

## Management Ability Effects on Information Environment Quality

**Mohammad Marfou \***

\*Corresponding author, Assistant Prof., Department of Accounting, Faculty of Management and Accounting, Allameh Tabataba'i University, Tehran, Iran. (Email: marfoua@gmail.com)

**Roohollah Seddighi**

Assistant Prof., Department of Accounting, Faculty of Management and Accounting, Allameh Tabataba'i University, Tehran, Iran. (Email: r.seddighi@atu.ac.ir)

**Mojtaba Alifamian**

Ph.D. Candidate, Department of Accounting, Faculty of Management and Accounting, Allameh Tabataba'i University, Tehran, Iran. (Email: mojtaba.alifamian@yahoo.com)

Iranian Journal of Finance, 2023, Vol. 7, No.1, pp. 21-34.

Publisher: Iran Finance Association

doi: <https://doi.org/10.30699/IJF.2022.271509.1198>

Article Type: Original Article

© Copyright: Author(s)

Type of License: Creative Commons License (CC-BY 4.0)

Received: November 23, 2021

Received in revised form: July 18, 2022

Accepted: August 11, 2022

Published online: November 26, 2022



### Abstract

The purpose of this paper is to investigate the role of managerial ability in information environment quality in the listed companies on the Tehran Stock Exchange (TSE). This research has focused on the quality of the information environment and has attempted to investigate the impact of management ability

along with other variables affecting the information environment quality such as size, performance, accrual quality, etc. In this study, to measure the quality of a company's information environment "ratio of stock return volatility to market return volatility " and to measure managerial ability The Demerjian et. al. (2012) model is used. The systematic elimination method was used for sampling 105 firms listed in Tehran Stock Exchange during the time range 2015 to 2021, and the model of panel data was applied to test hypotheses. Based on the research results while managerial ability can enhance the quality of a company's information environment, the size and growth rate of the company can also affect the information environment quality.

**Keywords:** Managerial ability, Information environment quality, DEA.

## Introduction

Information environment, which includes financial statements, board reports, etc., causes changes in decision-makers' behaviors through continuous dissemination of information, so the important note is the existence of this environment which on the one hand reduces ambiguity and uncertainty and the other hand increases the "'''''''''''''''' r r e,,,,,,,,,, , aalyiica,, add eeciii nn-making power. Mechanisms to reassure other users about the quality of financial information such as auditing not only are essential to achieving capital market efficiency but also can efficiently allocate resources. The accountant who takes steps in an information society in a neutral position has a vital role in increasing the Information quality (Saghafi & Ebrahimi, 2009). From another standpoint, in cases where the information is distributed in a heterogeneous way among individuals, different results for the same case can be observed. In other words, in the case of confidential and heterogeneous information dissemination, due to the information asymmetry created, there would be various reactions from investors in the market that can finally lead to the formation of incorrect and misleading analyses of the current situation. In this case, small investors will not be willing to invest, and this will eventually lead to an increase in the company's cost of capital. (Lambert et al., 2011). Thus more than the information itself, its distribution matters and must be reviewed and evaluated (Ghaemi & Vatanparast, 2005). The goal of generating Information systems is to provide an environment covering both goals, i.e. presenting qualified information and omitting error risks, and distributing information clearly and timely in order to decrease heterogonous situations.

Managers are the pinnacles of power in companies and are able to change the information environment. In other words, it can be inferred that management plays a key role in the information environment quality by determining the nature, content, and timing of information disclosure. There exist conflicting theories about the role of managers in information environment quality. According to the modern theory of companies, any interest conflict among managers and owners due to the separation of ownership and management could cause representation problems that can be seen (Watts & Zimmerman, 1986). Specifically managers of more abilities who leverage their intelligence, weaknesses, are in a better position to exploit fraud opportunities, override the internal control, and above all hide the manipulation, compared to those managers of fewer abilities (Gul & Khedmati and Lim, 2018). On the other hand, managers of more abilities due to their better understanding of the internal conditions, can also have positive effects on corporate policies and financial reporting and are able to provide information for stockholders in the best way

According to the existing vagueness in determining the role of managers in the Information environment quality in the research literature, this study seeks to take a useful step to complete the relevant literature by examining the issue among Iranian companies. Past researchers consider accounting information system as Information environment which is reported through annual profits and financial statements. However, in this research, looking at the information environment is beyond the accounting information system. In this study, the "company return volatility to market return volatility ratio" is used as an indicator of information environment quality but in recent research, the accrual quality and earnings quality were used as indicators in determining the mentioned issue. Given that, unlike the price, much of the information in the accounting system is intermittently recorded (Scott, 2009), this indicator seems to better reflect the reporting system quality. These issues contribute to the leverage of this research. Within the following part after presenting the literature, the hypotheses, methods, models, and results will be presented.

