

# **THE DECISION USEFULNESS OF INTELLECTUAL CAPITAL INFORMATION IN MALAYSIA: THE PERSPECTIVES OF IPO PROSPECTUS PREPARERS AND USERS**

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## **ABSTRACT**

This study aims to examine the perceptions of IPO prospectus preparers and users on the decision usefulness of intellectual capital information disclosed in IPO prospectus and compare their perceptions in order to understand if gaps exist. Data were collected by using online questionnaire. Based on the responses of 126 respondents with various different backgrounds, this study found that both preparers and users perceive the intellectual capital information to be useful for their decision making purposes especially external capital and this is followed by internal capital and then human capital. Overall, there is no significant difference between their perceptions. However, looking at the items of human capital and internal capital, it has been found that there are a few items that show significant difference in which preparers perceive them to be more useful than the users. For instance, disclosure on the education and training expenses and description of community involvement.

**Keywords:** Intellectual capital; Decision usefulness; Disclosure; Perception; IPO prospectus

## **1. INTRODUCTION**

“Empires of the future are the empires of the mind”, this quote famously declared by the former British Prime Minister Sir Winston Churchill in a speech given at Harvard University in 1943 although coming from a political standpoint succinctly encapsulates the extreme relevance of the knowledge and intellect (Singh and Kansal, 2011). Both elements became much more apparent after the paradigm shift from being a production-based economy to a knowledge-based economy (Lev, 2001). The advent of knowledge-based economy calls for new resources that were never observed in financial statements of a firm which are Intellectual Capital (IC) resources, for instance, knowledgeable personnel, firm culture and corporate strategies (Rashid, Ibrahim, Othman and See, 2012). Hence, more and more businesses put greater emphasis in expertise and technical ability such as patents, brands, product breakthroughs and research and innovations (Seetharaman,

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Sooria and Saravanan, 2002). Based on a tactical viewpoint, IC is utilized in generating and applying knowledge to raise the value of an organization (Roos, Roos, Dragonetti and Edvinsson, 1997), and thus, its disclosures are imperative.

However, due to the lack of a specific standard governing the disclosure of IC elements, the disclosure of IC information is voluntary in nature. While there is an accounting standard governing the financial reporting of intangible assets, the standard has scoped out many IC resources from recognition, and hence, accounting recognizable IC resources have been limited. The main failure with the financial accounting framework in publicizing a huge chunk of the IC of a business organization in the prospectus has resulted in an insufficient level of publicly available information about the IC resources provided to stakeholders of firms. As the information as provided by the preparers of the IPO firms in prospectus to users is incomplete for decision making, an information gap between insiders and outsiders has been created (Singh and Van der Zahn, 2007). The consequence from the information asymmetry between the two parties is that it may increase the agency cost between the informed and uninformed users of accounting information. In the instances of the IPO issues, a higher cost of going public, which is normally known as “underpricing”, may be experienced by the IPO firms, when the information asymmetry gap gets larger.

In Malaysia, underpricing of share is considered as a common phenomenon and this scenario is proven in many empirical studies such as Dawson (1987) as cited by How, Jelic, Saadouni and Verhoeven (2007), Loughran, Ritter and Rydqvist (1994), Murugesu and Santhapparaj (2009), Yong (1997) and Yong and Isa (2003), . Furthermore, Bursa Malaysia has been experiencing a long dry spell of initial public offerings (IPOs) as so far there were only 8 firms who had submitted their draft prospectus to the Securities Commission in a particular year (Idris, 2015). Consequently, the fact of Malaysia being one of the hottest IPO markets is no longer valid. The suspension of Malaysia’s once-inspired IPO market affected by the worsening economic outlook, uncertain currencies and bleak performance by some of previous year’s largest IPO firms, is leading the market into a slump (Pertwee, 2015). In order to improve the current economic condition, productivity-enhancing reforms, as one of the key solutions, have to be implemented immediately to upgrade the standard of human capital and encourage competition within the Malaysian economy. This has increased the firms’ obligation to measure and disclose IC resources.

To ensure the information requests of the stakeholders are fulfilled, firms choose to report additional information about IC on a voluntary basis. Unfortunately, the information asymmetry between insiders and outsiders still exists even with the voluntary disclosure because the types of information provided by the firms are different from the information required by the investors. This is evident when Eccles, Herz, Keegan and Phillips (2001) reported that an information gap exists between the types of information disclosed by the management and the types of information demanded in the capital market. Bukh (2003) stated that the information gap could be explained by the absence of sufficient communication between the management and the market participants. Hence, other than examining the perception of IPO prospectus preparers on the usefulness of IC information, this study also aims to examine the perceptions of IPO prospectus users on the decision usefulness of IC information as disclosed by the firms going for IPO and subsequent listing on the Malaysian stock exchange. This study also aims to analyze the disparity, from an empirical perspective, between the perceptions of IPO prospectus preparers and users on the

decision usefulness of IC information as disclosed in IPO prospectuses in order to understand if a gap exists.

