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The effect of environmental structures on fraudulent financial reporting

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Abstract

Earnings management is defined as earnings manipulation by management to achieve a part of prejudiced expected earnings. This research evaluated the effect of environmental structures on fraudulent reporting of companies by anticipating causal relationships between the structures of business environment change, long-term executive perspective, accounting experience, Organizational culture and corporate affairs, accepting prominent stakeholders, and fraudulent reporting. The population was top and middle managers and financial managers of the companies, and a standard questionnaire was used to collect data. Analyzes were based on a structural modeling approach after performing the reliability and validity tests of the sample data. The results showed that business environment changes, accounting experience, and the acceptance of prominent stakeholders negatively affected fraudulent reporting.

Keywords: Environmental structures, Earnings management behavior, Fraudulent reporting

1. Introduction

Earnings management affects the quality of earnings based on economic activities. When control mechanisms such as auditors, regulators, and others are ineffective, conditions are created for management to manipulate earnings to achieve the desired results in reports, including meeting analysts' expectations, avoiding losses, achieving a growth trend, or smoothing reported earnings levels. Evidence suggests that managers use prudent earnings management methods by manipulating accruals that generally do not affect the company's cash flow. Findings have represented that earnings manipulation is also performed through actual activities. In other words, activities

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are adopted that deviate from normal operating activities [3]. Li et al. [15] believe that managers preferred real earnings management to accrual-based earnings management after the recent financial scandals that led to new rules in the corporate governance structure. They also argue that the use of real items for earnings management can indicate the moral degradation of managers in dealing with earnings management, which raises more concerns for accountants. Given the problems of fraudulent reporting in the Iranian capital market, this study seeks to understand the extent of fraudulent reporting on environmental structures. This research tested components that have not been tested in previous research conducted in Iran on environmental structures on fraudulent reporting. Therefore, the research question is what effect do environmental structures have on fraudulent reporting. Causal relationships of environmental structures and fraudulent reporting are studied to answer this question and introduce a new concept of fraudulent reporting. The results are expected to help managers, financial analysts, investors, and other stakeholders better understand fraudulent reporting on environmental structures and make the right financial and investment decisions. This research outlines the theoretical foundations and research background and explains the research method and hypotheses derived from the problem. Then, the test results of the hypotheses are described, and finally, the conclusions and suggestions are stated.

2. Theoretical foundations and research background

Various definitions of earnings management are proposed by researchers in the accounting literature. An appropriate definition of earnings management requires understanding the purpose and motivation of earnings management and its application. Scott [19] considers earnings management as a company's authority to select accounting policies to achieve certain managerial goals, but the specific goals of the manager from earnings management should be determined. Fern et al. [7] define earnings management as manipulating earnings by management to achieve a part of prejudiced expected earnings. De George et al. [5] define earnings management as an artificial manipulation of earnings by management to achieve the expected level of earnings for specific purposes, such as obtaining analysts' forecasts or estimating past earnings trends to forecast future earnings. Haley and Wallen [11] think earnings management occurs when managers use their personal judgments in financial reporting and manipulate the structure of transactions to change financial reporting. This goal is either intended to mislead some shareholders about the company's economic performance or to influence the outcome of contracts that are subject to a certain earning.

Five essential factors as environmental structures can be effective on fraudulent reporting of companies based on the theoretical foundations and research background, which are defined as follows:

Accounting experience: Accounting experience refers to the knowledge and skills that create added value for a company. Experience is made by understanding the operation by the mind, and Marzuki [16] states that experience must be related to our knowledge. One of the characteristics of knowledge and experience based on mental knowledge is skills and deep understanding that lead to collective knowledge, norms, and procedures, or organizational skills. Therefore, knowledge originates from experience, and high experience is obtained in proportion to expertise.

Culture of managing company affairs: The culture of managing company affairs is an environment of trust, ethics, ethical values, and self-confidence that employees are encouraged to drive. In other words, this culture is the motivation of the company to have a culture with the highest ethical standards, while corporate governance is about balancing economic and social goals between individual and group goals [14].