## Literature Review

As mentioned in the introduction, managers' effects on the information environment (strengthening or weakening) lack clarity, and there exist various theories on this issue. Experimental research has shown that managers can

affect the quality of the information environment in an effective way. Baik et al. (2011) showed that there is a positive relationship between managers' ability and the frequency and accuracy of management earnings, as well as the market response to managers' forecasts, it can be concluded that management ability has a positive effect on the firm's information environment. The results of other research done by Bechuk et al (2002) and Hermalin et al (1998) exhibit that Management through ambiguous disclosures can reduce the quality of the firm's information environment.

Demerjian et al. (2013) reached different conclusions about the impact of management ability on accruals quality; they show that when using data envelopment analysis (DEA) to measure management ability, there is a positive relationship between management ability and the accruals quality, while when using media information to determine management ability, this relationship is reversed. Trueman (1986) in his research shows that equity-based compensatory incentives able managers to voluntarily disclose their earnings forecasts. Bushee & Noe (2000) suggest that strong corporate governance can increase management motivation to improve the quality of the information environment. Lambert & others (2011) have cited that the advantage of informed dealers would be high in companies where there is an almost frail Information environment. Lev (1988) Indicates the potential consequences of "information asymmetry" and argues for the mandatory disclosure of financial information. While a number of researchers emphasize legislation and regulations to reduce information asymmetry; investors' demand for information and the corporate governance body's interest in capital provision leads to the production and disclosure of private information, and as a result, alternative tools are created to reduce information asymmetry.

Baik (2017) reviewed the relationship between management ability and the Information environment quality. The results showed that managers with more abilities can increase the environmental quality by using knowledge, expertise as well as skills. . Gul et al. (2018) showed that financial distress moderates the relationship between a manager's ability and the quality of financial reports. Demarjian et al. (2020) in a study showed that capable managers tend to consciously (intentionally) smooth out incomes. Haider et al. (2021) reviewed the impact of management ability on accounting conservatism. Their results show that managerial ability is positively associated with accounting conservatism. These results support the notion that high-ability managers apply conservatism in accounting because it benefits the firm and stakeholders. Wu et al. (2022) investigated the impact of managerial ability on idiosyncratic volatility from the perspective of corporate information. Their empirical results

show that competent managers reduce idiosyncratic volatility by improving corporate transparency.

In Iran Bozorgasl & Salehzadeh (2009) based on Demerijan et al. (2012) results reviewed the relationship between management ability and accrual quality. The results indicated no meaningful relationships throughout the course of the studies. Setayesh et al. (2015) studied the Interactive Effect of Firm Size and Information Environment on the Value Relevance of Net Income and Operating Cash Flow. The results showed that net income has more additional and incremental information content than that of operating cash flow to explain stock market performance, but the firm size and information environment leave no effect on the value relevance of net Income and operating cash flow.

Kordlar & Rahmani (2015) reviewed the relationship between managerial abilities and financial reporting quality in Tehran Stock Exchange. Their results indicated a negative and significant relation between managerial ability and financial reporting quality. In a similar study Kashanipur et al. (2016) also investigated the effect of managers' ability on the relationship between financial reporting quality and investment efficiency in pharmaceutical companies listed on the Tehran Stock Exchange. The results indicate that the ability of managers does not affect the relationship between financial reporting quality and investment efficiency.

Hamidian et al. (2018) reviewed the impact of executives' attitudes on Information Asymmetry, Financial Leverage, and Firm Value. The results showed that the companies enjoying managerial abilities, on the one hand, have higher firm value and on the other hand display less financial leverage and information asymmetry. Furthermore, the companies with CEO Overconfidence have lower value and higher financial leverage and information asymmetry.

