

The effect of financial health on the relationship between the intellectual capital and representation conflict in the listed companies in Tehran Stock Exchange

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ABSTRACT

Since avoidance from bankruptcy is a fundamental policy today whose objective is guarantying commercial activities, the discussion of profitability and evaluation of the activity continuity of companies has been mentioned by researchers. Financial health with means of profitability and activity continuity of the economic unit for all stockholders and beneficiaries is significantly important. In addition, all beneficiaries are principally interested in all economic units because of having proper tools to evaluate and predict profitability and continuity of these units. Although financial statements are the only mutual information resources in the disposal of all stakeholders, financial health and the relative power of its activity continuity in the future are the issues not reflected clearly in these reports. The objective of this research is studying the effect of financial health on the relationship between intellectual capital and representation conflict in the listed companies in Tehran Stock Exchange.

The statistical population includes all listed companies in Tehran Stock Exchange, and 81 listed ones were selected as the statistical sample in 2013-2017. The methodology of this research is correlative. The added value coefficient of Pulic model (2000) was used in this research to calculate the intellectual capital, and the panel data model was used to test the research hypotheses. The obtained results from the research hypotheses test showed that the added value of intellectual capital has a significant relationship with representation conflict. Moreover, other findings of the research show that financial health doesn't influence on the relationship between the intellectual capital and representation conflict.

Keyword: financial health, intellectual capital, representation conflict

Problem Statement

Financial health, which means the power of profitability and activity continuity of an economic unit (International Monetary Fund, 2000) for all stockholders and beneficiaries, is significantly important. Principally, all beneficiaries in the economic units are interested in economic units for having the proper tools which can evaluate and predict the profitability and activity continuity of these units. Although financial statements are the only mutual information resources accessible to all beneficiaries, the reflected issues in these resources specifically are financial health and relative power of activity continuity in the future (Taghavi and Pourali, 2011).

On the other hand, dividends are a policy to determine a part of the net distributed income to the stockholders as the dividends based on the domestic fund need to cope with the profitable projects.

The intellectual coefficient divides the intellectual capital into 2 groups including human capital and structural capital. The theory of representation is related to the case that one person assigns the responsibility of making a decision about the financial and economic resources distribution or providing a service through a specific contract to

another person. The first person is the so-called owner and the second person is the so-called representation (Namazi, 2005). The theory of representation mainly refers to the conflict between management and ownership. As companies grow, owners transfer their corporate management to managers. The separation of ownership from management provides representation problems. According to the theory of representation, the first problem of representation is the benefit conflict of stockholders and managers. It means the shareholder is looking to reach the highest level of investment value and the manager is looking to increase his/her wealth in the first place. Probably, the manager doesn't act regarding the stockholders' benefits. The embezzlement and corruption of the manager and the exclusion of shareholder interests from the company are extreme examples of this conflict of interest.

Stockholders should charge the costs so that they can align with the interests of managers or at least gain confidence in their actions for their benefit. Since such costs occur through a contract between managers and stockholders and forming the representation relationship, they are called representation costs. Representation costs can be classified into three main groups. The first group is the related costs to the organization structure to limit the undesirable behavior of the manager. The third group of representation costs includes the cost of lost opportunities by executing limitations for a manager.

Therefore, based on the stated issues in this research, the main problem is answering to this question whether the intellectual capital is related to the representation conflict or whether the financial health of companies influences this relationship or not?

Objectives

Determining the relationship between the intellectual capital of companies and representation conflicts in companies.

Determining the impact of financial health on the relationship between the intellectual capital of companies and representation conflict in companies.

Hypotheses

Intellectual capital of companies has a significant relationship with the representation conflict.

The financial health influences the relationship between the intellectual capital of companies and representation conflict.

Theoretical bases

Financial health: The Iranian investors are less interested in investing in financial assets and this shows their uncertainty and recognition of financial markets. A solution should be found to persuade investors and creditors to invest in their financial assets and a condition must be brought as investors help and make the investors aware of the financial markets and their decisions. A very important impressive factor in investors' decisions is the financial health factors of economic units. If the financial health can be evaluated in the meaning of ability of the economic unit to satisfy the commitment and profitability for all stockholders and activity continuity and a model is suggested, the more certain condition is actually made in the market to develop investment in the financial markets (Pourali, 2010).

Financial health as the powder of profitability and activity continuity of an economic unit (international monetary fund, 2000) for all stockholders and beneficiaries is significantly important and principally all beneficiaries in the economic units are interested in economic units for having the proper tools which can evaluate and predict the profitability and activity continuity of these units. Although financial statements are the only mutual information resources accessible to all beneficiaries, the reflected issues in these resources specifically are financial health and relative power of activity continuity in the future (Taghavi and Pourali, 2011).