Long-term executive perspective: The long-term executive perspective is defined as executive operations, indicating attention to the future or desired status of an organization, its goals, and its strategic direction. Freeman [8] considers the long-term perspective as the organization's overall goal, which ideally reflects the expectations of the company's significant shareholders. Some studies have indicated a significant relationship between the perspective and its relationship with the organization's desired results. Perspective focuses on what is vital to the organization, such as forecasting the future and its primary purpose.

Outstanding Stakeholder Acceptance: Freeman [9] defines stakeholders as individuals or groups who are influenced by the company's goals. Hence, the acceptance of outstanding stakeholders can be defined as recognizing the obvious role of shareholders in large corporations. Shareholders' expectations put pressure on the company's operations and policies to require the company to meet these expectations. Clarkson [2] identifies the stakeholder as someone who puts something at risk. Focusing on the needs and interests of the stakeholders that are affected by the company's operations makes them stronger to influence the company.

Changes in the business environment: Changes in the business environment are defined as a change in a set of political, economic, social, and technological forces that are mainly outside the control and influence of the company and potentially have a positive and negative effect on it. The diversity of the business environment and the nature of the competitive environment play an essential role in organizational adaptation, success, and innovation. In other words, the nature of the competitive environment may play a crucial role in the company's success. Therefore, the external environment is the primary source of uncertainty for managers who want to identify opportunities and threats. The global has moved towards stability at the beginning of the century. Therefore, business ethics has become a vital issue, and business change is rapidly emerging. In fact, changing the business environment encourages companies to pay serious attention to social and environmental problems while adhering to management policies, including security (reduction of environmental risks), quality, productivity (cost efficiency), market (new customer needs), and image, ethics, and social responsibility. In fact, changes in the business environment potentially affect corporate earnings [8].

Kardan et al. [12] investigated the nonlinear relationship of competition in the product market and the quality of financial reporting and concluded that the quality of earnings increases at a low level of competition and decreases as competition intensifies. Kurdestani et al. [14] surveyed the effect of disclosure quality on information asymmetry and found a negative and significant relationship between the quality of financial reporting and information asymmetry. Rezaei Pite Noei and Safari Grayli [18] evaluated the relationship between financial reporting readability and the probability of fraudulent reporting and concluded that financial reporting readability reduces the probability of corporate accounting fraud. Fakhari and Netaj Kurdi [6] examined the moderating effect of corporate governance on the relationship between competition in the product market and the quality of predicted earnings and argued that competition in the product market negatively affects the quality of earnings aniticipated by management, and this relationship is reduced in companies with strong corporate governance.

Companies meet earnings in the last three months of the year by manipulating real activities such as price reductions to temporarily accelerate sales. There is a positive and significant relationship between managers' overconfidence and earnings smoothing. Blanco and Deol [1] provided evidence of a negative relationship between company financial readability and the likelihood of fraud. Blanco and Deol examined the effect of readability and comparability on the likelihood of fraudulent reporting in the US capital market. The findings showed that companies with financial reporting with less readability and comparability are more likely than other companies to commit financial statements fraud. The effect of sustainable reporting on company profitability from 2015 to 2016 and concluded that sustainable reporting increases equity returns, asset returns, and the earnings margins. They examined flexibility as an essential issue in strategic management and concluded that companies should design flexible business models to deal with the managerial and environmental disruptions of sole proprietorships and supply chains. This study greatly helped to improve the understanding of the effect of various experimentally tested structures on developing the concept of resilience regarding resilience. The principles of operational sustainability should include the economic, environmental, and social effects of a firm's performance, which ultimately can improve company resilience and support its growth and survival. The research determines the stability of operations using data from different sectors of industry and the country, the sustainable maturity index (flexibility and sustainability index), resulting from the collection of the maturity model. Moreover, the integration of the first level of sustainability and resilience indicators in a common framework examines the relationship between resilience capabilities and the financial performance of companies. The mentioned research examined the relationships between resilience, sustainability practices, and company performance and concluded that profitability does not show a significant relationship with a sustainable strategic goal.

3. Hypotheses and conceptual model

Central Hypothesis: Environmental factors affect fraudulent reporting.
This hypothesis is tested by the following five sub-hypotheses:

- The community members know that they are its - Changes in the business environment affect fraudulent reporting.
- Accounting experience affects fraudulent reporting.
- Long-term executive perspective affects fraudulent reporting.
- Outstanding stakeholder acceptance affects fraudulent reporting.
- Organizational culture affects fraudulent reporting.