Fakhari & Rezaei Pitenoi (2018) reviewed the impact of audit committee financial expertise on the companies' information environment. The results showed that there is a positive relationship between financial expertise and IE and also financial expertise is the character that betters the effectiveness of atttt cmmnttees add aaadly mrrrees hte ceeeeee e' rrrrr r aiinn environment Mehrani et al. (2020) investigated the effect of management ability on Financial Reporting Timeliness. The results of their research showed that empowered managers have a passive effect on the Lag of the Earnings announcement and audit reports and, as a result, reveal more timely financial information.

quality on the information environment, the main hypotheses of this research are presented and examined based on the relation between these two variables.

The research hypothesis: the ability of a manager has a positive and meaningful effect on the information environment of a company.

## Research Methodology

### Society and statistical sample

The research is applied in terms of purpose and semi-experimental and post-event data collection in the field of positive accounting research which was performed by using a multivariate regression model and data envelopment analysis. The research statistical population includes all companies listed in the Tehran Stock Exchange within the time of 2015 to 2021. In order to extract a balanced panel of complete Information, only companies with the following characteristics are chosen as the sample.

1. Investment and brokerage companies were eliminated (Due to the different nature of activities and Lack of comparability with other companies.)
2. Those companies without any changes in their activities or fiscal year
3. The company should have not stopped operating for more than six months during the research period (These companies were eliminated due to a lack of appropriate data for analysis)
4. In an effort to simultaneously heighten comparability and increase the contrast, we opted for the companies whose fiscal year ended on 29 March.

After applying the mentioned limitations, 105 companies have been studied during the mentioned span.

### Method and samples of research

In this study, first, taking the advantage of data envelopment analysis, the overall efficiency (relative efficiency) of the companies has been determined (model 1). Since the calculated efficiency can be both due to the ability of managers and the operating conditions of the company, by using model 2, part of the efficiency that depends on managers' abilities is estimated. Finally, the hypothesis of the research is tested via model 3.

envelopment analysis of Information (DEA) is used according to Demerijan et

al. (2012). Data envelopment analysis is a kind of statistical modeling employed for the estimation of system performance through input and output data. In this method, the rhythmic ratio of "output to input" is used and the efficiency, which is a number between zero and one, is calculated. Companies with a performance score of one are highly efficient, whereas those showing a lower efficiency score are resultantly less efficient. (Demerijan et al., 2012) In this research for evaluation of efficiency, the following accounting model is taken advantage of:

$$\max_{\theta} \theta = \frac{SALE_{i,t}}{v_1 COGS_{i,t} + v_2 SG\&A_{i,t} + v_3 PPE_{i,t} + v_4 OtherINT_{i,t}} \quad (1)$$

In the above model where Sale represents sold, COGS stands for cost of goods sold, GS&A stands for administrative and general expenses, PPE stands for fixed assets and INT stands for other assets. Evaluating efficiency aim at estimating the manager's abilities.

The main point here is that the efficiency calculated according to model (1) have used model 2 to control the effect of the inherent characteristics of a company. In this model, the company's efficiency, which is calculated from model (1), is a function of the company's inherent characteristics, including Size (logarithm of assets), free cash flow (FCF) (dummy variable with a value of one for positive flow), Market share (MS) (sales of the company to industry sales), Age (logarithm of age) and foreign currency indicator(FCI) (dummy variable with a value of one for companies that have had exports) are considered. Having run the regression, the residuals of the model, which can not be attributed to any of the inherent characteristics of the company, are attributed to the manager.

$$\text{Firm Efficiency} = \beta_0 + \beta_1 \text{Size} + \beta_2 \text{MS} + \beta_3 \text{FCF} + \beta_4 \text{Age} + \beta_5 \text{FCI} + \varepsilon \quad (2)$$

**Main research model**

For the evaluation of the research hypothesis (main and the other hypothesis) Bike et al. (2017) model (model 3) is used:

$$Info Env = \alpha + B_1 Ability + B_2 Size + B_3 Performane + B_4 Firm Age + B_5 Growth + B_6 Leverage + B_7 Accrual Quality + \varepsilon \quad (3)$$

In the above model, the variables are described and used in the following manner:

Information environment Quality (*InfoEnv*): the dependent variable of research and is estimated according to Hu et al. (2014) and Fernandes & Ferreira (2014) "information environment quality at company level". The higher the volatility, the more information about the company is reflected in the stock price, indicating more price awareness and, consequently, the company's information environment. The volatility of returns at the company level" has been operated as "company return volatility to market return volatility. According to Hejazi (1390), the standard deviation of three months is used to calculate the return volatility.

