



# The Impact of Voluntary Disclosure of Intellectual Capital on the Stock Return in Listed Companies of Tehran Stock Exchange

Ali Ghasemi<sup>1\*</sup>, Vahab Rostami<sup>2</sup>, Behzad Ghorbani<sup>3</sup>

<sup>1</sup>M.S.C of Accounting, Takestan Institution of Higher Education, Takestan, Iran.

<sup>2</sup>Department of Economics and Social Science, Payame Noor University, PO BOX 19395-3697 Tehran, Iran.

<sup>3</sup>Department of Accounting, Khodabandeh Branch, Islamic Azad University, Khodabandeh, Iran.

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## ABSTRACT

**Objective:** In this Study, the effect of voluntary disclosure of Intellectual capital information on stock return of the listed companies in Tehran Stock Exchange will be discussed. A dummy variable was defined and the required items for intellectual disclosure were designed. By referring to the financial statements and reports of the board of directors wanted data for companies were collected. Data analysis included multiple regressions using panel data and fixed effects. **Methodology:** Then, by assessing the items in the board directors' report, number 1 was assigned to the items evident and zero to those forgone. In the end, a score for each company was determined to expose the intellectual capital disclosure. 137 companies were selected by systematic samplings for a period of 5 years (2010-2014) and appropriate statistical testes were applied. **Results:** The results showed that voluntary disclosure of intellectual capital has a positive and significant impact on stock return of those companies. This result is in compliance with the past finding. **Conclusion:** in this study, the positive effect of these intangible assets on the return on equity was observed. Based on the results, the professional accounting bodies are recommended to develop standards and mechanisms for continuous disclosure in the notes to the financial statements disclose information.

## 1. Introduction

Recent developments in the global economy, including the complexity, dynamics and competitive environment, caused the difference between the traditional approach and the new approach of value creation. The emergence of new global challenges in the economy, has led to the importance of knowledge – based resources. These sources are the main bank and a competitive advantage in the business units. (Ting & Lean, 2009). Following extensive developments in information technology in the 1990's, fundamental changes occurred in the pattern of economy that led to the replacement of physical and financial capital by the Knowledge as the most important capital. In the Knowledge - Based economy, knowledge and role as a key factor in the company's value (chen et al, 2004). In other words, knowledge-based economy took the place of industrial economy with its own characteristics of beneficial combining of production factors and economical wealth, i.e., physical capital. During the industrial economy knowledge was not considered as a source of wealth creation and Factors of production (collection of physical assets such as land, labor, machinery), created the wealth. (Bontis, 1998). Today, despite the undeniable acceptance of the intangible assets and intellectual capital in the financial performance, the accounting system based on the traditional system is unable to measure intellectual capital and does not reflect in the financial statements. While the importance of these assets in increasing shareholder wealth, acquiring a stable profitability trend, increasing the share of the global market, assessing current performance and forecasting future business have always been in the spotlight. Due to the fact that companies do strategic planning, to identify opportunities and threats to their environment this inevitably requires comprehensive and adequate information about the capacity, competence and efficiency of their internal

\* Corresponding author: [Alighasemi.acc@gmail.com](mailto:Alighasemi.acc@gmail.com)

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resources. Intangible items and intellectual capital as the main factors in the development of knowledge-based economy have enabled the companies to carry out the strategic plans of the company (Marr, 2004).

## **2. Materials and methods**

### **2.1 Intellectual Capital**

Intellectual capital can be considered as capital, knowledgebased entity full of practical concepts that can be studied as a subject at university level and its acceptance is growing considerably by most organizations. Although the importance of intellectual capital is continuously increasing, however, many organizations are faced with issues related to its management, mainly due to measurement problems. Growing gap between visible market value and book value of the companies has led to due care to the missing value in the financial statements. The consensus is that intellectual capital is the hidden value in the financial statements and is not visible and conducted the organizations to gain a competitive advantage (Maditinos et al, 2010). Many researchers have studied the intellectual capital and some of them have considered intellectual capital disclosures. The researchers have shown that, in general, the current disclosure of intellectual capital is not high, however, due to UCT Journal of Management and Accounting Studies the importance and the role of knowledge and information in the success of firms, increased disclosure of information on intellectual capital will be seen in the future (Taliyang et al, 2011). Intellectual Capital is an asset that measures organization's ability to create wealth. This asset does not have a physical and objective nature and is an intangible asset that is obtained through the use of assets associated with human resources, external relations and organizational performance. This feature makes the internal value (Rose & Barrons, 2005).

### **2.2. Intellectual Capital Components**

#### **2.2.1. Structure Capital**

Structural Capital includes organizational culture, structure, organizational learning practice, and the information system. Capital structure is the backbone of the development of learning organizations. If the organization owns employees with high potential, but the systems and procedures are weak, it will prevent the appropriate level of performance. In contrast, a strong structure reduces costs and increases profits and productivity of the organization (Bontis, 2002). Brooking (1996) believes that the capital structure includes infrastructure assets, such as IT processes and work methods, as well as intellectual property such as know-how, brands and patents. Pablos (2004) says that the capital structure is the knowledge that remains after the withdrawal of the employees.

