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The Significant of the Structural Capital towards the Organisational Performance of Technologies Campanies in malaysia

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Abstract
This study is looking at the significant of structural capital towards the organisational performance of technologies companies in Malaysia. However, this study focuses solely on structural capital as one of the elements in the intellectual capital. An organisation that owns structural capital, will stays behind even when employees leave because it consists of organizationally ingrained capabilities, practices, and approaches. Besides that, this study also testing the organisations' firm sizes as a control variable. The findings from this study indicate that the structural capital in Malaysia has a favourable, noteworthy impact on the organisational performance of technologies companies in Malaysia. However, the findings also have found that the firm size is not significant as control variable towards the organisational performance. Overall, the results of this study will benefit to the local government, investor, policy maker and future researcher in performing their job task.
Keywords: Technologies Companies, Organisational Performance, Intellectual Capital, Structural Capital and Firm Size.

Introduction

Nowadays, most of the organisation’s rely on the physical assets to compete and to be sustainable in this world. Instead of depending on the organisation's physical assets, successful firms today frequently continue to innovate, adopt cutting-edge technology, and most importantly have a highly skilled and knowledgeable workforce. Based on a prior study by Daum (2001), it was determined that the business does not only invest in tangible assets since intangible assets are the most valuable driving force. In the current market, the majority of firms frequently perceive their intellectual capital as their most valuable intangible asset. According to Marr et al (2003), an organization's value typically depends on the amount of intellectual capital it possesses.

One of the three main components of intellectual capital is structural capital, which comprises of the organisational processes, databases, and supporting infrastructure needed for the operation of human capital. An organisation owns structural capital, which stays behind even when employees leave. It consists of organizationally ingrained capabilities, practises, and approaches.

Intellectual capital is one of the most important and valuable resources a business may have, and it is crucial to create a high performing organisation. Numerous experts agree that building intellectual capital is crucial to an organization's success in achieving performance

(Sydler et al., 2014). In addition, the three parts of intellectual capital i.e human capital, customer capital, and structural capital will be segregated (Bontis et al., 2000).

This paper emphasises on the structural capital as one of the crucial components of intellectual capital that organisations must utilise. A structural capital is thought of as an organization's internal structure, and it was thought that when combined with human capital, it may improve an organization's performance. According to Edvinsson (1997), structural capital is created by creating and preserving knowledge as an organization's intangible assets. "Concepts, models, patents, computers, and systems generated by employees but owned by the business make up structural capital" (Akpinar & Akdemir, 1999). A study found that a company will always have a positive culture if its structural capital is solid, allowing employees to do tasks, make mistakes, learn from them, and keep trying (Bontis, 2001).

Also, the primary focal variable to be investigated will be the performance of technology businesses in Malaysia. Most scholars, according to Azlina et al (2017), are focusing on the performance of the Malaysian finance sector. For instance, Muhammad and Ismail (2009) investigated the effectiveness of intellectual capital and the performance of the banking industry in Malaysia. On the other hand, a few studies examined the effect of intellectual capital on the performance of Malaysian commercial banks (Gho, 2005; Shamsudin et al., 2013). Nevertheless, there aren't many publications or journals that look into how Malaysian technology businesses perform in relation to their intellectual capital.

Moreover, the goal of this study is to close the knowledge gap that Malaysia has regarding the subject of this study. Also, given Malaysia is transitioning to a knowledge-based economy, it was thought that intellectual capital could be one of the key elements influencing the performance of Malaysian technology companies. In addition, each nation's organisational performance serves as a measure of economic development and growth known as Gross Domestic Product (GDP). As a result, the government sector can use this report as a resource for future development. Therefore, this study will subsequently improve our knowledge of the technology industry and provide a foundation for future research on the subject.