To our knowledge, this study is the first attempt to investigate the perceived decision usefulness of IC in Malaysia by focusing on the perception of IPO prospectus preparers and users. The study on the disclosure of IC information in IPO prospectuses is especially vital as most of the IPO firms are comparatively young, small and less well-known to investors because of the limited information on their financial results that are available to the public (Cordazzo, 2007). IPO firms would need to provide additional information via their prospectuses in order to promote their shares to the investors. In order to address the aforementioned research problem, a set of research questions that are deemed vital in deriving the result of this study have been constructed as follows:

1. What is the informational content of IC disclosure that is perceived to be useful by the IPO prospectus preparers and users for decision-making purposes?
2. Do the preparers of IPO prospectus perceive the decision usefulness of IC information differently as compared to the users of IPO prospectus?

With respect to the research questions as mentioned above, this study endeavors to explore the perceived informational content of IC disclosure that is useful for decision making from the IPO prospectus preparers' and users' perspective and determine if there is disparity between their perceptions.

Studies examining the extent of IC disclosure in the IPO prospectus have largely been based on secondary data approaches (for instance, Rashid et al., 2012; Too and Somasundaram, 2010; Too and Wan Yusoff, 2015); there exists limited research on perceptions of the importance of IC disclosure and its decision usefulness for the preparer and user groups, respectively, together with matching between the supply and demand of IC information which is relevant for IPO investment. In addition, prior studies on the extent of IC disclosure in the IPO prospectus demonstrated a relatively low level of disclosure. For instance, Too and Wan Yusoff (2015) who applied content analysis of 331 IPO prospectuses of firms underwent listing between 2002 and 2008 discovered that the extent of IC disclosure is less than 20%. In addition, Rashid et al. (2012) observed an average disclosure of around 35% in the IPO prospectuses for 130 firms in the technology and industrial products sectors which underwent listing from 2004 to 2008 in Malaysia. Both studies, based on content analysis, provide some motivations for us to study if there might be an information asymmetry gap between the IPO firms and potential IPO investors. This study attempts to reduce the gap between the types of IC information perceived as important by the users as compared with the perceived importance by the preparers of the IPO prospectuses. Findings from this study may enhance decision usefulness of IC information as information asymmetry gap between the IPO firms and potential investors can be minimized when the firms could publish relevant IC information for better investment decisions. As providing additional information in the prospectus requires additional costs, cost effectiveness needs to be considered by preparers, in addition to determining what information is essentially required by users. The results of this study provide insights into the types of IC information demanded by users so that the level of information asymmetry between the respective parties can be reduced, which in turn could mitigate the undervaluation of IPO shares.

In essence, this study contributes to the body of knowledge by examining the decision usefulness of IC disclosure, and thus reducing the information asymmetry gap between suppliers and users for IPO share investment decision-making. Focusing on IPO prospectuses as a mean of IC disclosure and gauging the perspectives of preparer and user groups can overcome the weaknesses of previous studies whereby research has been done on annual reports, a reporting medium which had been criticized by Dumay and Guthrie (2017) as irrelevant and containing very little information on IC and the future prospects of firms. In contrast, the perceptions of preparers and users of IPO prospectuses is considered a more relevant disclosure mechanism for IC information as it contains more forward looking information upon which the users can rely, to examine the value creation ability of IC resources on the firms' growth. Furthermore, using IPO prospectus as in the present study may overcome the limitations of annual reports as a data source, and researchers are encouraged to continuously consider new and innovative data sources for IC disclosure, as argued by Cuzzo, Dumay, Palmaccio and Lombardi (2017). In addition, it has also been argued that the survey method for research on IC disclosure is rare in the literature (Ousama, Fatima and Hafiz-Majdi, 2011). Hence, this study contributes to the body of knowledge by providing new insights in IC research through questionnaire survey and specifically examining IPO prospectus, a more innovative data source of IC information when compared to annual reports.

## **2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT**

The term "intellectual capital" was introduced about two decades ago by Thomas A. Stewart in his papers that were published in the early 1990s. IC generally refers to the resources that will establish the competitiveness and value of a firm (Sullivan, 2000). From a human resource's viewpoint, it is understandable that IC could not be easily interpreted in financial terms. Alternatively, it would be more appropriate to categorize this term as a "non-financial asset". IC is also known as "non-monetary sources of probable future economic profits, lacking physical substance, controlled (or at least influenced) by a firm as a result of previous events and transactions (self-production, purchase or any other type of acquisition) and may or may not be sold separately from other corporate assets" (Meritum, 2002, p. 9). In addition, based on the perspective of the corporation's ability to operate, Brooking (1996) regarded IC to be the "combined intangible assets which enable the company to function", based on the viewpoint of the firm's capability to function. On the other hand, from the viewpoint of value creation, IC is defined as "packaged useful knowledge" by Stewart (1997) which means that the intellectual material including knowledge information, intellectual property and organizational experiences can help in generating value.

