male and 10 were female. 15 respondents had a bachelor's degree, 16 respondents had a master's degree, and 11 had a doctorate degree. According to the respondents' field of study, 52.4% studied in accounting, 31% in financial management, 14.3% in economics, and 2.3% in other fields. 18 of the respondents were faculty members, 1 was a managing director or board member, 3 were executive directors, 13 were experts, 6 were auditors, and 1 of the respondents had other jobs. 8 of the respondents had under 10 years of useful professional experience, 24 between 10 and 20 years, and 10 had over 20 years of useful professional experience. 26 of the respondents had work experience in the field of accounting and auditing, 12 in the field of capital market, and 4 in other fields.

Based on the designed questionnaire, Table (2) shows the Cronbach's alpha coefficient of each of the research variables. The total Cronbach's alpha coefficient in this study was 92.2%, which shows that this study had a high reliability, and because of the high total alpha, there was no need to eliminate any variables of the study. Also, from the obtained alpha value, it can be concluded that the measuring instrument had overlap and alignment and had a high stability.

Table (2): Reliability of Research Variables

index	Cronbach's alpha (percentage)
Environmental sustainability performance	87.8
Voluntary environmental disclosure	89.2
Voluntary social disclosure	91
The whole tool	92.2

6. Results

The first step in any statistical and data analysis is the calculation of descriptive indexes. Therefore, to enter the data analysis stage, the descriptive statistics of the data, which include the measures of central tendency, scattering and deviation from symmetry, as well as the Jarque–Bera test, which examines the normal distribution of waste, were calculated whose results are presented in Table (3).

Table (3) show the results of descriptive statistics of the research data. For example, the average performance of environmental sustainability is 0.454; in other words, the average performance of environmental sustainability of companies is 45.4%, and most of the data related to this variable is around this point. The median of the environmental sustainability performance variable is 0.415, indicating that half of the data is less than this value, and the other half is more than this value. The standard deviation value for the environmental sustainability performance variable is 0.173, which indicates the scatter rate of the variable around the mean. The degree of asymmetry of the frequency curve (skewness) of this variable is 0.360, which means that this variable has skewness to the right and deviates from the center of symmetry by this amount. If the amount of elongation is about 3, the frequency curve will be balanced and normal in terms of elongation. According to the elongation table, most of the variables in this study have values more than 3. The results of the Jarque–Bera for the normality of the research variables show that, given that the significance level of all variables is less than 0.05, the null hypothesis that the variables are normal is rejected; in other words, the data distribution is not normal. In this study, in connection with the normality of the model variables, the central limit theorem is used and based on this, at least a sample of 30 is needed to say that the distribution of statistical statistics is normal. Therefore, considering that the sample of the present study includes 71 companies for 7 years, the research variables have an approximation to the normal distribution. The classic assumptions of the regression model are lack of self-correlation, homogeneity of variance, and non-linearity. In this study, the Breusch–Godfrey test was used to confirm the results obtained, that is, to check the non-existence of self-correlation in the data. Based on this, the null hypothesis of no self-correlation and the opposite hypothesis of self-correlation are confirmed.

Table (4) shows the results of testing the absence of self-correlation in research models of the current study. Significance levels of 0.674 and 0.425, greater than 0.05, were obtained; thus, the null hypothesis of absence of self-correlation is confirmed.

Another hypothesis in a classical regression model is the homogeneity of variances. The Arch test was used to check the variance homogeneity in the data. Based on this, the null hypothesis of variance homogeneity and the opposite hypothesis of variance heterogeneity are confirmed.