Problem Statement

First of all, knowledge, expertise, and experience that are entrenched in a worker or organisation are referred to as intellectual capital. It is acknowledged as the source of the nation's economic prosperity, highly competitive advantage, and quick growth in the technological sector (Rehman et al., 2012). Hence, rather than financial resources, an organisation's effectiveness heavily depends on the management of its intellectual capital. Although it is increasingly understood that intellectual capital contributes to corporate value and competitive advantage, it is still unclear how to properly quantify an organization's performance in terms of intellectual capital (Chen et al., 2005). Due to the costs associated with data collection, dissemination, and processing, measuring intellectual capital is particularly challenging (Revsine et al., 2008). Although intellectual capital is a potential source of competitive advantage, but majority of firms failed to recognise its importance and nature (Asiaei & Jusoh, 2015).

Malaysia, however, is transitioning from a product-based economy to a knowledge-based economy (OECD, 1996). The term "knowledge-based economy" refers to those economies that are wholly dependent on the creation, transfer, and use of knowledge and information. The knowledge-based idea claimed that a company's better performance is influenced by both its intangible and tangible resources. As a result, intangible resources are

thought to be the most valuable assets that the business owns, and they occasionally need to be upgraded.

As stated in the core agenda of the Ninth Malaysia Plan and New Economic Model for Malaysia, the Government of Malaysia has advocated the development of human capital, encouraging mentality and intellectual capacity to Malaysians (Badawi, 2006; National Economic Advisory Council, 2009). Nonetheless, it is believed that the organisation's most frequently overlooked asset is its human capital (Hashim et al., 2015). This is due to the fact that most firms are unaware of their important resources and do not even recognise how they may leverage their human capital to improve their performance in the future (Kamaluddin & Rahman, 2013). Therefore, research on this subject is necessary to ascertain the significance of intellectual capital which are focusing on the structural capital on the organisational performance.

Research Question

The following research question must be determined in order to complete the objective of the research.

1. Does the structural capital will boost the performance of technology companies in Malaysia?

Research Objective

Generally, this research tends to look into the relationship between the structural capital and organizational performance. variable such as structural capital and the technology companies' performance in Malaysia. The primary objective is to understand deeper the impact of structural capital on Malaysian technology company's performance. Other that these variables, the research also consider one variable as a control which is known as the firm size.

The research objective for this study is as follows

1. To investigate how the structural capital affect the technology companies' performance in Malaysia.

Significant of Study

This research subject examines the performance of Malaysian technology companies in relation to intellectual capital which are solely focusing on structural capital. The goal of this study is to close the knowledge gap that Malaysia has regarding the subject of this study. Also, given Malaysia is transitioning to a knowledge-based economy, it was thought that intellectual capital could be one of the key elements influencing the performance of Malaysian technology companies. Also, each nation's organisational performance serves as a measure of economic development and growth known as Gross Domestic Product (GDP). As a result, the government sector can use this report as a resource for future development.

Furthermore, all of Malaysia's listed companies will benefit from this research endeavor. It's critical to comprehend how this generation's intellectual capital factors influence organisational success. They will be more aware of the significance of intellectual capital for future development as a result of this study. Other than that, it will be useful as a reference for future academics when they conduct research on this subject. As there aren't many studies in Malaysia that address this issue, this research study will improve our understanding of it.

Research Scope

This study's primary focus is on how intellectual capital affects the performance of Malaysian technology firms. For control purposes, firm size is used. Instead of using primary data, this research is based on secondary data. Because all the material and data for this study can be found in journal articles, the Blomberg Terminal, the annual report in Bursa Malaysia, and certain online references, no survey forms or questionnaires will be used in its collection. Last but not least, the main focus of our research will be the 72 technology businesses that are listed in total on the Bursa Malaysia.

