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**INTANGIBLE ASSETS DISCLOSURE AMONG MALAYSIAN**  
**TECHNOLOGY COMPANIES: A RESOURCE BASED VIEW**

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***Abstract***

The current development of the service industry and information technology-related trades, alongside with the growth in the international mergers and acquisitions forms a higher level of importance towards the intangible assets accounting measures. Besides that, companies opt to voluntarily disclose their intangible assets information in the annual report due to the inability of traditional financial reporting practices to produce adequate intangible information to corporate stakeholders. Therefore, it is important to identify the variables that effect the voluntary disclosure of intangible assets. This study aims a) to analyse the extent of voluntary disclosure of intangible assets and b) to examine the factors, based on resource based view, influencing the voluntary disclosure of intangible assets among Malaysian public listed companies. By content analysing the frequency scoring of intangible assets in the 94 annual reports from 47 technology listed companies on the Ace Market for two years. The results reveal that Chief Executive Officer with international experience and firm size are two resources that can influence or motivate the extent of intangible assets voluntary disclosure. The other factors namely profitability, organisational slack, board size and board independence prove not to be significant drivers in encouraging the intangible assets disclosure.

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**Keywords:** Intangible assets, voluntary disclosure, resources based view, technology sector.



## **1. Introduction**

In a period of learning based economy, disappointment over the ability of traditional financial reporting to provide valuable data to company's stakeholders has been raised (Abeysekera, 2014; Boesso & Kumar, 2007; Kang & Gray, 2011). This has directed to a request for a different kind of voluntary disclosure particularly focusing on the disclosure of intangible assets (Abeysekera & Guthrie, 2005). Intangible assets can be defined in several ways and it is commonly associated to either accounting or management literature. Accounting experts consider "intangible assets" only when it is recognized by the traditional financial statements. Professional accounting standards such as Malaysian Financial Reporting Standard (MFRS) 138 defines intangible asset as an identifiable non-monetary asset and without physical substance (MASB, 2015). The assets are only recognized in the companies' financial statement when it is probable that the expected future economic benefits that are attributable to the asset will flow to the entity and the cost or value of the asset can be measured reliably (MASB, 2015). Management literature, however, expresses and investigates intangible assets more broadly and collectively refer intangible assets as intellectual capital (Lev, 2001). Steenkamp and Kashyap (2010), for example, refer intellectual capital as assets/resources, elements and capacities/capabilities that are attributed to an organization and contributed to the delivery of the organizational strategy. Despite the two definitions are from two different fields, both highlighted intangible assets as companies' non-physical resources in the modern knowledge economy and companies are encouraged to disclose them in their corporate report to expose their maximum capabilities to the stakeholders. As the difference in term is considered as trivial and that the difference is largely due to whether or not it will be recognised in the financial statement, the term intangible assets will be predominantly used throughout the paper.

Disclosure is one of the mechanisms that can be used to understand the amount and types of intangible assets invested by an organization. The shareholders and management are able to make decision based on relevant information disclosed through the financial disclosure that represents "any deliberate release of financial information by way of formal or casual networks" (Gibbins, Richardson & Waterhouse, 1990). Several corporate collapses, however, have indicated that reporting financial information alone in annual report is not enough. The traditional financial reporting focuses on reporting information that only meets the recognition criteria of the accounting standards. Abdullah, Sulaiman, Sapiei, and Minhat, (2013) reveal that not all companies are in full compliance with mandatory disclosure requirements. Similarly, this author claimed that not all companies fully comply (only 78.9% complied) with mandatory requirements due to weak organizational structures, for example, insufficient enforcement device, lack of qualified accountants and difficulties in fulfilling the recognition criteria. Consequently, due to the difficulties to comply with mandatory disclosure requirements and to enhance the quality of corporate information being distributed to external stakeholders (Abdullah et al., 2013) Malaysian public listed companies have opted to disclose their intangible assets information on voluntary basis in their annual report.

## **2. Problem Statement**

Current business environment becoming more complex and demanding, one of the areas that has caught the attention of the professional is intangible assets. Most of past researches uncritically accepted that, reports containing intangible assets information mostly on voluntary basis, express exactly all about

firm performance (Abeysekera, 2014). Emerging market companies have also being engaging in voluntary disclosure of intangible assets information as one of the routes used to enhance their profile and reputation and eventually be more transparent to their potential global stakeholders (Kang & Gray, 2011). High technology industries, in particular, have seen mandatory disclosure as less informative, forcing them to invest in voluntary disclosure of intangible assets (Kumar, 2013). Technology industry are expected to invest more on intangibles assets such as research and development (R&D), brand recognition, employee skill, knowledge and competence (Rahim, Atan & Kamaluddin, 2011) to enhance their organization performance, transparency and competitive advantage (Kang & Gray, 2011). Looking at the potential significant contribution of intangible assets to technology industry, it become a motivating factor for the sample selection of this research i.e. to demonstrate the extent of voluntary disclosure level among public listed companies focusing specifically on technology sector.