The model is the relationship between the theoretical level and the collection and analysis of data. Models include signs and symptoms, i.e., the properties of some empirical phenomena (including their components and relationships) are logically expressed through interrelated concepts. Thus, the model reflects reality and integrates certain aspects of the real world that relate to the problem under consideration, clarifies the major relationships between these aspects, and finally allows empirical testing of the theory given the nature of these relationships. A better understanding of some parts of the real world is gained after testing the model. The model consists of concepts, hypotheses, and indicators that facilitate selecting and gathering the information needed to test the hypothesis [13]. According to the above argument, the hypotheses formulated, and the theoretical foundations in tracking the fraudulent reporting model of companies, the conceptual model of the research have been developed as Figure 1:

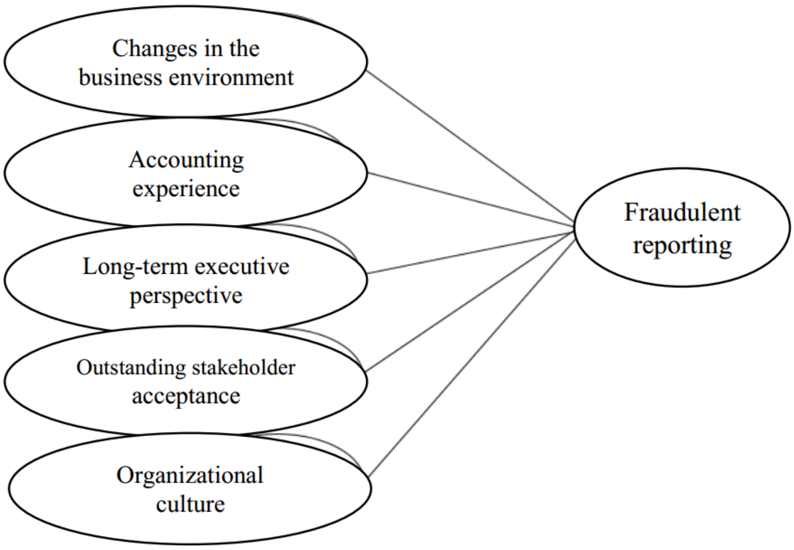

Figure 1: Conceptual framework of research

$$SRMR = \sqrt{\frac{2}{p(p+1)} \sum_{i \le j} \left[(s_{ij} - cov_{ij}(\hat{\theta}))/(s_{ii}s_{jj}) \right]^2} \tag{1}$$

$$GFI = 1 - \frac{tr\left[\left\{\sum(\hat{\theta})^{-1}(S - \sum(\hat{\theta}))\right\}^2\right]}{tr\left[\left\{\sum(\hat{\theta})^{-1}S\right\}^2\right]} \tag{2}$$

$$AGFI = 1 - \frac{p(p+1)(1-GFI)}{p(p+1) - 2q_2} \tag{3}$$

$$NFI = 1 - \frac{T_M}{T_I} \tag{4}$$

$$NNFI = 1 - \frac{(T_M/d_M) - 1}{(T_I/d_I) - 1} \tag{5}$$

$$RMSEA = \sqrt{max\left\{(T_M - df_M)/(n.df_M), 0\right\}} \tag{6}$$

$$IFI = 1 - \frac{\sqrt{(1-d_1)^2 + \cdots + (1-d_n)^2}}{\sqrt{n}} \tag{7}$$

4. Methodology

This research evaluates the effect of environmental factors on earnings management behavior by anticipating the casual relationships between the structures of business environment change, long-term executive perspective, accounting experience, Organizational culture and company affairs, outstanding stakeholder acceptance, and fraudulent corporate reporting. This research is applied in terms of purpose and descriptive-analytical survey based on the structural modeling approach in terms of data collection methods. Version 3.2.7 of smart-pls statistical software was used to test hypotheses by the structural equation modeling. When the volume of observations is small or does not have a normal distribution, it is preferable to use software such as smart-pls [4]. The path model of the least partial squares is defined by two sets of linear structural equations (internal model or structural model and external model or measurement model). The structural model specifies the relationship between the latent variables, and the measurement model determines the relationship between the latent variables, and the observed markers.