#### **2.2.2. Human Capital**

Human capital is classified as sub-collections such as staff competencies, values and communication abilities and reflects an organization's existing knowledge. Human capital represents a saving knowledge of the staff to be crystallized. And colleagues from the Russian perspective, intellectual capital created by staff include competence and acumen of them. Witted staff the ability to provide appropriate solutions to reduce their operational problems and improve processes. Although employees as the most valuable asset of the organization, but cannot be considered as a permanent assets (Chen et al., 2004).

#### **2.2.3. Relational Capital**

Relational Capital includes all the relationships between the business with any person or another enterprise. These relationships include clients, intermediaries, employees, suppliers, raw materials, regulatory authorities, creditors and investors. Relations are generally divided into two groups: the first group is those that are formalized through contract relationships with customers and raw material suppliers or partners. The second groups are more informal relationships. Relational Capital is as a bridge and as the organizer of the intellectual capital and is a determining factor in transforming intellectual capital to market value (Li, 2007 and Ibikunle et al, 2013). These assets include relations with customers in strength and loyalty. Customer satisfaction, financial health and the sensitivity of the price may be used as indicators of this type of investment. The breakdown of the relationship of human capital and structural capital indicates its importance in the enterprise. Trade marks, the reputation and the reputation of the company or its products and services, which reflect the relationships between companies and their customers, are also placed in this category of assets (Marr, 2008).

### **2.3. Intellectual Capital Disclosure**

The main reason for the emphasis on voluntary disclosure and transparency is that they are the key foundations to protect the interests of shareholders. Full disclosure and transparency in financial reporting approach can create a secure environment and ensure the protection of the interests of investors to increase. Research also has shown that voluntary disclosure of positive effects on the company's performance and the interests of shareholders and other interested parties is effective. In other words, lack of transparency and confusion in reporting suspicious or unethical behavior may lead to a reduction in value of the company. In previous studies it was found that disclosure of information at a high level reduces the risk associated with decision-making. Lower risk also led to an increase in the value of the company, and some result, their management approaches result in higher reliability, higher rates of price to earnings, increase in liquidity and reduction in the cost of common stock capital (Madhani, 2009). Intellectual capital disclosure in annual reports helps to increase the efficiency of capital markets by reducing information asymmetry between investors and individuals within the organization. In addition, it helps the capital market to make the market more precisely for combining resources (Guthrie et al, 1999). Several studies have proven that a voluntary disclosure of intellectual capital can reduce the cost of capital. Because it reduces the lack of confidence in the future prospects of the company's objectives and raises corporate value. In the last decade, companies pay special attentions to the measurement and disclosure of intellectual capital because they have to report to users. (Lambert et al, 2006).

### **2.4. Stock Return**

In the analysis of the fundamental variables, in the first stage, stock returns and then, investment risk and stock price and finally the value created for shareholders are investigated. Evaluation of the equity value is the ultimate purpose of financial analysis. (Eldomiaty, 2006). Fundamental financial variables are known in the financial literature, and are based on assumptions that include events affecting the companies that are transparent in the disclosure of information acquire a good reputation. As a company's operations and efficiency. Financial ratios are the most common type of basic

Information that have been used in the analysis of the fundamental variables. Organizational performance is the result of operational processes and goals of the organization. In other definition, organizational performance is delivering the functions that the organization has assigned for human resources (Cascio, 1989). Organizational performance includes almost all the goals of production and cost competitiveness and is related to excellence, flexibility, speed, reliability, and quality. In addition, organizational performance can be defined as an umbrella concept that covers all activities related to the organization's success. Organizations with superior performance own certain characteristics in terms of the vision, goals of the institution's mission, strategic thinking, leadership, organization, technology and organizational processes (Hardesty, 2003).

### 2.5 The impact Voluntary disclosure of IC information on stock returns

Studies show that voluntary disclosure has positive effects on the company's performance and protects the interests of shareholders and other interested parties. In other words, lack of transparency and confusion in reporting suspicious behavior and immoral may lead to a reduction in value of the company. In previous studies it was found that disclosure of information at a high level reduces the risk associated with decision-making. Low risk increases corporate value and some companies that disclose the extent of their transparency get a good reputation. As a result, their management approaches result in higher reliability, higher rates of price to earnings, increase in liquidity and reduction in the cost of common stock capital (Madhani, 2009). Intellectual capital disclosure in annual reports increases the efficiency of capital markets by reducing information asymmetry between investors and individuals within the organization. In addition, it helps the capital market to make the market capital formation m combine resources. (Guthrie et. al., 1999).

### 2.6 Research Method

The analysis stage and test hypotheses are the most important parts in a scientific study because they reflect past efforts and hard work. The aim of this study is to evaluate the potential impact of the voluntary disclosure of intellectual capital information on stock return.

