THE EFFECT OF INTELLECTUAL CAPITAL INFORMATION ON INVESTMENT DECISION OF AUTOMOTIVE INDUSTRY AND PARTS COMPANIES IN TEHRAN STOCK EXCHANGE MEMBER FIRMS

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ABSTRACT
One of the effective variables which are considered less in developed country is the effect of intellectual capital on investment decisions. The objective of this research is to study the effect of intellectual capital information on investment decision of automotive industry and parts companies in Tehran Stock Exchange member firms during the period of 2006 to 2012. The method has been used in this research is panel data and obtained results of this research show that all intellectual capital index have had significant and positive effect on dependent investment decisions variable which is obtained from the ratio of whole investment of company i in year t to fix assets. This means that added value intellectual coefficient and its three minor sections which means physical capital efficiency coefficient, human capital efficiency coefficient, and structural capital efficiency coefficient, have positive effect on the amount of company investment. Control variables also have had significant and positive effect in order of company size, and leverage index and book value of each share to market value, significant and negative effect on dependent variable of research. It is indicated that whatever the amount of company’s assets increased and the debt ratio decreased and or the crack between market price and book price decreased, the investors and managers view has improved about the company and the amount of investment and stockholders chance will be increased.

Keywords: Investment Decisions, Intellectual Capital, Automotive Industry and Parts Companies, Panel Data

INTRODUCTION
One of the objectives of financial report is providing the suitable information in order to facilitate deciding. Accounting information system has special importance as a source for providing information in order of users’ decision.

The use of accounting information in decision-making is not effective without analysis and even it causes to mislead the consumers, however, with analyzing them we can offer the valuable information to investors and help them in logical and conscious decision. It is emphasized on financial ratio among available methods in analyzing information. Financial analysis is always under the attention as a tool for evaluating the financial information in expanded way. One of the important factors that financial analysts are always following to predict or identify the changes with using of financial analysis techniques is future profitability of companies.

Posing the process of investing in one coherent state is required an analysis of the nature of the investment decisions. Based on this, the activities related to decision process has been studied. Generally, investment is defined as a process of exchanging funds into one or varieties of asset that keeps sometimes in future. Investor is required to study about the process of investment and managing the shareholders wealth and the process of investment in one coherent state, is required to analyze the nature of investment decisions (Jonz, 1996).

The effect of intellectual capital on investment decisions is considered as one of the unknown aspects in this research which has not been dealt with to study in Iran. In this research, with regard to the importance of intellectual capital and its relationship with investment decisions, it has been dealt with the study of the relationship between these two variables in Tehran Stock Exchange Companies (automotive industry and parts).
2- Literature and Background of Research

2-1- The Effective Factors on Investment Decisions

In investment decisions, many factors have affected the investors’ decisions. The most important factors are as below:

1) Period of investment: investors who have long period of investment, are investing in risk assets more than investors with short term investment. When making decisions about investment, we should notice that when the investors need their money (Corrado and Bradford, 2006). People who allocate their own assets for short period times believe that shares market show reaction too much about changes in economic and finance conditions and it causes the stock price to be too low or high (Safari, 2002).

2) Financial resources: each investment and the strategy related to that investment needs financial resources (Chen et al., 2000). For instance, if people and companies have access to long term finance resources, they will think about the long term investments and goals and if they have access to short term finance resources, they will think about short term investment.

3) Liquidity Investment: Some people might need immediately to their investment finance resources. The power of investment liquidity is important for these people. As an example, retired people usually need more liquidity. On the other hands, investors who are in the zenith of income need less liquidity.

4) Tax: investors pay different tax based on their investment. Therefore, the rate of paid tax will effect on investors profitability (Chen et al., 2000).

2-2- Research Background

Asadi et al., (2013) in an article entitled “The effect of accounting conservatism on management investment decisions “the results show that accounting conservatism does not play an important role in management investment decisions.

Change and Heise (2011) have dealt with the study of relationship among intellectual capital and three performances operating, financial, and market in Taiwan stock exchange in electronic industry. The results show that operating performance has positive relationship with applied capital and it has no relationship with structural and human capital. Also, intellectual capital components have negative relationship with finance and market performance. Research expenses and expansion has positive relationship with three performances but intellectual property has just positive relationship with operating performance.

