The Communication of Intellectual Capital – Prevalence and Relationship with Organizational Performance

Janet C.N Wee and Alton Y.K Chua
Nanyang Technological University of Singapore, Singapore
cwee003@e.ntu.edu.sg
altonchua@ntu.edu.sg

Abstract: While intellectual capital (IC) as an asset is long noted, one area that has begun to attract attention is the communication of IC. The past decade of increasing global competition and economic downturns have enhanced the importance of the communication of IC, in particular, how IC supports organizational performance (OP). Current literature on the communication of IC is limited to reporting metrics, which does not provide sufficient insights on OP. Yet, the need for the communication of IC is growing globally as investors are demanding for more non-financial information to reflect organization's sustainability. Hence, the objectives of this study are three-fold. First is to ascertain the prevalence of the communication of IC, where past studies have reported low occurrence. Secondly, the study aims to examine the communication of IC in terms of content; and finally, to investigate the correlation of the communication of IC with OP. The dataset used in this study was drawn from annual reports and supplementary corporate disclosure (ARS) published for FYE2011 in English by 299 banks listed on the stock exchanges globally. The communication of IC was reviewed from three angles, namely human capital, relational capital and structural capital; and OP encompasses business continuity, risk management and organizational productivity. Content analysis was used to evaluate the communication of IC and to highlight nuances and trends. Findings showed that the communication of IC was prevalent in more than half of the banks in the dataset, where the communication of Human Capital content was most widely reported. Smaller banks, in particular, were found to be lacking in the communication of IC. Three peculiarities were also identified, namely inclusion of information on women, importance of training to organizational productivity, and extensiveness of risk management processes in banks. The significance of this study lies in its effort to highlight relevance of the communication of IC from the perspective of IC components and its correlation to OP.

Keywords: intellectual capital, communication of intellectual capital, organizational performance, correlation, annual report and corporate disclosures

1. Introduction

Competition, deregulation and the series of economic downturns in the past decade have highlighted the importance of intellectual capital (IC) in supporting organizational resilience, particularly the sustainability of organizational performance (Kamath, 2007; Lengnick-Hall et al., 2011). While prior literature has long noted the significance of IC as an organizational asset, one area that has attracted little attention in both the research and business communities is the communication of IC (Abeysekera, 2006; Boedker et al., 2004; Miller and Whiting, 2005). In fact, organizations that have weathered economic shocks seem to be those that recognize the value of IC and regularly publicize their performance to stakeholders (Dumay, 2009). Here, IC represents an organizational asset while the communication of IC refers to the information on the organization's IC publicized to stakeholders.

In spite of the importance of IC to organization, past studies have reported low prevalence in the communication of IC (Ahmed and Hussainey, 2010; April et al., 2003). There were two common thoughts of arguments to explain such low prevalence. First, the difficulty faced in expressing and codifying IC, and secondly, the lack of mechanism to recognize and quantify IC (Bontis, 1998; Vafaei, et al., 2011). There is, however, a changing trend in the communication of IC, fuelled by advancement in technology, social media, and stakeholders' expectation (Eurosif, 2011; Marsh, 2012; Rudrajeep et al., 2011). This gives rise to the opportunity to update the literature on the prevalence of the communication of IC.

As the communication of IC is increasingly used to interpret the sustainability of the organization, scholars have called to better comprehend the content in the communication of IC (Abhayansa and Abeysekera, 2009). The content in the communication of IC can be reviewed from the three broad categories of IC, namely, human capital, relational capital and structural capital (Bontis, et al., 2000). Such content is often found in organization's corporate disclosures to reflect the organization's sustainable competitive advantage (Oliveira and Russell, 2010). The existing literature on the communication of IC is focused mostly on reporting metrics that emphasized the numerical value of IC such as revenue per employee and the number of patents registered (Abeysekera and Guthrie, 2002). However, the communication of IC can also be expressed in non-numerical terms, such as pictures, diagram, illustration, and narration (Beattie and Thomson, 2007).

While IC has long been acknowledged to be positively correlated with organizational performance (OP), there is limited reference made on the relationship between the communication of IC and OP (Chan, 2009; Zéghal and Maaloul, 2010). Past studies reasoned that the limited reference could be due to the inadequacy of traditional financial and management accounting reports to incorporate content on the communication of IC, and thus were unable to systematically convey the performance and status of IC to organizational managers and stakeholders (Firer & Williams, 2003). Scholars are calling for deeper understanding of the communication of IC in relation to OP, in view that industries are becoming more global, dynamic, competitive and knowledge intensive (Abhayawansa and Abeysekera, 2009; Ousama, Fatima, et al., 2011).

