ABSTRACT

The present world is the era of knowledge. Nowadays obvious riches and natural assets are not the only key to success of communities and organizations, but of having the intellectual capital and manage these assets is a key challenge in the field and turbulent environment. So that the role and importance of intellectual capital employed towards sustainable profitability is employed more than financial capital. Hence, this study examines the relationship between intellectual capital and earnings stability as an indicator of the quality of earnings in listed companies in Tehran Stock Exchange. Period of the study was between 2007 to 2011 years and includes 119 companies. In order to test the research hypothesis, after gather the necessary information from various sources, Pulic model for calculating the value of intellectual capital and O’Sullivan model is used to calculate profit stability. Also using spss and Eviews software attempting to hypotheses testing. The results of the test research hypotheses, indicates the existence of a significance relationship between intellectual capital and stable profits for listed companies at Tehran Stock Exchange.

KEYWORDS: Intellectual capital, Stable profits, Asset management

INTRODUCTION

Intellectual capital is the central issues of knowledge-based approach to achieve the competitive advantage. In the knowledge-based economy, intellectual capital used to create and enhance corporate value and success of a company’s ability depends on manage scarce resource. In the
industrial age, physical assets such as property and machinery and raw materials companies were the center of attention. But in the information age, the value is created using the intellectual capital, and success or failure of the business unit depended on efficient use of intellectual capital. So companies are entering the knowledge-based economy. Economy where knowledge and intangible assets is recognized as an important competitive advantage for organizations. Today, application and use of intangible assets is a very important factor in success and survival of organizations, so that it creates a new field of study and research in management. Intellectual capital related knowledge and ability of staff. Knowledge-based companies are increasing exponentially and the demand for knowledge-based products and services in the global economy is growing, thus, knowledge-driven companies become more market value. Communities with the transition from the industrial age to the information age, the importance of intellectual capital as a critical stimulus for enterprises has increased. Starting point for systematically identifying intellectual capital can be found in the late 60's a friendly correspondence between the two European economist named "Galbraith" and "Kalecki". Since then, the evolution of the concept of intellectual capital, varied and sometimes very different definitions have been proposed. Which represents the general concepts are definitions. Despite the efforts of many researchers in this field, there is an accepted definition of public intellectual capital and this has led researchers from each point of the experimental and the experimental and the models So definition for it deliver. Bontis and colleagues (2000) argue that intellectual capital is a concept that all intangible resources and internal communications to classify them. Intangible resources are factors that affect the value creation process in the company. Kaplan and Norton (2004) argue that intangible assets, including human capital (eg, skills, talent and knowledge), asset information (such as databases, information systems and technology infrastructure) and organizational capital (such as culture, leadership styles and abilities knowledge sharing) is. Skandia documented its approach to measuring intellectual capital in those supplements, and researchers also have described it. The company’s hierarchy of intellectual capital is shown in Figure 1. The overall market value of the firm can be split into two parts: the financial capital as recorded in the financial reports and intellectual capital. Skandia breaks intellectual capital into several components of human capital and structural capital. Human capital cannot be owned; it is the value found in employee training, employee competencies, and know-how. Structural capital is what remains after the people have left for the day and can be split into customer capital and organizational capital. Organizational capital can be broken down further into process capital (how things get accomplished) and innovation capital (protected commercial rights and intellectual property).
Most experts agree that Intellectual Capital is comprised of three components: human capital, structural capital and customer capital. According to Edvinsson and Malone (1997), the status of the integration can be created to achieve the desired results of these three types of capital. It is therefore essential that these three types of institutional investors that together they create value are aligned and balanced.

Human Capital: A measure of the economic value of an employee's skill set. This measure builds on the basic production input of labor measure where all labor is thought to be equal. The concept of human capital recognizes that not all labor is equal and that the quality of employees can be improved by investing in them. The education, experience and abilities of an employee have an economic value for employers and for the economy as a whole. Economist Theodore Schultz invented the term in the 1960s to reflect the value of our human capacities. He believed human capital was like any other type of capital; it could be invested in through education, training and enhanced benefits that will lead to an improvement in the quality and level of production.

Structural Capital: is one of the three primary components of intellectual capital, and consists of the supportive infrastructure, processes, and databases of the organisation that enable human capital to function. Structural capital is owned by an organization and remains with an organization even when people leave. It includes proprietary software, processes, patents, and trademarks, as well as the organization’s image, organization, information system, and proprietary databases. Capital structure, including hardware, software, databases, organizational structure, organizational patents, trademarks, and all the capabilities that support employee productivity (Edvinsson and Malone, 1997).

