

THE IMPACTS OF IC BUSINESS STRATEGY TOWARDS COMPANY PERFORMANCE: THE CASE OF MALAYSIAN PUBLIC LISTED COMPANIES

Amanuddin Shamsuddin
Accounting Department, College of Business Management &
Accounting, Universiti Tenaga Nasional,
26700 Bandar Muadzam Shah, Pahang, Malaysia
Email: Amanuddin@uniten.edu.my

Zubaidah Zainal Abidin
Institute of Professional Studies,
Kolej Universiti Poly-Tech MARA (KPTM),
Cheras, Selangor, Malaysia
Email: drzubaidah@gapps.kptm.edu.my

Huang Ching Choo
Faculty of Accountancy, Universiti Teknologi MARA,
40000 Shah Alam, Selangor, Malaysia
Email ching599@salam.uitm.edu.my

ABSTRACT

The 21st Century demands new business paradigms and every business will need help shifting from a focus on tangibles to intangibles or IC (IC) to become a “smarter company”. Thus, many companies are embarking on different approaches or strategies to be more competitive and create greater values. As such, strategy-related studies in IC are concerned with the management of IC to enhance performance. Earlier researchers suggest that companies which adopt IC strategies are able to achieve competitive success compared to companies that based their strategies on physical and financial resources. Studies on business strategy had focused on the strategy-performance relationship with most being strongly influenced by the frameworks developed by Miles and Snow (1978) and Porter (1980). The objective of this study is to find out whether business strategy adopted by the Malaysian Public-listed Companies (PLCs) has significant impact of business performance as far as IC is concern. Prior to that, IC is converted into IC Index based on the 178 managers’ responses to questionnaire survey about the IC practices in the Malaysian PLCs. Performance measurement employed in this study is based on the company’s Return on Equity (ROE) and Earnings per Share (EPS). Business strategy is based on Miles and Snow as well as Porter’s. Results from the multiple regression models prove that IC Index and Business Strategy are significant predictors for all selected performance measures. This study is expected to make a contribution to the companies by demonstrating that better IC management practices and right strategy implementation may contribute a better impact on business performance.

Key words: Intellectual Capital, Intellectual Capital Index, Business Strategy, Malaysia

Introduction

The 21st Century demands new business paradigms and every business will need help shifting from a focus on tangibles to intangibles or IC (IC) to become a “smarter company”. In the past, the main factor driving industrial competitiveness had always been tangible and financial assets (Bontis, 2001). Thus, many companies are embarking on different strategies to be more competitive and create greater values. Strategy-related studies in IC are concerned with the management of IC to enhance performance. Bontis (1998) suggests that companies which adopt IC strategies are able to achieve competitive success compared to companies that based their strategies on physical and financial resources; that is, it is not the dynamics of the industry in which the company competes that determine the competitive advantage but its ability to create value to the company by deploying resources that are valuable, rare, imitable, non-substitutable, and structurally different (Barney, 1991).

This paper proposes to find out whether business strategy adopted by companies has significant impact of business performance as far as IC is concern. The study was conducted in Malaysia since it has formulated several national plans to shift its economy to a k-based economy that is expected to help Malaysia achieves its Vision 2020.

Research Background

The fact is the mere presence of IC in a company is rather worthless; it must be captured as a way of refining the company’s business strategy. An IC related strategy requires a systematic exploitation of opportunities for change through the productivity of knowledge work and the knowledge worker (Drucker, 1993). Such strategies should enable the company to create, differentially combine and deploy processes, competencies and innovative strengths in a flexible and creative manner to achieve its objectives (Rastogi, 2000). The outcome from the deployment of resources must be reflected in the creation of value in the end products and services offered to the customers, either in the form of lower transaction costs or by the increased perceived value; and these can be achieved by adopting appropriate business strategies.

A business strategy is an overall plan of action that enables a business unit to compete within a particular industry or market (Bowman and Helfat, 2001). It defines the competitive position of a company regarding matters like marketing, production, delivery of services, innovation and so forth. Parnell and Carraher (2001) conclude that it is possible to identify business strategy typologies into several generic strategic approaches which are then used as a theoretical basis for categorizing strategic groups in industries.