Maditines et al., (2011) investigated the relationship between intellectual capital components and with financial performance and the market in Greece’s. They have used from value added intellectual coefficient method for counting intellectual capital. The results has shown the absence of significant relationship between intellectual capital and finance performance and share market and just relationship of human capital with return salary of shares owner has been approved.

Sydler et al., (2013) in an article entitled “Measuring intellectual capital with financial figures: Can we predict firm profitability?” the main findings of research show that expenses related to intellectual capital in the next years have lead to increase of return assets in next times.

3- Research Model and Research Variables

The used pattern in this research is as below:

Invest=f (VAIc, Size, Lev, Val)

Dependent Variable: Investment decisions variable with using of Yomatlo article (2010) entitled the effect of intellectual capital information on investment decisions, obtains from the ratio of whole investment of company i in year t to fix assets. Evaluating intellectual capital has extracted with using of Palik model.

4- Estimation Pattern

Before estimating the pattern, it has been dealt with the study of stationary of research variables that results show all research variables are stationary in level.
Table 1: Study of stationary of variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Probability</th>
<th>Lovin Lin Chua</th>
<th>Statistics of test of</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intellectual capital</td>
<td>I(0)</td>
<td></td>
<td>-4.21449</td>
</tr>
<tr>
<td>Book value to market value</td>
<td>I(0)</td>
<td></td>
<td>-2.2543</td>
</tr>
<tr>
<td>Financial leverage</td>
<td>I(0)</td>
<td></td>
<td>-2.5149</td>
</tr>
<tr>
<td>Company size</td>
<td>I(0)</td>
<td></td>
<td>-3.3243</td>
</tr>
<tr>
<td>Intellectual capital components (human)</td>
<td>I(0)</td>
<td></td>
<td>-627.024</td>
</tr>
<tr>
<td>Intellectual capital component (physical)</td>
<td>I(0)</td>
<td></td>
<td>-6.54267</td>
</tr>
<tr>
<td>Intellectual capital component (structural)</td>
<td>I(0)</td>
<td></td>
<td>-6.04862</td>
</tr>
</tbody>
</table>

In continue it has dealt with the study of the effect of intellectual capital on investment decisions:

<table>
<thead>
<tr>
<th>Significant coefficient</th>
<th>t Statistics</th>
<th>Standard deviation</th>
<th>Coefficient</th>
<th>Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0002</td>
<td>3.818228</td>
<td>0.055359</td>
<td>0.211374</td>
<td>Intercept</td>
</tr>
<tr>
<td>0.0599</td>
<td>-1.896331</td>
<td>0.001153</td>
<td>-0.002187</td>
<td>Book value to market value</td>
</tr>
<tr>
<td>0.0137</td>
<td>2.495622</td>
<td>6.97E-10</td>
<td>1.74E-09</td>
<td>Intellectual capital</td>
</tr>
<tr>
<td>0.0649</td>
<td>-1.859765</td>
<td>1.62E-09</td>
<td>-3.02E-09</td>
<td>Financial leverage</td>
</tr>
<tr>
<td>0.0018</td>
<td>3.183343</td>
<td>0.003778</td>
<td>0.012026</td>
<td>Company size</td>
</tr>
</tbody>
</table>

Determine coefficient show the power of explanation of model in amount of 73 percent and Watson camera statistic show the inexistence of autocorrelation. The obtained results from estimation of model are as below:
1. The ratio of market value to book value has significant and negative effect on investment decisions.
2. Intellectual capital has significant and positive effect on investment decisions.
3. Company size has significant and positive effect on investment decisions.
4. Leverage index has significant and negative effect on investment decisions.

The Estimation of Second Model

In continue it has been dealt with the study of the effect of components of intellectual capital on investment decisions:

Determine coefficient shows the power of explanation of the model in amount of 73 percent and Watson camera statistic show the inexistence of autocorrelation. The obtained results from estimation of model are as below:
1. The ratio of market value to book value has significant and negative effect on investment decisions.
2. Human capital as one of the components of intellectual capital has significant and positive effect on investment decisions.
Table 3: The results of combinatorial regression estimation for the years 2006 to 2012

