

The Performance of The High Technology Companies in Relation with The Customer Capital

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Abstract

Intellectual capital plays a crucial role in fostering organizational growth and competitiveness in today's corporate landscape. This intangible asset is challenging to assess but is widely recognized for adding value, enhancing competitive advantage, and ensuring organizational success. Intellectual capital consists of three key elements: human capital, structural capital, and customer capital. Among these, customer capital refers to a company's relationship with external stakeholders, particularly customers, and its ability to maintain trust, brand awareness, and market orientation. This study examines the impact of customer capital on the performance of high technology (Hi-Tech) companies listed in Malaysia. The study utilizes panel data analysis, including correlation coefficient tests and a fixed effect model. The findings indicate an insignificant negative relationship between customer capital and organizational performance, suggesting that an increase in customer capital may not significantly affect Hi-Tech company performance. Additionally, firm size shows an insignificant positive relationship with organizational performance, implying that larger firms may not necessarily achieve better performance. Overall, the study concludes that customer capital and firm size do not significantly affect the performance of Hi-Tech companies in Malaysia.

Keywords: Intellectual Capital, Customer Capital, High Technology Companies, Organizational Performance, Malaysia

Introduction

Intellectual capital is one of the most important components in today's corporate climate for fostering organisation growth and competitiveness. It can be difficult to estimate the worth of intellectual capital because it is often an intangible asset. Intellectual capital is frequently defined and described in terms of adding value, boosting competitive advantage, and ensuring an organization's success (Obeidat et al., 2017). Intellectual capital makes it possible for wealth to accumulate and other high-value assets to be created. Intellectual capital refers to a company's capacity for innovation and its wealth of ideas, both of which

have a substantial bearing on the company's future. It was perceived that the financial and expense items affected how well a company performed. This strategy, however, is no longer valid because academics now believe that the intellectual capital assets that support organisational performance are crucial to an organization's success (Ozgun et al., 2022).

For organisations, the concept of intellectual capital is not new; it has been around for a while and focuses on enhancing organisational performance with the help of resources. Several research, including those by Kim et al (2012); Sharabati et al (2010), have been conducted to support this notion: According to a study on the hospitality sector, building both human and structural capital is the key to improving organisational performance. Previous studies by Bontis (1998); Bontis et al (2000); Seleim et al (2004); Wang & Chang (2005); Cabrita & Bontis (2008); Kamukama et al (2010); Sharabati et al (2010) show a positive relation between intellectual capital and organisational performance.

Yang (2009); Ting et al (2020) claims that there are intellectual capital's three essential elements. Specifically, they are consumer capital, structural capital, and human capital. First, employees' skills and creativity are incorporated into human capital, which is strengthened by expenditures in training initiatives. Human capital also includes a company's employees' skills and expertise, therefore a rise in staff output is likely to boost the operation of the business (Baron, 2011). Studies have shown that the main reason of an organisations positive performance is because of effective and good governance of human capital decisions (Sisodia et al., 2021). Secondly, another component of the intellectual capital, in the organisations of non-human assets, is the structural capital (Ozgun et al., 2022; Daum, 2001). Structural capital are copyrights, patents, administrative guidelines, and decision-supporting policies. Thirdly, is the customer capital. According to Subramaniam (2005), the relationship between a company and its external stakeholders is referred to as the customer capital. This encompasses the expertise, experience, and trust that make up the crucial relationship between a company and its clients. A positive relationship with external stakeholders including customers, suppliers, creditors, and the government is referred to as having good customer capital. Customer capital keeps external stakeholders like consumers from walking away from the business connection (Daum, 2003). The market orientations, brand awareness, customer potential, and relationships are also included (Duffy, 2000). The customer capital's core purpose is to foster relationships between inside and outside of the company (Bontis, 2001). By establishing connections between human and structural capital, it has the ability to accelerate the value creation of the organisation process (Purohit & Tandon, 2017). Supporting the study done by Badaracco (1991), which further on state that customer capital is a crucial asset that can impact an organisation's performance through high operational efficiency and innovation.

In Malaysia, it was found that the customer capital and human capital was the main influence in company's result (Muda and Rahman, 2018). The study used 98 SMEs from the manufacturing and services industry. In another related study by Muda et al (2020), examining the impact of the intellectual capital component on SMEs firms. Using a sample of 153 responses from CEOs and managers in different sectors of industries. The study found that the customer capital has a positive impact on the company's performances, with human capital shows a stronger effect towards the company performances.