Studies on business strategy had focused on the strategy-performance relationship with most being strongly influenced by the frameworks developed by Miles and Snow (1978) and Porter (1980). They believed that there are close links between environment and business strategies and the type of business strategy adopted by a company is influenced by the company perceives its environment to be. The framework of Miles and Snow (1978) highlights four basic types of strategy: prospectors, defenders, analysers, and reactors. Prospectors are often industry designers who perceive the environment as dynamic and full of uncertainties and, therefore, adopt a decentralized, flexible lateral relation to combat the environmental change. Their strategic stance is to develop and market new products. Defenders, on the other hand, focus on maximum efficiency in their operations under a centralized functional organization with a vertical hierarchy. They perceive environment to be stable and certain, thereby seek to reduce cost and expenses, improve product quality and reasonable pricing. Analysers are a hybrid of the prospectors and defenders who stress on both stability and flexibility. They go for the best in both domains by relying on a matrix organization. Reactors respond inconsistently to change in the environment and often perform poorly. Their management and control systems are often neglected and new products and services are introduced without a systematic planning.

Porter's (1980) framework identifies three strategic types: cost leadership, product differentiation, and focus. A low cost strategy emphasizes producing standardized product at a very low cost per unit for consumers who are price sensitive. A differentiation strategy is aimed at producing products and services considered unique industry wide and directed at consumers who are relatively price insensitive. Focus strategy refers to products and services that fulfil the needs of small groups of consumers.

An analysis of various strategic researches conducted by Parnell (2000) identified two schools of thought: one school is an advocate of Porter's typology that superior performance can be achieved by seeking either a low-cost or a differentiation strategy, and on the other school advocates the combination strategy for achieving superior performance. Parnell (2000) is also of the view that Porter's typology does not allow viable combination strategies in the long run while Miles and Snow's typology allows for only one through the analyzer strategy.

Past studies were able to establish some form of support for strategic relationship between IC and performance. However, the issue of whether and how IC should be evaluated or measured remains contentious.

Business Strategy as the Moderating Effects

This study takes the approach of the resource-based view of the company by focusing on its integrative and dynamic elements, where competitive advantage resulting in differential performance is a consequence of the company's internal processes of resource accumulation and deployment (Roos et al., 2002). The basis of this theory is built on Porter's (1980) model of competitive advantage using the externally oriented product market and industry analysis approach, supplemented by Barney's (1995) view of the resource-based view that external analysis alone is inadequate to garner valuable resources to gain and sustain competitive advantage. Companies need to exploit their financial capital resources, human capital resources and organisational capital resources to manipulate opportunities and neutralise any threats in the environment. By capitalising on its heterogeneity, a company's imperfectly mobile resources can be bundled with its idiosyncratic assets and liabilities to lend itself to unique characters that are rare, valuable, imperfectly imitable and non-substitutable (Barney, 1991; 1995; Penrose, 1959).

Experience from the pioneers of reporting on IC (Edvinsson and Malone, 1997) indicates that information on IC has little value for users unless it is linked to the strategy of the company. Any performance measurement system should be used to assess and challenge the assumptions underpinning the current strategic direction (Neely et al. 2003). Verifying or rejecting strategic assumptions will potentially impact the resource allocation in organizations. Therefore, the development of a set of performance measures should be guided by strategy (Jones and Butler, 1988; Neely et al. 2003).

This means that the IC of a company should be one of the central considerations in formulating strategy and one of the primary constants upon which a company can establish its identity and frame its strategy, as well as one of the primary sources of the company's profitability (Grant, 1991). Therefore, companies need to strategically identify and develop their IC in order to gain a competitive advantage and to increase their performance (Hamel and Prahalad, 1994; Teece et al. 1997). The key to a resource-based approach to strategy formulation is to understand the relationships between IC, competitive advantage, and profitability (Grant, 1991).

In the present knowledge era, knowledge is viewed as a critical resource on which companies can build and sustain distinctive capability (Grant, 1996). Therefore, companies should begin to appreciate the strategic importance of knowledge assets and their organisational implications in order to survive and prosper in the competitive world.

A strategy issue is about making a choice between two or more alternatives. Any choice of a strategy or a combination of strategies is intended to put the company in a strong competitive position. Under the resource-based view and the knowledge-based view of the company, no one single business strategy can claim exclusivity. Competitive advantage from a company's heterogeneity of resources must be supported by business strategies applied in continuum. Whether it is a cost leadership or a

differentiation strategy, prospector or defender, the execution of the strategy is still reliant on tacit and explicit knowledge of the company's human capital, the codification of knowledge and processes made available by the structural capital, the effectiveness of the systems and delivery adopted in the innovation capital, and the internal and external relationships made possible by the customer capital. Therefore, in the relationship between IC index and performance, business strategy can emerge as a moderator.

It is to be noted that besides strategy, there are many other factors that affect company performance such as the leadership style of the management, the extent of the risk management practised as well as the surrounding environment that the company is operating. However, the scope of the study is focusing on the influence or impact of strategy towards the company performance in the ambit of IC management in Malaysia's Public Listed Companies (PLCs).

