



A Study on Relationship between Intellectual Capital and Refined EVA in Insurance Companies as Member of Tehran Stock Exchange

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ABSTRACT

Considering necessity of recognizing the knowledge-based economy and achieving its foundations in Iran, the main issue of this research is to clarify the relationship between intellectual capital and Refined EVA in insurance companies which are member of Tehran Stock Exchange. In this research, the Refined EVA index was used to evaluate and measure the intellectual capital of the Palick model and also to quantify the economic performance. Accordingly, information about 15 insurance companies during the period of 2011-2016 was analyzed to examine the relationship between these variables. The collected data are calculated using Excel software and analyzed with Eviews®. The results indicated that there is a significant and positive relationship between the components of intellectual capital (human capital, physical capital, and structural capital) with Refined EVA; as an issue that has a decisive role in the success or failure of companies in competitive markets.

Keywords:

Intellectual Capital, Refined EVA, Human Capital, Physical Capital, Structural Capital.



1. Introduction

Increasing and recognizing the use of intellectual capital helps organizations become more efficient, more effective, more productive and innovative. Efficient and effective management of organizations always requires appropriate equipments and techniques for understanding contemporary management issues. Nowadays, the economic flow of organizations has changed, and intangible resources and intellectual capital are new levers to encounter these environmental and structural changes. In order to have a positive impact on knowledge management of organizations, we need to have a better understanding of intellectual capital and economic performance. In this regard, the Management Accounting Manual, published by the Official American Association determines five basic steps for the successful management of intellectual capital:

- 1) Identification of intellectual capital
- 2) Drawing key factors of value
- 3) Measuring Intellectual Capital
- 4) Management of intellectual capital
- 5) Reports of Intellectual Capital (Hemmati et al., 2012:1)

Products and processes in the insurance industry are highly knowledge-based and there is a lot of information complexity between the internal and external information sources of insurance companies. The present age is the age of rapid change of knowledge. Every five years and a half the amount of knowledge doubles, while its average life is less than four years. Under such circumstances, knowledge is presented as a valuable strategic resource and asset that requires management. If to the above conditions, the strong competition in the market is added up as well, the importances of managing knowledge in insurance companies in the current knowledge-based economy will double (Jalali et al., 2007). In the competitive environment of the market, the progress of the insurance industry coincided with the economic development of the country, which would improve the financial and economic performance of the organizations. In a knowledge-based economy, competitive advantage is increasingly found in facilitating the information flow of the work in order to have access to specific resources and markets; therefore, the knowledge and intellectual capital issues are raised as the primary basis for achieving the main

and strategic competencies for superior performance. In order to achieve a sustainable competitive advantage, paying attention to existing knowledge, the way to use effectively, and the creation of a structure for the use of new information and knowledge are important and critical tasks that organizations must pay particular attention to (Gilbert et al., 2002). In addition to the traditional performance measurement indicators, an indicator as Refined EVA has attracted the attention of the users of financial information of companies due to a better explanation of financial performance in recent years. The ratio of total premiums to GDP in a country is an indicator for assessing the importance of insurance in the economy, which is commonly used. The ratio of total premiums to GDP over the past decades has increased in all countries, indicating the growing importance of the insurance sector in the national economy.

The industry as one of the economy's sectors is influenced by developments of business and business conditions and, for its success, needs to provide services and business on the basis of new economic requirements. Considering the emphasis on the development plan of the role of the insurance industry in the country's economy and the need to synchronize this industry with other financial areas such as banks and stock exchanges, insurance companies should organize their services in the context of the knowledge-based economy and utilize new scientific approaches and orientations in organizational structure and company's management, such as knowledge management to succeed in a competitive market.

Knowledge at any level can potentially appears in two forms, implicit/tacit knowledge and explicit knowledge. Explicit knowledge can be expressed in different ways. This knowledge exists in organizations in the form of books, documents, writings, instructions, models, frameworks, databases, charts and tables, and is naturally transferable and accessible. It is believed that knowledge is the same information. On the contrary, there is an implicit knowledge that exists in the minds of the people of the organization and cannot easily be expressed. According to the studies, over 80% of the knowledge of insurance companies is implicit or tacit knowledge that cannot easily be transferred and shared. That is why knowledge management is beyond the management of information and considers the human and implicit dimensions of organizational knowledge.