Concept and definitions of intellectual capital: Before identification, management, and measurement of the intellectual capital, it requires to perceive its concept. The concept of intellectual capital has been always vague and various definitions have been used to interpret it. Many people want to use expressions such as assets, resources, or performance motivations instead of the term "capital" and they replace the term "intellectual" with terms such as intangible based on financial or knowledge basis.

Intellectual capital: the knowledge values of the employees of a company or organization, commercial training, or any specific information that may provide a competitive advantage for the company are called the intellectual capital. Intellectual capital is considered as an asset and is considered extensively as a collection of information resources that a company has and can use it to control the company's income, get new customers, produce new products, or improve the business condition.

Human capital: Russ et al. (1997) discussed that employees make the intellectual capital by their competences, attitudes, and agility of thoughts. In addition, relational capital includes all relationships between an organization and an individual or another organization, and structural capital is the existed knowledge in the organization.

Representation theory and conflict: Representation conflict is related to the cases that a person is responsible to decide the financial and economic resources distribution or provide a service through a specific contract that is assigned from one person to another. The first person is a so-called owner and the second person is a so-called representative (Namazi, 2005). The theory of representation mainly refers to the conflict between management and ownership. As companies grow, owners transfer their corporate management to managers. The separation of ownership from management provides representation problems. According to the theory of representation, the first problem of representation is the benefit conflict of stockholder and manager. It means the shareholder is looking to reach the highest level of investment value and the manager is looking to increase his wealth in the first place. Probably, the manager doesn't act regarding the stockholders' benefits. The embezzlement and corruption of the manager and the exclusion of shareholder interests from the company are extreme examples of this conflict of interest.

Representation conflict: in a general view, a theory explaining the relationship between the stockholders and the manager of a company is called the representation relationship. There is a probability of conflict between stockholders and managers in this relationship which is called representation theory. Representation theory or problem can solve the occurred problems between owners and managers. Two main problems the representation theory refers include:

First, the problems occur through the profit conflicts between managers and owners, and owners are disable to confirm the accuracy of the actions by managers (because this work is costly and difficult).

Second, the problems occur through attitude differences between manager and owner of a company in confrontation with risk. Both manger and owners may act differently in confrontation with risk because risk-taking is different.

Research area

Field subject: The field subject of this research is financial management.

Time area: Time area of this subject is 2013-2017.

Place area: The population of this research is the listed companies in Tehran Stock Exchange.

Research background

Domestic background: Fathi et al. (2019) studied the relationship between central bank independence with the financial system structure and bank health using SEM. The results have shown that the central bank independence, financial supervision, and the expected return had a positive relationship on bank health.

Hosseini (2019) studied the effect of intellectual capital on information technology acceptance based on the mediating variable of organizational agility in Pars Khodro Co. The results showed that intellectual capital and its components (human capital, structural capital, and relational capital) influence on the information technology acceptance through the mediating variable of organizational agility.

Gudarzvand and Rezazadeh (2018) in research studied the effect of all types of representation conflicts on the relationship between corporate governance and stock liquidity of HAAN Company's stock. The findings of the research show that the criteria of the ratio of independent board members, separation of managing directors from chief executive officers, institutional stockholders, and audit quality have a positive relationship with stock liquidity.

Heydarian (2017) in research examined the effect of the intellectual capital efficiency on the cash flows and financial performance of the listed companies in Tehran Stock Exchange. Findings show that intellectual capital has a positive and significant relationship in 99% sig. level with the cash flows. Moreover, there is a positive relationship between the cash flows, financial leverage, and the size of the company and a negative relationship between the cash flows and the company's growth. However, these relationships are not significant statistically, and the intellectual capital has a negative relationship with 2 out of 3 components of performance, ROA and ROS, and positive relationship with another component of ROE, but these relationships are not statistically significant.

Fallah (2014) in a part of his/her Ph.D. thesis studied "evaluation of the companies' financial health based on the components of intellectual capital and corporate governance in listed companies of Tehran Stock Exchange". The results showed that intellectual capital has a weak relationship with the financial health of companies.

Foreign background: Ratnaviti et al. (2018) in research examined the effect of the first and second types of representation conflict on profit management. They used Jones modified model (2002) to measure the profit management in their research. In addition, the caused representation conflict by managerial ownership and institutional ownership were discussed, and the second type of representation obtained by control and leverage laws

was discussed. The obtained results from their research showed a significant relationship between the first and second type and profit management.