Research Methods

The aim of this paper is to test empirically the extent of business strategy affecting the corporate performance in Malaysian PLCs. A postal questionnaire survey was implemented across 803 companies listed in the main market of Bursa Malaysia on 1st April, 2011. These companies are from the construction, consumer products, hotel, industrial products, infrastructure projects, plantation, property, technology and trading/services sectors. Certain industries such as Mining, REITS and Finance were excluded from the study due to their specialised nature and the additional requirements imposed on the financial sector. In the first three weeks after the questionnaires sent out, 105 respondents returned the questionnaires. Subsequently, a follow up letter "calling for response" was sent out one week after the due date together with a blank questionnaire and reply-paid envelope to the remaining 698 non-respondents. Finally, a personalised phone call was made to most of the non-respondents a week after the follow up letter was issued. After all these efforts (reminders, phone calls and e-mails), an additional 74 questionnaires were received by the third week of May. Hence, a total of 179 questionnaires were received, thereby providing 22.3 per cent response rate.

In this study, Chen et al.'s (2004) framework of IC was used as a starting point. Additional items were subsequently added from other IC literature such as Huang (2007), Jacobsen and Hofman-Bang (2005), Guthrie and Petty (2000), Bontis et al. (2001) and Liebowitz and Ching (2000).

The data for the study were derived from questionnaire survey. A questionnaire was designed to elicit responses from the respondents regarding their views on the extent of IC management practices in their respective company. The questionnaire was divided into four sections, A to D. In Section A, the 65 statements developed in the questionnaire were initially drawn from previous studies on IC. One of the top management (CEO/COO/MD/CFO) in each company was asked to indicate the likely scenario that his/her company is practicing from "1" to "6" where "1" represents "never practised" and "6" represents "very greatly practised".

In Section B, respondents were also asked to indicate the level of importance (in percentage) of IC components in creating future value for his/her company. The purpose of this question was to obtain the respondent's perceived level of importance among the IC components that are being practised in his/her respective company.

Section C of the questionnaire was designed to gauge the likely type of business strategy that is being practiced in a respondent's company. Respondent is required to indicate the most likely scenario that is being practised in his/her present company by using the scale from 1 to 7. Meanwhile, Section D intended to find out the respondent's personal information as well as his/her company's profiles. In addition, respondents were also asked to give comments or suggestion pertaining to the survey or IC in general besides indicating whether he/she agree to be contacted for further analysis.

Company Performance

Measuring performance was a major challenge (Kaplan and Norton, 1996), as it could be seen as multi-dimensional construct. In this study, the measurement for performance was emphasised on the financial indicators which focussed on the accounting based indicators and market based indicator. One peculiarity of the sample chosen was that the companies were made up from many sectors. Thus, it deemed appropriate to get common indicators to measure performance across all companies. Moreover, the indicators were more objective since they were actual results derived from the company's operation. In addition, the financial data was readily available and retrievable from companies' annual report and/or data stream. Hence, in this study, financial data such as Return on Equity (ROE) and Earning per Share (EPS) value were used to measure company's performance.

Data Analysis Techniques

Data collected from the survey were prepared for analyses by completing several preliminary steps before testing the hypotheses. Descriptive statistics were conducted to describe the phenomena of interest. Correlations were calculated to identify any preliminary relationship among the variables examined, followed by factor analysis and reliability analysis to assess the goodness of the measures. Finally, regression analyses were conducted to test the hypotheses and determine the relationship between IC and IC Index, the effects of IC Index on performance and the effects of IC Index on performance with the present of business strategy as a moderating variable.

Results and Discussion of the Findings

In this study, the results were discussed on the moderating effects of the business strategy on the selected company performance measures, Return on Equity (ROE) and Earnings per Share (EPS). Prior to that IC is converted to IC Index by using the following procedures.

A total of sixty-five IC statements were developed to elicit responses from the respondents regarding their views on the extent of IC management practices in their respective company. In order to derive the IC Index, the respondents' scores were recorded. The calculation of the IC Index was carried out after performing the Factor Analysis. After the factor analysis was run, there were only 43 IC statements that are usable for further analysis. The breakdown of the usable statements with the respective IC components is presented in Table 1.