Definitions of Key Terms

Table 1

Definition of Key Terms

Key Terms	Definition	Sources
Malaysian Technology Company Performance	The arising business models in the technology industry stand testimony for its creativeness and innovation. Nowadays, the emergence of this industry as a global industry is evident from its significant contribution to the global gross domestic product (GDP).	(Kavida & Sivakoumar, 2010)
Structural Capital	Structural capital is considered as the particular data, information or knowledge possessed by the intellectual assets and it retains inside the company when the employees get off work. For instances, it consists of computers, patent, software, hardware, and system generated by the employees.	(Akpinar & Akdemir, 1999; Chen et al, 2006)
Firm Size	Most of the studies are assumed firm size as one of the control variables because it has a significant relationship in between the leverage and performance of an organization. It was believed that larger firms tend to be more leveraged, and therefore it will have more impact on the organizational performance.	(Faulkender & Petersen, 2006; Margaritis & Psillaki, 2010)

Literature Review

This chapter will focus on the literature reviews of this research project and further clarify about the dependent and independent variables that has been choose. Dependence variable is the organizational performance whereas independent variable is the structural capital. Besides that, signaling theory will be applied in this study.

Signaling Theory

Essentially, the main goal of signaling theory is to lessen the information disparity between two parties (Spence, 2002). It helps to explain how two parties act when they have access to different types of information (Connelly et al., 2011). In specifics, the sender must choose how to convey meaningful information, and the recipient must comprehend the signal using the selected methods (Spence, 2002). According to Michael Spench's model of job-market signaling, candidates communicate their competencies to employers through their educational background. As an illustration, Spence (1973) noted that his foundational work on labour markets highlighted that a job seeker may engage in activities to reduce information asymmetry that affects the employer's capacity for selection. Due to the fact that less qualified candidates frequently are unable to demonstrate higher level schooling, it might be regarded to be a credible signal.

Also, although though the majority of signaling models use quality as one of its differentiating characteristics, the idea of quality can be interpreted in a variety of ways (Connelly et al., 2011). According to a study by corporate governance, CEOs communicate to potential investors the unobservable qualities of their companies through the observable qualities of their financial accounts (Zhang & Wiersema, 2009). "Quality refers to the unobservable ability of the individual, which is communicated by fulfilment of the educational prerequisites necessary for graduation," Spence (1973) stated.

Organizational Performance

Organizational performance, which encompasses financial performance, business performance, and organisational performance overall, is typically a crucial component of an organization's success (Delaney & Huselid, 1996). Organizational performance is described as a "multidimensional concept embracing financial performance metrics, customer-related outcomes, innovation, and internal organisational processes" by (Kaplan and Norton, 1992; Richard et al., 2009). Organizational performance, in general, is a combination of financial and non-financial metrics that can assess the advancement of a company's long-term objectives (Kaplan & Norton, 1992). According to research by Subramaniam and Youndt (2005), organisational performance solely takes into account the financial components of asset, liability, equity, or other market-based measurements.

On the other hand, in another study, non-financial factors were taken into account while evaluating performance. For instance, earlier research by Mavridis (2005), 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 (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.

Intellectual Capital

Despite the growing significance of the economic shift to a knowledge- and technology-based economy, the basic definition of intellectual capital is still exceedingly difficult to define (Zambon, 2004). Intellectual capital is seen differently by various organisations. According to the earlier revelation of intellectual capital, Sullivan (2000) define intellectual capital as "profit gained from knowledge" whilst Roos and Roos (1997) define intellectual capital as "totality of

knowledge turned into trademarks, methods and also brands". 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 possessing the knowledge, abilities, interpersonal relationships, and technical skills that can enhance organisational performance.

Structural Capital

The buildings and equipment that can be employed to help employees provide their all-out effort and, eventually, improve corporate performance make up structural capital (Bontis, 1998). Bukh et al (2001) describe structural capital as "non-human storehouses of knowledge in organisations which include the databases, organisational charts, procedure manuals, strategies, routines and anything whose value to the corporation is higher than its material value". Structural capital is defined as "innovation capital, software systems, distribution network, corporate culture, and policies that formed within the firm," by Abdullah and Sofian (2012). Moreover, a variety of other intangible assets, including patents, trademarks, and licences, are often regarded as structural capital (Edvinsson, 1997; Subramaniam & Youndt, 2005). Hence, structural capital can be thought of as the organization's internal support system for its workforce.