IC has been categorized into a few different clusters by economists and experts. There are numerous classifications of IC in the academic literatures. Brooking (1996) has introduced the "Technology Broker" and presented a comprehensive and generic framework to define and measure IC in firms into four categories: market assets, human centered assets, intellectual property assets and infrastructure assets. Sveiby's (1997) suggested categories of IC resources is the most commonly cited in the literature as he is amongst the first to classify IC by proposing a measurement scheme noted as the Intangible Assets Monitor, which separates IC into three segments: employee competence, external structure and internal structure. Sveiby's (1997) classification has also been applied extensively by subsequent IC studies as the fundamental elements of IC with slight amendments (Choong, 2008). Furthermore, Stewart's (1997) classification of IC elements has also been widely applied in IC literature and he classified IC into

three categories namely human capital, customer capital and structural capital. There are other IC measurement and scorecard methods by other researchers such as Skandia Navigator (Edvinsson and Malone, 1997) and Value Distinction Tree Method (Roos and Roos, 1997).

In essence, generally, there are three main categories of IC elements, namely human capital (HC), internal capital (ITC) and external capital (EXC). HC, which is reliant on employees, reflects the implicit intelligence and an understanding of the organizations' human resources. This refers to the employees' education, innovation capacity, skills, teamwork capacity, values and so forth (Guthrie, Petty and Ricceri, 2006). Magrassi (2002) described HC as "the knowledge and competencies residing with the company's employees" in his article entitled "Taxonomy of IC". ITC is derived from the growth processes and constitutional innovation that remains in the firm. It consists of items such as copyrights, patents, trademarks, information systems, network systems, research and development, innovations, corporate culture and management philosophy (Abeysekera and Guthrie, 2005). EXC is defined as all the resources that are related to the connections of the firms with foreign parties such as customers, suppliers or partners. For instance, customer satisfaction, business collaborations, relationship with suppliers, distribution channels, franchising agreements, licensing agreements and marketing (Guthrie et al., 2006).

Based on the signaling theory, firm management will transmit positive information to investors through the IPO prospectus in an effort to persuade investors to invest in the company. As insiders have more information as compared to outsiders, signaling also helps to mitigate the information asymmetry in markets when the party with more information (management) signals to the other parties (investors). In view of the lack of accounting methods to report IC, firms have full discretion on IC disclosure, i.e. they can disclose voluntarily so that the potential investors may aware about the companies' IC position for a more precise valuation of the companies. Hence, there is an increasing appreciation by the capital market on the prominence of IC. This is particularly obvious due to the IC information reported in countries such as UK (Williams, 2001), Denmark (Bukh, Nielsen, Gormsen and Mouritsen, 2005), Singapore (Singh and Van der Zahn, 2007) has increased by more than fifty percent, over the respective periods of observation (Too and Somasundaram, 2010). Furthermore, Abeysekera and Guthrie (2005) reported that the leading 30 Sri Lanka companies listed on the Colombo Stock Exchange mainly disclosed on the EXC followed by HC after analyzing their annual reports. As for EXC, brand building and processes were most reported and stated respectively, followed by systems in the ITC component while employee relationship information was the most reported in the HC category. By investigating corporate IC disclosures of top 12 Spanish firms spanning from 2000 to 2002, Oliveras, Gowthorpe, Kasperskaya and Perramon (2008) showed that customer relation controlled the disclosures which are preferably categorized in the region of EXC rather than ITC or HC.

Although information asymmetry between market participants can be reduced through voluntary disclosure of IC information, several studies on the information needs of investors and analysts such as Beattie and Pratt (2002), Eccles et al., (2001) and Eccles and Mavrinac (1995) revealed a huge variation between the information demanded by the market and the information found in firms' annual reports. For example, PriceWaterhouseCoopers have surveyed the information type that investors require (Eccles et al., 2001). In the survey, only cash flow, earnings and gross margin, being three out of ten categories of information that were regarded as essential to investors. As for the remaining seven information categories, five of them may be treated as "intangibles" (i.e. market growth, quality/experience of the management team, market size and market share, speed

to market) while the other two were obtained from the company's internal data (strategic directions and competitive landscape). Furthermore, the 14 categories of information considered to be of medium influence were separated by the authors into three groups: customers, employees and innovation. Interestingly, it has been observed that most of the information that were regarded as significant by investors and analysts are IC related. Furthermore, as suggested by most findings, managers do not reveal much voluntary information, and hence this creates an "information gap" situation between the firms and users.

Examining the differences in the perception of usefulness of IC information between preparers and users in the listed firms' annual reports, Ousama et al. (2011) reported that there are insignificant disparity on the viewpoint of the practicality of IC information by the preparers, users and other different user groups of listed firms' annual reports. Both the preparers and users perceived the IC information revealed in the annual reports of listed firms to be beneficial and important when making their decisions. Listed firms in Malaysia should consider voluntarily disclosing IC information to fulfil the needs of their stakeholders since the outcome of their study suggested that IC information is perceived to be useful for decision making. However, the requirement of the type of IC information for investment decision for an IPO firm could be different in the perspectives of preparers and users of IPO prospectuses. Furthermore, to our knowledge, there isn't any study researching about the usefulness of IC information from the perspectives of the preparers and users of IPO prospectuses of firms going for initial public offerings in Malaysia. As Ousama et al. (2011) study contribute to reducing of information asymmetry gap for annual report preparers and users, while, our study aims to contribute to reducing of information asymmetry gap of potential investors on firms undergoing IPO in Malaysia. Our study focuses and contributes to the body of knowledge on the decision usefulness of IC information in the primary capital market which is more risky for investors as compared to investment in the secondary market. In addition, it provides insight into the most important category of IC resources and the items of disclosure in each category of IC from two different parties' points of view. The hypotheses below are constructed in alternate forms based on the above discussion. Furthermore, sub hypotheses are formed to examine the 3 components of IC which are HC, EXC and ITC.