There has been numerous numbers of intangible assets disclosure studies conducted in both developed and developing countries. Branswijk and Everaert (2012), Bruggen, Vergauwen, and Dao (2009) and Sonnier (2008) are example of studies conducted within the scope of developed countries while studies such as Haji and Ghazali (2013), Rahim et al. (2011) and Goh and Lim (2004) are conducted in developing countries particularly in Malaysia. Sonnier (2008), for example, content analysed 143 high-technology and 141 traditional sector public listed companies of United States (US) for fiscal year 2000 and 2004. The findings show that, high technology companies voluntarily disclose greater intellectual capital in their corporate report as compared to traditional sector companies. Rahim et al. (2011) who also adopt the non-accounting term of intangible assets i.e. intellectual capital investigated the reporting practices of public listed companies under technological sector for year 2009 using the content analysis method. The findings of their study show that greatest disclosure is made on external capital as compared to internal capital and human capital.

Based on the review of past researches, it can be concluded that there is still a gap in the literature looking at the voluntary disclosure of intangible assets particularly within Malaysian technological sector. Although Rahim et al. (2011) conducted their research on technology industry, their focus was on 2009 annual report. This study will extend what has been conducted by Rahim et al. (2011) by providing, not only a much recent analysis of intangible assets disclosure but also provide evidence, based on resource based view (RBV) theory, factors that influence the extent of intangible assets disclosure among Malaysian technology companies.

Past researchers have mostly tested on signalling theory, legitimacy theory and stakeholder theory (Abeysekera 2014; Kang & Gray, 2011; Rahim et al., 2011). These theories seem to have put more emphasize on how external pressures from interest groups such as investors, creditors and public influence companies' decision to invest in intangible assets and eventually their reporting of intangible assets. To the knowledge of this study, most of the previous studies conducted within Malaysian context have also taken similar approach looking at either intangible assets disclosure through theories such as legitimacy or stakeholder theory. Such studies are Haji and Ghazali (2013), Abdullah et al. (2013), Rahim et al. (2011) and Goh and Lim (2004). There seem to be lack of study looking at internal capability of a company in disclosing information related to intangible assets. This research will close the gap by testing the extent of intangible assets disclosure from the perspective of RBV. The RBV theory proposes that companies

represent a pool of resources (Barney, 1991) and that the resources are controlled by companies as one of essential determinants of their performance (James & Joseph, 2015). The control over both tangible and intangible resources of an organization will directly/indirectly explain the existence and competitive position of companies and eventually influence their capabilities to voluntarily disclose information in their annual report. Therefore, this paper aims to examine the extent of voluntary disclosure of intangible assets within the context of resource-based factors such as firm size, profitability, organization slack, board independence, board size, as well as whether or not the Chief Executive Officer (CEO) has international experience.

### 3. Research Questions

Given the gap in the existing literature, research questions for this present study are

- To what extent Malaysian technology companies voluntarily pursuing intangible assets disclosure in their annual reports?
- Based on RBV, what are factors influencing the voluntary disclosure of intangible assets?

### 4. Purpose of the Study

The objectives of this study are:

- To analyse the extent of voluntary disclosure of intangible assets among Malaysian technology companies.
- To examine, based on RBV, factors influencing voluntary disclosure of intangible assets

### 5. Research Methods

#### 5.1. Hypotheses development.

RBV served as theoretical background for the data analysis in this study. According to Barney (1991), RBV is defined as “bundles of heterogeneous resources and capabilities that are imperfectly mobile across firms”. It aspires to explain the internal sources of a firm that can help the firm to sustain its competitive advantage (Kraaijenbrink, Spender, & Groen, 2010). Several researchers have attempted to develop resource categorization scheme for RBV such as Russo and Fouts (1997), Branco and Rodrigues (2006). Branco and Rodrigues (2006), for example, have categorized the RBV into two i.e. (1) tangible resources and (2) intangible resources and capabilities. Tangible resources are assets that can easily be duplicated even they are valuable and rare. This type of assets are commonly represented by financial and physical based assets. For the purpose of this study, the same RBV categorization is used with tangible resources represented by factors such as firm size, profitability and organizational slack while intangible resources focus on capabilities and characteristic of the directors in the board i.e. size as well as independence of the board, and whether or not the firm’s CEO has international experience.