According to the above-mentioned explanations, we conclude that intellectual capital is one of the most important factors in the success of insurance companies in the information age and current competitive conditions. The importance of this issue is such that today, a number of organizations measure their existing knowledge and reflects it both as the intellectual capital of the organization and the indicator for rating companies in their reports. These institutions consider the deployment of intellectual capital as an essential part of the organization's strategy. If an organization is focused on managing intellectual capital, the tendency towards organizational innovation will develop in that organization.

Over the past two centuries, public knowledge has focused on the fact that only two factors of labor and capital contribute to production but nowadays knowledge and information create wealth and economic value. In a new economic competition, knowledge-based assets provide an intrinsic competitive advantage. In the actual economic competition, there are two important trends:

- 1) Globalization: Probably is the most effective force in the contemporary world, people, cities, companies, markets, economies, etc. that there are new opportunities or threats in this area, including markets, new products and services.
- 2) Technology changes: Increasing technology changes is the second factor that creates new information and technologies.

On the other hand, the method of EVA is based on accounting profit that is also a weak indicator for economic profit. In the country's inflationary conditions, the use of the EVA method increases the disparity between accounting profit and economic profit and ultimately leads to its incorrect calculation. Therefore, to reduce the differences, the Refined EVA method can be considered as a new and reliable method for measuring performance, determining changes in shareholders' wealth and evidence for the increase in the value of companies (Jahankhani and Zariffar, 1993, p. 12).

Methods of measuring and reporting intellectual capital and its relation to performance can be found in many articles, which are referred to in some of the cases in the literature of study. Although it can be clearly seen that, despite the results of an article by

Tehrani and Deihimi - published in 2014 as the best method for evaluating financial performance in the Iranian capital market- the best indicator of financial performance is the index of Refined EVA, but researchers have not used this new method yet.

In competitive markets, competitive advantage is a key factor for the success of organizations. One of the main components of competitive advantage is intangible assets, including human resources that are molded in the form of intellectual capital. Now, the reasoning behind the research is that, first, how far was the organization able to create intellectual capital to achieve its success (Which should be Evaluated and measured), second, how much intellectual capital contributed to the company's financial performance. Among the researches on the two variables of intellectual capital and Refined EVA, it is always a vacuum to this question why researchers have not used the new method of financial performance evaluation, thus the present research is the first step in examining the relationship between intellectual capital and the Refined EVA in insurance companies of the Tehran Stock Exchange so that the basis for further research will be provided.

2. Literature Review

Drucker (1993) believes that the intangible assets undergo changes in the society. His desired process creates a community that, knowledge is the most important source of it. In a knowledge-based society, value is created not by the allocation of capital or labor, but by innovation and innovation. According to Ducker's theory, there are three stages for development towards a knowledge-based economy:

- 1) Industrial Revolution: Companies have used knowledge to produce tools and products (1750-1880).
- 2) Product Revolution: Knowledge has been used by companies to improve the work process (1880-1956).
- 3) Management revolution: After 1956, companies use knowledge to improve knowledge.

Intellectual capital is an important factor of thought, including knowledge, information, intellectual property, and experiences that can be used to generate wealth. This collection includes intellectual power or useful knowledge. In the new approach, the business unit is defined as an organization that creates

value added and wealth. In the industrial economy, wealth creation is based on quantity and mass production, while the knowledge economy creates wealth through the use of creativity (Palick, 1998: 2). Thus it can be concluded that, in the new economy, companies will consider innovation and creativity as necessary business activities to strengthen their position in global competition, and provide a plan for economic growth, profitability and build up value for shareholders in the long time. (Bose and Thomas, 2007: 654). Cohen and Kaimenakis (2007) studied the relationship between intellectual capital and performance in medium-sized knowledge-based companies. Findings of the research indicated that the interrelationship between different classes of intellectual property in medium-sized companies varies in some respects with large companies. Also, empirical data indicated that certain classes of intellectual capital have a positive effect on the firm's performance.