### 2.7 Research Hypothesis

The hypothesis can be explained as follows. H1: Voluntary disclosure of intellectual capital information of listed companies in Tehran Stock Exchange has a significant positive impact on stock returns.

## 3. Discussion and results

Before testing the hypotheses, the appropriate regression model was chosen. In the first stage, compilation of data or panel data is selected. The test results are shown in Table 1. According to the data in the table below, the probability of Chow test statistic is 0/05. Therefore, the appropriate model for the hypothesis of this study is the use of panel data.

**Table 1: Redundant Fixed Effect Test (Chow Test)**

Redundant Effect Test	Fixed	Statistic	d.f.	Prob	Conclusion
Cross – section F		2.857223	(108, 219)	0.0000	Panel Data

Because of the selection of panel data model, for panel data regression, and to select the fixed effects model against random pattern Housman test was used. The possibility of Housman test statistic is less than the significance level 0/05. The research confirms the hypothesis of a fixed pattern. The test results are shown in Table 2.

**Table 2: Correlated Fixed Effects - Hausman Test**

Redundant Effect Test	Fixed	Chi-square Statistic	d.f.	Prob	Conclusion
Cross – section random		2.578563	3	0.0000	Fixed Effects

Regression models of the fixed effects of voluntary disclosure of intellectual capital information on stock returns in the five-year period of all companies in the study are shown in Table 3.

**Table 3: The Impact of voluntary disclosure of intellectual capital information on stock returns, Fixed effects regression models**

	Coefficient	Std. Error	t-Statistic	Prob.
C	13.047940	2.197107	4.473378	0.0000
ICD	6.923531	0.706727	4.602607	0.0007
AGE	-4.108736	0.056817	-5.370068	0.0700
LEV	-5.068763	0.042362	-1.883099	0.0602
PROF	-0.327950	0.292966	-0.987011	0.3241
SIZE	-0.067355	0.063325	-2.388353	0.0173

**Table 4. Positive and significant impact of disclosure of intellectual capital on the stock return in listed companies of Tehran Stock Exchange**

Rsquared	Adjusted Rsquared	F-statistic	Prob(F-statistic)	Durbin-Watson stat
0.697584	0.662971	14.784253	0.000071	2.035555

The results of Table 4 represent a positive and significant impact of disclosure of intellectual capital on the stock return in listed companies of Tehran Stock Exchange. Because first of all, the t-statistics related to the disclosure of intellectual capital, human resource and relational capital is positive and secondly, the t-value is less than 0/05. In other words, by increasing the voluntary disclosure of information about the intellectual capital in the listed companies of Tehran Stock Exchange, stock returns have increased. Also, we found that all of the control variables (including the company's life, the degree of leverage, profitability and company size), have had a negative but insignificant effect on optional disclosure of capital information on stock returns. First sign of regression coefficients were negative, and secondly because the t-statistic greater probability of error is 0/05. In the above image, the determining factor is the amount of the dependent variable explained by the independent variable is used, is the 0/6975844. This means that changes in stock returns by about 0/70 voluntary information disclosure changes described components of intellectual capital. The coefficient of determination adjusted to indicate this is 0/662971 and 0/66 changes of return on equity, taking into account the effects of significant variables, optional disclosure of information by the changes in the components of intellectual capital is explained. To determine the significance of the model, the F test is used for the F-test results suggest that the fitted regression model, is significant. Because the probability statistic F (0/000071), below the level of error is 0/05. To check autocorrelation among the variables of the test - Watson is the amount of which is equal to 035555/2, so given autocorrelation between variables is rejected. Finally, for all the variables of the model, the variance inflation factor in the range of one to five, which is indicative of the fact that among these variables, there is no multicollinearity. The research hypothesis is confirmed. In other words, the disclosure of information optional components of intellectual capital, the return on equity, the effect is positive and significant.

#### 4. Conclusion

According to the results of previous research, the more level of disclosure of information is, the more investors are concerned and consequently, the less is investment risk. Clearly, as the investment risk decreases, the investors level of confidence in expected efficiency increases and in turn, the changes in stock prices move upward that finally leads in an increase in their return on equity. Often, the focus of major investors in profit is on return on investment and physical assets, and in this respect, it can be stated that, unlike physical assets, intangible assets that create the company competitive advantage, such as structural capital, customer capital, especially capital human, have been neglected. But in this study, the positive effect of these intangible assets on the return on equity was observed. Based on the results, the professional accounting bodies are recommended to develop standards and mechanisms for continuous disclosure in the notes to the financial statements disclose information. Also, certain standards and measures should be designed in order to make the information available to investors and to reveal the same basic information, such as intellectual capital and intangible resources it is needed to collect them in the notes accompanying the financial statements. Financial analysts must pay special attention to the factors of intellectual capital components during their financial analysis in the companies they have surveyed. Because according to our results, the disclosure of intellectual capital components has a positive and significant impact on stock return. Company executives should provide the necessary beds for the growth and development of capabilities of human resources and the grounds for constructive communication with customers. As well as, they should provide the resources to invest more on the structural funds.

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