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Non-Financial Human Capital Disclosure and Share Price

Mohamat Sabri Hassan, Marsita Mustafa & Mara Ridhuan Che Abdul Rahman

ABSTRACT

The aim of this study is to examine the relationship between disclosure of non-financial human capital information (HCD) and share price of the top 100 companies listed on Bursa Malaysia from financial years 2010 to 2013. Human capital (HC) is considered a valuable asset in a knowledge-based economy. The knowledge and skills possessed by individuals are regarded as a key source of competitive advantage and value creator to companies. Prior research acknowledges the importance of HC information to investors, who may have to rely on disclosures in annual reports when evaluating a company's future direction, potential, value and prospects. However, companies only disclose limited information on this 'asset'. In this study, HCD is viewed from the perspective of signalling and efficient capital market theories. Following previous studies, we incorporate HC information and its two components, namely, HC information related to directors and employees, into the Ohlson model. Our study reveals an increasing trend of HCD, and the disclosure is value relevant. Further analysis of the HC information component reveals that both HC information (HC related to directors and employees) are value relevant. These findings are in line with the argument that Malaysian financial analysts and fund managers regard information related to the company's management and key corporate decision makers as important in investment decision making. The findings of this study are relevant to accounting standard setters in determining the types of HC that should be disclosed in the annual reports because this information can create value for companies. Managers should also pay attention to HC information because such information is value relevant to stakeholders.

Keywords: human capital disclosure; share price; value relevance.

Introduction

Human capital (HC) is an important asset (Gamerschlag 2013; Huang et al. 2013) in the survival of companies (Abeysekera 2008; O'Donnell et al. 2006). HC is also one of the main elements that provide a competitive advantage to companies (Huang et al. 2013) and add value to companies in their current business environments. However, HC disclosure (HCD) in annual company reports is limited (Motokawa 2015; Gamerschlag 2013). Given that such a disclosure is performed voluntarily, the manager decides whether to disclose such information or not (Nielsen & Madsen 2009). The main factor that contributes to such a behaviour is the absence of accounting standards or guidelines on HCD (Motokawa 2015; Fulmer & Polyhart 2014).

Traditionally, companies relied heavily on tangible assets to determine the company value. However, with the emergence of a knowledge-based economy, intellectual capital (IC) has begun to contribute considerably to this value (Abeysekera & Guthrie 2004). Amongst IC components, HC is disclosed in a limited manner, mostly in a narrative form, and cannot be expressed in terms of financial implications (Huang et al. 2013). This situation has elicited concern about the relevance of HC information in investment decision making, especially in Malaysia, which is known to have a well-developed legal system and capital market (Mohamad et al. 2007) but whose information environment is poor (Ball et al. 2003). Furthermore, Malaysia, a country with a small open economy, is vulnerable to inconsistent market sentiments (Duasa & Kassim 2009); investors are irrational because they may be acting on rumours or based on the behaviour of other investors, and this is known as herding behaviour (Brahmana et al. 2012; Kaminsky & Schmulker 1999). Such a behaviour might be due to the fact that information is not publicly available or investors do not have access to confidential information (Hassan et al. 2016). Such information includes HC-related information, which is generally disclosed in a limited manner (Motokawa 2015).

Most previous studies on IC focused on the level and type of IC (Musman & Abdul Rahman 2013; Ahmed & Mohd Ghazali 2012; Vafaei et al. 2011; Abeysekera & Guthrie 2005; Goh & Lim 2004), IC and performance (Hatane et al. 2017; Nimtrakoon 2015), IC and cost of debt (Stropnik et al. 2017), IC and corporate governance (Hatane et al. 2017; Ahmed & Mohd Ghazali 2013) and the value relevance of intellectual capital disclosure (ICD) to investors (Vafaei et al. 2011; Abdul-Shukor et al. 2008; Abdolmohammadi 2005).

Prior studies have also provided evidence on the usefulness of the specific component of IC to investors, financial analysts, policy makers and employees. Management and key corporate decisions are important to stakeholders, such as financial analysts and fund managers, because they provide competitive advantages to companies (Huang et al. 2013). Talented personnel are important for the production of companies, and disclosing information on them can benefit investors and companies (Samudhram et

a. 2014; Gamerschlag 2013) because the disclosure might reduce the cost of equity capital (Wyatt & Frick 2010). The government, employees and potential employees require HC information and companies' HC policies for their decision making. On the basis of the disclosed information, the government evaluates its policies, and employees decide on their employment in a company (Wyatt & Frick 2010; Hansson 2004). However, the details of these information are hardly disclosed by companies, although such details are expected by stakeholders, such as financial analysts and fund managers (Huang et al. 2013). Therefore, examining the role of HCD from the perspective of stakeholders, especially investors, is crucial because HCD can influence a company's share price.