Table (3): Descriptive Statistics of Research Variables

Variable	Mean	Median	Max	Min	Skewness	Jarque-Bera	Sig
ESP	0.454	0.415	1.003	0.125	0.36	16.036	0.000
SP	3.997	4	8	1	0.063	14.044	0.000
EI	3.792	3	8	1	0.224	56.671	0.000
PF	16936	5069	159087	-9833	2.182	684328	0.000
Ins owners	80.44	83.17	99.38	34.52	-0.661	38.582	0.000
Lev	0.618	0.642	0.889	0.111	-0.679	54617	0.000
size	13.007	12.935	18.194	9.816	0.71	105.47	0.000
BM	0.975	0.977	1.31	0.754	-0.167	588.42	0.000
Tobin's Q	2.251	1.235	40.52	0.228	6.634	83181	0.000

Table (4): Breusch–Godfrey Self-correlation Test

model	F value	Sig	Test result
(1)	0.679	0.674	H0 is confirmed
(2)	1.007	0.425	H0 is confirmed

Table (5): Analysis of Variance Homogeneity based on the Arch Method

model	F value	Sig	Test result
(1)	0.083	0.773	H0 is confirmed
(2)	1.487	0.225	H0 is confirmed

Table (5) shows the results of the variance homogeneity test of the research models. According to the significance level obtained for research models, more than 0.05, the null hypothesis is confirmed, and it is concluded that there is homogeneity of variances in the research model.Non-linearity is another hypothesis in the classical regression model. If the pattern or model is linear, it will not be practically possible to estimate it. The inflation variance factor (VIF) was used to check for non-linearity in the data. If the value in this test is greater than two, greater linearity will be reached

Table (6): Linearity Test

VIF	Variable	VIF	Variable
1.202	Lev	1.113	BM
1.229	size	1.056	ESP
1.247	Tobin's Q	1.283	PF
		1.085	Ins owners

Table (6) shows the results of the variance inflation factor of the research variables. Given the values obtained for the linearity between the independent variables is less than 2, we see a lack of linearity between the independent variables, which indicates the possibility of performing multiple linear regression tests.

Our goal in the first model is to explain the relationship between the performance of environmental sustainability of companies with voluntary disclosure of high quality information in companies listed on the Tehran Stock Exchange. After explaining the model and selecting the best method, the estimation results for the selected companies are as follows:

Table (7): Results of the First Model

Dependent variable: Voluntary disclosure of high quality information			
Variable	**Coefficient**	***t* statistic**	**Sig**
Constant	0.372	2.704	0.0011
ESP	0.605	5.821	0.0000
BM	3.968	2.101	0.0105
Ins owners	-0.205	-1.872	0.0617
Size	-0.196	-1.785	0.0723
PF	0.227	2.083	0.0118
Lev	0.479	4.514	0.0000
Tobin's Q	-0.239	-2.387	0.0107
R^2	0.418	Adjusted R^2	0.406
F-Statistics	3.741	Durbin-Watson Test	2.130
F-Statistics Sig	0.0066		

The numerical value of the adjusted coefficient of determination expresses what percentage of the changes in the dependent variable can be explained by the independent variable. In the present model, it is 0.406. That is, 40.6% of the changes in the variable of voluntary disclosure of high quality information can be explained by independent and control variables. The value of the Durbin-Watson Test is 2.130. As this value is in the range of 1.5 to 2.5, the hypothesis of no correlation between errors is not rejected, and simple multiple regression can be used. On the other hand, the estimated probability value for F statistic is 0.006, less than 0.05. As a result, there is no reason to confirm the null hypothesis, and the opposite hypothesis (H1) is accepted. Therefore, it can be said that there is a statistically significant relationship between environmental sustainability performance and voluntary disclosure of high quality information of companies listed on the Tehran Stock Exchange.

Our aim in the second model is to explain the relationship between the environmental sustainability performance of companies and the voluntary disclosure of low quality information in companies listed on the Tehran Stock Exchange. After explaining the model and selecting the best method, the estimation results for the selected companies are as follow.

The numerical value of the adjusted coefficient of determination expresses what percentage of the changes in the dependent variable can be explained by the independent variable. In the present model, it is 0.30. That is, 30% of the changes in the variable of voluntary disclosure of high quality information can be explained by independent and control variables. The value of the Durbin-Watson Test is 2.202. As this value is in the range of 1.5 to 2.5, the hypothesis of no correlation between errors is not rejected, and simple multiple regression can be used. On the other hand, the estimated probability value for F statistic is 0.003. Therefore, the significance of the whole regression can be verified and show a set of independent and control variables of voluntary disclosure of low quality information. According to Table (8), the results show that, because the significance level of the independent variable performance of environmental sustainability (0.009) is less than 5%, there is no reason to confirm the null hypothesis and the opposite hypothesis (H1) is accepted. It can be said that there is a relationship between environmental sustainability performance and voluntary disclosure of low quality information of companies listed on the Tehran Stock Exchange.