Huang and Hsueh (2007) examined the relationship between intellectual capital and Business Performance in Taiwan Engineering Consulting Industry. The results represented that there is a positive correlation between the three components of intellectual capital and business performance. The highest correlation was related to human capital and then to customer capital. There was also a positive correlation between the three components of intellectual capital (human, structural, and customer). Bose and Thomas (2007) evaluated the relationship between performance and intellectual capital using the Balanced Scorecard method and concluded that a Balanced Scorecard is a valuable method for evaluating intellectual capital. Tovestiga and Tulugurova (2007) examined the relationship between intellectual capital and performance in Russia. Findings of the research indicated that intellectual capital, especially structural and human capital, is a primary criterion for determining performance. Huang and Wang (2008) examined the effects of the method of EVA and intellectual capital on market value of the firm. Ex and Marlon (2008) investigated the relationship between the annual reporting of intellectual capital and intellectual capital management practices. In their research, Libo et al. (2011) investigated the relationship between intellectual capital and company performance, empirical analysis based on the Panel Data method. Based on the

researches of domestic and foreign scientists, the considered companies in the banking and insurance industry; as a sample of research in the period 2007-2009 were selected using the value added intellectual coefficient as the evaluation system. This research consists of three empirical research models based on economic performance, financial performance and stock market performance. The results indicated that there is a significant relationship between intellectual capital and financial performance of the company.

Ahmad Khan et al. (2012), in their study have examined the impact of intellectual capital on the financial performance of banks in Pakistan, organizational restructuring and its impact on employees' morale and performance. The theoretical framework of this study is secondary data consisting of financial statements from banks and review of texts. The financial statements from 2007 to 2010 were collected from five Pakistani banks. The hypothesis indicated that intellectual capital has a significant effect on financial performance. The results also represented that the bank's intellectual capital has a significant effect on financial performance. Gopal (2017) examined intellectual capital and companies' performance in India. A comparative study was carried out between the main and modified value added intellectual coefficient model. After reviewing Indian companies during 2000-2014, the results of this research indicated that intellectual capital models have a positive correlation with the firm's performance.

Liu (2017) explored the relationship between intellectual capital, social capital and performance - the continuing role of business relationships and environmental uncertainty. Based on 434 Tai companies in integrating the concepts of the high social network and the theory of intellectual capital, the findings implied that there is a relationship between the types of intellectual capital. Asiai et al. (2017) also explored the use of a robust performance measurement system for the emergence of intellectual capital. In this regard, a survey was conducted from 128 corporations using partial least squares, which found that companies with higher levels of intellectual capital emphasize diversity and efficiency in measuring performance. The findings also indicated the variation in measurement between intellectual capital relationships and organizational performance. In Iran, researches on intellectual capital have also been carried out. Anvari Rostami and Seraji (2005),

for example, investigated the relationship between intellectual capital and the stock market value of Tehran Stock Exchange companies using 5 different quantitative and simple methods. Gilich Lei (2006) explained the role of intellectual and social capital in competitive advantage in Iran Khodro and Pars Khodro and concluded that there is a positive and significant relationship between social and intellectual capital. In other words, by increasing social capital, intellectual capital increases as well. Also, the effect of social capital through intellectual capital on the competitive advantage was greater than the effect of social capital on competitive advantage. The results of researches by Namazi and Ebrahimi (2009) in the study of the effect of intellectual capital on current and future financial performance of listed companies in Tehran Stock Exchange indicated that, regardless of company size, the structure of debt and past financial performance have a positive and significant relationship between the intellectual capital and current and future performance.