Absar (2014), Hamzah et al. (2013), Huang et al. (2013) and Lin et al. (2012) examined HCD. However, they focused on disclosure practice based on content analysis. Prior studies have also provided evidence on the important roles of HC in organisational performance (Lin et al. 2012) and competitiveness (Huang et al. 2013). Nevertheless, only a few studies have examined the effect of HCD on share price, which is also generally referred to as the value relevance of HCD (Motokawa 2015; Samudhram et al. 2014; Gamerschlag 2013; Beattie & Smith 2010). By examining the relationship between HCD and share price, researchers have provided evidence on how investors recognise the implication of HC on future company performance (Samudhram et al. 2014). It leads investors to value the company positively and thus increases the share price of the company. However, similar studies in Malaysia are limited. Although Samudhram et al. (2014) examined the value relevance of HC information in Malaysia, their focus was on the financial aspect of HC information, which is labour cost disclosure. This scenario creates an opportunity for the current study to provide evidence on how Malaysian investors value non-financial HCD in investment decision making.

Another motivation for the current study is a qualitative research on Malaysian financial analysts and fund managers conducted by Huang et al. (2013), who discovered that information related to management and key corporate decision makers (e.g. movement of key people and information related to outgoing employees and their reasons) is important in investment decision making. However, such information is not disclosed in annual reports. Furthermore, Malaysian companies may have different incentives for disclosing HC information compared with developed countries (Motokawa 2015). Therefore, the current study aims to examine the role of HCD in influencing a firm's share price. The study extends the Malaysian research of Samudhram et al. (2014) and Huang et al. (2013) in two ways. Firstly, while Samudhram et al. (2014) focused on labour costs, the current study focused on how voluntary non-financial HC information disclosed in annual reports adds value to companies beyond the role of the book value of equity and earnings. Secondly, the current study extends the qualitative approach of Huang et al. (2013) with a quantitative way of examining the association between non-financial HC information and share price to prove that such information is relevant for firm value.

The rest of this paper is organised as follows. Section 2 presents a review of prior literature and the hypothesis development. Section 3 describes the current research methodology. Section 4 presents the empirical results, and Section 5 summarises and concludes the study.

Literature Review and Hypothesis Development

HCD Information from Signalling and Efficient Capital Market Theory

IC is categorised into three components: HC, relational or customer capital (RC) and structural capital (SC). According to Huang et al. (2007), HC is a key component of IC. Tayles et al. (2007)and in what way, managers perceive that the level and shape of intellectual capital (IC described HC as the knowledge, skills and professional experience and creativity of employees. RC involves market-related knowledge, customer relationships, network suppliers and the government or industry. SC consists of innovation or intellectual property, such as patents, processes and procedures used by a company; it is almost similar to Chartered Institute of Management Accountants (CIMA) (2001). According to CIMA (2001), HC is the knowledge, skills and experience possessed by employees, which will be brought together when employees leave the company (Mouritsen 1998). Some of this knowledge, such as the ability to innovate, creativity, knowledge and previous experience, teamwork, employee flexibility, tolerance, motivation, satisfaction, learning capacity, loyalty, formal training and education, is unique to the individual. However, prior studies have shown that HCD in annual reports is based on the voluntary discretion of managers (Nielsen & Madsen 2009). Therefore, in the absence of HC information, investors and other stakeholders cannot assess the actual potential of companies because of the information gap between companies and their stakeholders (Lin et al. 2012; Ousama et al. 2011; Watson et al. 2002). This 'important asset' should be disclosed in the annual reports of companies to reveal to stakeholders the real value and capability of companies to succeed. Such a disclosure may attract new talents (Hansoon 2004).

According to Motokawa (2015), HCD can be explained based on agency, stakeholder, legitimacy and signalling theories. The application of these theories depends on the objective or motivation for the disclosure. An et al. (2011) proposed three incentives for companies to voluntarily disclose intellectual capital. The incentives are (a) to reduce the information asymmetry between managers and stakeholders, (b) to discharge accountability and (c) to signal legitimacy or excellence. HC information can be a signal because it can reduce information asymmetry and describe the human capital 'owned' by the company (Kirmani & Rao 2000). This claim is supported by Motokowa (2015), who provided evidence that

companies listed in the Tokyo Stock Exchange disclose HC information to reduce information asymmetry and signal legitimacy or excellence to potential employees.

However, prior studies have revealed that the level of disclosure remains low (Motokowa 2015; Gamerschlag 2013) and that evidence on the importance of this information to investors is required because investors, financial analysts and other stakeholders consider available information when making decisions to sell or buy company shares (Gamerschlag 2013). HC information may be one of the types of information relevant to their decision making. Efficient capital market hypothesis (EMH) theory is used to explain the relevance and reliability of HC information. The theory suggests that share prices always reflect all publicly available information (Fama 1991).

