Intellectual Capital Disclosure and Market Capitalization

Siti Mariana Taliyang

Rosmaria Jaffar@ Harun

Nurul Huda Mustafa

School of Accounting
Faculty of Business Management and Accountancy
Universiti Sultan Zainal Abidin
Gong Badak Campus
21300 Kuala Terengganu
Terengganu
Malaysia

Maslina Mansor
School of Management
Universiti Sultan Zainal Abidin
Faculty of Business Management and Accountancy
Universiti Sultan Zainal Abidin
Gong Badak Campus
21300 Kuala Terengganu
Terengganu
Malaysia

Abstract

The objectives of this paper are to determine the level of the intellectual capital (IC) disclosure among Malaysian Listed Companies and to investigate the effect of IC information on market capitalization (MCAP). A sample of 185 companies listed in Bursa Malaysia was selected consisting of five industries which are Information Technology, Consumer Product, Industrial Product, Trading/Services and Finance. The descriptive statistics, content analysis were performed to analyze the data. The result found that a high percentage, about 69 percent of the companies selected disclosed intellectual capital in their annual reports. The study also found there is positive significant effect of IC information on market capitalization.

Keywords: Intellectual capital, market capitalization, disclosure

1. Introduction

IC reporting has received significant attention among academic and practitioner across the world. (Abeysekera and Guthrie,2004). For developing countries like Malaysia, IC is recognized as a vital asset and value creator to companies in gaining a key source of competitive advantage compared to its competitors. (Huang et.al, 2013). Due to the new economy driven which is knowledge-based economy, companies believed that each employee play as an important resources and shareholders willing to invest more for them. However, as the Malaysian Financial Reporting Standards (MFRS 138) "Intangible Assets" exclude the reporting for those intellectual capital assets in the financial statement of Malaysian companies. Hence, it is expected that IC information may not be adequately reported to the stakeholders partly due to strict recognition criteria for intangible assets that do not allow intellectual resources to be shown as an asset in the statement of financial position (Tayles et al., 2007).

2. Literature Review

2.1 Intellectual Capital Reporting

Bontis et. al. (2000) has adopted human capital, structural capital and relational capital as the three basic dimensions of intellectual capital (IC). In particular; IC is described in one of its numerous and most famous definitions, as economic value of the combination of three categories of intangible assets as follows:

i) Human capital (HC) is the availability of skills, talent and know-how of employees that is required to perform the everyday tasks that are required by the firm's strategy.
ii) Structural capital (SC) is the availability of information systems, knowledge applications, databases, processes and other infrastructure required to support the firm in executing its strategy.
iii) Relational capital (RC) takes account of the knowledge embedded in business network, which includes connections outside the organization such as customer loyalty, goodwill and supplier relations.

Many scholars all around the world explore regarding intellectual capital in various theme for example the purpose of the study by Ali Boujelbene and Affes (2013) is to examine empirically the impact of intellectual capital disclosure (IC) on cost of Equity capital**.** The empirical research is based on companies listed in the French SBF120 stock market index. The findings confirm our hypotheses that stipulate the existence of a significant and negative association between intellectual capital disclosure with its two components (human capital**,** structural) and the cost of equity. However, the negative impact of the relational capital disclosure is not validated. The results in this paper are of considerable importance to both policy makers and firms. In fact, the understanding of the impact of Intellectual capital disclosure on cost of equity capital helps policy makers in the evaluation of the costs and benefits of disclosure. Moreover, with regard to managers of firms, the results show the benefit of enhanced IC disclosure regarding the reduction in their cost of capital**.** This study is one of the first research that provide empirical evidence of the association between Cost of equity capital and the level of disclosure in the three individual intellectual capital categories (human; structural and relational capital**).**

Study by Djamil, Razafindrambinina, and Tandeans (2013) is to understand the impact of intellectual capital on firm's stock return. The increasing importance of intellectual capital that generates more value is beneficial both for managers and investors at large. The banking sector in Indonesia is chosen as the data sample for this research. Intellectual capital is measured by VAIC™, a method developed by Prof. Dr. Ante Pulic. This method allows the quantification of intellectual capital and the categorization of its elements into 'human capital efficiency', 'structural capital efficiency' and 'capital employed efficiency', which also enables to get more insight of their effects. The regression models explore the relationship between current and future stock returns and intellectual capital and its constituents. The findings show that intellectual capital does not affect the current stock return, but it however contributes to stock return growth. Only one element of intellectual capital affects the stock return. The results may indicate that changes of stock returns are mostly determined by external factors such as inflation, exchange rate and socio-economic conditions. This paper focuses on the nature of the Indonesia stock market which prefers short term profit gained by a company rather than long term sustainable growth which indeed undermines intellectual capital.