Mojtahedzadeh et al. (2010), in their research, examined the relationship between intellectual capital, its components and the performance of the insurance industry from the viewpoint of managers. The results represented that intellectual, human, customer (relational) and structural capitals have a significant relationship with performance in a separate and independent study of each other. While the simultaneous analysis of the relationship between structural and human capital with performance is significant. Abbasi and Galdi Sedghi (2010), examined the effect of the efficiency of intellectual capital elements on the financial performance of companies in the Tehran Stock Exchange. In this research, the effect of intellectual capital indicators on financial performance has been investigated for 99 companies over the years, 2000 to 2003 using Panel Data Regression method. The results indicated that companies with higher intellectual capital had better financial performance; the average intellectual capital coefficient among the seven industries was significantly different. Setayesh and Kazemnejad (2011), in an article examined the effect of intellectual capital on the performance of listed companies in Tehran Stock Exchange, the results of the research indicated that intellectual capital has been positively and significantly increased in the years 2002 to 2007 that affect the rate of return on assets and the ratio of

asset turnover, but this effect on the ratio of market value to book value is not significant. Also, the results of the tests represented that intellectual capital has a positive and significant effect on the future performance of the company. In addition, a significant relationship between the growth of intellectual capital and the performance of the company's next year was confirmed. Sinaei et al. (2011) investigated the relationship between intellectual capital and company performance in their study. This research investigated the relationship between innovation capital and customer capital with financial performance in recognized manufacturing companies in stock market and their interactive relationships with companies' financial performance with respect to company technology. The results indicated that both innovation and customer capital variables have a positive and significant relationship with financial performance. Namazi and Ebrahimi (2011), in an essay had an empirical investigation of the role of intellectual capital components in EVA luating the financial operations of companies admitted to the Tehran Stock Exchange, the results of which indicated that even after controlling the size of the company and the debt structure, intellectual capital has a positive and significant relationship with financial performance of the company. In addition Intelligent Capital has a positive and significant relationship between the efficiency of employed capital and the efficiency of human capital with the profit per share, but the relationship between the efficiency of the structural capital with the profit per share is positive and meaningless.

Rahimian et al. (2012), in an article examined the effect of intellectual capital on the financial performance of automotive industry and manufacturing of parts accepted in Tehran Stock Exchange. In this research, Palick's model has been used to measure intellectual capital. The study period is from 2006 to 2010 and the sample selection includes 24 companies. The results of the research indicated that among the components of intellectual capital, structural capital efficiency and capital efficiency have the highest impact on the financial performance of sample companies, and there is no significant relationship between human capital and financial performance of sample companies.

Tehrani, Deihimi and Hosseini (2014), in an article studied the best methodology for assessing financial

performance in the capital market of Iran. The Refined EVA compared with other criteria for assessing financial performance in the Iranian capital market has the highest power to explain market value added and can be named as the best performance measurement criterion. Ghafourian, Sehat and Mansouri (2014) studied the relationship between intellectual capital and financial performance. Palick Model 2000 has been used to test the research hypotheses for measuring intellectual capital. For data collection, the data of 80 companies listed in Tehran Stock Exchange during the years 2008-2011 have been analyzed using multiple regression method. The results represented that there is a significant and direct relationship between intellectual capital and financial performance variables. Nobakht, Asadi and Mahdavi Haji (2014), in an article examined the relationship between intellectual capital and financial performance of companies listed in Tehran Stock Exchange during the years 2006 to 2012. The research sample consists of 51 companies. In order to test the hypotheses, the necessary information was first collected and the intellectual capital value of the companies was calculated based on the Palick model, then Spearman correlation coefficients were calculated and regression analysis was conducted. The results of the research hypothesis test indicated a significant relationship between intellectual capital and components (human capital, structural capital and physical capital) with financial performance of companies in this research.

Azinfar, Khoshkar and Amir Moazi (2016), in an article studied the relationship between intellectual capital and financial performance of companies in the Iranian capital market. Testing of research hypotheses for measuring intellectual capital by the use of the Palick 2000 Model was conducted. For data gathering, the information of 106 companies was continuously analyzed for the period of 6 years, during 2008-2009, by the use of multiple regression and correlation coefficients. The size of the company is considered as a control variable. The results indicated that there is a significant and positive relationship between intellectual capital and companies' financial performance and the positive impact of firm size on the levels of intellectual capital and financial performance.