##### 5.1.1. Firm size:

Several researches have proven that larger firms disclose more intangible information (Alves, Rodrigues & Canadas, 2012; Kumar, 2013). In this case, political costs are greater on large organizations, as claimed by Watts and Zimmerman (1990). Consequently, it is expected that larger companies will step

forward to enhance the confidence level of their stakeholders and reduce the disbursement cost by engaging in voluntary disclosure of intangible assets. With greater number of capable and skilled workforces, larger firms are also capable of supporting a greater share of uncertainty that is related with intangible asset investments as compared to small firms (Arrighetti, Landini & Lasagni, 2014). Kiel and Nicholson (2003) similarly reveals, from RBV perception, larger companies entail a greater range of resources to enhance their performance and the access of those resources will be disclosed on voluntary basis in their annual report. Therefore, under the RBV, this study predicts similar results for size of the firm, measured through companies' total assets, with the following hypothesis:

H1: There is significant relationship between firm size and the voluntary disclosure of intangible assets

#### **5.1.2. Profitability:**

Haji and Ghazali (2013) exposes that profitability is one of the variables that positively influenced the disclosure of intellectual capital among Malaysian firms. On the other hand, if the company is facing low profitability, managers could avoid legal liability and loss of reputation by disclosing more information (Skinner, 1994). Taking into consideration the mix direction of the relationship and on the basis that profitability, measured through net income before tax over total assets, will influence company's capability to invest more in intangible assets, the following hypothesis is fomed:

H2: There is significant relationship between profitability and the voluntary disclosure of intangible assets

#### **5.1.3. Organizational Slack:**

Slack resources represent unnecessary capital expenditures, excess workers and unused productive capacity that, if unused, can add costs to organizations resulting in competitive disadvantages and reduced performance (Bourgeois & Singh, 1983). Darus, Mad and Nejati (2015) concluded that organizations use their financial resources slack to internally participate in social activities which directly lead to higher disclosure of social-based information. Using the same basis where organizational slack, measured through current assets over current liabilities, will lead to greater chance for a company to invest more in intangible assets, the following third hypothesis is developed:

H3: There is significant relationship between organizational slack and the voluntary disclosure of intangible assets

#### **5.1.4. Board Size:**

In accordance to RBV, larger board size will lead to more resources available to be used by companies (Pfeffer, 1972). Lipton and Lorsh (1992) also discovered larger board have an expanded pool of ability and offer a significant range of decision making. Using this basis, a number of previous researchers has analysed the connection between board size and intellectual capital disclosure (see for example, Abeysekera, 2010; Haji & Ghazali, 2013; Othman, San, Aris & Arshad, 2012; Rashid, Ibrahim, Othman & See, 2012.). Hence, this study predicts similar relationship with board size, measured through total numbers of board members. The following hypothesis is proposed:

H4: There is significant relationship between board size and the voluntary disclosure of intangible assets

#### **5.1.5. Board Independence:**

Haji and Ghazali (2013) conducted a research on intellectual capital disclosure in Malaysia and the results reveals an effective corporate governance mechanism, in particular the existence of non-executive independent directors, positively affects the quality and extent of disclosure. According to the RBV, with more non-executive independent directors on the board, more outside resources will be accessible and incorporated in the companies' strategy to secure higher profits and proceeds (James & Joseph, 2015). This strategy may turn into outside knowledge and capability being carried into the organization that will finally act as exclusive resources for the company. Therefore, with measurement based number of non-executive independent directors on board (specified in the annual reports) divided by total number of directors on board at the financial year end, the following hypothesis is developed for board independence:

H5: There is significant relationship between board independence and the voluntary disclosure of intangible assets

#### **5.1.6. CEO with International Experience:**

In the context of RBV, an organization is made up of unique resources. Othman et al. (2012) expose that, CEO's experience especially gained via international skills is valuable, rare and inimitable resources, which will increase the organization's performance. To formulate a set of best practice for an organization, the board requires a knowledgeable and international experience chief who are familiar with the collective learning process (Bansal, 2005). Using the same basis, Hypotheses 6 proposes the following hypothesis for CEO with international experience, measured through dichotomous value of '1' if yes and '0' if no:

H6: There is significant relationship between CEO with international experience and the voluntary disclosure of intangible assets.