Kizil, Arslan and Seker (2014) emphasized the relationship between intellectual capital and web trends of the index bist-303 from an accounting viewpoint. As well known, bist-30 is comprised of top 30 firms listed in Istanbul Stock Exchange. The trends of web pages and firm are analyzed using specific web means such as the Google Trends. In addition, Market Value / Book Value and Value Added Intellectual Coefficient (VAIC) methods are utilized to measure intellectual capital. Also, enterprise web sites, firm annual reports, company financial statements and Public Disclosure Platform are taken advantage for accounting and measurement of intellectual capital. While study by Mhedhbi (2013) stressed on the importance of intellectual capital and the interactions of different components in determining the value of the company, it becomes essential for the company to develop a system of management and monitoring its evolution, in order to increase or improve the value of its various activities. In fact, the various components of intangible assets are related to each other and to the financial structure of the company. They correspond to the realization of the knowledge of employees' skills in their effects on the structure of the business and create value for it. In addition, the value is not produced not only by one of the components of intellectual capital, but also by their interaction. They developed a conceptual model linking the three components of intellectual capital with the value creation of the company; thus, we carried out a research field related to the Tunisian context.

This is to test the hypotheses developed and present a model to explain the dynamics of intellectual capital and its impact on the value creation of the company, empirically validated. The researcher validated the scales used for our global model using the analysis in principal component APC and the confirmatory factor analysis CFA. They tested the relationships between different variables of our model and validated the assumptions of our research. This part is divided into two; the first is the test of the structural model and the second is the test of the moderating effect of financial capital. The analysis is performed by the structural equation method rarely used in the field of management.

Salehi, Moheb Seraj and Mohammadi (2014) mentioned that the world economy is moving from being an industrial economy to a knowledge based one, identification, valuation and management of intellectual capital has become an important issue for many companies. The present paper studies the relationship between intellectual capital and its components (structural, physical and human) and the bank profitability ratios (return on assets, return on shareholders' equity, profit margin and net profit growth rate) in the Iranian banking industry by using two control variables, i.e., bank size and financial leverage. The results indicate that intellectual capital has a strong impact on banks' performance.

2.2 Market Capitalization

According to World Bank (2013), market capitalization is one of the indicators in the financial sector for evaluating the development of a country. Based on market capitalization, Malaysia is still lagging behind the development markets in Asia such as Japan, Korea Republic and Hong Kong. Previous study by Chang (2007) and Wang (2011) shown that investment in IC can lead to an increase in performance, profitability and market value of a company. A study by Campisi and Costa (2008) found that market capitalization method tend to compute the difference between a company's market capitalization and its stockholder's equity as the value of its intellectual capital or intangible assets.

Fong (2009) reviewed the top 30 and the bottom 30 companies by market capitalization at the end of 2003. The study found that the voluntary disclosure of intellectual capital information is generally not extensive among the public listed companies in Malaysia and that most of the information disclosed was in narrative description format. Other study conducted by Inaliah et.al (2010) on the relationship between intangible assets and firm value. They found that in 2003 to 2007, the intangible assets were significantly related to market value.

Ousama (2011) found that the extent of IC disclosure by Malaysian-listed companies has a positive significant effect on their market capitalization. The study also found that there is significant positive impact of the control variables such as book value, net profit, firm size and leverage on the market capitalization.

2.3 Underlying Theory

According to Myers and Majluf, (1984), Signaling theory is based on two general assumptions. Firstly, managers are better informed than shareholders or the public concerning of firm's positions. Secondly, given that managers have information advantage, they may choose to disclose information in an attempt to signal to the public regarding firm's position. For the purpose of this study, the signaling theory suggests that more profitable firms will disclose more information to inform their stakeholders about their good performance. In other words, firms with good performance are more likely would disclose more information regarding the IC as compared to firms with bad performance. Due to this theory, it is expected public listed companies in Malaysia tend to disclose IC information in their annual reports to show their performance to the stakes.

3.0 Data and Methodology

The study focused on listed companies in the Bursa Malaysia (BM) and used extracted data from the annual report year 2009. The selection of this year is because the MCCG revised is effective in 2007. The aim MCCG revised in 2007 is to emphasize on the importance of transparency, accountability, internal control, and board composition. Thus, choosing earlier (2008) might not be appropriate. Therefore, the gap of one year (i.e. 2008) was given since the introduction of MCCG (revised) to allow time for companies to take effect.