Customer Capital: Value of relationships that a firm builds with its customers, and which is reflected in their loyalty to the firm and/or its products. It is one of the three kinds of intellectual capital of a firm (the other two are human capital and structural capital) that are not reflected in a balance sheet (Chen et al., 2004). Compared with human capital and structural capital, customer capital more direct impact on the realization of value for the company is becoming increasingly
important to be increasing and gradually becomes a critical factor. Some scholars that have
defined capital investment for the customer as well as the complex relationships.

Intellectual Capital Reporting

Disclose information has gained importance in recent years related to intangible assets and
intellectual capital. The main purpose of this report, provide useful information to users about
intellectual capital includes shareholders and investors, financial analysts, employees and other
subjects. Reporting and disclosure of information on intellectual capital and significant impact
on the decisions of the various stakeholders within the organization and outside the organization.
Disclosure of this information is actually two-sided effect. Information on understanding the
effects also affects the decisions of managers of external users and the market value of the other
understanding users. Because of the importance of intellectual capital for many companies,
disclosure and reporting of financial and non-financial information in this highly regarded
company information for users. In traditional accounting system, there are restrictions on the
reporting and disclosure of intellectual capital, because most of the components of intellectual
capital are reflected in the balance sheet and return costs for intellectual capital, as the current
cost directly to the profit and loss account. Immediately understanding these costs as an expense
reduces profits by misrepresenting the financial status of the organization is currently facing.
Today, the development of accounting for intellectual capital or intangible assets deemed to be a
necessity, the goal is to overcome the problems of accounting for intangible assets, the
accounting approach to model development is a conceptual framework.

LITERATURE REVIEW

So far, many researchers have been done in order to measure intellectual capital of companies in
different countries. Including research of Bontis in Canada (1998) and Bontis and colleagues
research in Malaysia (2000) showed that there is a positive relationship between the elements of
intellectual capital (human, structural and customer) and industry performance, human capital,
regardless of industry type have effect on corporate performance, and structure capital have
positively relationship with financial performance. Belkaoui Research (2003) conducted in
multinational US companies showed that there is a significant positive relationship between the
financial performance of U.S. multinational corporations and corporate intellectual capital. Chen
and colleagues (2005) investigated the relationship between intellectual capital with market
value and financial performance of companies listed on the Taiwan Stock Exchange. They used
the intellectual capital Pulic model to measure intellectual capital and the regression analysis
showed that if the company's intellectual capital is more, their financial performance and market
value will be higher.

In Iran, Anvari Rostami and Seraji, examined different methods and models for measurement of
intellectual capital. In another study, Seraji, Anvari and Rostami investigated the relationship
between intellectual capital and stock market value of companies listed in Tehran Stock
Exchange. Findings showed that intellectual capital is highly correlated with stock market value.
Hemmati and Nikoonasbati investigated the relationship between intellectual capital and ratio of
market value to book value and financial performance of companies listed in Tehran Stock
Exchange between 2006 to 2010. The results showed that significant positive relationship exists
between intellectual capital and ratio of market value to book value and financial performance.
Abbasi and Sedqi in a research studied the effect of performance of each of the elements of intellectual capital on companies’ financial indicator in Tehran Stock Exchange. The results showed that the firms with higher intellectual capital have better financial performance. Setayesh and Kazemnejad (2010) in their study, investigated the effect of intellectual capital on the performance of companies listed in Tehran Stock Exchange. The results showed that between 2002 and 2007, intellectual capital has a significant positive relationship with rate of return on assets and asset turnover, but here is no significant relationship between intellectual capital and ratio of market value to book value. According to the theoretical background of the research and also to achieve the research objectives, the following research hypotheses have been considered:

**Hypothesis 1**: there is significant correlation between intellectual capital and a sustainable income as an indicator of earnings quality.

**Hypothesis 1.1**: there is significant correlation between human capital and earnings stability.

**Hypothesis 1.2**: There is a significant relationship between capital structure and earnings stability.

**Hypothesis 1.3**: There is a significant relationship between physical capital and earnings stability.

**Hypothesis 2**: firm size is affective on Total average of intellectual capital and earnings stability.

**METHODOLOGY OF THE RESEARCH**

This study is a descriptive study and in terms of purpose, is an applied research. The purpose of this study is investigating of relationship between intellectual capital reporting and profitability.

The sample for this study is included firms listed on the Tehran Stock Exchange. The sample period is from 2007–2011 and to analyze data we use fixed effects regression model and Pearson coefficient. Considering this, in this research, the history of the firm’s activities is used; therefore its setting is quasi-experimental. The selection of firms from the list in order to use their information for testing hypothesis, are based on the following limitations:

Until the beginning of 2011 has been a member of the Tehran Stock Exchange.

Corporate finance period is to the end of March each year.

During the period of research, their stock trading not to be interrupted longer than 3 months.