Table (8): Results of the Second Model

Dependent variable: Voluntary disclosure of high quality information			
Variable	**Coefficient**	***t* statistic**	**Sig**
Constant	-0.307	-2.941	0.0086
ESP	-0.366	-2.580	0.0091
BM	3.817	2.404	0.0104
Ins owners	0.201	1.905	0.0582
Size	0.123	1.596	0.1118
PF	-0.215	-1.983	0.0319
Lev	0.228	2.145	0.0113
Tobin's Q	-0.211	-2.107	0.0275
R^2	0.331	Adjusted R^2	0.300
F-Statistics	3.971	Durbin-Watson Test	2.202
F-Statistics Sig	0.003		

6. Discussion and Conclusion

The relationship between sustainability performance and disclosure is both theoretically and empirically ambiguous. The theory of voluntary disclosure suggests that the relationship should be positive, while the theory of legitimacy refers to a negative relationship. However, the empirical evidence for this relationship is different, indicating that the two theories are not necessarily contradictory, but rather are two sides of the same coin. Voluntary disclosure theory and legitimacy theory are the dominant theoretical concepts that are used in the literature to explain the relationship between sustainability performance and voluntary disclosure. However, empirical researchers often find these two theories incompatible with each other. Based on empirical evidence, some researchers have recently revised the hypothesis that the two theories are mutually exclusive and called for a change in the focus of research (Clarkson et al. 2008).

For this purpose, the data of 71 companies in the period 2012 to 2018 were tested and analyzed here. The results and findings of the first hypothesis showed that there is a relationship between the performance of companies' environmental sustainability and voluntary disclosure of high quality information. This result is in line with the predictions of the theory of voluntary disclosure that high sustainability executors disclose high quality sustainability information because it is more reliable and comparable. By exposing high quality information, these companies are actively demonstrating their superior performance to the market and are thus able to differentiate themselves from poor sustainability executives. The results of this hypothesis are compatible with Bewley and Li (2000), Cho and Patten (2007), and Clarkson et al. 2008, 2011, who argue that a company with superior sustainable performance discloses voluntary non-financial information to reflect the nature of its actual performance and increase its market value, and companies attract higher institutional investors by starting superior sustainable performance.

The results of the second hypothesis showed that there is a relationship between the performance of companies' environmental sustainability and voluntary disclosure of low quality information. The argument for the theory of legitimacy is therefore supported and shows that poor sustainability implementers disclose low-quality sustainability information to manipulate public perceptions of their sustainability performance. This is because low quality information is often lacking in reliability and comparability to hide the poor stability performance of a company, while it is very useful in providing a good image of a sustainable company. If the legitimacy of the company is threatened, the stakeholders consider the operation of the company and the continuation of its activity at risk. Companies that measure their efficiency based on an index prefer quality information and use information that is superficial, incomplete, or ambiguous to maintain legitimacy while in an unpleasant situation. The results of this hypothesis are consistent with Deegan (2002), O'donovan (2002), Ameer and Othman (2012), and Rezaee (2016).

These results are consistent with the predictions of financial theory that more information disclosure reduces information asymmetry and thereby enhances firm performance by improving firm communication with stakeholders.

In addition to contributing to the academic literature, this research has practical implications that may lead to future research, that is, the finding that high-quality sustainability executives use high-quality sustainability to demonstrate their sustainability performance to the market and poor-quality sustainability executives use low-quality sustainability disclosures to try to make a positive impact on the public. Also, according to the stated results, it seems that by increasing the quality of voluntary disclosure of companies, the performance of sustainability and the content of the performance reports of the board of directors and companies can be improved. Proving the existence of these relationships can have a great impact on attracting the attention of the managers of listed companies and improving the level of disclosure and reporting of companies, assuming the transitional economic and commercial environment in Iran. last but not least, the present study can be a small step towards explaining the findings of previous researchers and enriching the relevant literature, while providing new evidence from a different environment (Iran).

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