Fama (1970) classified EMH into (1) a weak form of market efficiency where share prices reflect historical prices; (2) a semi-strong form of efficiency where share prices reflect all publicly available information and (3) a strong form of efficiency where share prices reflect all information, both publicly available and private information, known to anyone at a point in time. Unlike developed countries that generally have a strong form of market efficiency, the equity market of Malaysia is classified as having semi-strong efficiency (Syed Ahmad et al. 2016; Tan et al. 2014; Hussin et al. 2010) because the share prices of companies listed in Bursa Malaysia react quickly to all publicly available information in annual reports (Tan et al. 2014).

Studies on the disclosure of IC and HC are increasing and drawing the attention of researchers. Prior studies in accounting related to IC are varied but generally focused on external reporting. However, Tayles et al. (2007) explained that external reporting provides limited information related to intangible assets and argued that capital markets require extensive reliable information on corporate knowledge resources, such as strategic direction, risk factors, experience, integrity and management quality. Therefore, voluntary disclosure of HC information in annual reports may assist investors in assessing the potential and efficiency of employees in generating profits. This disclosure gives a signal to the capital market about the company's capability to create a successful future through the expertise of its HC. This condition allows investors to perform an accurate assessment of the actual capability of companies (Whiting & Miller 2008), thus positively affecting share prices. Individuals make decisions based on free, publicly available information and personal information that can only be acquired by a certain group of people. According to Barth et al. (2001), information is relevant when it can affect the market value of a company, which reflects the value confidence of investors. This statement was supported by Deegan (2010), who stated that additional disclosure beyond what is required by accounting rules benefits the capital market. In relation to HC information, Gamerschlag (2013) provided evidence that Germany's capital market considers HCD reliable and relevant in determining firms' share prices. The question is whether this finding represents other countries or jurisdictions, especially developing countries such as Malaysia.

Driven by the objective of examining the association between HCD and share price and by the findings of previous studies, the current study believes that managers provide HC information to reduce the information asymmetry between managers and investors, thereby leading to high share prices. On the basis of EMH and prior Malaysian studies, the current study predicts that investors will utilise all publicly available information in determining the share price of a company.

VALUE RELEVANCE OF HC INFORMATION

Studies on ICD in Malaysia have revealed an increasing HCD trend (Ahmed & Mohd Ghazali 2012), and this trend leads to a conclusion on the relevance of HC information amongst stakeholders. However, empirical evidence on the value relevance of HC information, particularly the overall (especially nonfinancial) HC information provided in corporate annual reports (Gamerschlag 2013), is limited. Gamerschlag (2013) investigated the relevance of HC information disclosure amongst German companies between 2005 and 2008. The study indicated that HCD is value relevant in the long run, and amongst the HCD components, HC qualification is value relevant. Gamerschlag (2013) also categorised HCD into three types: qualification/competence, motivation/commitment and personnel.

Prior studies that acknowledged cultural and regulatory aspects may limit the generalisability of findings to other jurisdictions. Therefore, the value relevance of HCD in other countries, particularly developed ones, cannot be applied in several developing countries. For example, Abeysekera, (2007) indicated that differences in IC reporting exist between Sri Lankan (developing) and Australian (developed) companies. He acknowledged that these differences can be attributed to economic, social and political factors. Furthermore, incentives for disclosing HC information may differ between countries (Motokawa 2015). Similar findings might be reported for Malaysia because the country is known to have a capital market that is vulnerable to inconsistent market sentiments (Duasa & Kassim 2009), irrational investors (Kaminsky & Schmulker 1999; Brahmana et al. 2012) and semi-efficient capital market (Tan et al. 2014). However, in terms of disclosure practice, Malaysian companies do not disclose much HC information; financial analysts and fund managers have found that some important HC information (e.g. competence, expertise motivation and level of employee training) are unavailable in annual reports (Huang et al. 2013) provided evidence that Malaysian investors regard HC information as important for their decision making. If so, then HC information has to be translated with changes in the share prices of companies. We hypothesise the following:

H_1: Non-financial human capital disclosure is related to share prices of companies.

Methodology

Sample Selection and Data Source

The study focused on the 100 largest listed companies on the main board of Bursa Malaysia. Data were collected from 2010 to 2013 annual reports. Eighteen companies were excluded due to missing data. The final dataset for analysis consisted of 82 companies or 328 observations. Table 1 shows a summary of the data sources, dependent and independent variables and their abbreviations.

Content Analysis of Annual Reports

The focus of this study is the HCD of firms listed on the main board of Bursa Malaysia. Similar to prior studies (e.g. Gamerschlag 2013; Abdolmohamammadi 2005; Guthrie & Petty 2000).