The demand for the communication of IC is growing as investors are pushing for more non-financial information to assess the potential of organizations to generate future revenues and achieve sustainable results (Bismuth and Yoshiaki, 2008). Likewise, the communication of IC is growing as organizations need to monitor and develop their competencies and strengths to perform (Bukh et al., 2005). Hence the objectives of this study are three-fold. The first examines the prevalence of the communication of IC in annual reports and supplementary corporate disclosures (ARS) in view of the changing trend in organizational disclosure (Chan, 2012). The second analyzes the content in the communication of IC disclosed in the ARS, and finally this study investigates the correlation of the communication of IC with OP. This study centers on banks, listed on global stock exchanges, as the banking sector is a knowledge intensive sector, highly dependent on IC to remain competitive (Demirguc-Kunt et al., 2010; Gigante and Previati, 2013).

2. Literature review

Intellectual capital (IC) is an important asset in organizations and has drawn interests across discipline and stakeholders in the past decade (Serenko and Bontis, 2009). IC represents human intellectual and organizational knowledge collectively to encompass knowledge, experience and creativity of employees as well as resources embedded in databases, systems and processes (Al-Ali, 2003). Scholars have broadly categorized IC into three components, namely, human capital, structural capital and relational capital. Human capital is closely associated with the employees and it refers to their knowledge, competencies, experiences and know-how, their combined skills and innovativeness necessary to solve customer needs and problems (Edvinsson and Malone, 1997; Sveiby, 1997). Structural capital concerns the mechanisms and structures of the organization that support employees in their quest for performance (Bontis et al., 1999). It comprises knowledge resources embedded in databases, systems and processes that provide the environment to encourage employees to create and leverage knowledge within the organization. Relational capital refers to the knowledge embedded in the relationships that the organization has developed internally and externally (Bontis et al., 1999). The most important relational capital are customers, suppliers, business partners, shareholders and other stakeholders such as the local community (Sveiby, 2001).

While the importance of IC to organizations has long been widely covered, the communication of IC as a topic has begun to gain attention (Abeysekera, 2006; Miller and Whiting, 2005). The communication of IC in this study is defined as the information disclosure of the organization's IC through the ARS. Generally reported as part of non-financial information, the communication of IC focuses on a narrower definition of the organization's IC, in particular, the organization's sustainable competitive advantage and performance (Oliveira and Russell, 2010). For example, in the communication of IC, the content on human capital includes training, human resources and employee retention or attrition; content on relational capital comprises customers, suppliers and business alliances; and content on structural capital covers intellectual property, processes and accreditation (Beattie and Thomson, 2007). As IC is tacit in nature, the communication of IC can also be presented as visual images, numbers, tables and charts (Husin et al., 2012).

The prevalence in the communication of IC is further fuelled by advancement in technology, social media, and stakeholders' expectation (Eurosif, 2011; Marsh, 2012; Rudrajeep et al., 2011). Investors, in particular, are demanding more non-financial information, such as the content used in the communication of IC, to assess the potential of organizations to generate future revenues and achieve sustainable results (Bismuth and Yoshiaki, 2008). This impetus has led organizations to explore different ways of communication, ranging from business reporting models and Internet reporting, to disclosure through face-to-face investor relations meetings (Beattie and Pratt, 2001). The past decade also saw more organizations disclosing their competencies in annual corporate reporting such as the corporate social responsibility (CSR) reports, which traditionally have focused on philanthropy, environmental and social responsibility statements of the organizations (Chan, 2012). As such, the communication of IC is becoming an

important aspect of documentation used to connect with and manage stakeholders' expectations, to inform how resources are managed within the organizations and used for decision-making (Cinquini et al., 2012).

The study of IC is recurrently linked to organizational performance (OP), one of the most important constructs in management research that is synonymous to output, productivity, health and organizational excellence (Aubry and Hobbs, 2010; Richard et al., 2009). Traditionally, OP is associated with revenue and profitability. However, economic uncertainty and global competition render these measures insufficient to provide present and forward perspective of OP (Ousama, Abdul Hamid, et al., 2011). As such organizations augment performance review with business continuity, risk management and organizational productivity (Al Bawaba, 2010; Eurosif, 2011; Marsh, 2012; Rudrajeep et al., 2011).