Controlling variables of model 3 include Size, Performance, Age, Growth, Leverage, and Accrual Quality described as the following.

Performance means the profitability of the company, Growth is the rate of sales growth, Leverage represents the ratio of total debts to total assets at the end of the fiscal year, and Size, as well as Age, are defined in model 2. Also, Kotari's (2005) model has been used to measure the accruals quality.

## Results

The average nearness indicates the normalcy of inputs. The average quality of the information environment equals 0.306, indicating the average volatility of companies' returns is 0.306 times the volatility of market returns. Also, all variables have a low standard deviation, which indicates that the variables had low dispersion and high stability during the research period.

Table 1. descriptive statistics of research

Variables	Average	Mean	max	min	Standard deviation
Quality of Information	0.306	0.239	0.816	0.056	0.215
Manager ability	-0.008	0.002	0.495	-0.478	0.251
Size of company	14.613	14.448	17.829	12.513	1.300
Performance	0.175	0.125	0.572	-0.029	0.168
Age	2.938	2.944	3.638	2.398	0.312
Leverage	0.563	0.559	0.867	0.245	0.175
Growth	0.293	0.204	1.180	-0.254	0.389
Accrual Quality	0.010	-0.001	0.310	-0.216	0.128



Prior to estimating the research model, regression assumptions were examined. The White test rejected the homogeneity of variances and therefore the Generalized least squares (GLS) method was used to solve the problem of heterogeneity of variances. Inflation variance was also used to investigate the problem of Multicollinearity. The rate of variance inflation factor in Table (3) shows that there exists no correlation between the explanatory variables.

#### Limer test:

In order to select one of the panel data methods or Pooled data, the F-Limer statistic is applied. According to the results obtained from the F-Limer test, the null hypothesis is rejected and the alternative hypothesis is confirmed; in other words, the panel data method is more appropriate.

#### Hausman Test:

After selecting the panel method by the F-Limer test, the Hausman test is used to select one of two methods consisting of fixed or random effects. The results obtained from Table (2) indicate using the fixed effects versus random effects method in estimating the regression model.

Table 2. Result of F- Limer Test

Name	Test statistics	Significance
F Cross Section	2.15	0.000
Fixed-cross section	143.98	0.000

Table 3 Findings of the estimation of the regression model for the Main Model of Research.

Table 3. Estimation of Main Model of Research

Variables	symbol	Coefficient	t <sub>statistics</sub>	Significance	(VIF)
Cross	C	0.361	3.248	0.002	
Manager Ability	Ability	0.060	2.466	0.030	1.218
Size of Company	SIZE	-0.024	-3.627	0.010	1.055
Performance of Company	Performance	-0.065	-1.272	0.206	1.807
Financial Leverage	LEV	0.031	0.812	0.419	1.121
Age	Firm Age	0.046	1.817	0.059	1.041
Growth rate	GROWTH	0.075	3.662	0.000	1.206
Accrual Quality	Accrual Quality	-0.015	-0.224	0.823	1.549
F-Statistic		41.19		0.000	
Durbin Watson	2.08	Modified Determination Coefficient		0.41	

The observation of the F-statistic value and its significance level in this table represents the general significance of the fitted regression model with an error level of 5%. Moreover considering the modified determination coefficient in table (3), it can be claimed that about 41% of the changes in the Information environment can be explained by the model's variables. The amount of Durbin Watson (2.08) is between 1.5 and 2.5 indicating the lack of serial correlation amongst regression errors. Then, according to the t-statistic at the level of coefficients significance and the sign of regression coefficients of each variable, it can be concluded that the managerial ability variable has a positive add effect on the quality of the information environment. In addition, by increasing the size of the company, the quality of the information environment will improve. So the research hypothesis based on the positive and significant effect of ability on the quality of the information environment is admitted at a level of 95 percent level.

Also, the variables of size and growth rate have a significant effect on the quality of the information environment. The relationship between size and the quality of the information environment is negative while the relationship between growth rates is positive. These results can be interpreted that achieving an information environment quality is more difficult in large

companies due to the environmental complexities, so the larger the company, the lower the quality of the information system. On the other hand, companies with high growth rates, based on signaling theory seek to reduce information asymmetry. The Leverage, Cuality, and Age aren't effective on the quality of the information environment.