In 2009, the population of listed companies on BM was 932 and they were classified into the following strata (Investors Digest, 2003): consumer products; industrial products; construction; trading and services; properties; plantations and others (i.e. technology, infrastructure project companies, hotels and mining). Therefore, in order to have a sample representative of the population, a stratified sampling method was used.

Then, a systematic sampling method was utilized as it is "statistically more efficient than a simple random sampling" (Cooper and Schindler, 2003). This method (i.e. systematic sampling) was carried out within the industry groups, in order to have approximately 20 per cent of the companies in each industry as the sample. Therefore, the sample of the study consists of 185 companies with a total number of 185 annual reports for the year of 2009.

The data of IC disclosure is represented by HC, SC and RC items. IC disclosure is measured based on a disclosure index that was developed by Vergauwen and Alem (2005) work. The disclosure index consists of 30 items that are within the three variables (i.e. 10 items for HC, 12 items for SC and 8 items for RC). For the purpose of this paper, a scoring system was used, where '1' is assigned when an item in the disclosure index is disclosed in the annual report and '0' otherwise. The data was analyzed using descriptive, content analysis, correlation and regression analysis. Table 1 show the relevant terms of IC used in this study.

Table 1: The Terms of HC used in this Study

Human Capital	**Structural Capital**	**Relational Capital**
Terms	**Terms**	**Terms**
employee expertise	structural capital	relational capital
employee know-how	intellectual property	supplier knowledge
employee knowledge	cultural diversity	customer knowledge
employee productivity	organizational structure	customer capital
employee skill	corporate learning	company reputation
employee value	organizational learning	investor relation
human capital	corporate university	customer relation
human asset	knowledge sharing	supplier relation
human value	management quality	
expert team	knowledge management	
	information system	
	expert network	

4.0 Empirical Results

4.1 Descriptive Results

According to Zickmund (2003), descriptive analysis refers to the transformation of raw data into a form that will make them easy to understand and interpreted. Calculating averages, frequency distributions and percentage distribution are the most common ways of summarizing data. Hence, the result for descriptive analysis is summarized in Table 2 below.

Table 2: Descriptive Results

	N	Minimum	Maximum	Mean
HC	185	.0000	.2000	.0319
SC	185	.0000	.2500	.0410
RC	185	.0000	.3800	.0527
MCAP_	185	15.19	24.54	18.57
TOTAL_IC	185	.0000	.5600	.1256

Table 2 provides the descriptive statistics of the variables (i.e. MCAP, HC, SC and RC) based on the raw data for the year of 2009. The table shows the minimum and maximum value for MCAP represent by the selected sample is RM15.19 billion and RM24.54 billion respectively. In addition, the maximum value of HC, SC, RC item disclosed in annual reports are as follows: HC = 2 from 10 items are disclosed, SC = 3 from 12 items are disclosed and RC = 3 from 8 items are disclosed. Averagely, the samples disclosed IC information in their annual report at the extent of 12.56 percent.

4.2 Content Analysis Results

Table 3: Disclosure Rate

Samples	Disclosure Rate (%)
185 companies	69.2

Table 3 explain 69.2 percent from 185 samples used in this study are disclosing IC information in their annual reports. Meanwhile, about 57 companies selected are not disclosing IC information in their financial statements.

Table 4: Frequency of IC Disclosure

INDUSTRY	*HC*	*RC*	*SC*	*Total*
Industrial Product	6	22	16	**44**
Information Technology	19	54	13	**86**
Consumer Product	37	37	38	**112**
Trading and Service	28	23	21	**72**
Finance	83	52	100	**235**

By scrutinizing all industries selected, the study finds that finance industry disclosed more intellectual capital items than other industries. The results show in Table 4. Additionally, in terms of disclosure location, IC information is reported in several sections in the annual reports. This information is commonly appeared in the notes to financial statements, followed by director's report and statement of corporate governance. Human capital work is mostly managed by senior management (Bontis, 2001), so the location of IC disclosure demonstrates company's concerns in reporting intellectual capital.

4.3 Correlation Results

Table 5: Correlation Result

	HC	SC	RC	MCAP
Human capital (HC)	1			
Sig. (2-tailed)				
Structural capital (SC)	.202**	1		
Sig. (2-tailed)	.006			
Relational capital (RC)	.258**	.164*	1	
Sig. (2-tailed)	.000	.025		
Market capitalization (MCAP)	.249**.	.165*	.339**	1
Sig. (2-tailed)	.001	.025	.000	

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 5 shows the correlation analysis between all variables selected for the year 2009. The result shows that there is a positive and significant correlation between market capitalization and human capital (HC), structural capital (SC) and Relational capital (RC). The initial analysis of the relationship between the dependent variable and independent variables shows that the MCAP was statistically significant with the HC, SC and RC ($p < 0.05$). Additionally, the study reveals all the variables used are not strongly correlated with each other since the correlation table shows all the result close to 0.