Therefore, this study used customer capital as independent variable to examine the performance of the public listed Malaysia high technology (Hi-Tech) companies. Pastor & Verosi (2009) contend that the new economy equities—those with a high technology

orientation—are more dynamic than the old economy stocks (non-high technology orientation stock). In the sense that high technology companies' stock performance is better than that of non-high technology stocks. Particularly in the Nasdaq index of the American market, this is obvious. In less than 10 years, the Nasdaq index rose by 1456% to close at 5132.52 in March 2000 (Tseng, 20014). The Nasdaq index is currently at a level of 10,782. (Bloomberg, 2020). As a result, empirical data has demonstrated that equities with a high technology component posit a high stock return fluctuation (Mazzucato & Tancioni, 2008; Pastor & Veronesi, 2009; Gharbi, et al., 2014). High-technology businesses in Malaysia are typically more productive and lucrative than low-technology businesses, according to a 2019 study by the Malaysian Institute of Economic Research (MIER). The study also discovered that high technology organisations are more likely to employ automation and advanced technologies, as well as to invest more in research and development.

The main objective of this paper is to investigate the impact of the customer capital on the Hi-Tech firm in Malaysia. Customer capital is essential for corporate Malaysia because it enables businesses to forge lasting bonds with clients, strengthen their brand equity and reputation, foster innovation and growth, and generate value for all stakeholders. Businesses with a greater chance of success in today's cutthroat business climate are those that value their customers' cash and spend money cultivating solid client connections. Therefore, the performance of a firm depends on the management of the customer capital rather than its financial resources.

Literature Review

The beginnings of signalling theory are traced to the pioneering work of Spence (1973) and other closely related studies (e.g., Stiglitz, 2002) that has studied the ramifications of information asymmetries in various marketplaces. Accordingly, organisations can use signals to communicate their quality or level of investment to external stakeholders like investors, consumers, and suppliers in the context of organisational performance. According to the notion of signalling, an insider who has access to knowledge may consciously or unconsciously communicate that information, in the form of a signal, to an outsider who does not have that information but would like to (Connelly et al., 2011). The signal (i.e., the information) can be used by outsiders to determine the reliability or motivation of insiders (Bergh et al., 2014; Connelly et al., 2011; Riar et al., 2021). The company may set itself apart from rivals and draw in higher-quality stakeholders who are prepared to pay more for its goods or services by sending these signals. Increased earnings and improved organisational performance may result from this.

Organizational Performance

The efficacy and efficiency with which an organisation accomplishes its goals and objectives is referred to as organisational performance. It entails the measuring and assessment of a variety of operational factors, such as an organization's financial performance, customer and employee satisfaction, productivity, and overall mission fulfilment (Delaney & Huselid, 1996, Kaplan & Norton, 1992; Richard et al., 2009) .

Traditionally, the majority of managerial performance metrics have been based on financial indicators of performance, according to the literature analysis (Mishra and Mohanty, 2014). Additionally, stated are the terms these measurements, which include return on assets, return on equity, and return on sales (Mishra and Mohanty, 2014). It is significant to

note that financial indicators represent the fulfilment of a multinational enterprise's economic goals in financial terms while defining the firm's performance (Richter et al., 2017).

On the other hand, in another study, non-financial factors were considered while evaluating performance. For instance, earlier research (Mavridis, 2005; O'Connor et al., 2007; Seleim, et al., 2007) used the measurement terms of exporting tendencies or innovation performance to determine the organisational performance. Additionally, prior studies have identified organisational performance as the "primary outcome variable of concern," encompassing everything from marketing and human resources to operational management, information technology, and international business (Hult et al., 2008; March & Sutton, 1997; Richard et al., 2009). Next, it should be noted that organisations with superior performance measurement systems can aid in the creation of strategic plans and the assessment of the organization's progress towards reaching its goals (Ittner & Larcker, 1998).

In short, the personal traits of managers and entrepreneurs, as well as their social skills, determine how well an organisation performs (Hatch, 2000; Hite, 2005). A cumulative form of individual performance is how organisational performance is described in the study by (Vaccaro et al., 2010). It can be measured in terms of output, competitive advantage, innovation, effectiveness, efficiency, and responsiveness to customers. It can also be quantified in terms of market share growth and environmental adaptation (Borho et al., 2012; Delaney & Huselid, 1996; Gold et al., 2001; Lee et al., 2012; Tseng, 2014)

Intellectual Capital

According to a study by Youndt (2004), intellectual capital is the most important factor in fostering organisational efficiency. The most crucial element that can guarantee the existence of any organisation or institution is intellectual capital. Choong (2008) defined intellectual capital as intellectual assets that have been institutionalised, leveraged, and captured. The intellectual resources aid in wealth creation and the production of highly valuable assets. A company's ability to innovate and its wealth of ideas make up its intellectual capital, which has a significant impact on the company's future. Swart (2006) defines intellectual capital as the skills, knowledge, experience, and customer relationships that give a company a competitive edge over its rivals.