Because of its unique composition, structural capital is further divided into organisational, process, innovation, and intangible capital, according to (Edvinsson and Malone, 1997). Other than that, structural capital consists of internally generated intellectual capital, a favourable work atmosphere, efficient corporate procedures, and fresh concepts developed by the R&D department. Furthermore, organisational tones, management planning, capabilities, and control systems are all examples of formal and informal structures that Chang and Birkett (2004) see as constituting structural capital. Everything within an organisation that aids employees in their work is known as structural capital (Kavida & Sivakoumar, 2010). Unlike human capital, it is a component of intellectual capital that an organisation can own and that stays with the organisation after workers depart for the day. According to Edvinsson (1997); Purohit and Tandon (2017), they also supporting the idea that the structural capital is totally owned by the company and that each employee is free to use and share it. While, according to Lynn's research, structural capital is a phrase that refers to routines. It is argued that structural capital consists of "systems" that coordinate intellectual endeavors to produce more routine replication.

Firm Size

According to the research of Vithessonthi and Tongurai (2015), company size is thought to be related to both an organization's operating performance and its leverage. Organizational performance will be impacted since the shift in financial leverage is a result of the firm's occasionally changing size (Cai & Zhang, 2011). Rajan and Zingales (1995) also support the idea that a firm's leverage rises as the firm size does. Often, larger organisations are more resourceful and stronger than smaller ones. According to Bontis et al (2000), larger companies can leverage their intellectual capital to gain more and more advantages. In addition, as a firm's size is frequently considered as a proxy for the extent of its financial constraints, the findings indicate that firm size influences how performance affects leverage (Moyen & Platikanov, 2013). It demonstrates that the level of financial limitations faced by the firm affects the impact of operating performance on leverage, which is similar with the

findings of Korajczyk and Levy's (2003) study. Additionally, Dang et al (2018) noted that there are several approaches to quantify a firm's size, including using the natural logarithms of its total assets, total revenues, or market value of equity. In other words, no measurement technique can fully account for the properties of "firm size". Furthermore, Vijh and Yang (2013) noted that the measurement of firm size is only comparable when numerous stringent technical conditions are met before a correlation occurs. For instance, Gabaix et al (2014) demonstrate how the influence of the firm size can significantly alter the CEO remuneration due to disparities in talent.

Research Methodology

In this chapter, an overview of methods to systematically solve the research questions is presented. Researchers need to choose a variety of procedures, models and methods of the research methodology in order to complete the research objective. Hence, this research study will list out all the steps and methods that basically adopted. Besides that, this chapter will describe the research framework between independent variables and dependent variable, data collection method, sources of data, sampling plan and data analysis method for better explanation in this research study.

Development of Theoretical Framework and Hypotheses

Theoretical framework is a model that adopted to identify the interrelationship between the various independent variables and main dependent variable. Based on the literature review discussed in the last chapter, it was assumed that intellectual capital i.e the structural capital and firm size can directly impact the organizational performance in different type of industry. Thus, the main research question in this research is used to determine whether the all these variables will impact on Malaysian technology company performance with either a positive or negative way. Next, the theoretical framework of this research is shown in Figure 1 on below. It shows the relationship of multiple independent variables on one dependent variable. In this study, the frameworks will also be used for validation and model testing which it served as an assisting character for discover and exploring relationships between variables.