McNaith and Weir (2018) studied the effect of the strategic system constructions of the company and ownership structure on the representation costs. Their examined sample included 534 observations from 128 great British companies in 1996-2000. Their results showed that an increase in the managers' ownership reduces the representation costs. If the growth opportunities interaction and the free cash flows are considered as the criterions of representation costs, the institutional ownership reduces the representation costs. Moreover, there is a significant and negative relationship between the debt ratio and representation costs by measuring the representation costs as the ratio of assets turnover.

Vijaya et al. (2017) in research studied the intellectual capital and representation conflict. This research was conducted using panel data with a sample of 90 production companies listed in Indonesia Stock Exchange in 2004-2013. Their research results showed that intellectual capital can reduce the representation conflict in the company and increases the company's value.

Amnasami et al (2014) in research examined the intellectual capital with financial performance. Therefore, they divided industries into 5 general groups and tested the relationship between the components of intellectual capital and financial performance individually in each one. It was indicated in this research that 3 out of 5 industrial groups, intellectual capital, and its components had a positive relationship with financial performance and have improved it.

Methodology

The methodology of this research based on its objective was applied and the development of applied knowledge in a specific field. Moreover, this research is descriptive-correlational based on nature and method, because it is tried to study the relationship and effect of several variables on each other.

Population and statistical sample

The statistical population of this research is all the listed companies in Tehran Stock Exchange in 2013-2017. The following limitations were executed in selecting the sample from the population.

A systematic removal sampling method will be used in this research for sampling. Therefore, all the listed companies in the statistical population should have the following conditions to be selected as a sample and others are removed.

Their financial year should end in March to compare the data.

They shouldn't have a financial year and activity change during the studied period.

They shouldn't be listed in the stock exchange before 2013.

They shouldn't be the broker and investment companies.

Finally, 81 companies were selected as the statistical sample.

Data collection and data analysis methods: The needed data was collected in this research as follows:

Librarian method: the literature and research background were used to collect data. Thus, the required data was collected by surfing websites and searching for articles and books.

Document mining method: this method is used to do research and collect the required data to test the hypotheses. Data was collected using Tadbir Pardaz and Rahe Avarad Novin software and internet sites of research management, Islamic studies, and development of stock exchange organization.

Excel software was used to prepare the necessary data to use in the related models to test hypotheses. First, the data was collected in the created worksheets in the environment of software and then calculated to obtain the variables of this research. After calculating all the necessary variables to use in the models of this research, these variables were combined in the united worksheets to be transferred electronically to the used software or the final analysis. In this research, Eviews and Excel software were used for final analyses.

Variables reliability: The reliability of variables should be examined before data analysis. The reliability of research data means the mean and variance of data have been constant during the variables time and covariance in various years. As a result, using these variables in the model doesn't bring false regression. For this purpose, Levin, Lin and Chu, Im, Pesaran and Shin, and Dicky-Fuller tests can be used. Im, Pesaran and Shin, Levin, Lin and Chu test are used in this research, the result of these tests are shown in Table 1.

Data analysis

Findings

Testing the first hypothesis:

The following analysis is first indicated to the first hypothesis that is a combined model or fixed effects models. F-value is calculated as Table 1.

Table 1: chaw test to select the proper model (non-effect or effects model)

Hypothesis 0	F-value	Sig. level	Result
non-effect or effects model is proper	2.337847	0.000	rejected

The p-value is 0.000. Therefore, H_0 is rejected based on the use of combined model and fixed effects model (or constant or random effects) is proper. Therefore, Hausmann test is used.

Table 2: Hausmann test to select the proper model (fixed effects or random effects model)

Hypothesis 0	Chi-Sq	Result	Sig. level
Random effects model is proper	10.768657	0.062	rejected

The p-value for Hausmann model is 0.0062. Therefore, H_0 is rejected, and fixed effects model is the most proper. It means fixed effects model is preferred to the random effects model.