A checklist was developed based on the procedures of Abeysekera (2008) and Huang et al. (2013). The items in the checklist (Huang et al. 2013; Abeysekera 2008) are well-established and have been used by previous researchers. Huang et al. (2013) utilised 29 checklist items based on Guthrie and Petty (2000) and previous intellectual capital studies. Similarly, Abeysekera (2008) used 25 checklist items developed and used by previous studies.

A pilot study of the content analysis on the sample of companies[1] was conducted using the checklist item developed by Abeysekera (2008) to determine the suitability of the items in the Malaysian economy and items in the study of Huang et al. (2013). As a result, several checklist items were excluded, and these were employee turnover, information technology literacy workers, post-training evaluation and dependence on key work (which are based on the checklist of Huang et al. 2013). The excluded items obtained a score of 0. Next, we excluded checklist items based on Abeysekera's study (2008). These items, which are not in line with Malaysia's economic environment, were average growth/renewal ratio of professional experience and education level, value-added efficiency ratio for each expert and employee, seniority stability ratio and employee average median age. Thirty final items were included in the checklist (shown in Table 2). Consistent with Huang et al. (2013), the final items were classified into director- and employee-related information. Keywords were used as a checklist during the content analysis, and words were utilised as the unit of analysis. The keywords were searched, and sentences were read carefully to determine their relevance and whether any further explanation or description is given or not. The extent of HCD was measured on a dichotomous basis (1 or 0), which is consistent with the procedure of Abdul Rashid (2012) profitability, leverage, type of audit firm and industry type. The approach, which focuses on the absence or presence of items in the disclosure checklist, was used in scoring the level of HCD (1 is assigned when an item in the checklist appears in the annual report and 0 otherwise). The level of HCD (LHCD) was obtained with the following formula.

$$LHCD = \frac{TADS}{MRDS}$$

where TADS stands for the total actual disclosure score for a company and MRDS is the maximum relevant disclosure items score.

To improve the reliability and validity of the measurement of the dependent variable (LHCD), this study adopted several of the measures suggested by Guthrie and Petty (2004). Firstly, HC items (checklist items) were selected from the well-established past studies of Huang et al. (2013) and Abeysekera (2008). Secondly, a content analysis of samples of companies in a pilot study was conducted to ensure that the coding exercise can be performed. Thirdly, we revisited the content analysis exercise on the annual reports of companies in the pilot study to verify the consistency of the first and second coding.

Valuation Model and Measurement of Variables

The valuation model was used to investigate the relationship between the accounting numbers and company share price (Ota 2001). According to Gamerschlag (2013), studies on value relevance used various valuation models,

TABLE 1. Source of data

Variable	Abbreviation	Measure Explanation	Sources
Share price	SP	Share price at the end of the reporting period (quarter)	Kuala Lumpur Stock Exchange (KLSE) info http://www.klse.info
Book value of equity per share	BVE	Book value of equity per share	Thomson One https://www.thomsonone.com
Net income per share	NI	Net income per share	Thomson One https://www.thomsonone.com
Level of Human Capital Disclosure	LHCD	Extracted from the reports by means of content analysis	Annual reports from companies/ Bursa Malaysia website

and equity market valuation was usually adopted as a benchmark to evaluate how certain accounting numbers reflect information that investors may use. Two types of models, namely, price and return, are commonly used to study the relationship between market value and accounting numbers (Ohlson 1995). These models are the most widely used valuation models (Ota 2001). According to Barth et al. (2001), the Ohlson (1995) model (also known as the price model) assumes that a company value is equal to the book value and a linear function of current abnormal earnings and other information. The model identifies how well the book value of equity, abnormal earnings and other information are reflected in the share price of companies (Hassan et al. 2016; Gamerschlag 2013).

The return model examines changes in share prices. Specifically, it examines the cause of changes in share prices (Gamerschlag 2013). For the purpose of this study, we extended the Ohlson (1995) valuation model to explain the objective of this study to examine the relationship amongst the book value of equity, earnings and HCD in the share price of companies. Furthermore, Kothari and Zimmerman (1995) explained that the earnings coefficients for this model are less biased than those of the return model. We incorporated the level of HCD and an industry dummy (control variable) in the Ohlson (1995) model. This is represented in the following regression model.

$$SP_{i,t} = \alpha_0 + \alpha_1 BVE_{i,t} + \alpha_2 NI_{i,t} + \alpha_3 LHCD_{i,t} + \alpha_4 IND_{i,t} + \varepsilon_{i,t} \quad (1)$$

where SP is the share price (of common shares) three months after the year-end for company i at time t, BVE is the book value of equity per share at the year-end for company i at time t, NI is the net income per share for company i at time t, LHCD is the level of HCD for company i at time t and IND is the type of industry (service [1] or non-service [0]) for company i at time t.