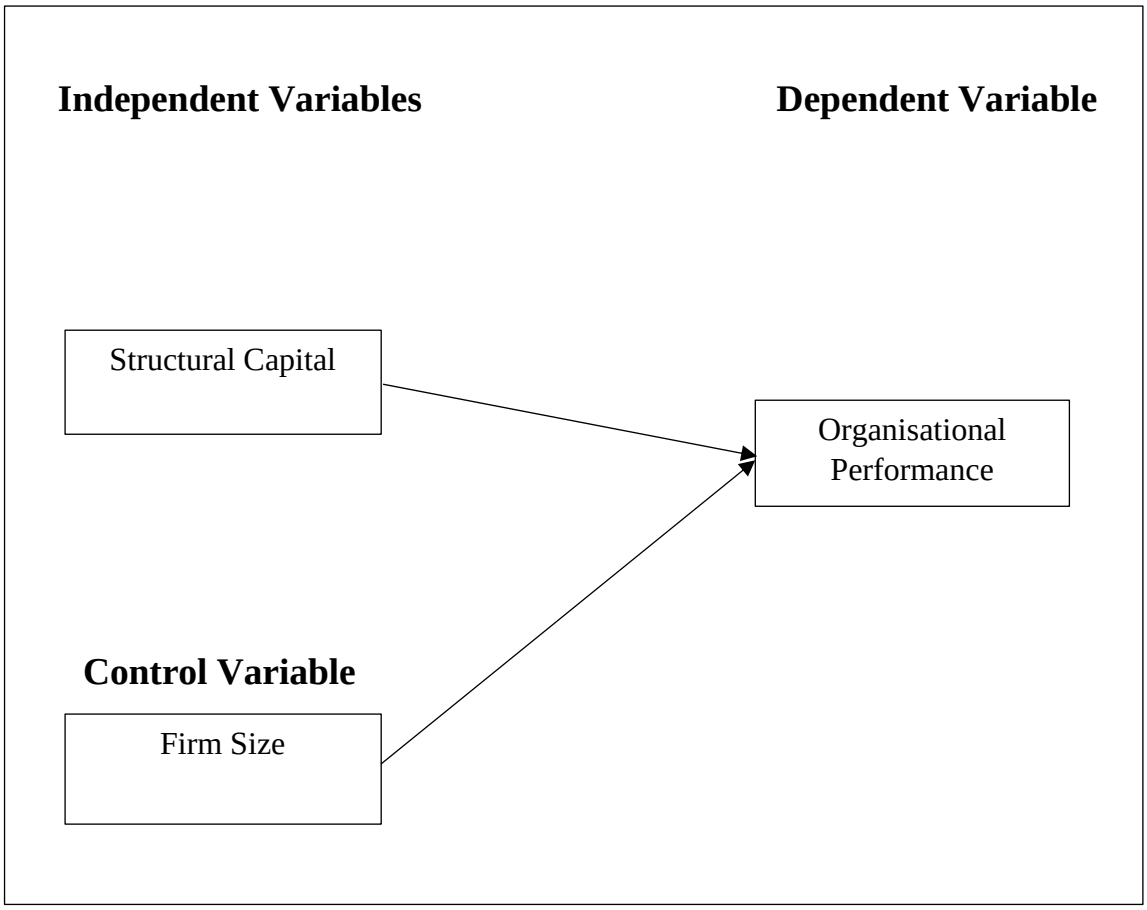

Figure 1: Theoretical Framework

Hypothesis Development

A testable assertion about how two variables relate to one another is what is meant by a hypothesis. It is used to forecast a causal link between two variables in which one variable affects the other. In addition, the hypothesis is a common way to summarise the different assumptions in this research investigation. The tests that will be run for this study to better understand the link between the dependent variable and independent variables will be revealed by each hypothesis, according to this. The performance of technology businesses in Malaysia is the dependent variable, whereas independent variables included human capital, structural capital, customer capital, and firm size (control). In this research study, a total of four hypotheses are established and expanded in accordance with the theoretical framework and research variables.

Structural Capital

Pablos (2004) claims that only structural capital significantly affects organisational performance. Li and Wu (2004) support the idea that structural capital plays a significant influence in improving an organization's performance. According to Bontis (1998), structural capital is the organization's machinery and infrastructure that supports employee performance and, eventually, company success. In order to investigate the connection between structural capital and organisational performance, this hypothesis was developed.

H1: The organisational performance is greatly impacted by structural capital.

Firm Size

Last but not least, the phrase "firm size" refers to the study's control variable since it has the power to affect how well organisations function. According to Vithessonthi and Tongurai's (2015) research, big 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, showing that tiny businesses have large stock return variability when total assets is employed as the indicator for organisational performance." As a consequence, this research was able to create the final hypothesis thanks to the findings from the prior investigation.

H2: The organisational performance is substantially impacted by the size of the company.