H1: IC information is perceived useful by the IPO prospectus preparers and users.

H1a: HC information is perceived useful by the IPO prospectus preparers and users

H1b: ITC information is perceived useful by the IPO prospectus preparers and users

H1c: EXC information is perceived useful by IPO prospectus preparers and users

H2: There is a difference in the perception of the IPO prospectus preparers and users on the usefulness of IC information.

H2a: There is a difference in the perception of the IPO prospectus preparers and users on the usefulness of HC information.

H2b: There is a difference in the perception of the IPO prospectus preparers and users on the usefulness of ITC information.

H2c: There is a difference in the perception of the IPO prospectus preparers and users on the usefulness of EXC information.

### **3. DATA AND METHODOLOGY**

The target respondents of this study are made up of two main groups: preparers of IPO prospectus and users of IPO prospectus. The respondents of the preparer group are any individuals who have experiences in preparing IPO prospectuses and related documents and they are mostly working for investment banks (e.g. IPO underwriters) and members of the management team from public listed firms (e.g. firms which underwent IPO listing from 2008 to 2015 and reporting accountants). These three categories of preparers are selected and relevant in this study as they possess the expertise, ability and knowhow of preparation of prospectuses (Ku Nor Izah and Chandler, 2007). In total, the targeted sample of preparers includes 11 investment banks, 2 securities firms, 144 IPO firms and 7 audit firms. On the other hand, the users are individuals who have used or may potentially use IPO prospectus or any related documents in making investment decisions such as IPO analysts, finance managers or equivalent positions (e.g. investment managers) working in public listed companies and institutional investors. These two user groups are considered to be key potential investors in the capital market. In total, the targeted sample of users include 43 unit trust firms, 18 insurance firms, 25 mutual funds firms, 2 audit and advisory firms, 10 institutional investors and 16 individual investors.

We prepared two sets of questionnaires in which one set is for the IPO prospectus preparers and the other set is for the IPO prospectus users. Considering that most of the questions do not have a clear-cut answer as it depends on the view of the individual being surveyed, the nature of the questions used in the questionnaire was designed in a way that they do not constraint to only one single questionnaire per sample firm. Hence, the questionnaires are distributed to target sample individuals (as discussed above) within the same firm. This approach is also used to address the issue of low response rate. After identifying the sample, invitation to participate in the survey was sent out through their office general email address. Furthermore, emails were also sent out to the target respondents specifically after checking the details of the person through their companies' websites. In addition to emails, we also made telephone calls to the firms to seek for their relevant staff's participation in the survey before distributing the questionnaires, to verify the name of the individual and the correct postal address to which the questionnaire would be directed to.

The IC disclosure items as listed in the questionnaire were adopted from Rashid et al. (2012), who used the IC disclosure checklist to examine the extent of IC disclosure in Malaysian IPO firms through a content analysis approach. However, some modifications were made to the IC disclosure items in removing disclosure items that had already been made compulsory by the Securities Commission of Malaysia (SCM, 2012) for IPO prospectus. We adopted IC disclosure framework from Rashid et al. (2012) as they have used it for secondary data research approach in examination of the extent of IC disclosure in the Malaysian IPO prospectuses, and as such, we are of the opinion that this framework would be suitable for our present study. The category of HC comprises items such as employee absenteeism rate, employee satisfaction, etc., while ITC category includes four sub-categories of items, i.e., information technology, research and development, process and strategy. The category of EXC consists of items mainly related to customers such as the description of customer relations. Hence, the IC disclosure framework for this study is constructed with a list of 65 items which are categorized into three components whereby there are 23 HC items, 29 ITC items and 13 EXC items (see the list of the items in Appendix 1). The IC disclosure list contains IC resources that had been widely used in the past studies such as Bukh et al. (2005), Cordazzo

(2007), Ousama et al. (2011) and Singh and Van der Zahn (2007) to measure IC disclosure either in annual reports or prospectuses.

The questionnaire comprises of four parts: Section A contains information on respondents' demographics such as gender, age working experience and their job related information. Section B lists out IC disclosure items by classifying them into three categories as abovementioned, namely HC, ITC and EXC. Section C asks about decision usefulness of IC. The questionnaire uses a ten-point Likert scale which ranges from 1 being labeled as "least useful" to 10 being labeled as "most useful" to allow wider range of selection from the respondents.