Research Findings

Descriptive Statistics

Table 2 presents the non-financial HC information disclosed by the top 100 Malaysian companies over the four-year observation. Panel A in Table 2 presents the frequency of the companies' disclosure of non-financial HC items and the nature of such a disclosure in their annual reports. The companies disclosed mostly director-related information and minimal information on employees. Panel A in Table 2 indicates that four out of the five highest scores were related to director information and that all companies disclosed information related to '*directors' years of experience in business*' (328 or 100%) over the four-year observation, followed by information related to *'directors' training programme'* (327 or 99.70%). The highest frequency of companies' disclosed information related to employees was 321 or 97.87% for *'employee thanked'*. The lowest frequency of companies' disclosed HC information was 19 or 6% related to *'employees' profitability'*. Panel A in Table 2 also shows a large gap between the highest and lowest frequencies of companies' disclosed non-financial HC information related to employees.

Our findings, which indicated that the top 100 companies disclose more non-financial HC information related to directors than to employees, are consistent with those of Huang et al. (2013). We believe this condition is a response to the requirements of the Malaysian Code of Corporate Governance (MCCG) established in 2000. For example, Section IX, Part 2 (Best Practice in Corporate Governance), requires information related to skills, experience and other qualities, including the competencies to be disclosed in annual reports (MCCG, 2000). In addition, companies are required to provide training (orientation and education programme) for newly appointed directors. Providing such information (in response to the requirements) and other voluntary information in annual reports may signal the quality and competency of the board. The disclosure also reflects the effectiveness of the communication between the board and management and the shareholders, stakeholders and the public (MCCG, 2000); thus, it can reduce the information asymmetry between managers and shareholders and between stakeholders and the public.

The current study also revealed that the level of disclosure for both categories is higher than the level in Huang et al. (2013). Except for *directors' years of experience in business*, *directors' qualifications* and *directors' training*, this study indicated that the level of *other director-related information* disclosed in 2013 annual reports is higher than that in Huang et al. (2013). Similar results were obtained for *employee-related information*. The level of *employee-related information* disclosed in 2013 annual reports in our study is higher than that in Huang et al. (2013). In our study, the most frequently disclosed item was *employee thanked and employee involvement in the community*. *Employees' profitability* is the least disclosed item. Nevertheless, the score in the current study is higher than that in Huang et al. (2013).

Generally, Panel A in Table 2 shows an increasing trend of non-financial HCD amongst the top 100 companies in Malaysia. The total number of companies disclosing such information increased annually from 1,283 (2010) to 1,458 (2013). This finding indicates that non-financial HC information is regarded as important by these companies. Companies strengthen their disclosure practice as one of the ways to attract and retain talents, which is consistent with the objective of Talent Corp. to bring back local talents from abroad (Jauhar et al. 2016:45). Panel A in Table 2 also indicates that the frequency of HC information disclosure has been increasing since the establishment of Talent Corp. in 2011. This finding is in line with the New Economics Model that emphasises HC development to ensure that Malaysia will become competitive in the global market.

Panel B in Table 2 presents the level of non-financial HCD from 2010 until 2013. The level of HCD in Panel B is low. On the average, LHCD is 55%. The low level of LHCD is attributed to the low level (43.21%) of employee-related information disclosure (HC_Emp) compared with 87.65% for director-related information (HC_Dir). Nevertheless, Panel B in Table 2 indicates that LHCD increased from 52.15% in 2010 to 59.29% in 2013.

TABLE 2. Human Capital Information

Panel A Frequency of Company Disclosing Human Capital Information

	Human capital information	Total	2013	2012	2011	2010
Director-related information	Directors' years of experience in business	328	82	82	82	82
	Directors' training programme	327	82	82	81	82
	Directors' education	327	82	81	82	82
	Directors' qualifications	326	81	81	82	82
	Directors' skills	315	81	81	76	77
	Directors' knowledge	273	76	74	62	61
	Directors' expertise	219	63	57	50	49
	Directors' competence	185	57	50	39	39
Employee-related information	Employee thanked	321	81	80	81	79
	Employee involvement in the community	313	81	78	78	76
	Employee training programmes	287	74	70	70	73
	Work safety and health	266	69	68	67	62
	Employees' skills	244	65	57	61	61
	Employees' knowledge	171	42	47	41	41
	Employees' competence	159	40	37	40	42
	Leadership qualities of employees	158	44	41	38	35
	Succession plan	143	39	36	34	34
	Employee numbers	126	36	34	30	26
	Leadership qualities of directors (management team)	126	34	34	31	27
	Equity issues: race, gender and religion	117	40	30	22	25
	Employee incentive scheme	105	30	29	25	21
	Employees' innovation/ entrepreneurial spirit	103	32	27	23	21
	Employees' education	86	24	19	21	22
	Recruitment policy	74	23	18	16	17
	Employees' expertise	72	21	19	19	13
	Employee loyalty	71	20	17	16	18
	Union activity	58	16	15	13	14
	Employees' motivation	56	19	14	13	10
	Employee satisfaction	43	18	12	5	8
	Employees' profitability	19	6	5	4	4
	Total	5,418	1,458	1,375	1,302	1,283