Data Specification

Data Collection and Source of Data

Fundamentally, the secondary data methodology will serve as the foundation for the data gathering strategy for this research investigation. In further detail, secondary data is defined as information that already exists, has been gathered by prior researchers, and is accessible through public sources. Compared to primary data, it is seen as affordable information that may be easily obtained. Also, the Blomberg Terminal and the annual report on the Bursa Malaysia website will serve as the primary sources of secondary data and information for five consecutive years, from 2012 to 2016. This five-year period was chosen in order to provide a trustworthy and accurate assessment for this research. In addition, there are several publicly accessible data sources that can be utilised to measure the variables, which is one of the key reasons Blomberg Terminal was selected as the primary source of data. Finally, this chapter's study approach for this panel data will be described.

Sample of Data

The main indicator for this research is primary based on the performance of technology organizations in Malaysia (Azlina et al., 2017). So, the sample for all the technology companies in Malaysia will be collect according to the list market capitalization provided by Bursa Malaysia (KLSE). The total sample for this study is 72 technology companies which the data from the year 2013 to 2016 will be collected mainly through the Blomberg Terminal. In short, all the data used for this research are based on the annual basic for each company. Roscoe (1975) proposed a rule of thumb for determining sample size that: “if the sample size is larger than 30 and less than 500, it is therefore appropriate for most research”. Based on the Table 2 on below, all the description of variables used and collected from Blomberg Terminal is presented.

Table 2
Description of Variables used in Blomberg Terminal

Symbol	Name	Blomberg Specification	Description
R&DE	R&D Expenditures (Similar used by DeCarolis & Deeds, 1999)	ISO72-R&D Expenditures (IS_RD_EXPEND)	Research and expenditures incurred in the fiscal period. This figure may or may not be gross of government grants, subsidies, tax credits as this depends on the company disclosure.
TA	Total Assets	TOTAL_ASSETS	Total Assets include anything a company owns that has monetary value, even if it can't be readily sold.
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.

Measurement of Dependent Variable

The major variable that the researcher will measure, predict, and be able to observe and change by manipulating the independent factors is referred to as the dependent variable (Cooper & Schindler, 2008). Organizational performance is the dependent variable in this study, and the return on assets ratio will serve as a proxy for it (ROA). The assessment of ROA will serve as a key financial indication of the organization's profitability and will show how effectively the company uses all of its assets. Many empirical research has utilised it as one of the accounting-based performance measuring methods (Maditinos et al., 2011). Last but not least, the ROA ratio may be computed utilising pertinent information from the annual report's financial statement, which is defined as earnings before interest and tax (EBIT) divided by total assets.

Measurement of Independent Variable

In contrast, an independent variable is a modified variable that is anticipated to have an impact on the dependent variable (Cooper & Schindler, 2008). In other words, the independent and dependent variables are related to one another. According to Figure 1, the structural capital is the independent variable that is measured by research and development expenditures over sales revenue.

Measurement of Control Variable

Generally, control variable is an experimental element that held constant and remain unchanged in a study in order to test the relative relationship between the dependent and independent variables (Mehta, 2015). In this study, firm size is chosen as the control variable. There are many ways that can be used to measure the firm size. For instance, firm size can be measured by employing natural logarithm forms of either total assets, total sales, or market value of equity. In details, total assets measures total firm resources, market capitalization measures firm growth opportunities, and equity market value and total sales measures product market competition (Dang et al., 2018).

Table 3
Outline of Variables and Measurements

Variables	**Terms of measurement**	**Sources**
Independent Variables		
Structural Capital (R&DE)	The percentage of R&D expenditures over sales revenue.	(DeCarolis & Deeds, 1999)
Control Variable		
Firm Size (SIZE)	Natural logarithm of total assets.	(Dang et al., 2018)
Dependent Variable		
Organizational Performance (ROA)	The ratio of earnings before interest and tax (EBIT) over total assets.	(Singh, Darwish, & Potočnik, 2016)

Method of Analysis

The panel data analysis was carried out in this study. Several types of analytical models are in use in the context of panel data. These include constant coefficient models, fixed effects models, random effects models and the hausmen test.