Before distributing the questionnaire, pilot test was conducted. After collecting the responses, the data is subjected to reliability test for internal consistency assessment on the measures by looking at Cronbach's coefficient alpha. It is advised by Pallant (2010) that if scales are being used to obtain sample results, it is crucial to subject the scales to an internal consistency test and reliability values of 0.7 or greater. Statistical tests are carried out to analyze the relationships among the variables of study. Descriptive statistics is presented to examine the perceptions of IPO prospectus preparers and users on the decision usefulness of IC information. Further analysis is carried out by using one-sample t-test to test the significance of the perceptions between the preparers and users of IPO prospectuses. Next, to examine whether there are any significant difference between the perceptions of preparers and users, two sample means from independent samples are compared by using the independent-samples t-test. Before conducting independent samples t- test, Levene's Test is carried out to assess the equality of variances for a variable calculated for preparers and users to meet the assumption of homogeneity of variance for independent-samples t-test. In addition, independent-samples t-test is performed further to examine the disparity in the perceptions of the preparers and users among the three different categories of IC information.

#### **4. EMPIRICAL ANALYSIS AND DISCUSSIONS**

Table 1 presents the profile of the 126 respondents, which comprises 61 preparers and 65 users. Most of the preparer respondents possess relevant working experiences ranging from more than 10 years, about 64% of the preparer respondents. On the other hand, more than 64% of the user respondents have less than 10 years of relevant working experiences, where 33.8% of have working experience of 5 years and 30.8% of them work for more than 5 but below 10 years. Also, it has been observed that majority of the preparer respondents are IPO advisers from investment banks and management team of public listed firms (82%) whereas most of the user respondents are IPO underwriters or financial analysts from investment banks (78.8%). Considering the respondents' relevant working experiences and specializations, they are appropriately-qualified to participate in the questionnaires and providing their opinions.



**Table 1: Demographics of Respondents**

Demographics	Categories	Total Respondents, N=126	
		Preparers, N=61 (100%)	Users, N=65 (100%)
Working Experience (years)	5 and Below	10 (16.4%)	22 (33.8%)
	Above 5 - Below 10	12 (19.7%)	20 (30.8%)
	Above 10 - Below 15	15 (24.6%)	7 (10.8%)
	Above 15 - Below 25	21 (34.4%)	10 (15.4%)
	Above 25	3 (4.9%)	6 (9.2%)
Employer's business entity	Investment Banks	23 (37.7%)	29 (44.6%)
	Unit Trust Firms	0 (0%)	7 (10.8%)
	Insurance Firms	0 (0%)	2 (3.1%)
	Other Public Listed firms	29 (47.5%)	6 (9.2%)
	Other Firms	9 (14.8%)	21 (32.3%)
Size of Employer Organization	Below 75	6 (9.8%)	11 (16.9%)
	75 – 200	13 (21.3%)	9 (13.8%)
	201 – 500	10 (16.4%)	9 (13.8%)
	501 – 750	3 (4.9%)	9 (13.8%)
	751 – 1,000	7 (11.5%)	2 (3.1%)
	1,001 – 2,000	5 (8.2%)	7 (10.8%)
	Above 2,000	17 (27.9%)	18 (27.8%)
Job description	IPO Underwriter/Advisor	21 (34.4%)	15 (23.1%)
	Fund Executive/Manager	0 (0%)	10 (15.4%)
	Financial Analyst	3 (4.9%)	21 (32.3%)
	Key Financial Personnel	14 (23.0%)	4 (6.2%)
	CEO/COO/Senior Member	14 (23.0%)	2 (3.1%)
	Board Member	1 (1.6%)	2 (3.1%)
	Other related job	8 (13.1%)	11 (16.8%)

Table 2 presents the descriptive statistics of the perceptions of IPO prospectus preparers and users on the decision usefulness of IC information. On a ten-point Likert scale, the mean value of the perceived usefulness of IC information of the respondents is 6.6475 while the median has a value of 6.7600. It is important to look at median value since there are extreme scores in which the minimum score is 2.3100 and the maximum score is 10.0000. Both the mean and median values indicate that the respondents perceive the IC information disclosed in the IPO prospectus of Malaysian listed companies to be useful for their decision making purposes. This result is consistent with other studies which examined the usefulness or importance of IC disclosure in different countries such as April, Bosma and Deglon (2003) in South Africa and Cuganesan, Petty and Finch (2006) in Hong Kong and Ousama et.al (2011) in Malaysia. Furthermore, it has been found that the respondents perceive EXC to be the most useful as it has the highest mean value of 7.2917 and median value of 7.5400. This is followed by ITC which has a mean value of 6.8656 and median value of 7.0150 and lastly HC which has a mean value of 6.0090, which is also its median value.