Roos & Roos (1997) defined intellectual capital as "the totality of knowledge converted into trademarks, procedures, and also brands," while Sullivan (2000) defined intellectual capital as "profit obtained from knowledge." Moreover, Skandia Insurance Company defines intellectual capital as the possession of information, organisational technology, practical expertise, and client relationships that will increase the company's competitive advantage (Roy, 1999). The same definition of intellectual capital is given by Sofian et al (2004), who define it as having the knowledge, abilities, interpersonal relationships, and technical skills that can enhance organisational performance.

In every country, intellectual capital is regarded as the most important intangible asset for the evaluation of a high-performance firm (Kamaluddin & Rahman, 2013; Ngah & Ibrahim, 2009). Intellectual capital plays an important role in firms competing globally and seen as a key factor for a firm to achieve its strong organisational performance (Mavridis, 2005; Gogan et al., 2016; Kamukama et al., 2010)

Despite the fact that different authors have their own definitions of intellectual capital, the nature and characteristics of intellectual capital remain the same which is, it is an important element that can increase the market value of the firm (Shamsudin et al., 2013).

According to Chang & Tseng, (2015) customer capital refers to an organization's relationship with its customers and outside partners who add value through recognition of the brand, solid integrations, expanded markets, quality, and feedback. Bontis (2001) found that indications of client capital were customer loyalty and satisfaction, financial security, price sensitivity, and business repetition. Additionally, customer capital is likely to fuel the process of value creation for the business by creating connections between human and structured capital as well as external stakeholders (Purohit & Tandon, 2017). Furthermore, Bontis (1998) found that there is a significant subcategory of customer capital known as "market orientation." In order to achieve high levels of organisational performance, market orientation aims to create a base of satisfied customers (Kohli & Jaworski, 1990).

Higher levels of customer capital can enhance planning, problem-solving, and troubleshooting methods, which will likely result in more efficient production and service delivery and lower administrative costs (Youndt et al., 2004). Customer capital can also lower organisational costs by enhancing an organization's capacity for information processing and overall effectiveness (Corvino et al., 2019; Aisyah et al., 2019). Because there is no longer a perceived need to cover or hide critical information, confidence in relationships among co-workers, suppliers, and customers facilitates efficient information sharing (de Clercq and Sapienza, 2006).

Firer and Williams (2003) contend that improving business performance may depend more on customer capital than other intangible assets. There is also evidence that the performance of small medium enterprise (SME) firms and customer capital are positively related (AlQershi et al., 2020). According to Hakala and Kohtamaki (2011), one essential principle of technology orientation is that innovative technological solutions, goods, and services are the greatest ways to achieve long-term success. As a result, innovation and creativity serve as the organisational norms and values that direct the activities and strategies of a technology-oriented corporation (Zhou et al., 2005). Technology orientation firms should result in the development of more inventive and technologically advanced items than those made available by rivals. Hence, customer capital should be positively related with high-technology firm in Malaysia.

Lastly, the control variable in the study is firm size. Many studies have shown that firm size has the ability to affect organisational performance. According to Vithessonthi & Tongurai's (2015) study, large enterprises have a negative influence on leverage, and the impact of leverage on performance is either negative or inconsequential. Also, according to Dang et al (2018), all firm size measures are strongly negative, they show that tiny firms have high stock return variability when total assets is employed as the indicator for organisational performance. The observation leads to the paper following hypotheses,

H1: The customer capital significantly affects the organisational performance; and

H2: The firm size significantly affects the organisational performance.

Sample Selection

The study uses Bloomberg Terminal as source of data. The study sample were taken from the Hi-Tech companies that is listed the Bursa Malaysia Stock Exchange's Main board and Ace market between January 2012 and December 2016. There was a total of 72 Hi-Tech listed companies during the period of study. The variables taken from Blomberg Terminal is presented as follows

Symbol	Name	Blomberg Specification	Description
OPEX	Operating Expenses (Chauvin & Hirschey, 1993)	Sales/Marketing/Advertising Expenses (ARD_SALES_MKT_ADVERTISING_EXP)	This is the amount that the corporation reported for sales, marketing, and advertising expenses. The account title may alter slightly from the original account title in the company's financial statement due to standardisation.
TA	Total Assets	TOTAL_ASSETS	Anything a firm has that has monetary value, even if it can't be easily sold, is included in total assets.
ROA	Return on Assets	RETURN_ON_ASSET	Return on Assets is computed as (Net Income before Extraordinary Items-Minority Interest)/Average Total Assets, where Total Assets is simple average of current year and previous year information.