$ROA = B_0 + B_1R\&DE + B_2SIZE + et$

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
R&DE	= the percentage of R&D expenditures over sales revenue
SIZE	= the natural logarithm of total assets
e_t	= error term

Findings and Discussion

Descriptive Statistics

Table 4 on below which is based on the Blomberg's database from year 2012 to 2016. According to Table 4, it shows the descriptive statistics for all the independent variables and dependent variable separately. Firstly, the ROA ratio is the measurement for the organizational performance in Malaysia. For the first variable, the minimum ROA recorded is -132.58% and the maximum is 28.24%. Next, the average ROA for the companies chosen in Malaysia is -4.54% while the standard deviation is 21.12%.

Furthermore, the table presents the descriptive statistics of the research and development expenses divided by the sales for the selected companies in Malaysia. Based on the table, it shows that the percentages of R&D over sales ranged from 0.18% to 63.45%. The minimum composition of this variable is 0.18% and the maximum composition is 63.45%. Then, it indicates that the average R&D expenses for the Malaysian companies in percentage is 20.68%, whereas the standard deviation is 14.53. Lastly, the table presents the descriptive statistics for the variables of firm size in Malaysia. According to the results from the table, it shows that the firm size ranged from 0.05 to 7.5. Moreover, the mean for board size is 4.16 and the standard deviation for board size is 1.35.

Table 4
Descriptive Statistics

Variable	Minimum	Maximum	Mean	S.D.
ROA	-132.58	28.24	-4.54	21.12
R&DE	0.18	63.45	20.68	14.53
SIZE	0.05	7.50	4.16	1.35

Notes: **ROA**=Return on Assets, **R&DE**=Research and Development Expenses/Sales, **SIZE**=Firm Size

Normality Test

The multicollinearity test and the normality test were run. From either test, there were no problems. As a result, the research will use the following methodology.

Correlation Coefficient Test

Basically, the test of the correlation coefficient is used in statistics to measure how strong a relationship is between two variables. Specifically, it can be used to determine whether the dependent variable and independent variables for a research study have negative correlation or positive correlation. Based on the research of Pallant (2007), multicollinearity may be a problem when the correlation in between the independent variables exceeded 0.7. Thus, in order to verify whether there is an existent of multicollinearity problem, the results are shown in the Table 5 on below.

Table 5
Pearson Correlations Coefficient Matrix

	ROA	**R&DE**	**SIZE**
ROA	1.0000		
R&DE	0.0698* 0.2408	1.0000	
SIZE	0.5057* 0.0000	-0.1990* 0.0006	1.0000

Notes: **ROA**=Return on Assets, **R&DE**=Research and Development Expenses/Sales, **SIZE**=Firm Size
*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

Referring to Table 5, the correlation coefficient test shows that the ROA is significantly positively correlated with R&DE, at 0.0698. Furthermore, the ROA shows a significantly positive correlation with SIZE at 0.5057.

Hausman Test

In this Hausman test, the null hypothesis is that the preferred model is random effects; the alternate hypothesis is that the model is fixed effects. Essentially, this test looks to see whether there is a correlation between the unique errors and the regressors in the model.

Table 6
Hausman Test

	Coefficients			
	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
	ROA	.	Difference	S.E.
R&DE	0.5343399	0.3331651	0.2011749	0.0880037
SIZE	0.6722091	5.201899	-4.52969	2.004609

Test: Ho: difference in coefficients is not systematic
chi2 (4) = (b-B)' [(V_b-V_B) ^ (-1)] (b-B)
= 21.87
Prob > chi2 = 0.0002

The fixed effect model should be accepted if the value is lower than the level of significant, while the random effect model should be rejected if the value is falling below the significant level, and vice versa. Based on the results of Hausman Test shown on Table 6, the Prob > chi2 value is 0.0002, which is smaller than the significant level at 0.1. Therefore, reject the null hypothesis, and this indicates that the fixed effects model is preferred for this research study.