### **5.2. Population and sample.**

The sample consists of all companies listed under the technology sector on the Bursa Malaysia Ace market. However, out of a total of 57 listed companies, only 47 companies were analysed due to the missing annual report for sample period 2014 and 2015. As claimed by Rahim et al. (2011), companies under technology industry are expected to rely more on the investment of intangible assets in the operation of their business as compared to other traditional sector companies.

### **5.3. Data collection procedures.**

Data collection is an integral aspect for any kind of research. In this study, the data was collected through secondary sources by examining the annual reports downloaded from Bursa Malaysia. A disclosure index constructed by Lev (2001) which was later modified by Kang and Gray (2011) was used to conduct the content analysis. Set of items listed under the index are outlined in Table 1. Content analysis technique has been used by a number of intangible assets researchers, as they are a better tool to measure the intangible assets disclosure practices among companies (see for example, Abeysekara & Guthrie, 2005; Goh & Lim, 2004; Rahim et al., 2011). This study content analysed the frequency scoring for each items listed in the index. Other than the dependent variable and some of the independent variables that are extracted from the annual report, numerical value for some independent variable as well as the control variable was extracted from Thompson Reuter's database. Consistent with prior studies, leverage is included as the control variable

for this study. Leverage, measured by total liabilities over total assets, is one of the companies' attributes commonly tested under disclosure based studies which document both negative and positive relationship. For example, Rashid et al. (2012) who analysed the relationship between leverage and intellectual capital disclosure among Malaysian IPO companies found a significant positive relationship between the two variables.

**Table 01.** Intangible Asset Index (Adopted from Kang and Gray, 2011)

<b>Phase 1: Discovery and Learning</b>	
Networking	Business collaborations; Customer integration; Supplier integration; Communities of practice
Acquired Capabilities	Infrastructure assets; Spill over utilization
Internal Renewal	R&D; Workforce training; Management processes
<b>Phase 2: Implementation</b>	
Internet	Online management; Online trading; Major internet alliances
Technological Feasibility	Government approvals; Beta tests, working pilots; First mover
Intellectual Property	Patents, trademarks; Licensing agreements
<b>Phase 3: Commercialization</b>	
Performance	Market share; Innovation revenue; Patent and know how royalties
Customers	Marketing innovation; Brand values; Customer churn and value; Environmental reporting
Growth Prospects	Product pipeline; Expected efficiencies; Planned initiatives; Expected breakeven and cash burn rate

#### 5.4. The regression model.

To analyze the association between the RBV factors and the extent of intangible assets disclosure a test was conducted through the following formulated regression model:

$$VDIA = \beta_0 + \beta_1 SIZE + \beta_2 \pi + \beta_3 OS + \beta_4 BSIZE + \beta_5 BIND + \beta_6 CEO + \beta_7 LEV + \epsilon_i$$

where;

VDIA = Voluntary Disclosure of Intangible Assets, SIZE = Firm Size,  $\pi$  = Profitability, OS = Organizational Slack, BS = Board Size, BI = Board Independence, CEO = CEO with International Experience, LEV = Leverage.

## 6. Findings

Table 02 and 03 displays the descriptive statistics for both dependent variable of the study as well as the independent variables namely profitability, organisational slack, firm size, board size, board independence and CEO with international experience. The mean level and standard deviation of voluntary disclosure of intangible assets disclosure (VD of IA) are 34.49 and 14.24 respectively while the maximum and minimum level are 88 and 10 respectively. Overall, the extent of intangible assets disclosure among technology companies in Malaysia can be considered as improving. Out of 28 items listed in the index, 80 percent of the items were disclosed in the annual reports. In contrast, the research conducted in Malaysia by Rahim et al. (2011) which shows the disclosed items in the annual reports only stand at 69 percent. Generally, this indicates that there is improvement in the extent of voluntary disclosure of intangible assets.

This could be attributed by the increasing awareness on the importance of intangible assets among technology based companies.