Further, the online in-person questionnaire method was used in the data collection stage and the structural equation modeling approach was used in the inference stage based on partial least squares. Information was collected online and in-person through social networks, and the questionnaire was distributed among senior, middle, and operational managers and financial managers of the studied companies. The sample size must be estimated at a ratio of 10 items per parameter. Bentler et al. [10] also suggested five items per parameter . According to the structural model of this study, the existing observations (questionnaire) (140 cases) are statistically sufficient.

A total of 96 questionnaires were through social networks, of which 17 were rejected due to insufficient or inaccurate data, and the number of correct observations reached 79 companies. The sample size should be estimated at a ratio of 10 items per parameter regarding its adequacy in the structural equation modeling method to obtain valid and generalizable results. Bentler et al. [10] also suggested 5 items per parameter. In this study, the latent endogenous variable (fraudulent reporting), independent variables -changes in the business environment, long-term executive perspective, accounting experience, Organizational culture and company affairs, and outstanding stakeholder acceptance-were measured using a standardized questionnaire. The opinion of university professors and the country's capital market experts was used to develop and localize research tools appropriate to the country's environment and verify its validity. Table 2 shows the information about the research variables.

Table 1: Research model variables

Variable	**Role**	**Type**	**Structure**	**Number of questions**
Business environment changes	Independent	Perceptual	Reflective	3
Long-term executive perspective	Independent	Perceptual	Reflective	4
Accounting experience	Independent	Perceptual	Reflective	2
Organizational culture and company affairs	Independent	Perceptual	Reflective	3
Outstanding stakeholder Acceptance	Independent	Perceptual	Reflective	4
Fraudulent reporting	Latent	Perceptual	Reflective	6

Model analysis and item test

In the research model, the variables were modeled as higher-level reflective structures. The steps and methods used are according to Table 2.

The reliability and validity of structures and indicators are evaluated to evaluate the measurement model (external model). Cronbach's alpha and composite reliability for each model structure was more significant than 0.7, and all indicators had the necessary reliability. Convergent and discriminant validity were used to evaluate the validity of model constructs. The mean criterion of variance extracted to assess the convergent validity of all model constructs is more than 0.5. Given that the root of the average variance extracted in the diameter of the matrix is greater than the correlation of structure with other structures, the mentioned property also has an acceptable level. Therefore, the quality of model structures has good validity.

Table 2: Summary of data analysis stages

<table>
<tr><td rowspan="6">Evaluation of the measurement model (External credit)</td><td rowspan="3">Reliability</td><td colspan="2">Reliability of indicators</td></tr>
<tr><td rowspan="2">Check for one-dimensionality</td><td>Cronbach's alpha</td></tr>
<tr><td>Composite reliability</td></tr>
<tr><td rowspan="3">Validity</td><td colspan="2">Convergent (AVE) and diagnostic validity</td></tr>
<tr><td>Discriminant Validity</td><td>Fornell-Larcker criterion</td></tr>
<tr><td>Correlation of structures and multiple alignments (VIF)</td><td>Validation check</td></tr>
<tr><td rowspan="3">Structural model evaluation (Internal validity)</td><td colspan="3">Path coefficient estimation</td></tr>
<tr><td colspan="3">The coefficient of determination (R^2)</td></tr>
<tr><td colspan="3">Predictor relationship</td></tr>
<tr><td rowspan="3">Investigation of model quality indicators</td><td colspan="3">Common validation check</td></tr>
<tr><td colspan="3">Redundancy validation check</td></tr>
<tr><td colspan="3">Goodness-of-fit (GOF) and Standardized Root Mean Squared Residual (SRMR)</td></tr>
<tr><td>Hypothesis testing</td><td colspan="3">Significant coefficients of Z related to each of the hypotheses</td></tr>
</table>

Table 3: Quality of the measurement model

Structure	**Cronbach's alpha**	**Composite reliability**	**Convergent validity**
Business environment changes	0.871	0.897	0.889
Long-term executive perspective	0.897	0.860	0.710
Accounting experience	0.941	0.895	0.876
Organizational culture and company affairs	0.955	0.849	0.808
Outstanding stakeholder Acceptance	0.942	0.824	0.690
Fraudulent reporting	0.972	0.972	0.853

The explained factor loads and variance of the variables are checked by the PLS algorithm, and the significance of the paths and factor loads is checked using the bootstrap method to obtain t-values to evaluate the structural model (internal model), after calculating the path coefficients. Significant results of the routes can be seen in the table below.