<table>
<thead>
<tr>
<th>Significant coefficient</th>
<th>t Statistics</th>
<th>Standard deviation</th>
<th>Coefficient</th>
<th>Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0001</td>
<td>3.938547</td>
<td>0.061414</td>
<td>0.241883</td>
<td>C</td>
</tr>
<tr>
<td>0.0254</td>
<td>2.986804</td>
<td>0.000465</td>
<td>0.001389</td>
<td>Market value to book value</td>
</tr>
<tr>
<td>0.0358</td>
<td>2.781476</td>
<td>5.79E-09</td>
<td>1.61E-08</td>
<td>Human capital</td>
</tr>
<tr>
<td>0.0268</td>
<td>-2.797012</td>
<td>1.46E-09</td>
<td>-4.09E-09</td>
<td>Physical capital</td>
</tr>
<tr>
<td>0.0516</td>
<td>-1.942407</td>
<td>6.74E-09</td>
<td>-1.31E-08</td>
<td>Structural capital</td>
</tr>
<tr>
<td>0.0029</td>
<td>3.640507</td>
<td>8.98E-10</td>
<td>3.27E-09</td>
<td>Leverage index</td>
</tr>
<tr>
<td>0.0013</td>
<td>-3.280817</td>
<td>0.00414</td>
<td>-0.013582</td>
<td>Company size</td>
</tr>
<tr>
<td>Determine coefficient $R^2$</td>
<td>0.73</td>
<td>Watson camera statistic</td>
<td>1.97</td>
<td></td>
</tr>
<tr>
<td>Modified $R^2$</td>
<td>0.62</td>
<td>F statistics</td>
<td>13.22</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>F significant statistics</td>
<td>0.00</td>
<td></td>
</tr>
</tbody>
</table>

3. Structural capital as one of the components of intellectual capital has significant and positive effect on investment decisions.
4. Physical capital as one of the components of intellectual capital has significant and positive effect on investment decisions.
5. Company size has significant and positive effect on investment decisions.
6. Leverage index has significant and positive effect on investment decisions.

Conclusion and Suggestions

The results show that all intellectual capital indexes have significant and positive effect on investment decisions that with using of Yomatlow article (2010), it is obtained by the ratio of whole investment of company i in year t to fix assets. This means that intellectual value added coefficient and its three section parts which means physical capital efficiency coefficient, human capital efficiency coefficient, structural capital efficiency coefficient has had positive effect on the amount of company investment and it indicates with the increase in intellectual capital, managements view will be more positive about investment and they will increase it in order to increase the company investment. The results of the research show that control variables also in order of company size have had significant and positive effect, in leverage index and the ratio of book value of each share to market value, significant and negative effect on dependent variable of the research. This indicates that any increase in assets of company and any decrease in the ratio of debt or decrease in the crack between price of market and book, the managements and investors view about the company will improve and the amount of investment and the chance of shareholder will increase. According to the results of the research, we can offer below suggestions:
1. Intellectual capital and human capital as the literature of growth research mentioned increase the profitability and it leads to increase the value added and profitability index and increase in investment. In this study also show its effect and one of the most important policies of stock exchange companies about increase the profitability index and as a result shareholders assets, determining intellectual capital of the company as first and finally their increase.
2. According to the results of the research which intellectual value added coefficient and its three section parts which means physical capital efficiency coefficient, human capital efficiency coefficient, structural capital efficiency coefficient has had positive effect on the amount of company investment, it is suggested
that the costs related to intellectual capital and human capital along with physical capital and structural increase in company.

3. According to the results of this research, it indicates that control variables in order of company size have had significant and positive effect, in leverage index and the ratio of book value of each share to market value, significant and negative effect on dependent variable of the research, it is suggested, for increase in stock exchange company investment, the ratio debt and the crack of market value and book will decrease and the company size (the amount of assets) will increase.

4. The results of the research show the ratio of debt to assets has negative effect with investment decisions. It is advised to all managements to seriously pay attention to designing the structure of company capital and the way of preparing required financial sources and they attempt to see the analyzing profit costs in using of banking loans. In addition, investors and shareholders in time of buying or sailing shares notice to the ratio of debt to asset of company as an effective parameter and they adjust their investment decisions to this ratio.

5. In this research, the variables of company size have positive effect with investment decisions. It is suggested that investors in time of buying or sailing shares notice to this parameter and they adjust their investment decisions to this factor.

REFERENCES