**Table 02.** Descriptive statistics

	Minimum	Maximum	Mean	Std. Deviation
PROFIT	-103.63	0.27	-1.56	11.22
OSLACK	0.01	34.96	4.42	4.97
LEV	0.03	112.80	2.23	12.84
VD of IA	10.00	88.00	34.49	14.24
FSIZE	59.00	1320032.00	94200.63	194785.69
BSIZE	4.00	10.00	6.07	1.28
BIND	0.20	0.80	0.52	0.13

**Table 03.** Frequency statistics for CEO with international experience

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	45	47.9%	47.9	47.9
	1.00	49	52.1%	52.1	100.0
	Total	94	100	100.0	

Table 04 represents the regression result and reveals the association between dependent variable, voluntary disclosure of intangible assets (VD of IA) and independent variables, firm size (SIZE), profitability ( $\pi$ ), organizational slack (OS), board size (BS), board independence (BIND) and CEO with international experience as well as the control variable, leverage.

The model shows an adjusted R<sup>2</sup> of 0.088 and a significant value of 0.035 with only two variables showing significant relationship with the dependent variable, extent of intangible assets disclosure. While the R<sup>2</sup> value 15.7 per cent is considered low compared to Rahim et al. (2011) who resulted with 16.8 per cent. The association between tangible resources specifically firm size, organizational slack, profitability and intangible assets disclosure has shown that only firm size has significant relationship with voluntary disclosure of intangible assets while organizational slack and profitability show no significant results. These results are consistent with previous research where firm size was also found to be significantly associated with the voluntary disclosure of intellectual capital (Haji & Ghazali, 2013).

**Table 04.** Regression results

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig. (p-value)
	B	Std. Error	Beta		
(Constant)	-2.062	17.022		-.121	.904
Profitability	.040	.146	.031	.272	.786
Organization_Slack	.015	.288	.005	.054	.957
Leverage	.185	.146	.167	1.266	.209
LogFS	2.985	1.349	.307	2.213	.030
BSIZE	1.371	1.297	.123	1.057	.294
BIND	-.689	12.540	-.006	-.055	.956
CEO	-6.737	2.865	-.238	-2.352	.021
R <sup>2</sup>	0.157				
Adjusted R <sup>2</sup>	0.088				



F-statistic	2.287
Sig. (p-value) <sup>b</sup>	0.035

Similarly, the relationship between intangible resources namely board size, board independence, CEO/MD with international experience and intangible assets disclosure found insignificant relationships between all variables except for CEO with international experience with a p-value of 0.021. These findings are inconsistent with findings produced by previous researches such as Haji and Ghazali (2013) who reveal positive relationships between board independent and board size with the level of intellectual capital disclosure. Sartawi, Hindawi, Bsoul and Ali (2014) also provides similar result to Haji and Ghazali (2013) showing significant positive association between the board size and the level of voluntary disclosure ( $\beta=.003$ ,  $\rho=.874$ ). The findings of this present study, however, indicate that only CEO with international experienced CEO has significant relationship with the extent of intangible assets disclosure. This signifies that regardless of the board size or the independence of the board, only leaders that have international experience have the deciding power to determine whether or not the company want to invest (and eventually disclose the information on voluntary basis) in intangible assets.

## 7. Conclusion

The aim of this research is to analyse, within the context of RBV, the voluntary disclosure of intangible assets practices among Malaysian technology companies listed in the Ace market. Specifically, the first objective is to show the extent to which Malaysian technology companies voluntary disclose information related to intangible assets. This study also assesses factors, identified based on RBV, that influence the amount of intangible assets information disclosed by the companies. The study reveals that technology industry discloses a maximum score of 88 information related to intangible assets and a minimum score of 10. This indicates none of the sample companies choose to disclose zero information on intangible. An analysis on RBV factors have shown firm size and CEO with international experience as two resources that the company has that can influence the extent of intangible assets disclosure among Malaysian technology companies. The limitation of this study is that it only covers two years period and the small sample size may not be sufficient to measure the RBV factors. This could contribute to the lack of significant relationship between the RBV factors and the extent of intangible assets disclosure, since, reported  $R^2$  is low percentage. Hence, it can be concludes that the technology sector companies' resources utilization exposes low variance through  $R^2$  towards voluntary disclosure of intangible assets. The results, however, provide valuable findings to regulators (standard setters) such as Securities Commission and Bursa Malaysia in ensuring high quality of voluntary disclosure and may indirectly enhance the mandatory requirements of intangible assets disclosure. The findings will also create public awareness on the extent of voluntary disclosure of intangible assets among Malaysian public listed companies. Standard setters can also use the result as a mechanism to oversee the function of influencing factors in enhancing companies' capability to invest and eventually disclose information on intangible assets. For future research, it is recommended a larger sample size is chosen with more RBV factors being tested.

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