## Discussion and Conclusion

The prerequisite for economic decision-making is the existence of an information environment in which appropriate and relevant information related to the subject of the decision is properly provided, distributed, and processed; otherwise, unwillingness in the capital market, lack of optimal allocation of resources and company's information environment is one of the issues that have been considered by investors and other capital market participants.

The Information environment quality is affected by various issues like all things... In fact, due to the greater awareness of the company's affairs, the management has the authority to use principles such as realization and matching, deciding on how and when to disclose information, which plays a key role in improving the company's information environment. Managers of greater abilities due to their higher knowledge and awareness of industry conditions are more able in making profits from a certain amount of resources so according to signaling theory, in order to reduce the cost of capital and the agency costs and gain the reputation of a successful and honest manager in the management market, they try to inform the shareholders and other people by increasing the quality of the information environment, their performance and success. However, the literature of this research reminds us that managers of greater abilities may use their knowledge for hiding their performances as well as cheat thus they provide shareholders and other users with incorrect information.

This research reviewed the mentioned issue among Iranian companies and managers. The results show that higher abilities on the Information environment quality. One of the reasons that can be argued for such an effect in our country is the limitations of bank financing and increasing credit in the labor market of managers. So managers of higher abilities due to the limitations of bank financing and high-interest rates in the current situation of the country, are more likely to improve try to achieve resources with low capital costs seek to increase their financing channels,

improve the information environment quality and reduce investors expected ..... eee rrrrr aa,,, aaaa eess are'' t llll ggg oo rreett rrrrr rrrct add eeeeeeeee Inrrr nnnnnnnagggggmmmmmmraeeeee eeeeeettt add ee..... . o ttss expected that managers of greater abilities will improve the Information quality. This finding is in line with the results of Bike et al. (2017) and isn't consistent with the results of Beichuk (2002) and Hermalin (1998).

According to the effects of Information quality on the cost of capital, the results of this research could be useful for boards of directors as well as investors. It is expected that the findings of this research will be considered by boards of directors when selecting their CEOs and that managers with higher abilities will be selected to provide transparent information

Flllll l, ttss rrr hh iiii ng tttt ttt aaaa ee'' ablltty aas aasssss sccccc which are impossible to review. Considering that Demrijan (2012) model has been used to measure management ability in this research, the results of this research need to be interpreted with caution.

### **Declaration of Conflicting Interests**

The authors declared no potential conflicts of interest concerning the research, authorship and, or publication of this article.

### **Funding**

The authors received no financial support for the research, authorship and, or publication of this article.

### **References**

- Baik, B., Brockman, P. A., Farber, D. B., & Lee, S. (2018). Managerial ability and the llll ity ff firm'' iff ormtt inn vvvirmtttt . *Journal of Accounting, Auditing & Finance*, 33(4), 506-527.
- Baik, B., Farber, D., & Lee, S. (2011). CEO ability and management earnings forecasts. *Contemporary Accounting Research*, 28, 1645-1668.
- Bebchuk, L., Fried, J., & Walker, D. (2002). Managerial power and rent extraction in the design of executive compensation. *University of Chicago Law Review*, 69, 751-846.
- Bozorg Asl, M. ddd B. ll zzzeeeh (5555). "Tee Reltt ihhhhip eetween Maaagemttt Ability and Profit Stability with an Emphasis on Accrual Components and Cash sssss sn the Cmiiii ss sstdd nn tee Trrr nn Stcck gggggggggg Jrrr aal ff Audit Science, Vol. 14, No. 58, pp. 153-170. (In Persian)
- Bushee, B., & Noe, C. (2000). Corporate disclosure practices, institutional investors,