Table 1: Breakdown of usable statements with respective IC components

IC Components	Usable Statements (a)	Maximum Scores (b) = (a) x 6	Minimum Scores (c) = (a) x 1
Human Capital	11	66	11
Structural Capital	12	72	12
Innovation Capital	9	54	9
Customer Capital	11	66	11
Total	43		

Score for each of the 43 statement pertaining to the extent of the IC management practices in their companies were then analysed. This study used the 6-scale rating in getting the responses from respondents; "1 - never practised being the lowest and 6 - very greatly practised being the highest". Once each statement has been answered according to its IC component, the IC scores can be calculated both at the component level and company level. The scores can be expressed either in an absolute value or converted to a percentage. Since the scope of the study involving many sectors of the public listed companies in Bursa Malaysia, this study proposes to use the percentage method to derive the IC Index. Furthermore, by using percentage, it is possible to make comparison of the IC index among the companies from different sectors.

It is to be noted that the average weightage on the importance of IC components was derived from the respondents' scores in Section B of the questionnaire. The outcomes of the average weightage on the importance of IC components are shown in Table 2.

Table 2: Average Weightage on the Importance of IC Components

No.	IC Components	Weightage (%)	Level of Importance
1	Human Capital (HC)	0.31	First
2	Structural Capital (SC)	0.18	Fourth
3	Innovation Capital (InC)	0.21	Third
4	Customer Capital (CC)	0.30	Second

Results from Table 2 indicate that HC component was perceived as the most important in the management of IC in companies in Malaysia (31%); whilst the least important dimension was the SC component with the score of 18%. The weightage of the IC component is very subjective. It depends on the number of the components selected, type of industry as well as the management or employees' perception and understanding about the IC components.

Relationship between IC and IC Index

One of the peculiar objectives of this study is to measure the impacts of IC index on company performance. Before analysing the results, the study intends to explore if there is a relationship exists between IC and IC index. The objective of the analysis is to know whether there is a correlation between IC and IC index. IC index is basically the transformation of IC score by multiplying with certain weightage.

In order to determine whether significant linear correlation exists between IC and IC Index, correlation analyses were carried out. As shown in Table 3, the correlation matrix results show that IC has a significant linear correlation with IC Index. Once it was confirmed that there is a significant linear correlation exists between IC and IC Index, further test was carried out by performing simple linear regression.

Table 3: The Relationship between IC and IC Index

		IC_index	Skor_IC
IC_index	Pearson Correlation	1	.924**
	Sig. (2-tailed)		.000
	N	178	178
Skor_IC	Pearson Correlation	.924**	1
	Sig. (2-tailed)	.000	
	N	178	178

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

The results of Pearson correlation revealed that a significant relationship exists between IC and IC index [$r=0.924, p<0.05$]. The positive coefficient points out to the fact that the higher IC will lead to higher IC index. The results of the study revealed a strong relationship between IC and IC Index. Unsurprisingly, both of the variables have strong correlation since there are basically of the same origin. The sole difference lies in the fact that the IC Index has included weightage given by respondents in its calculation.

Relationship between IC Index and Performance with the Present of Business Strategy as Moderating Variable

Moderating variables explain ‘how’ and/or ‘when’ question. Moderators address “when” or “for whom” a variable most strongly predicts or causes an outcome variable. More specifically, a moderator is a variable that alters the direction or strength of the relation between a predictor and an outcome (Baron & Kenny, 1986; Holmbeck, 1997; James & Brett, 1984). In this study, the Business Strategy is chosen as the moderating variable, IC Index is the predictor and (business) performance is the outcome.

a) IC Index, Business Strategy and Return on Equity (ROE)

In model summary (Table 4), Model 1 represents entry of the first set of control variables while Model 2 represents entry of interaction between IC Index and business strategy. The results show that Model 1 accounted for 23.4% of the variance (R square) in ROE. Entry of interaction of IC Index and business strategy resulted in R square change of 0.11 and significance F change of 0.000. This indicates that the interaction between IC Index and business strategy is significant to explain any additional observed variation on ROE.

Table 4: Model summary of ROE

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.483	.234	.225	17.22867	.234	26.696	2	175	.000
2	.586	.344	.333	15.98751	.110	29.226	1	174	.000

In ANOVA table (Table 5), the results shows that the entry of the set of control variables alone (Model 1) yielded a significant prediction equation [DF 2,175=26.696, $p<0.05$]. Addition of interaction between IC Index and business strategy in Model 2 resulted in an overall significant prediction equation [DF 3,174=30.414, $p<0.05$].