TABLE 2. Human capital information

Panel B level of human capital disclosure

	Total	2013	2012	2011	2010
TADS_D	2,300	604	588	554	554
MRDS_D	2,624	656	656	656	656
HC_Dir	87.65%	92.10%	89.63%	84.45%	84.45%
TADS_E	3,118	854	787	748	726
MRDS_E	7,216	1,804	1,804	1,804	1,804
HC_Emp	43.21%	47.34%	43.63%	41.46%	40.24%
TADS	5,418	1,458	1,375	1,302	1,283
MRDS	9,850	2,460	2,460	2,460	2,460
LHCD	55.00%	59.29%	55.89%	52.93%	52.15%

Note: TADS_D is Total Actual Disclosure Score of HC related to directors; MRDS_D is the maximum relevant disclosure score of HC related to directors; TADS_E is Total Actual Disclosure Score of HC related to employees; MRDS_E is the maximum relevant disclosure score of HC related to employees; HC_Dir is human capital score related to directors; HC_Emp is human capital score related to employees; TADS is the total actual disclosure score for a company and MRDS is the maximum relevant disclosure items score; LHCD is the level of human capital disclosure.

Similar trends were observed for the two components of HC. HC_Dir increased from 84.45% in 2010 to 92.10% in 2013, and HC_Emp increased from 40.24% in 2010 to 47.34% in 2013.

Table 3 presents the descriptive statistics after adjusting the outliers. The dispersion of dependent variables was at an acceptable level, with skewness of 0.432 and kurtosis of 0.083. On the average, the share price was RM1.72, with the highest value of RM4.20 and the lowest share price of RM-0.39. The highest LHCD was 96.7%, wherein 70% was attributed to HC_Emp and 26.7% to HC_Dir.

Table 4 presents the Pearson correlations for the dependent and independent variables. Share price is significantly related with net income and book value of equity, which is consistent with the result of Gamerschlag (2013). The highest correlation was 0.791 (i.e. between LNSP and NI). However, the association between LHCD, BVE, HC_Dir and HC_Emp and share price LNSP was lower than 0.600. The highest relationship between independent variables was recorded between HC_Emp and LHCD (0.974). However, this relation is not a concern because both variables are not included in the regression model simultaneously. Furthermore, HC_Emp is a fraction of LHCD, which is expected because similar findings have been reported in previous studies (Motokawa 2015).

REGRESSION ANALYSIS

The regression Equation 1 was used to examine the value relevance of non-financial HCD. However, prior to this task, Equation 1 was estimated without the dummy variable of IND to determine if LHCD is indeed important for shareholders. BVE, NI and LHCD were significantly related to the share price of the companies. Table 5 presents the results of this analysis and indicates that the three variables were positively and significantly related to share price at $p < 0.01$ for long-term (Column 6) and part of short-term observations (Column 3 and 4). These findings (Column 6) are consistent with those of Gamerschlag (2013). Compared with the findings of the Japanese study of Motokawa (2015), our findings indicate that in addition to the book value of net asset and net profit, Malaysian investors regard HC as important information in companies' valuation compared with their Japanese counterpart. The short-term analyses provided mix results, where LHCD was significantly related with share price in 2011 and 2012 at $p < 0.01$ and $p < 0.05$, respectively. The findings are unlike those of Gamerschlag (2013), who obtained insignificant results for short-term observation.

ADDITIONAL ANALYSES

A sensitivity analysis was conducted by incorporating the type of industry into the main regression analysis.

TABLE 3. Descriptive statistics after adjusting the outliers

	N	Min	Max	Mean	SD	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	SE	Statistic	SE
LNSP	328	-0.390	4.200	1.720	0.874	0.432	0.135	0.083	0.268
BVE	328	-3.380	2.580	0.7491	0.901	-0.861	0.135	1.883	0.268
NI	325	-3.910	1.060	-1.205	0.933	-0.188	0.135	0.329	0.270
HC_Dir	328	0.100	0.267	0.224	0.035	-0.904	0.135	0.302	0.268
HC_Emp	328	0.000	0.700	0.316	0.152	0.370	0.135	-0.323	0.268
LHCD	328	0.233	0.967	0.550	0.166	0.417	0.135	-0.324	0.268

Note: LNSP is the natural log share price (of common shares) of company three months after year-end for firm i at time t; BVE is the book value of equity per share at year-end for firm i at time t; NI is the net income per share for firm i at time t; HC_Dir is the level of human capital disclosure related to director for firm i at time t; HC_Emp is the level of human capital disclosure related to employee for firm i at time t. LHCD is the level of human capital disclosure for firm i at time.