Fixed Effect (FE) Model

Fixed effect model is a very useful and powerful tool when the research study is focus in analyzing the impact of independent variables on dependent variable that vary over time. For this study, it is clearly shown that fixed effect model is more preferred than the random effect model by computing several tests on above.

Table 7
Fixed Effect Model

		Robust				
ROA	Coef.	Std. Err.	T	P > | t |	[95% Conf. Interval]	
R&DE	0.5343399	0.2067477	2.58	0.012*	0.1215548	0.9471251
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

Notes: **ROA**=Return on Assets, **R&DE**=Research and Development Expenses/Sales, **SIZE**=Firm Size

Table 7 shows that the R&DE and the SIZE (control variable) show significant relationship between ROA which is 0.012 (less than 0.05) while size show insignificant relationship between ROA which is 0.812.

Hypothesis Testing

Table 8
The Results of Hypothesis Testing

Hypothesis	**Decision of hypothesis (Accept if the p-value < 0.05)**
H1: The structural capital (R&DE) does significantly affect the organizational performance.	Accept
H2: The firm size (SIZE) does significantly affect the organizational performance.	Reject

Notes: **ROA**=Return on Assets, R**&DE**=Research and Development Expenses/Sales, **SIZE**=Firm Size

For Table 8 above, H1 is accepted which means the structural capital (R&DE) does significantly affect the organizational performance while H2 has been rejected i.e The firm size (SIZE) does not significantly affect the organizational performance.

Chapter Summary

This chapter had discussed all the research methodology used to analyze the panel data by using STATA software. In details, descriptive statistics, normality test, multicollinearity test, correlation coefficient test, hausman test, time effect test, fixed effect model and hypothesis testing's results are presented in table format for easier understanding. Among the two hypotheses tested, one hypothesis is accepted while another one rejected.

Discussion

The main objective for this study focuses on the impact of intellectual capital (structural capital) on the organizational performance in Malaysia. In order to achieve the objective with accuracy, this study used the sample observation from year 2012 to 2016. The result of Fixed Effect (FE) Model shown that the structural capital has found significant affect the stock market. In contrast, the firm size has found no significant in this model. In term of importance, structural capital made the unique contribution to the model as compared to the firm size.

On the other hand, the result for this study shows the structural capital has positively impact and significantly relationship with the organizational performance in Malaysia, which is supported by the research studies from (Bontis et al., 2000; Pablos, 2004). This result shows

that the technology companies in Malaysia are utilizing their structural capital with efficiently, and ultimately yield a competitive advantage. Through the Table 7, the results of 1% increase in the structural capital will increase the ROA ratio by 0.53%. In another example, the study of Purohit and Tandon (2017) mentioned that if proper systems and procedures and execute production plans was designed accordingly, it will be able to earn higher return and boost the firm's performance. This indicates structural capital is a significant tool that must be well maintained and it needs to be focused in order to achieve a high organizational performance in future. Therefore, it shown that the second alternative hypothesis constructed is being accepted and supported by the evidences.

Last but not least, the result of firm size shows that there is positive but insignificantly affect the organizational performance. In other words, the performance of technology companies listed in Bursa Malaysia will increases as their firm size expands. This may be explained by the fact that big firms are more effective than small firms since they make use of the economy of scale. In another example, the result was consistent with the study of Stierwald (2009), the positive and insignificant relationship was found in between the firm size and organizational performance. Hence, it was believed that the last alternative hypothesis is rejected and invalid.

Conclusion

In a conclusion, this research paper had studied the impact of the structural capital on the organizational performance which focusing on the Malaysian technology company performance. The results show that the structural capital has significant impact towards the organizational performance. In contrast, firm size has been found not significant towards the organizational performance. In addition, this research paper has point out several limitations that cannot be solved throughout the whole study such as limited to yearly data and limited independent variables. However, this research study has provided some of the recommendations in this chapter in order for the future researcher to overcome the limitations and extended the similar topic with realistically. Last but not least, the results of this study may benefit the local government, investor, policy maker and future researcher in performing their job task.

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