The study dependent variable is the organisational performance. It is measured by return on assets ratio (ROA). Many empirical researches have used it as one of the accounting-based performance measuring methods (Ahangar, 2011; Chen et al., 2005; Firer & Mitchell Williams, 2003; Maditinos et al., 2011). The study independent variable is customer capital and it is measured by the operating expenses of the firm (Chauvin & Hirschey, 1993; Corvino et al., 2019). Meanwhile, the control variable of this study is the firm size and is measured by total asset of the firm (Dang et al., 2018).

Method of Analysis

The panel data analysis was carried out in this study. In the case of panel data, a variety of analytical model types are used. These include models with constant coefficients, fixed effects, and random effects. and the hausmen test.

The linear equation for this study is as follows

$$ROA = B_0 + B_1OPEX + B_2SIZE + \text{et}$$

where;

B_0 = intercept coefficient, when all other independent variables are zero

ROA = is a proxy for accounting performance measure calculated as the ratio of EBIT over total assets

OPEX = the percentage of operating expenses over sales revenue

SIZE = the natural logarithm of total assets
 et = error term

Findings

Table 1 describes the full sample of the study from January 2013 to December 2016. The table shows that the ROA registered minimum -132.58% and the maximum is 28.24%. Meanwhile, the ROA mean is -4.54% with a standard deviation of 21.12%. In the meantime, the OPEX gives minimum of 1.53 and a maximum of 1998.74. The mean and standard deviation for OPEX, which is 95.05% and 224.95 respectively. Lastly, the table shows that the firm size ranged from 0.05 to 7.5. The mean for firm size is 4.16 and the standard deviation size is 1.35.

Table 1
Descriptive Statistics

<i>Variable</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>S.D.</i>
ROA	-132.58	28.24	-4.54	21.12
OPEX	1.53	1998.74	95.05	224.95
SIZE	0.05	7.50	4.16	1.35

Notes: **ROA**=Return on Assets, **OPEX**=Operating Expenses/Sales, **SIZE**=Firm Size

Normality test and multicollinearity test were carried out. There were no issues arise from both of the test. Hence, the study is to proceed with the following research method.

Correlation Coefficient Test

Referring to table 2, the correlation coefficient test shows that the ROA is significantly negative correlated with OPEX, at -0.5431. However, the ROA shows a significantly positive correlation with SIZE at 0.5057.

Table 2
Pearson Correlations Coefficient Matrix

	ROA	OPEX	SIZE
ROA	1.0000		
OPEX	-0.5431*	1.0000	
SIZE	0.5057*	-0.3977*	1.0000

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

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

Hausman Test

Based on the results of Hausman Test shown on Table 3, the Prob > chi2 value is than the significant level at 0.1. Therefore, reject the null hypothesis, and this indicates that the fixed effects model is preferred for this study

Table 3
Hausman Test

	Coefficients			
	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
	ROA	.	Difference	S.E.
OPEX	-0.122358	-0.0178756	0.0056398	0.0022472
SIZE	0.6722091	5.201899	-4.52969	2.004609

Test: Ho: difference in coefficients are not systematic
 $\chi^2(4) = (b-B)' [(V_b-V_B)^{-1}] (b-B)$
 $= 21.87$
 Prob > chi2 = 0.0002

Fixed Effect (FE) Model

Table 4
Fixed Effect Model

		Robust				
ROA	Coef.	Std. Err.	t	P > t	[95% Conf. Interval]	
OPEX	-0.0122358	0.0095421	-1.28	0.204	-0.0312872	0.0068155
SIZE	0.6722091	2.820658	0.24	0.812	-4.959416	6.303834
_cons	-0.8070175	14.89265	-0.54	0.590	-37.8043	21.66395

R-square: Within = 0.0854

Table 4 shows that the OPEX and the SIZE (control variable) show insignificant relationship between the ROA, which is 0.204 and 0.812 respectively. The OPEX gives an insignificant negative relationship with ROA, while the SIZE shows a positive but not significant relationships with ROA.

Conclusion

The study's result showed an insignificant negative relationship between the customer capital and the performance of the High-Tech companies in Malaysia. As such an increase in the customer capital may have a negative effect on the performance of the Hi-Tech companies in Malaysia. The finding was supported study done by Lopes et al., (2015). Factors of an insignificant negative relationship between the customer capital and the performance of the High-Tech companies in Malaysia could be contributed by the recessive economic conditions or the brain drain issues, which Malaysia is experiencing.

Meanwhile, the firm size shows an insignificant positive relationship with the performance of the Hi-Tech firms in Malaysia. The finding was supported study done by (Shubita & Alswalhah, 2012; Stierwald, 2009). The finding suggest that the performance of the Hi-Tech companies may increase with the expansions of the firm size.

As the result of the study shows an insignificant relationship of customer capital and firm size on the performance of the Hi-Tech companies. Therefore, the study concluded that the customer capital and firm size does not significantly affect the performance of the High Tech company in Malaysia.

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