Safdari and Mehri (2016) also explored the relationship between intellectual capital and financial performance. In this paper, the Palick 2000 model is

used to measure intellectual capital. For collecting data, the information of 80 companies which were listed in Tehran Stock Exchange during the years 2009 to 2014 has been analyzed using Panel Data Regression. The results indicated that there is a significant relationship between the variables of intellectual capital, human capital, physical capital and structural capital with financial performance. Rezaei et al. (2017) examined the methods of measuring intellectual capital and economic value added. After reviewing 111 companies during the years 2007-2013, it was concluded that there is a positive and significant relationship between intellectual capital and economic value added.

3. Methodology

In the age of information and current competitive conditions of insurance companies, it is argued that companies need to continuously identify, measure, and manage their intangible assets, which is the intellectual capital, and try to improve it. The failure or success of insurance companies in providing their knowledge-based products and services suggests that companies that have made the most use of knowledge have had the best financial performance. Accordingly, the hypotheses of this research are as follows:

- 1- There is a significant and positive relationship between intellectual capital and Refined EVA in insurance companies of Tehran Stock Exchange.
 - 1-1 There is a significant and positive relationship between human capital and Refined EVA of insurance companies of Tehran stock exchange.
 - 1-2 There is a significant and positive relationship between the physical capital and Refined EVA of the insurance companies of Tehran Stock Exchange.
 - 1-3 There is a significant and positive relationship between structural capital and Refined EVA of insurance companies of Tehran Stock Exchange.

The research methodology is a multi-dimensional one. In other words, when we use the term "research method", we should pay attention to which of the 10 dimensions of the research methodology are we talking about? (Dianti Deylami, 2015). Therefore, this research is an empirical research that aims to measure

the quality of the use of intellectual capital in the insurance industry and also to examine their relationship with the Refined EVA index of current companies in the insurance industry. It is also in the field of positive accounting research based on real information on the financial statements of companies listed in the Tehran Stock Exchange. The type of research is applied and descriptive correlational. In addition, library studies have been conducted on theoretical foundations and theoretical concepts and the study of relevant records. The relationship between independent variables and dependent variable has been investigated using regression model and according to the hypotheses of the research, a multivariate

regression model has been used. The integrated data technique has been used to estimate the research models and panel data is used to estimate the model.

In order to answer the research hypotheses and to find specific relationships among the community variables, regression analysis tests using Eviews software were used in the data inference section. The statistical population of this study, according to Table 1, includes all accepted insurance companies in Tehran Stock Exchange during the years 2011 to 2016, which consist of 15 companies. Therefore, the number of observations (15 companies and 6 years) is 90.

Table 1.

No.	Name of Company	No.	Name of Company	No.	Name of Company
1.	Arman Insurance	6.	Mellat Insurance	11.	Pasargad Insurance
2.	Asia Insurance	7.	Novin Insurance	12.	Alborz Insurance
3.	Karafarin Insurance	8.	Kowsar Insurance	13.	Parsian Insurance
4.	Dana Insurance	9.	Ma Insurance	14.	Saman Insurance
5.	Razi Insurance	10.	Mihan Insurance	15.	Day Insurance

4. Results

a. Descriptive Statistics:

The statistical description of the data is a step towards identifying the governing pattern and the basis for explaining the relationships between the variables in the research.

In this section, mean, standard deviation, variance, skewness, and **kurtosis** are shown in Table 2.

b. Inferential statistics:

To Evaluate and test the hypothesis in this research, the following regression model is used:

$$REVA = \beta_0 + \beta_1 VAHU + \beta_2 SCVA + \beta_3 VACA + e$$

The normal hypothesis or non-normalization of the dependent variable was examined before testing (Table 3). For the normality test or non-normalization of the dependent variable, Jarque–Bera (JB) test is used.

H_0 = The dependent variable has a normal distribution.

H_1 = The dependent variable doesn't have normal distribution.

Jarque–Bera (JB) test has been used to test the *Null Hypothesis*. In the case of non-normality, the regression and panel models will be void and appropriate techniques such as conversions should be used for normality of data. As shown in Table 3, the probability of JB statistics is less than 0.05. So, the *Null Hypothesis* is rejected, that is, the data do not follow the normal distribution for the dependent variable. As a result, Johnson function was used to normalize the data of this variable. Results are shown in the following table.