Business continuity refers to the ability of organization to maintain its critical business functions and performance in emergency or bad economic conditions (Elliott et al., 2010; Hiles, 2010). This means safeguarding organizations' assets by having sufficient capital and liquidity to ensure business continuity (Federal Reserve, 2012; Johnston and Nedelescu, 2006). Risk management is the organization's awareness, assessment and preparation for risks surrounding its market and environments, to minimize, monitor and control impact to the organization (Hubbard, 2009; Kerzner, 2009). Banks, for example, must maintain solvency, and are monitored for their Tier 1 capital ratio, a regulatory risk indicator that measures the bank's financial strength (Fahlenbrach and Stulz, 2011; Pagach and Warr, 2011). Organizational productivity refers to maximizing the use of organization's resources, reducing costs and duplication, and running an efficient and effective operation (Goodman and Harris, 1995; Pritchard, 1990). Return on Assets indicates the organization's asset utilization, and Return on Equity measures income available to shareholders as a percentage of the book value of their investment in the organization (Carton and Hofer, 2007; Pritchard, 1990).

Though literature exists on the communication of IC, limited references were available in respect to OP, in contrast to availability of studies on IC and OP (Chan, 2009; Murray et al., 2006; Zéghal and Maaloul, 2010). There are three possible reasons highlighted by scholars for the gap in literature. Firstly, current mandatory corporate filings in most countries are not sufficient to disclose and provide insights on the organization's ability to address business continuity, risk management and organizational productivity issues (Holder-Webb et al., 2009). Secondly, the difficulty faced in expressing and codifying IC (Bontis, 1998; Edvinsson and Sullivan, 1996). Finally, organizations do not report systematically information about their capacity to generate revenue, value drivers, trends, risks, uncertainties and ability to achieve sustainable results to stakeholders (Bismuth and Yoshiaki, 2008; Vafaei et al., 2011). In view of IC's contribution to the organization's sustainability, scholars and practitioners call for deeper understanding of the communication of IC and its relationship with OP as industries are becoming more competitive and knowledge intensive (Abhayawansa and Abeysekera, 2009; Ousama, Fatima, et al., 2011)

3. Methodology

This study was drawn from ARS published for the financial year ending 2011 (FYE2011) in English by 299 banks listed on the stock exchange globally. A two-step approach was adopted in selecting banks. Firstly, banks listed on stock exchanges were shortlisted. Secondly, data of banks with the communication of IC were filtered for FYE2011. The FYE2011 was considered as not all banks reported FYE2012 performance at the point of this study. Each bank was checked for completeness of data to address jurisdictional regulatory differences. The result was 503 banks, where each bank was further reviewed for content on the communication of IC. A final number of 299 banks are used for this study.

The banking sector is focused in this study for three reasons. Firstly, the banking sector is a knowledge intensive sector and is highly dependent on IC to remain competitive (Demirguc-Kunt et al., 2010; Gigante and Previati, 2013). While physical assets are important to banks, it is the IC that determines service quality, product differentiation and value added services, which in turn affects the performance of the banks (Goh, 2005). Secondly, banks operate in a highly regulated environment under great scrutiny to perform. They are required to produce annual reports of their performance to regulators and stakeholders, and are thus publicly available for analysis. Finally, by limiting the analysis to the banking sector where most of these organizations are large organizations, the effects of disparate organizational sizes and operating environments can be reduced.

Data on the communication of IC is reviewed from three angles of the IC component, namely human capital, relational capital and structural capital. Guided by literature and previous studies using binary coding methodology (Alsaed, 2006; Goh and Lim, 2004), relevant content reflecting the communication of IC was compiled, reflecting the availability of each IC component. Two independent reviewers evaluated the dataset of 299 banks. A sample size of

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100 banks representing 33.4% of the dataset was used to test for inter-coder reliability, measuring 0.805, which indicated an acceptable level (Cohen, 1960). Table 1 provides examples of the communication of IC compiled from the dataset of 299 banks.

Table 1: Examples of the communication of intellectual capital recognized for coding

IC Components (Organizational Asset)	Type	Examples of the Communication of Intellectual Capital data collected
Human Capital	Training	"Training programs" "Diversity training and mentoring"
	Human resources	"Employment diversity" "Gender distribution"
	Employee attrition	"Staff turnover" "Annual hiring and attrition rate"
Relationship Capital	Customers	"Customer service" "Customer satisfaction statistics"
	Suppliers	"Support services" "Important contracts"
	Alliances	"Foreign correspondents" "Key partnerships"
Structural Capital	Intellectual property	"Patents and know-how" "Branding"
	Processes	"Workplace security and health" "Risk management and internal control"
	Accreditation	"Ranking and awards" "Good corporate government assessment"

To add granularity, the two independent reviewers ranked the level of communication of IC in each bank from a scale of 1 to 3, based on disclosure rating scale inspired by psychology and behavioral scholars (Barak and Gluck-Ofri, 2007; Chelune, 1979; Vondracek and Vondracek, 1971). The rating scale denotes (1) low communication; (2) average communication; and (3) high communication. Table 2 provides examples of the three levels shown. To test for inter-coder reliability, both reviewers evaluated a sample size of 31 banks, representing 10.4% of the total dataset. Cohen's Kappa measures of 0.810 indicate an acceptable level of agreement between reviewers (Cohen, 1960).