The higher perception of the usefulness of the EXC shows that IPO prospectus preparers and users in Malaysia perceive information related to the relationships and connections between external

parties and firms to be more useful for financial performance and value creation. The findings of the higher perceived usefulness of EXC in the current study are in line with Miller & Whiting (2005) in New Zealand, Abeysekera and Guthrie (2005) in Sri Lanka, Oliveras et al. (2008) in Spain and Too and Somasundaram (2010) in Malaysia. Nevertheless, the findings contradict the findings by Bornemann, Knapp, Schneider and Sixl (1999) in Austria, Gan (2001, cited in Ousama et.al, 2011) in Malaysia, and April et al. (2003) in South Africa, as they all found that HC information was the most useful as compared to ITC and EXC. There are numerous possible reasons for the dissimilarity in the perception on the usefulness of IC between the present study and past studies. First, it could be due to the different items used when measuring IC categories in different studies (Ousama et.al, 2011). Next, some past studies examined the usefulness of IC information by using annual reports instead of IPO prospectus. Furthermore, in some cases, the difference might be due to the fact that respondents in different countries of study may have different perceptions on the usefulness of IC information. This is because the differences in IC reporting between countries can be due to social, political and economic factors (Abeysekera, 2007). As in Gan's (2001, cited in Ousama et.al, 2011) study in Malaysia, the contradiction is probably due to the focus that the study only based on two industries namely, manufacturing and commercial banks, whereas this present study does not focus on specific industries.

We reviewed our data for further parametric tests. Firstly, the mean and median values are close to each other for a normal distribution. Furthermore, the values of skewness and kurtosis of the variables lie within the range of  $-2$  and  $+2$ , this supports that they are normally distributed (George and Mallery, 2010). In addition, based on central limit theorem, as the sample size of this study is more than 30, the data can be considered as normally distributed (Gujarati, 1995). Additionally, the standard deviations of the data are small, showing a small variation of values around the central tendency. In short, we concluded that the data has not been suffering from non-normality issue. We also carried out a reliability test of internal consistency performed on the data. Table 3 shows the Cronbach's alpha for the overall, HC, ITC and EXC IC information for both the IPO prospectus preparers and users. All of the categories have a reliability value of more than 0.9 each, which indicates that the relevant variables are reliable.

**Table 2:** Descriptive Statistics of the Perceived Usefulness of IC Information

<b>Respondents</b>		<b>IC</b>	<b>HC</b>	<b>ITC</b>	<b>EXC</b>
All	Mean	6.6475	6.0090	6.8656	7.2917
	Median	6.7600	6.0900	7.0150	7.5400
	Standard Deviation	1.5243	1.6484	1.6791	1.6604
	Minimum	2.3100	1.0000	1.9000	2.4600
	Maximum	10.0000	10.0000	10.0000	10.0000
	Skewness	-0.6992	-0.4706	-0.7531	-0.7437
	Kurtosis	0.9767	0.4433	0.9489	0.5663
Observations		126	126	126	126
Preparers	Mean	6.7400	6.1212	7.0034	7.2472
	Median	6.6923	5.9130	7.0000	7.5385
	Standard Deviation	1.3188	1.3889	1.4970	1.6678
	Minimum	2.6000	2.8261	2.1724	2.4615
	Maximum	9.7385	9.4348	10.0000	10.0000
	Skewness	-0.0722	0.2083	-0.2469	-0.5350
	Kurtosis	0.5773	-0.3284	0.5663	0.4263

Respondents		IC	HC	ITC	EXC
Observations		61	61	61	61
Users	Mean	6.5612	5.9037	6.7363	7.3337
	Median	6.7846	6.1304	7.0345	7.5385
	Standard Deviation	1.7004	1.8640	1.8358	1.6653
	Minimum	2.3077	1.0000	1.8966	2.8462
	Maximum	10.0000	10.0000	10.0000	10.0000
	Skewness	-0.9046	-0.6480	-0.9457	-0.9576
	Kurtosis	0.7261	0.2293	0.7782	0.8846
Observations		65	65	65	65

*Note: IC indicates intellectual capital, HC signifies human capital, ITC stands for internal capital while EXC represents external capital. The skewness and kurtosis values within  $\pm 2$  are considered acceptable based on the criteria proposed by George and Mallery (2010).*

**Table 3: Reliability Test Results of Intellectual Capital (IC) Information**

Respondents	IC categories	Number of items	Number of observations	Cronbach's alpha
Preparers	IC	65	61	0.9770
	HC	23	61	0.9338
	ITC	29	61	0.9733
	EXC	13	61	0.9530
Users	IC	65	65	0.9878
	HC	23	65	0.9709
	ITC	29	65	0.9816
	EXC	13	65	0.9555

*Note: IC indicates intellectual capital, HC signifies human capital, ITC stands for internal capital while EXC represents external capital. Cronbach's alpha value above 0.7 proposes good internal consistency (Pallant, 2010).*

Next, we employed a one-sample t-test to assess the significance of the perceptions of IPO prospectus preparers and users on the decision usefulness of IC information and also over the different categories of IC - HC, ITC and EXC. Table 4 presents the results of the one-sample t-test on the perceptions of the usefulness of the IC information by all respondents, the preparers and users based on a test value of 5, as the questionnaire measures perceptions on a ten-point Likert scale. It has been observed that all respondents perceive the IC information to be useful at 1% significance level, implying that all the preparers and users consider IC information to be useful for their decision making purposes, supporting H1. These findings are consistent with the past studies on the decision usefulness of IC information. For instance, Bornemann et al. (1999) who examined the perceptions of management on the usefulness of IC among 40 CEOs and top management executives reported that 88% of the respondents perceived IC information to be useful whereas Cuganesan et al. (2006) who examined users' perceptions of IC reporting as one of their objectives among 238 financial analysts in Hong Kong and found that 91% of the respondents perceived that IC is useful in making decisions. Furthermore, the results show that all IC categories

were perceived to be useful by the preparers and users at 1% significance level. Hence, the alternative hypotheses H1a, H1b and H1c are supported.