Companies under the study must not be financial intermediation companies or investment companies, and firms that have not enough information for our study.

Due to these conditions, about 119 companies in Tehran Stock Exchange are selected out of listed companies.
Independent variables

The study variables with intellectual capital components include structural capital, human, physical considered as the independent variable and the following steps are calculated based on Pulic.

Value Added (VA)

Value Added (VA) = total revenue from sales of goods and services - cost of purchased materials and services.

Value Added could be also calculated with regard to the information reflected in the annual financial statements as follows:

Value Added (VA) = Operating income + labor expenses + Depreciation costs

Capital employed efficiency (CEE)

This ratio represents the value added arise from the application of physical and evident assets and it means that for every $ assets how much value added is created. This figures comes from dividing value added to the capital employed.

\[ CEE = \frac{VA}{CE} \]

CE: It is capital employed which is equal to book value of total assets of company excluding intangible assets.

Human capital efficiency (HCE)

This ratio represents the value added created by employees that obtained from dividing value added to the salary costs of employees and it means that for every $ payroll costs how much value added is created.

\[ HCE = \frac{VA}{HC} \]

HC: Human capital that is equal to the cost of staff salary.

Structural capital efficiency (SCE)

This ratio represents the value added arise from existing processes and structures available in the company and is obtained from structural capital divided to the value added.
SC: Structural capital is obtained from the following equation:

\[ SC = \frac{VA}{VA} \]

Given the above definitions, Pulic’s value added intellectual coefficient is obtained from the following equation:

\[ VAIC = HCE + SCE + CEE \]

As indicated in Pulic’s model, social (customer) capital is not considered.

**Earnings Persistence**

Earnings Persistence calculate based on Slioan model (2005) as below:

\[
E_{i,t} = \text{Net profit of i company in year of } t \\
E_{i,t-1} = \text{Net profit of i company in year of } t-1 \\
\beta_1 = \text{profit resistance}
\]

The obtained value for the coefficient of the explanatory variable, the number is a closer, more profitable and more stable closer the coefficient is to zero, the stability is less profitable.

For ASSETS calculation, we used formula as below:

\[ Y = \beta_0 + \beta_1 HCE + \beta_2 SCE + \beta_3 CEE + \beta_4 FSIZE + e_{it} \]

**RESULTS**

Main Hypotesis 1:

We used a model for evaluation this hypotesis as below:

\[ Y = \beta_0 + \beta_1 VAIC + \beta_2 SIZE + e_{it} \]
TABLE 1

<table>
<thead>
<tr>
<th>Variable</th>
<th>R2</th>
<th>t</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>0.417</td>
<td>1075.44</td>
<td>0.000</td>
</tr>
<tr>
<td>VAIC</td>
<td>0.000</td>
<td>2.569</td>
<td>0.0106</td>
</tr>
<tr>
<td>SIZE</td>
<td>0.000</td>
<td>-3.885</td>
<td>0.0001</td>
</tr>
<tr>
<td>AR(1)</td>
<td>0.054</td>
<td>0.195</td>
<td>0.8456</td>
</tr>
<tr>
<td>Durbin-Watson statistic tests</td>
<td></td>
<td>Adj-R-squared</td>
<td>1</td>
</tr>
<tr>
<td>Prob(F-statistic)</td>
<td></td>
<td></td>
<td>0.000</td>
</tr>
</tbody>
</table>

The F (prob (F-statistic)) in Table (2) indicate the significant relationship at 95% confidence level and confirmed the linear regression between the independent and dependent variables. Adjusted R2 is equal to 1, which implies that all changes in dependent variable resulting from the independent and the control variables. Based on Durbin-Watson statistic tests, in early models it was found that the model has an autocorrelation that is used to fix the AR component. The base rate of 2.08 is obtained, the independence of the error component regression model fitted in this model is verified. Intellectual Capital Variable Coefficient error level of 5%, is significant, so there is a significant relationship between these variables and the dependent variable is a positive coefficient, as expected. This result indicates that the relationship between intellectual capital and sustainability of quality of earnings, there is significant interest as an indicator of the first main hypothesis is accepted.

The first sub-hypothesis assumptions were tested with respect to the results set forth in Table 2.