Model fitting by fixed effects

Table 3: Fitting the research model for the first hypothesis

$Agenccon = \beta_0 + \beta_1VAIC + \beta_2Size_{it} + \beta_3SLS_{it} + \beta_4BEP_{it} + \beta_5RBS_{it} + \epsilon_{it}$					
Dependent variable : representation conflict					
Variable	index	Coefficients	St. dev.	T-value	Sig. level
Added value of intellectual capital	VAIC	0.124786	0.058721	2.125060	0.0342
sale	SLS	0.007581	0.072540	0.104504	0.9168
Profitability	BEP	-0.015535	0.008176	-1.900147	0.0581
Business risk	RBS	-0.036858	0.076256	-0.483343	0.6291
company size	SIZE	-0.014984	0.009619	-1.557743	0.1201
F-value	1.510042			Determination coefficient	0.018571
				Modified determination coefficient	0.006273
F-value probability	0.005536			Durbin-Watson	1.399783

In Table 3, the fixed effects model is estimated and F-value is 0.005536. This value is less than 0.5; therefore, H_0 is rejected in 95%. It means a significant model exists in 95% sig. level.

Determination coefficient is 0.018571. It means 18% of the dependent variable changes are stated by the independent variables. Durbin-Watson value is 1.399783. The close values to 2 show self-correlation of residuals that is another assumption of a regression. Therefore, there isn't self-correlation between residuals.

Answer to the research first hypotheses:

The relationship between the variable of added value intellectual capital and representation conflict is confirmed, based on the obtained value of 0.0342, and this relationship is direct because t-value is positive.

Testing the second hypothesis model:

The following analysis is indicated to test the hypothesis that test is the combination of the combined and fixed effects models. F-value is calculated as Table 4,

Table 4: Chaw test to select the proper model (non-effect and effects model)

Hypothesis 0	F-value	Sig. level	Result
non-effect or effects model is proper	2.398599	0.0000	rejected

The p-value is 0.000. Therefore, H_0 is rejected based on the use of combined model, and fixed effects model (or constant or random effects) is proper. Therefore, Hausmann test is used.

Table 5: Hausmann test to elect the proper model (fixed effects or random effect model)

Hypothesis 0	Chi-Sq	Result	Sig. level
Random effects model is proper	8.659902	0.0234	rejected

The p-value for Hausmann model is 0.0234. Therefore, H_0 is rejected, and fixed effects model is the most proper. It means fixed effects model is preferred to the random effects model.

Table 6: Fitting the research model for the first hypothesis

$Agenccon = \beta_0 + \beta_1(f.h * VAIC) + \beta_2Size_{i,t} + \beta_3SLS_{i,t} + \beta_4BEP_{i,t} + \beta_5RBS_{i,t} + \varepsilon_{i,t}$					
Dependent variable : representation conflict					
Variable	index	Coefficients	St. dev.	T-value	Sig. level
Financial health* added value intellectual capital	Financial Health*Vaic	0.033350	0.045153	0.738607	0.4606
sale	SLS	0.019199	0.072676	0.264177	0.7918
Profitability	BEP	-0.002097	0.004746	-0.441878	0.6588
Business risk	RBS	-0.044657	0.076600	-0.582992	0.5602
company size	SIZE	-0.01506	0.009662	-1.615231	0.1071
F-value		0.710003		Determination coefficient	0.018819
				Modified determination coefficient	0.033602
F-value probability		0.016202		Durbin-Watson	1.380283

In Table 6, the fixed effects model is estimated and F-value is 0.016202. This value is less than 0.5; therefore, H_0 is rejected in 95%. It means a significant model exists in 95% sig. level.

Determination coefficient is 0.018819. It means 18% of the dependent variable changes are stated by the independent variables. Durbin-Watson value is 1.380283. The close values to 2 show self-correlation of residuals that is another assumption of a regression. Therefore, there isn't self-correlation between residuals. Therefore, the effect of financial health variable was not confirmed on the relationship between the intellectual capital and representation conflict based on the obtained sig. level (0.4606).

Comparison and conclusion

The relationship between the intellectual capital and the representation conflict was tested. The obtained result from this test showed that two variables of intellectual capital and physical capital have a significant relationship with the representation conflict. As a result, the research hypothesis is confirmed. This hypothesis is interpreted as increasing the intellectual capital that can increase the representation conflict in companies. It means when the companies grow more, the aspects of human, relational, and structural capitals develop, and the differences between management and ownership increase which are the same as representation conflict. The results of this research are in agreement with the results of Vijaya et al. (2017) research. Vijaya et al. (2017) concluded in the research of "intellectual capital and representation conflict" that 1- intellectual capital reduces the representation conflict in the recent investment; 2- intellectual capital reduces the financial decision in representation conflict; 3- intellectual capital in representation conflict reduces the profit and policy of dividends. The effect of financial health was tested on the relationship between intellectual capital and representation conflict. The obtained result from this test showed that financial health doesn't influence on the relationship between the intellectual capital and representation conflict. As a result, this research is in agreement with the result of Fallah (2014) research.

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