**Table 4: One-Sample T-Test of the Perceived Usefulness of IC**

<b>Respondents</b>	<b>IC Categories</b>	<b>df</b>	<b>Mean difference</b>	<b>t-statistic</b>
All	IC	125	1.6475	12.1324***
	HC	125	1.0090	6.8711***
	ITC	125	1.8656	12.4714***
	EXC	125	2.2917	15.4927***
Observations		126	126	126
Preparers	IC	60	1.7400	6.3047***
	HC	60	1.1212	10.4519***
	ITC	60	2.0034	10.5235***
	EXC	60	2.2472	10.3047***
Observations		61	61	61
Users	IC	64	1.5612	7.4021***
	HC	64	0.9037	3.9086***
	ITC	64	1.7363	7.6253***
	EXC	64	2.3337	11.2981***
<b>Observations</b>		<b>65</b>	<b>65</b>	<b>65</b>

*Notes: IC indicates intellectual capital, HC signifies human capital, ITC stands for internal capital while EXC represents external capital. The test value is 5. Statistically significant at: \*10, \* \*5 and \*\*\*1 percent level, respectively.*

Finally, we compared the perceptions of IPO prospectus preparers with that of the IPO prospectus users, as presented in Table 2. It has been found that the perceived usefulness of IC information of IPO prospectus preparers has a mean value of 6.7400 and a median value of 6.6923, whereas the mean value of the perceived usefulness of IC information of IPO prospectus users is 6.5612 and the median value is 6.7846. This indicates that the IPO prospectus preparers perceive the IC information to be more decision useful than that of the IPO prospectus users. In terms of IC categories, the mean values of HC, ITC and EXC for IPO prospectus preparers are 6.1212, 7.0034 and 7.2472, respectively, while their median values are 5.9130, 7.0000 and 7.5385, respectively. As for IPO prospectus users, the mean values of HC, ITC and EXC are 5.9037, 6.7363 and 7.3337, respectively, and the median values are 6.1304, 7.0345 and 7.5385, respectively. These results again show that the preparers perceive the information for all IC categories to be more valuable as compared to those of the users.

We employed independent samples t-test to examine if there is any significant difference between the perception of usefulness of IC information between the IPO prospectus preparers and users. Table 5 presents the results for the independent samples t-test based on the mean values of the perceived usefulness of IC information. It has been observed that the t values are statistically insignificant, although the preparers recorded slightly higher mean values than those of the users. These observations indicate that the IPO prospectus preparers and users do not differ significantly in terms of their perceived usefulness of IC information. Hence, H2 is rejected along with H2a, H2b and H2c. This finding is in line with Ousama et.al (2011) who examined the differences in

the perception of usefulness of IC information between preparers and users by looking at the annual reports and reported that there is an insignificant difference between their perceptions.

**Table 5:** Independent Samples T-Test of the Perceived Usefulness of IC Information

Respondents	IC Categories	df	Mean	Mean difference	Standard error difference	t-statistic	Levene's Test for Equality of Variances
Preparers/ Users	IC	124	6.7398 6.5609	0.1789	0.2724	0.6569	1.6912
	HC	124	6.1215 5.9035	0.2179	0.2944	0.7403	2.9940
	ITC	124	7.0034 6.7362	0.2673	0.2996	0.8922	0.8334
	EXC	124	7.2470 7.3337	-0.0866	0.2971	-0.2916	0.1729
Observations		126	126	126	126	126	126

*Notes:* IC indicates intellectual capital, HC signifies human capital, ITC stands for internal capital while EXC represents external capital. Statistically significant at: \*10, \* \*5 and \*\*\*1 percent level, respectively.

However, when focusing on the detailed items of HC and ITC, it has been observed that there are a few specific items that showed statistically significant differences between the perceptions of the two sample groups. As presented in Table 6, for HC items, it has been found that the preparers perceive the decision usefulness of comments on employee health and safety, education and training expenses, education and training expenses by number of employees to be more important than that perceived by the users. As for ITC, greater emphasis has been placed on the outline of environmental approvals and statements/policies, description of community involvement and information on corporate social responsibility and objective by the preparers than that placed by the users. Nevertheless, preparers and users have the same perception on the decision usefulness of EXC information. In this case, preparers should put emphasis on items that are perceived to be useful by users, with the aim to reduce information asymmetry.

**Table 6:** Independent Samples T-Test of the Perceived Usefulness on Selected IC Items

Respondents	Items	df	Mean	Mean difference	Standard error difference	t-statistic
Preparers/ Users	HC Items:					
	Comments on employee health and safety	124	6.4590 5.7231	0.7359	0.3829	1.9219*
	Education and training expenses	124	7.1967 6.3692	0.8275	0.3539	2.3381**
	Education and training expenses by number of employees	124	6.9672 6.3231	0.6441	0.3658	1.7609*
	ITC Items:					
	Process [Outline of environmental approvals and statements/ policies]	124	6.7869 5.9231	0.8638	0.3904	2.2124**
Strategy [Description of community involvement]	124	6.6393 5.9846	0.6547	0.3912	1.6738*	
Strategy [Information on corporate social responsibility and objective]	124	7.0820 6.1538	0.9281	0.3765	2.4653**	
Observations		126	126	126	126	126

*Notes:* IC indicates intellectual capital, HC signifies human capital, ITC stands for internal capital while EXC represents external capital. Statistically significant at: \*10, \* \*5 and \*\*\*1 percent level, respectively.