TABLE 4. Pearson Correlations Matrix among variables

	LNSP	BVE	NI	HC_Dir	HC_Emp	LHCD
LNSP	1					
BVE	0.571***	1				
NI	0.791***	0.468***	1			
HC_Dir	0.113**	-0.103	-0.012	1		
HC_Emp	0.243***	-0.067	0.179***	0.317***	1	
LHCD	0.247***	0.039	0.161***	0.505***	0.974***	1

Note: ***, ** and * are significant at $p < 0.01$, $p < 0.05$, and $p < 0.10$ respectively. LNSP is the natural log share price (of common shares) of company three months after year-end for firm i at time t; BVE is the book value of equity per share at year-end for firm i at time t; NI is the net income per share for firm i at time t; HC_Dir is the level of human capital disclosure related to director for firm i at time t; HC_Emp is the level of human capital disclosure related to employee for firm i at time t. LHCD is the level of human capital disclosure for firm i at time.

TABLE 5. Non-Financial Human Capital Information and Share Price

$$LNSP_{i,t} = \alpha + \alpha_1 BVE_{i,t} + \alpha_2 NI_{i,t} + \alpha_3 LHCD_{i,t} + \varepsilon_{i,t}$$

Variables	2010 N=82	2011 N=82	2012 N=82	2013 N=82	Pool N=328
Constant	0.624 *(3.151)****	0.382 *(2.055)***	0.490 *(2.542)***	0.625 *(2.723)****	0.525 *(5.389)****
BVE	0.090 *(2.855)****	0.091 *(3.283)****	0.091 *(3.916)****	0.103 *(4.481)****	0.095 *(7.542)****
NI	1.315 *(7.582)****	1.141 *(8.679)****	1.197 *(10.074)****	1.169 *(9.966)****	1.188 *(18.371)****
LHCD	0.484 *(1.358)*	0.989 *(3.070)****	0.777 *(2.437)***	0.502 *(1.414)*	0.698 *(4.260)****
Adj R^2	0.616	0.690	0.719	0.701	0.692
F-statistics	44.388	61.077	70.237	64.438	245.360
Significant	0.000***	0.000***	0.000***	0.000***	0.000***

Note: ***, ** and * are significant at $p < 0.01$, $p < 0.05$, and $p < 0.10$ respectively. LNSP is the natural log share price (of common shares) of company three months after year-end for firm i at time t; BVE is the book value of equity per share at year-end for firm i at time t; NI is the net income per share for firm i at time t; LHCD is the level of human capital disclosure for firm i at time t and IND is type of industry for firm i at time t.

According to Nimtrakoon (2015), companies in knowledge-intensive sectors, such as the service industry, invest in IC for the benefit that it offers. Prior studies indicated that the service industry voluntarily discloses IC information. Therefore, we incorporated a dummy variable 1 to represent the service industry (SInd) and 0 otherwise in Equation 1. Consistent with Hamzah et al. (2013), SInd consists of finance, trade and service, energy and communication-IPC industry. We believe the value relevance of BVE, NI and LHCD is strong in the service industry. The interaction between LHCD and SInd is represented by LHCDxSInd. Table 6 presents the results of the analysis. The interaction does not influence the relationship between LHCD and share price. Table 6 also shows that the value relevance of BVE, SP and LHCD remains at $p < 0.01$.

We believe several of the components of HC information might be valuable and relevant to our content analysis (Table 2), and findings of prior studies indicate that the level of disclosure of HC information is biased toward a certain component. Therefore, we re-estimated Equation 1 by separating LHCD into HCD related to directors (HC_Dir) and HCD related to employees (HC_Emp). Aside from accounting numbers, Table 7 also shows that shareholders in Malaysia regard the level of non-financial HCD related to directors (HC_Dir) and employees (HC_Emp) as reliable and relevant for their investment decision making. The analysis revealed a positive relationship between LNSP and BVE, NI and HC_Dir with $p < 0.01$. HC_Emp is also positive and significantly related with share price at $p < 0.05$. Our findings provide new evidence that confirms those of Huang et al. (2013), who indicated that shareholders and stakeholders seek for information related to company management and key corporate decision makers. The evidence on HC information related to directors and employees that we provide are value relevant.