TABLE 2

<table>
<thead>
<tr>
<th>Variable</th>
<th>R2</th>
<th>SD</th>
<th>t</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>0.434</td>
<td>0.136</td>
<td>3.19</td>
<td>0.001</td>
</tr>
<tr>
<td>HCE</td>
<td>0.001</td>
<td>0.005</td>
<td>2.098</td>
<td>0.036</td>
</tr>
<tr>
<td>SCE</td>
<td>0.002</td>
<td>0.003</td>
<td>0.465</td>
<td>0.642</td>
</tr>
<tr>
<td>CEE</td>
<td>-0.005</td>
<td>0.006</td>
<td>-0.0804</td>
<td>0.421</td>
</tr>
<tr>
<td>SIZE</td>
<td>-0.003</td>
<td>0.02</td>
<td>-0.146</td>
<td>0.884</td>
</tr>
</tbody>
</table>
The P-Value of F-statistic indicating the significance of the regression, which equals 0.000, indicating that the model is significant at the 95% confidence interval. Adjusted coefficient of determination R2 is also equal to 0.99 indicated that approximately 99% of the variability could be explained by the independent variables of the model that represents the explanatory power of the regression is good. According to the above table, the results of the sub-hypotheses are as follows:

The first sub-hypothesis: the correlation coefficient is defined as the independent variable of human capital equal to 0.001 and 0.036 is a significant number, so according to the t-statistic and p-Value for this variable, results showed a significant coefficient at the level of error of 5 percent. This result shows that the performance index of human capital and the persistence of profits in companies listed on the Stock Exchange, there is a significant positive relationship and, consequently, the first sub-hypothesis is supported by the research.

The second sub-hypothesis: the correlation coefficient is independent of capital structure variable equal to 0.002 and 0.642 is a significant number, so according to the t-statistic and p-Value for this variable is not significant, the results indicate that the coefficient of error of 5%.

This result shows that the performance index of capital gains on the structure and stability of the listed companies on the Stock Exchange, there is no significant relationship and, consequently, the second sub-hypothesis is rejected.

The third sub-hypothesis: the correlation coefficient of the independent variable, physical capital equals 0.005-and 0.421 is a significant number, so according to the t-statistic and p-Value for this variable, the results indicate that the coefficient is not significant at the 5% error level. This result indicates that the ratio of physical capital efficiency and earnings stability in the listed companies on the Stock Exchange, there is no significant correlation between the result of the third sub-hypothesis is rejected.

The second main hypothesis

To test the second hypothesis, the following model was used:

\[ Y = \beta_0 + \beta_1VAIC + \beta_2SIZE + \beta_3VAIC \times SIZE + e_{it} \]

In this study, variable-sized companies as moderating variables considered influencing the components of intellectual capital on firm size and corporate profits are considered to be stable.
TABLE 3

<table>
<thead>
<tr>
<th>Variable</th>
<th>R2</th>
<th>SD</th>
<th>t</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>0.222</td>
<td>0.198</td>
<td>1.127</td>
<td>0.261</td>
</tr>
<tr>
<td>VAIC</td>
<td>0.002</td>
<td>0.001</td>
<td>2.108</td>
<td>0.036</td>
</tr>
<tr>
<td>SIZE</td>
<td>0.033</td>
<td>0.033</td>
<td>0.983</td>
<td>0.326</td>
</tr>
<tr>
<td>VAIC×SIZE</td>
<td>-0.0003</td>
<td>0.0001</td>
<td>-2.245</td>
<td>0.025</td>
</tr>
<tr>
<td>AR(1)</td>
<td>0.018</td>
<td>0.279</td>
<td>0.066</td>
<td>0.949</td>
</tr>
<tr>
<td>Durbin-Watson statistic tests</td>
<td>1.747</td>
<td>Adj-R-squared</td>
<td>0.993</td>
<td></td>
</tr>
<tr>
<td>Prob (F-statistic)</td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

P-Value of the statistic F (prob (F-statistic)), indicating the significance of the regression, which equals 0.000, indicating that the model is significant at the 95% confidence interval. Adjusted coefficient of determination R2 was equal to 0.99 indicated that approximately 99% of the variability could be explained by the independent variables of the model that represents the explanatory power of the regression is good. Since the correlation coefficient of the independent variable VIAC * SIZE equal to -0.0003 and 0.0253 is a significant number. According to the t-statistic and p-Value for this variable, the results indicate a significant coefficient at the 5% error level. These findings indicate that firm size on the relationship between intellectual capital and enhancing the sustainability of profits in listed companies and securities Tehran's influence. The main hypothesis 2 of the study is thus confirmed.

CONCLUSION AND CONCLUSION

In the industrial age, physical assets such as property and machinery and raw materials companies were the center of attention. But in the information age, the value of intellectual capital is created using the efficient use of intellectual capital that marks the success or failure of the business unit. Thus, the value added intellectual coefficient model as an indicator of intellectual capital in a 5-year period were used. The results of testing these hypotheses suggest that there is a significant correlation between the stability of intellectual capital and profits in the companies studied, and firm size has the modulatory effect of on the relationship, thus the importance of intellectual capital in profitable relationship between intellectual capital and stability to the benefit of companies is accepted in Tehran Stock Exchange.
REFERENCES