4.4 Regression Results

Table 6: Regression Result

Variables	t	sig
HC	2.203	.029**
SC	1.231	.220
RC	3.971	.000***
R^2		0.150
a. Dependent Variable: MCAP		

Notes: ** significant at 5 percent, *** significant at 1 percent

Table 6 shows the regression result for the study. It shows the value of R^2 is 0.15. It indicates the ability of variables to explain the relationship between dependent variable and independent variables is only 15 percent. The result is consistent with the study by Abdolmohammadi, (2005) where the author reveal R^2 = 15.4 percent in explaining IC and market capitalization. Besides that, from three variables tested in this study only HC and RC considered as significant variables in effecting the market capitalization.

5.0 Concluding Comments

The objectives of this study are to know the level of the intellectual capital disclosure and to examine the effect of intellectual capital information on market capitalization. A sample of 185 companies listed in Bursa Malaysia was selected consisting of five industries which are Information Technology, Consumer Product, Industrial Product, Trading/Services and Finance. The descriptive statistics, content analysis, correlation and linear regression were performed to analyze the data.

The result found that a high percentage, about 69 percent of the companies selected disclosed intellectual capital in their annual reports. This result revealed that most of Malaysian companies are aware about human capital disclosure in their financial statements. However, the extent of such disclosure is still relatively at 12.56 percent. The result is consistent with the study by Huang et.al (2013), Husin et.al (2011) and Olsson (2001) expressed that human capital information disclosed in annual reports is deficient in both quality and extent. Additionally, Husin et.al (2011) discussed that generally a Malaysian company does not have a well and consistent HC reporting system. Therefore, it will lead to the quantity and quality of HC reported in the Malaysian annual reports. Since intangible resources, including human resources are vital for future growth, companies would do well to voluntarily disclose more information on this aspect. Hence, the practical guideline is required and need to be established in enhancing such disclosure practice.

Besides that, it can be concluded the disclosure of Human Capital and Relational Capital information in annual report will give positive significant effect on market capitalization. This is consistent with the study from Ousama et.al (2011) and Abdolmohammadi (2005), where the study found there is significant positive effect of IC information disclosure and market capitalization.

It must be noted that this study has limitations. Firstly, a sample size is limited to 185 companies and one year of data only. Thus small sample will not comprehensively or accurately illustrate the real situation occur in Malaysia. Additionally, the study focused on Malaysia, thus the result cannot be generalized to other countries. The study is conducted only among public listed companies in Malaysia. Hence, the result may not be generalized to other types of companies like small or medium companies in Malaysia. To further improve the research, the sample size could be widened and focus on all companies listed in Main Market and ACE Market. The number of years could also be increased to five years in order to see the pattern or trend of the intellectual capital disclosure among Malaysian companies. If all the above suggestions are taken into consideration, perhaps more conclusive result could be obtained in the future.

References

Abeysekera, I. (2007), "Intellectual Capital Reporting between a Developing and a Developed Nation: Establishing a Practice in AS Mining", Journal of Intellectual Capital, Vol. 8 No. 2, pp. 329-345.

Abeysekera, I. and Guthrie, J. (2004), "Human Capital Reporting in a Developing nation", British Accounting Review, Vol. 36, No. 3, pp. 251-268.

Ali Boujelbene, M., & Affes, H. (2013). The impact of intellectual capital disclosure on cost of equity capital: A case of French firms. Journal of Economics, Finance & Administrative Science, 18(34), 45-53.

April, K., Bosma, P. and Deglon, D. (2003), "IC Measurement and Reporting: Establishing a Practice in SA Mining", Journal of Intellectual Capital, Vol. No. 2, pp. 165-180.

Beaulieu, P., Williams, S. and Wright, M. (2002), "Intellectual Capital Disclosure Practices in Sweden", in Bontis, N. (Ed.), Organizational Intelligence: The Cutting Edge of Intellectual Capital and Knowledge Management, Butterworth Heinemann, Toronto.

Bontis, N. (2003), "Intellectual Capital Disclosure in Canadian Corporations", Journal of Human Resource Costing and Accounting, Vol. 7 No. 1, pp. 9-20.

Bontis, N. (2001). "Assessing Knowledge Assets: A Review of the Models Used to Measure Intellectual Capital", International Journal of Management Reviews, Vol 3, No.1, pp. 41-60.