- and stock return volatility. *Journal of Accounting Research*, 38, 171-202.
- Demerjian, P. R., Lev, B., Lewis, M. F., & McVay, S. E. (2012). Managerial ability and earnings quality. *The Accounting Review*, 88(2), 463-498.
- Demerjian, P., Lewis-Western, M., & McVay, S. (2020). How does intentional earnings smoothing vary with managerial ability? *Journal of Accounting, Auditing & Finance*, 35(2), 406-437.
- Ebrahimi Kordlar, A , Rrahmani Picha, N.(2015). Investigating the relation between managerial ability and financial reporting quality in Tehran Stock Exchange. *Accounting & Auditing Studies* .8(32),1-26. (In Persian)
- Fakhari, H., Rezaei Pitenoei, Y. (2018). Impact of the Audit Committee on the Companies Information Environment. *Management Accounting*, 11(36), 63-79.[In Persian]
- Fernandes, N., & Ferreira, M. A. (2008). Does international cross-listing improve the information environment? *Journal of Financial Economics*, 88(2), 216-244.
- Foroghi, D. ,Amiri, H. (2016). Managerial Ability, Investment Efficiency, and Financial Reporting Quality. *JOURNAL OF EMPIRICAL RESEARCH IN ACCOUNTING*, 6(21); 63 – 89 (In Persian).
- Ghaemi, M. ,Vatan Parast, M. (2005). The Role of Accounting Information in reducing information asymmetry in the Tehran Stock Exchange. *The Iranian Accounting and Auditing Review*,12( 41),85-103(In Persian).
- Gul, F. A., Khedmati, M., Lim, E. K., & Navissi, F. (2018). Managerial ability, financial distress, and audit fees. *Accounting Horizons*, 32(1), 29-51.
- Haider, I., Singh, H., & Sultana, N. (2021). Managerial ability and accounting conservatism. *Journal of Contemporary Accounting & Economics*, 17(1), 100242.
- Hamidian, M., Jannat Makan, H., Ben Goriz, F. (2018). The impact of kind of attitude executives on Information Asymmetry, Financial Leverage, and Firm's Value. *Journal of Management Accounting and Auditing Knowledge*, 7(25), 163-180.
- Hejazi, R. ,Gheytsi, R. ,Karimi, M.(2011). Income Smoothing and Information Uncertainty. *The Iranian Accounting and Auditing Review*, 18 (63)-80. (In Persian)
- Hu, J., Li, A. Y., & Zhang, F. F. (2014). Does accounting conservatism improve the corporate information environment? *Journal of international accounting, Auditing, and Taxation*, 23(1), 32-43.
- Kashanipour, M., Azar Khosh, H. Rahmani, M.(2016). The Effect of Managers' Ability on the Relationship between the Quality of Financial Reporting and the Efficiency of Investment in the Pharmaceutical Companies Listed on the Tehran Stock Exchange. *Journal of Health Accounting*, volume 3(13),66-85. (In

Persian).

- Lambert, R. A. (2006). Agency theory and management accounting. *Handbooks of management accounting research*, 1, 247-268.
- Lambert, R. A., Leuz, C., & Verrecchia, R. E. (2011). Information asymmetry, information precision, and the cost of capital. *Review of Finance*, 16(1), 1-29.
- Lev, B. (1988). Toward a theory of equitable and efficient accounting policy. *Accounting Review*, 1-22.
- Mehrani, K., Nazari, H., ghasemi fard, M. (2020). Managerial Ability and Financial Reporting Timeliness. *Journal of Accounting Advances*, 12(1), 323-351.
- Saghafi, A. Ebrahimi, E., (2009). The Association of Accounting Standard Setting with Accounting Information Quality. *The Iranian Accounting and Auditing Review*, 16(57), 33-50. (In Persian)
- Setayesh, M., Mehtari, Z., Mohammadian, M. (2015). Investigating Interactive Effect of Firm Size and Information Environment on Value Relevance of Net Income and Operating Cash Flow. *Journal of Financial Accounting Research*. 3(25), 37-60. (In Persian)
- Trueman, B. (1986). Why do managers voluntarily release earnings forecasts? *Journal of Accounting and Economics*, 8, 53-71.
- Watts, R., & J. Zimmerman. (1986). *Positive Accounting Theory*. Prentice-Hall, Englewood Cliffs, N J.
- William, R. S. (2009). *Financial accounting theory*. WILLIAMR. SCOTT.
- Wu, X., Tong, X., & Wang, Y. (2022). Managerial ability and idiosyncratic volatility. *International Journal of Finance & Economics*, 27(2), 2566-2581.

---

**Bibliographic information of this paper for citing:**

Marfou, Mohammad; Seddighi, Roohollah & Alifamian, Mojtaba (2023). Management Ability Effects on Information Environment Quality. *Iranian Journal of Finance*, 7(1), 21-34.

---