Limer-F test was used to determine whether the panel data method is more efficient in estimating the model, or the pool model. In this test, the hypothesis H_0 indicates equality of intercepts, and if it is rejected, use of the fixed effects model is accepted and we need to test the random effects model in order to determine the two appropriate models for estimating by Hausman's test but if the null hypothesis is not rejected, we accept that intercepts are equal and here, the reference model is the pool model.

Table2. Descriptive indexes of the studied independent and dependent variables (2011-2016)

Variables	Number	Mean	Median	Standard Deviation	Skewness	kurtosis
Human capital	90	2.75	3.21	2.035	-1.52	7.14
Physical capital	90	0.101	0.090	0.114	3.52	26.02
Structural capital	90	0.576	0.695	0.308	3.44	10.18
Intellectual capital coefficient	90	1.72	1	1.18	-1.56	7.17
Refined EVA	90	0.006	0.040	0.969	0.044	2.22

Table 3. Normality test of dependent variable (Refined EVA)

Variable index	Number	skewness	JB statistics	The significance level	Result
REVA	before normalization	3.34	889.22	0.000	right skew to the
	after normalization	0.045	2.273	0.320	normal

Considering results of Limier test shown for the studied model, Limier f statistic is not significant at alpha level of 0.05 and the null hypothesis regarding equality of intercepts is not rejected at confidence level of 0.95. Therefore, the models relating to these hypotheses are given as Pool.

Considering the results obtained in Table 5, indices of *Coefficient of Determination* and significance level indicate that firstly, components of intellectual capital, physical capital and structural capital had significant and positive relationship with Refined EVA. Given the accurate statistical results ,

the main hypothesis can be accepted and secondly , coefficients of human capital (153%), physical capital (44%) and structural capital(236%) are significant at *alpha level of 0.05 and these three components of intellectual capital determine 55.6% of the changes in Refined EVA*. From the point of view of intellectual capital components ranking, the first rank of physical capital (445%), the second rank, structural capital (coefficient of 236%), and the third rank is human capital (coefficient of 153%) . Therefore, this suggests that business units, such as insurance companies, should pay more attention to physical capital.

Table 4. Limer-F test

Limer-F test			Result
Significance level	Degree of freedom	Statistic value	Pool Test
0.156	(5.81)	1.65	

Table 5. Model Test

Dependent Variable: Refined EVA Time: 2011-2016					
Variable	Path coefficient	T	The standard error	Significance level	Result
VAHU _{it}	0.153	3.22	0.047	0.024	Significant
SCVA _{it}	0.445	4.75	0.094	0.001	Significant
VACA _{it}	0.236	3.80	0.062	0.001	Significant
Width from source	0.158	2.58	0.061	0.048	Significant
(R ²)=0.579 (R ² _{aj})=0.556		F=8.764 Prob=0.001		dw=1.94	
The final model extracted from the results					
REVA = 0.158 + 0.153 (VAHU) + 0.445 (SCVA) + 0.236 (VACA) + e					

5. Discussion and Conclusions

Considering the statistical results of the components of intellectual capital and its relationship with Refined EVA, it can be concluded that there is a significant and positive relationship between human capital and Refined EVA. Human capital is the basic element of intellectual capital. Human capital relates to factors such as employee knowledge, their ability and skill (Zou, Lee and Thou, 2004, p. 68). Human capital is the largest and most important intangible asset of an organization that ultimately provides customers with the services they require or solutions to their problems (Gash and Mandel, 2009, 371). Also, human capital is internal capital among individuals, and the organization cannot acquire it (Mohammadi, 2014, p. 21). Human capital in a company is leverage for the company's development or decline. As much as human capital is stronger, the company benefits from higher productivity and growth of performance. In insurance companies, strong human capital attracts more customers and thus creates more value for the company. Rezaei et al. (2009), Namazi and Ebrahimi (2009) found similar results in their research about the direct relationship between intellectual capital and company performance. In addition, the results of Chen et al. (2005) in Taiwan Stock Exchange and similar research by Ahmad Khan et al. (2012), Leibo et al. (2011) and Wang (2008) suggested a positive relationship between intellectual capital and company performance. In the case of the components of physical capital and its relationship with Refined EVA, it can be concluded that there is a significant and positive relation between the physical capital and the Refined EVA. Physical capital represents the knowledge or value that communicates between external sources of an organization such as customers, suppliers of goods and services, creditors, distribution networks and channels, and etc. (Bozolan & Risari 2003, 558-543). Foreign sources create positive recognition for the company through the symbol, reputation, customer loyalty, business ability, capacity to connect with financing units and environmental activities (Saleh et al., 2008, p. 28). The more companies keep the loyalty of customers, the greater avoid the cost of attracting new customers and reach the higher profitability. In the insurance industry, companies make profits with the acquisition and maintenance of loyal clients and investors without paying re-marketing costs, which will create higher