## 5. CONCLUSION

This study concluded that the IPO prospectus preparers and users perceive IC information, in particularly the EXC, to be useful for their decision making purposes. Hence, firms planning to go public should place greater emphasis and efforts in disclosing EXC information. Overall, however, it has been discovered that there is no statistically significant difference in perceptions of the usefulness of IC information between the IPO prospectus preparers and users. These findings are useful in the sense that the IPO prospectus preparers should now be less hesitant in disclosing the required IC information since their perceptions are in line with the users of IPO prospectus. However, the IPO prospectus users do not perceive some specific items of HC, such as comments on employee health and safety, education and training expenses and education and training expenses by number of employees, and ITC, such as the outline of environmental approvals and statements/policies, description of community involvement and information on corporate social responsibility and objective, as important as the IPO prospectus preparers. Hence, IPO prospectus preparers should reconsider the cost-benefit in disclosing these items as well as reposition these items with the aim to enhance their decision usefulness.

Last, as this study is exploratory in nature since it is the first attempt in investigating the perceived decision usefulness of IC in Malaysia by focusing on IPO prospectus disclosures and the perception of IPO prospectus preparers and users. Hence, more future studies on this issue should be carried out, especially so in addressing the limitations of this study. Firstly, future studies are suggested

to use a larger sample in order to improve the generalizability of findings. A larger sample size also enables more user groups or further partition of preparer and user groups to be included in future studies on this issue. Next, it is also suggested that future studies to include a direct perception of respondents over the usefulness of IC information on value creation i.e. pricing, risk and cost of capital reduction, etc. In addition, this present study has been relying on only a single data collection method, a questionnaire survey, while future studies may include or mix with multiple methods, for instance, interviews and case studies in order to mitigate possible bias, if any.

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### Appendix: Framework for the collection of Intellectual Capital information

Human Capital	Internal Capital	External Capital
1. Employee breakdown by age	<b>Information Technology</b>	<b>Customers</b>
2. Employee breakdown by gender	1. Reason(s) for investments in information technology	1. Number of customers
3. Employee breakdown by nationality	2. Software assets held or developed by the firm	2. Average customer size
4. Employee breakdown by education	3. Description of information technology facilities (E.g.: buildings)	3. Description of customer involvement in firm's operations (eg, customer participation in R&D etc.)
5. Employee breakdown by seniority	4. Information technology expenses	4. Description of customer relations (Dissemination of customer support, service etc)
6. Comments on changes in the number of employees	<b>Research and Development</b>	
7. Comment on employee health and safety	1. R&D invested into basic research	
8. Employee absenteeism rate	2. R&D invested into product design and development	
9. Comments on employee absentee rate	3. Details of future prospects regarding R&D	
	4. Information on pending patents	
	<b>Process</b>	
	1. Information and communication within the company	
	2. Efforts related to the working environment	

<b>Human Capital</b>	<b>Internal Capital</b>	<b>External Capital</b>
10. Discussion of employee interviews	3. Internal sharing of knowledge and information (e.g. database)	5. Education/training of customers
11. Statement of policy on competency development	4. External sharing of knowledge and information	6. Ratio of customers to employees
12. Education and training expenses	5. Measure of internal processing failures	7. Value added per customer or segment
13. Education and training expenses by number of employees	6. Discussion of fringe benefits and company social programs	8. Relative market share (not expressed as percentage) of the firm
14. Employee expenses by number of employees	7. Outline of environmental approvals and statements/ policies	9. Market share (%) breakdown by country
15. Recruitment policies of the firm	<b>Strategy</b>	10. Market share (%) breakdown by segment
16. Separate statement that indicates that the firm has a HRM department, division or function	1. Description of new production technology	11. Market share (%) breakdown by product
17. Job rotation opportunities	2. Statements of corporate quality performance	12. Repurchases by customers(eg, share of revenues from existing customers)
18. Career opportunities (E.g: Promotions)	3. Information about strategic alliances of the firm	13. Competitors
19. Remuneration and incentive systems	4. Objectives and reason for strategic alliances	
20. Pensions	5. Comments on the effects of the strategic alliances	
21. Insurance policies	6. Description of the network of suppliers and distributors	
22. Revenue earned per employee	7. Corporate culture statements	
23. Value added to employee (Profit earned per employee)	8. Statements about best practices	
	9. Organisational structure of the firm	
	10. Utilitisation of energy, raw materials and other input goods	
	11. Investment in the environment	
	12. Description of community involvement	
	13. Information on corporate social responsibility and objective	
	14. Description of employee contracts/ contractual issues	