CONCLUSIONS

This study aims to provide evidence on the value relevance of non-financial *HC* information. We extended the work of Huang et al. (2013), Gamerschlag (2013), Samudhram et al. (2014) and Motokawa (2015) by providing evidence

TABLE 6. Non-Financial Human Capital Information, Service Industry and Share Price

Variables	Coefficient	t-statistics	Sign.
(Constant)	0.493	3.065	0.000***
BVE	0.095	7.287	0.000***
NI	1.171	17.753	0.000***
LHCD	0.849	2.944	0.000***
SInd	0.001	-0.007	0.994
LHCDxSInd	-0.149	-0.420	0.675
Adj R^2 = 0.692	F-statistik = 147.849	Prob = 0.000	(n=382)

Note: ***, ** and * are significant at $p < 0.01$, $p < 0.05$, and $p < 0.10$ respectively. *LNSP* is the natural log share price (of common shares) of company three months after year-end for firm *i* at time *t*; *BVE* is the book value of equity per share at year-end for firm *i* at time *t*; *NI* is the net income per share for firm *i* at time *t*; *LHCD* is the level of human capital disclosure for firm *i* at time *t* and *IND* is type of industry for firm *i* at time *t*. *SInd* is service industry, *LHCDxSInd* is the interaction between *LHCD* and Service Industry.

TABLE 7. Non-Financial HCD Components and Share Price

Variables	Coefficient	t-statistics	Sign.
Constant	0.022	0.116	0.908
BVE	0.099	7.926	0.000***
NI	1.198	18.753	0.000***
HC_Dir	3.198	3.957	0.000***
HC_Emp	0.389	2.080	0.038**
Adj R^2 = 0.700	F-statistics = 191.372	Prob = 0.000	(n=382)

Note: ***, ** and * are significant at $p < 0.01$, $p < 0.05$, and $p < 0.10$ respectively. LNSP is the natural log share price (of common shares) of company three months after year-end for firm i at time t; BVE is the book value of equity per share at year-end for firm i at time t; NI is the net income per share for firm i at time t; HC_Dir is the level of human capital disclosure related to director for firm i at time t; HC_Emp is the level of human capital disclosure related to employee for firm i at time t.

on the value relevance of non-financial HC information in a developing country for an immediate period. Consistent with previous studies, our work provides evidence that the level of non-financial HC information disclosed in annual reports has been increasing. However, companies tend to disclose mostly director-related information minimal information on employees. The emphasis on directors may be a response to MCCG requirements. The results showed that a relationship exists between overall HC information and share price. However, the findings of the short-term analysis were mixed. Further analysis indicated that non-financial HC information related to directors and employees are value relevant. This relationship indicates that managers disclose HC information to signal the stakeholders on their HC policies, management and key corporate decision makers and their talents and to reduce information asymmetry. Consequently, investors can value the companies positively by increasing the share prices of the companies.

The current study contributes to literature on the role that voluntary non-financial HCD plays in Malaysian capital markets to reduce information asymmetries arising between the companies and capital market players. The findings related to non-financial HCD relationship with share prices can help standard setters in determining the kind of HC information companies should disclose. Our findings provide evidence for companies, and this information can create value for the companies. Therefore, Malaysian companies should view our findings as an evidence for them to voluntarily disclose information related to HC because such information is relevant for investors, policy makers and employees.

The study is subject to several limitations. Firstly, the sample consisted of Malaysian top 100 companies, which might affect the distribution of companies and industries. Therefore, the findings might be biased toward a certain industry. Secondly, our observation was limited to four-year data due to the time this study was conducted. Future research may extend this work by incorporating recent data. Overall, we believe our work provides crucial findings that extend the studies of Motokawa (2015), Samudhram et al. (2014), Gamerschlag (2013) and Huang et al. (2013), whose observations were made in earlier years than ours.

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NOTES

[1] These companies are short listed in the National Annual Corporate Report Awards (NACRA). NACRA was established in 1990 with the primary objective of recognizing a company's corporate reporting excellence for each year. NACRA has become a benchmark for stakeholders in relation to a fair, transparent and informative corporate report. NACRA is co-organised by three bodies: Bursa Malaysia, the Malaysian Institute of Accountants (MIA) and the Malaysian Institute of Certified Public Accountants (MICPA).

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Mohamat Sabri Hassan*
Centre of Governance Resilience and Accountability
Faculty of Economics and Management
Universiti Kebangsaan Malaysia
E-mail: msabri@ukm.edu.my

Marsita Mustafa
Accountant General Department of Malaysia
Ministry of Finance Complex
Putrajaya
E-mail: marsita.mustafa@anm.gov.my

Mara Ridhuan Che Abdul Rahman
Centre of Governance Resilience and Accountability
Faculty of Economics and Management
Universiti Kebangsaan Malaysia
E-mail: mara@ukm.edu.my

*Corresponding author