Table 5: ANOVA Table of Return on Equity ANOVA^c

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	15847.950	2	7923.975	26.696	.000 ^a
Residual	51944.715	175	296.827		
Total	67792.665	177			
2 Regression	23318.156	3	7772.719	30.410	.000 ^b
Residual	44474.509	174	255.601		
Total	67792.665	177			

a. Predictors: (Constant), scenariomidifed, icindeks

b. Predictors: (Constant), scenariomidifed, icindeks, ICINDEXBIZ

c. Dependent Variable: Return on Equity as at 31 Dec 2010 or latest available data (%)

In examining the table of regression coefficient in Model 2 (Table 6), it can be seen that the interaction between IC index* business strategy variable is a significant predictor for ROE ($p<0.05$). Therefore, the study has evidence to proof that business strategy is a moderator to the relationship between IC index and ROE.

Multicollinearity (high correlation among independent variables) exists when the Tolerance values are below 0.1 and Variance Inflation Factor (VIF) is greater than 10. The Table 6 below shows that the Tolerance values are all above 0.1 and the VIF are all below ten. These values indicate that there is no multicollinearity problem.

Table 6: Regression coefficient of Return on Equity

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-65.575	10.787				
				-6.079	.000		

	icindeks	1.392	.190	.483	7.307	.000	1.000	1.000
	scenariomidified	.022	.799	.002	.028	.978	1.000	1.000
2	(Constant)	-40.665	11.019		-3.690	.000		
	icindeks	.721	.216	.251	3.341	.001	.670	1.492
	scenariomidified	.480	.746	.040	.644	.521	.987	1.013
	ICINDEXBIZ	.053	.010	.407	5.406	.000	.665	1.504

b) IC Index, Business Strategy and Earning Per Share (EPS)

In model summary Table 7, Model 1 represent entry of the first set of control variables, Model 2 represents entry of interaction between IC index and business strategy. The results show that Model 1 accounted for 63.8% of the variance (R square) in Earning per Share. Entry of interaction of IC Index and business strategy resulted in R square change of 0.153 and significance F change of 0.000. This indicates that the interaction between IC Index and business strategy is significant to explain any additional observed variation on EPS.

Table 7: Model summary of Earning per Share

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.799	.638	.634	.25910	.638	154.528	2	175	.000
2	.889	.791	.787	.19755	.153	127.030	1	174	.000

Table 8 of the ANOVA table shows that the entry of the set of control variables alone (Model 1) yielded a significant prediction equation [DF_{2,175}=154.528, p<0.05]. Addition of interaction between IC index and business strategy in Model 2 resulted in an overall significant prediction equation [DF_{3,174}=219.552, p<0.05].

Table 8: ANOVA Table of Earning per Share

ANOVA^c

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	20.747	2	10.374	154.528	.000 ^a
Residual	11.748	175	.067		
Total	32.495	177			
2 Regression	25.705	3	8.568	219.552	.000 ^b
Residual	6.791	174	.039		
Total	32.495	177			

a. Predictors: (Constant), scenariomidified, icindeks

b. Predictors: (Constant), scenariomidified, icindeks, ICINDEXBIZ

c. Dependent Variable: Earnings Per Share as at 30 June 2011 (RM)

In examining the table of regression coefficient (Table 9), it can be seen from Model 2 that the interaction between IC index* business strategy variable is a significant predictor for earning per share (p<0.05). Hence, we have evidence to proof that business strategy is a moderator to relationship between IC index and performance (earning per share).

Table 9: Regression coefficient of Earning per Share

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-2.280	.162		-14.056	.000		
	icindeks	.050	.003	.792	17.417	.000	1.000	1.000
	scenariomidified	-.030	.012	-.113	-2.486	.014	1.000	1.000
2	(Constant)	-1.639	.136		-12.034	.000		
	icindeks	.033	.003	.518	12.227	.000	.670	1.492
	scenariomidified	-.018	.009	-.068	-1.960	.052	.987	1.013

ICINDEXBIZ	.001	.000	.479	11.271	.000	.665	1.504
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Upon checking on Coefficients Tables, there is no evidence to indicate that a multicollinearity problem exists in all Models. The results shows that the Tolerance values are all above 0.1 and the Variance Inflation Factor (VIF) are all below 10. These values indicate that there is no multicollinearity (high correlation among independent variables) problem.

To summarise, as can be seen from the preceding section, Business Strategy plays a significant role in predicting the performance of companies as far as IC Index in concern. The results from the multiple regression models prove that IC Index and Business Strategy are significant predictors of all selected performance measures.

Conclusion and Limitation

Results from the multiple regression models prove that IC Index and Business Strategy are significant predictors for all selected performance measures (ROE and EPS). This study is expected to make a contribution to the companies by demonstrating that better IC management practices and right strategy implementation may contribute a better impact on business performance. The results, however, needs to be interpreted with caution. The findings may not be generalized in other markets since the data was based on the Malaysian managers' responses to questionnaire at a particular point in time. Thus, further research in the area is recommended.

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