Table 4: Relationships between research structures and their significance

Path	**Path coefficient**	**Standard deviation**	**Significance level***	**Interpretation**
Changes in the business environment and fraudulent reporting	294.0	135.0	0.030	No rejection
Long-term executive perspective and fraudulent reporting	-0.134	0.155	0.388	Rejection
Accounting experience and fraudulent reporting	-0.483	0.161	0.003	No rejection
Organizational culture and company affairs and fraudulent reporting	-0.083.0	0.152	0.584	Rejection
Outstanding stakeholder acceptance and fraudulent reporting	-0.990.0	0. 127	0.003	No rejection

$*Sig > 95\%$

As shown in Table 5, the path of changes in the business environment and fraudulent reporting is significant (P-Value=0.030 $<$ 5%). Hence, the first hypothesis is confirmed. The path of long-term executive perspective and fraudulent reporting was not significant (P-Value=0.388 $>$ 5%). Thus, the second hypothesis is rejected. The path of accounting experience and fraudulent reporting is significant (P-Value=0.003 $<$ 5%). Therefore, the third hypothesis is confirmed. The path of Organizational culture and company affairs and fraudulent reporting was not significant (P-Value=0.584 $>$ 5%). So, the fourth hypothesis is rejected. The path of outstanding stakeholder acceptance and fraudulent reporting is significant (P-Value=0.003 $<$ 5%). Consequently, the fifth hypothesis is confirmed.

In the measured and structural models, the mean subscription is used to measure the fit of the external model, and the coefficient of determination R^2 is used to fit the structural model. The mean value of the subscription represents the percentage of changes in the indicators justified by the corresponding structure, and researchers have reported an acceptable level for statistical subscriptions greater than 0.5 [17]. Given the values of R^2, which indicates the ability of the model to describe the structure, the proposed model has a good fit.

Table 5: Structural model quality and goodness of fit

Model. Structure	SRMR	R^2	R^{2adj}	F^2
Accounting experience	0.100	0.799	0.753	0.141
Public performance of citizens				0.103
Organizational culture and company affairs				0.212
Long-term executive perspective				0.141

In the following, the modified model will be as follows:

5. Discussion and Conclusion

This research proposes a new structure of environmental structures and fraudulent reporting, emphasizing integrating different components from different views. Therefore, various environmental structures (changes in business environment, long-term executive perspective, accounting experience, organizational culture and company affairs, outstanding stakeholder acceptance) and fraudulent corporate reporting were analyzed. Testing the first hypothesis showed that changes in the business environment have a significant effect on fraudulent reporting. According to the theoretical foundations of the research and the results of research conducted, it can be concluded that changes in the business environment affect fraudulent reporting. Therefore, the likelihood of fraudulent reporting is reduced by a change in the company's business environment. Testing the second hypothesis showed that the long-term executive perspective and fraudulent reporting has no significant effect on fraudulent financial reporting. Therefore, it can be concluded that the long-term executive perspective has no effect on earnings management behavior. Based on the results of previous research, it can be concluded that accounting experience is a factor in reducing fraudulent reporting. The results of testing the fourth hypothesis illustrated that the organizational culture and company affairs have no significance on fraudulent reporting. Given theoretical foundations and the results of previous research, the organizational culture and company affairs is not a factor influencing the earnings management behavior. The results of testing the fifth hypothesis showed that outstanding stakeholder acceptance has a significant effect on fraudulent reporting. Based on the results of previous stud-