Bontis, N., Chua, W. and Richardson, S. (2000), "Intellectual Capital and Business Performance in Malaysian Industries", Journal of Intellectual Capital, Vol. 1 No.1, pp. 85-100.

Cuganesan, S. (2006), "Reporting Organizational Performance in Managing Human Resources: Intellectual Capital or Stakeholder Perspectives?", Journal of Human Resource Costing & Accounting, Vol. 10 No. 3, pp. 164-188.

Cooper, D.R. and Schindler, P.S. (2003), "Business Research Methods", 8th ed., McGraw-Hill, New York.

Djamil, A., Razafindrambinina, D., & Tandeans, C. (2013). The Impact of Intellectual Capital on a Firm's Stock Return: Evidence from Indonesia. Journal Of Business Studies Quarterly, 5(2), 176-183.

Goh, P.C. and Lim, K.P. (2004), "Disclosing Intellectual Capital in Company Annual Reports: Evidence from Malaysia", Journal of Intellectual Capital, Vol. 5 No. 3, pp. 500-510.

Huang, C.C., Lurther, R., Tayles, M., and Haniffa, R., (2013) "Human Capital Disclosure in Developing Countries: Figureheads and Value Creators," Journal of Applied Accounting Research. Vol.14, No.2, DOI10.1108/09675421311291919

Husin, N.M., Ahmad, N., and Sapingi. R.,(2011) "Intellectual Capital: A Focus on Human Capital Reporting Practices of Top Malaysian listed Companies" The South East Asian Journal of Management, Vol. V, No.1, pp. 51-71.

Investors Digest (2003), "Classification of securities", Investors Digest, January, p. 76.

Kizil, C., Arslan, M., & Seker, Ş. (2014). An Accounting Viewpoint for the Relationship Between Intellectual Capital and Web Trends of BIST 30 Firms in Turkey. Maliye Finans Yazilari, 27(101), 51-85.

Li, J., Pike, R., and Haniffa, R. (2008). "Intellectual Capital Disclosure and Corporate Governance Structure in UK Firms", Accounting and Business Research, Vol. 38, No.2, pp.137-159.

Mhedhbi, I. (2013). Identifying the Relationship Between Intellectual Capital and Value Creation of the Company Using Structural Equations Analysis- The Case of Tunisia. Journal Of Business Studies Quarterly, 5(2), 216-236.

Murthy, V. and Abeysekera, I. (2007), "Human Capital Value Creation Practices of Software and Service Exporter Firms in India", Journal of Human Resource Costing and Accounting, Vol. 11 No. 2, pp. 84-103.

Myers, S. and Majluf N. (1984) "Corporate Financing and Investment Decisions when Firm Have Information that Investors Do Not Have" NBER Working Paper Series, Vol. w1396, pp. -, (July 1984).

Oliveras, E., Gowthorpe, C., Perramon, J. and Kasperskaya, Y. (2004), "Reporting Intellectual Capital in Spain 2000-2002", paper presented at IC Congress, Helsinki, 2-3 September.

Olsson, B. (2001), "Annual Reporting Practices: Information about Human Resources in Corporate Annual Reports in Major Swedish Companies", Journal of Human Resource Costing and Accounting, Vol. 6 No. 1, pp. 39-52.

Qu, W. and Leung, P. (2006), "Cultural Impact on Chinese Corporate Disclosure – A Corporate Governance Perspective", Managerial Auditing Journal, Vol. 21 No. 3, pp. 241-264.

Salehi, M., Moheb Seraj, A., & Mohammadi, R. (2014). The Effect of Intellectual Capital on the Profitability Ratios in the Banking Industry: Evidence from Iran. IUP Journal of Bank Management, 13(1), 38-52.

Tayles, M., Pike, R. and Sofian, S. (2007), "Intellectual Capital, Management Accounting Practices and Corporate Performance: Perceptions of Managers", Accounting, Auditing and Accountability Journal, Vol. 20 No. 4, pp. 522-548.

Vergauwen, P.G.M.C. and Alem, F.J.C. (2005)."Annual Report: IC Disclosure in the Netherlands, France and Germany". *Journal of Intellectual Capital*, 6(1), pp. 89-104.

Wong, M. and Gardner, C. (2005), "Intellectual Capital Disclosure: New Zealand Evidence", paper presented at Accounting and Finance Association of Australia and New Zealand (AFAANZ) Conference, Melbourne, 3-5 June.

Zickmund W.G (2003) "Business Research Methods", Seventh Edition.