EVA for the company. Anvari and Seraji (2005) have found a similar result in their research in evaluating five models of intellectual capital assessment, while explaining the significance of the models presented. Asadi et al. (2009), Namazi and Ebrahimi (2011), Rahimian et al. (2013), Huang and Hsueh (2007), Gopal (2017) and Ahmad Khan et al. (2012) in different studies have similar results to our research results. They are regarding the structural capital component and its relationship with Refined EVA, it can be concluded that there is a significant and positive correlation between structural capital and Refined EVA. In a simple and traditional definition, structural capital is, everything that remains in the company after the staff goes home at night (Ross 1997, 7, p. 417). Structural capital can be more clearly defined as organizational culture, organizational learning, operational process, and information system (Chen, Zoe, and Occi, 2004, p. 201). In other words, the events and interactions between people inside the organization and whatever remains within the organization when people leave the organization is structural capital. Structural capital is a long-term indicator of corporate value creation. No matter how much the enterprise infrastructure gets stronger, the value of the creation will be greater. The results of the present research with the results of the research of Asghar Nejad Amiri (2009), Abbasi and Goldi Sedghi (2010), Setayesh and Kazemnejad (2011), as well as Azinfar et al. (2016) were similar and indicated a significant and positive relationship between intellectual capital and companies' financial performance. Huang and Hue (2007), Libo et al. (2011), and Tovestiga and Tulugurova (2007) in various researches, it has found similar results to our research.

According to the results of the first to third minor hypotheses, which led to the confirmation of all three minor hypotheses, this implies that the main hypothesis is confirmed, that is, we can conclude that between intellectual capital and Refined EVA, a significant and positive relationship exists.

Equity is an economic resource that has the cost of opportunity, and in the financial statements, the opportunity cost of equity is not considered. The EVA is obtained by reducing the cost of opportunity of equity by net profit. Therefore, it is a criterion to consider the cost of opportunity of all resources used in the company (Moghadam and Kazempour, 2013, p.

Intellectual capital is important in raising the company's growth, performance, efficiency and profitability. Although Accepted Accounting Standards prevent further identification of intellectual capital in financial statements, but investors appreciate the value of intellectual capital in their decisions and it is very necessary for better performance and higher returns for corporations. Nowadays, despite the increasing importance of intangible assets, and especially intellectual and spiritual capital in companies, most accounting systems are not able to calculate companies' performance transparently and appropriately in proportion to intellectual capital. To this end, we seek new methods for measuring the performance of the company and its relation to intellectual capital. The results of this research indicated a significant relationship between intellectual capital and Refined EVA. Rudposhti et al. (2014), in their research, Evaluated the relationship between intellectual capital and EVA through six models of intellectual capital. Finally, due to different results of intellectual capital measurement models, the results of the research have not resulted in a single conclusion. Also, Nikomaram et al. (2009) reviewed the existence of a significant relationship between intellectual capital and return on investment and value added and the impact of intellectual capital on these indicators. In general, although the results are different from the current research, but what is significant is the impact of intellectual capital on the EVA index; as a result of the main hypotheses, the results of this study were similar to those of Chen et al. (2005), Wang and Chang (2005), Rezaei and Abbasi (2017).

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