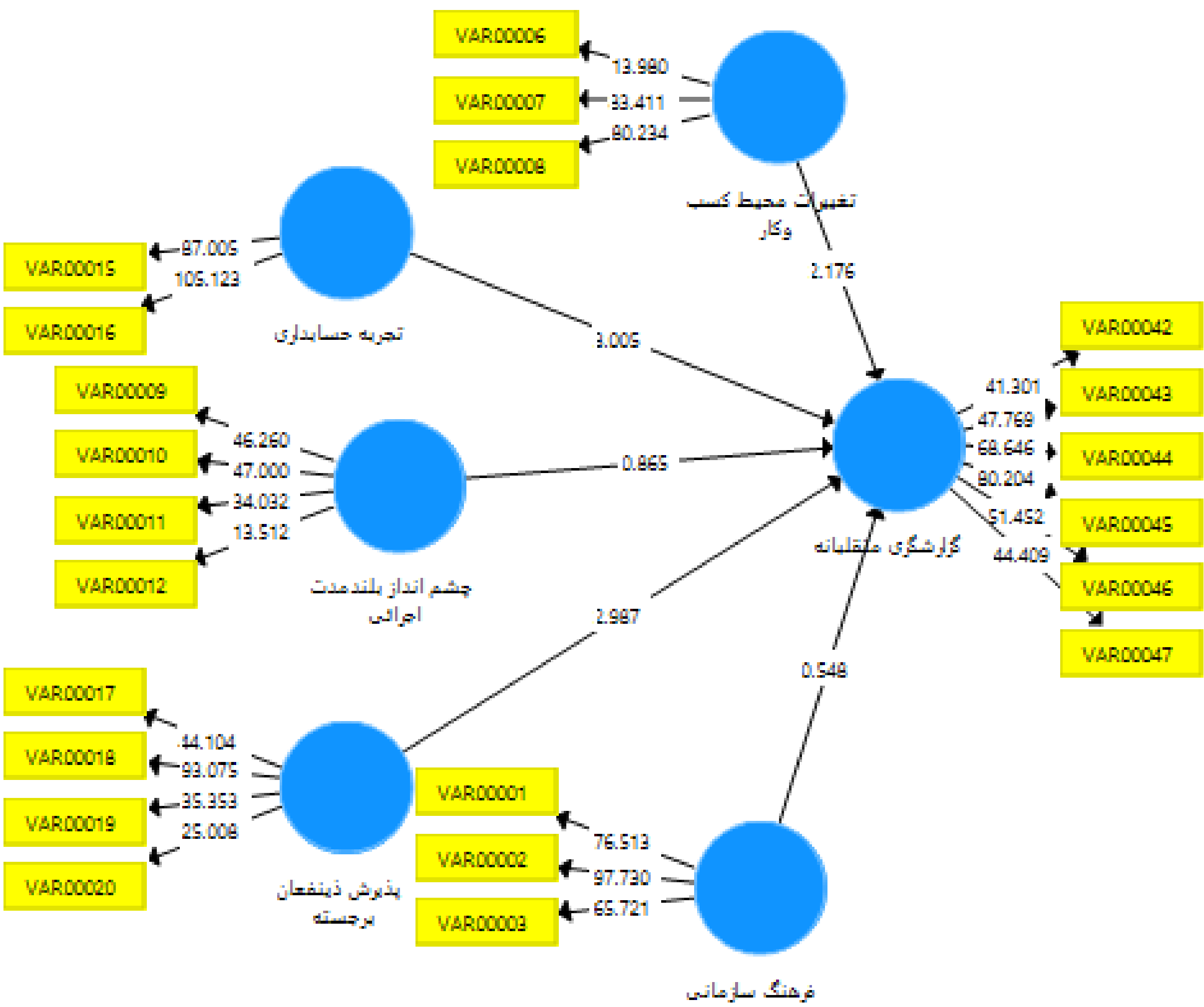

Figure 2: Modified research model

ies and the theoretical foundations of the research, it can be inferred that outstanding stakeholder acceptance reduces fraudulent reporting.

Findings indicate that environmental structures (changes in the business environment, accounting experience, and outstanding stakeholder acceptance) reduce fraudulent reporting. According to the hypothesis testing results, fraudulent reporting is affected by environmental structures. In other words, environmental structures can be considered as a factor in reducing fraudulent reporting. Therefore, regulators, actual and potential investors, and other stakeholders are recommended to pay more attention to the discussion of environmental structures and include it in their decision-making models because they can be the basis for their decision-making.

The structures of business environment change, accounting experience, and outstanding stakeholder acceptance affect fraudulent reporting. Experts and managers of the Tehran Stock Exchange are advised to think of measures regarding the importance of environmental structures on reducing fraudulent reporting, creating a transparent competitive environment, as well as creating a transparent information environment and making the best decision for investors.

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