Organizational performance is reviewed from three perspectives, namely Business Continuity, Risk Management and Organizational Productivity, representing three dependent variables (DV). This study considers two proxies for each DV, as previous studies showed that the use of a single proxy might be considered simplistic and lacking accuracy, and generalizability (Richard et al., 2009; Shah and Corley, 2006). Guided by literature, Table 3 shows the choice of six proxies to represent Business Continuity, Risk Management and Organizational Productivity.

Table 2: Examples of the communication of intellectual capital based on three levels

IC Components/ Type	Level of Communication	Examples
Human Capital - Training	1	"Number of employees"
	2	"Segmentation of employees"
	3	"Diversity of employees"
Relational Capital - Customers	1	"Number of customers"
	2	"Customer segmentation"
	3	"Customer segmentation – New/ Repetition"
Structural Capital - Accreditation	1	"Awards"
	2	"Awards and description"
	3	"Awards, description and peer ranking"

Table 3: Calculation of proxies used for dependent variables (organizational performance)

Organizational Performance	Description	Formula
Business Continuity	***Liquidity***	Current Assets/Current Liabilities
	Market Capitalization Growth	(Market Capitalization in FYE2011 – Market Capitalization FYE2010)/ Market Capitalization FYE2010
Risk Management	***Tier1 Capital ratio***	(Total Equity - Revaluation Reserves)/(Risk Based Assets)
	Solvency	(Net Profit After Tax + Depreciation) / Total Liabilities
Organizational Productivity	***Return on Assets***	Total Revenue/Total Asset
	Return on Equity	Net Profit/Shareholders' Equity

In determining the correlation between the communication of IC and OP, non-parametric Kendall's tau-b method is used when assumptions of normality or linearity cannot be met (Weiss, 1999), as is the case with dataset used in this study. Kendall's tau-b correlation was chosen because of its ability to measure the strength of the relationship between any two variables. The tau correlation presents values between -1 to +1, with positive correlation indicating that ranks of both variables increase together, whilst a negative correlation indicates that as the rank of one variable increases, the other one decreases (Conover, 1980). Content analysis is also used to evaluate content and presentation used in the communication of IC prevalent in ARS to highlight nuances and trends.

4. Findings

4.1 Description

There were 299 banks in this dataset with the highest representation from the Asia Pacific region (52.1%), followed by Europe, Middle East and Africa (EMEA, 38.5%) and the America (9.4%). In terms of country, this dataset represented banks from 66 countries globally. Guided by literature, there are three dependent variables, each with two proxies for each dependent variable. For Business Continuity, the proxies used are liquidity and market capitalization growth (MCG). For Risk Management, the proxies are Tier1 capital ratio (Tier1) and solvency ratio (Solvency), and finally for

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Organizational Productivity, the proxies used are Return on Assets (ROA) and Return on Equity (ROE). The unit of measurement for all dependent variables is in ratio. Table 4 shows the descriptive statistics of the dependent variables and the respective proxies used in this study.

Table 4: Descriptive statistics of banks

Organizational Performance		Min	Max	Mean	Standard Deviation
Business Continuity	Liquidity	0.0	2.0	0.2	0.2
	Market Capitalization Growth	-0.9	3.1	-0.1	0.4
Risk Management	Tier1 Capital Ratio	5.1	43.3	13.7	5.2
	Solvency	2.5	29.7	10.1	4.4
Organizational Productivity	Return on Assets	-4.5	7.2	1.4	1.1
	Return on Equity	0.1	1.8	0.4	0.2

4.2 Prevalence of the Communication of Intellectual Capital

There were a total of 299 banks in the dataset that reported IC in their ARS after reviewing 503 banks that are listed on the stock exchange located globally. A Pearson's chi-square test of contingencies (with $\alpha = .05$) was used to evaluate whether the size of the banks was related to the communication of IC. The chi-square test was statistically significant, $\chi 2(2,N=503) = 27.58$, $p < .001$, although the association between size and the communication of IC was actually quite small, $\Phi = .21$. As illustrated in Figure 1, banks that did not report IC were banks that were smaller in size. The same test undertaken for age did not yield a significant result. From Figure 1, age did not impact the communication of IC in banks as compared to size.

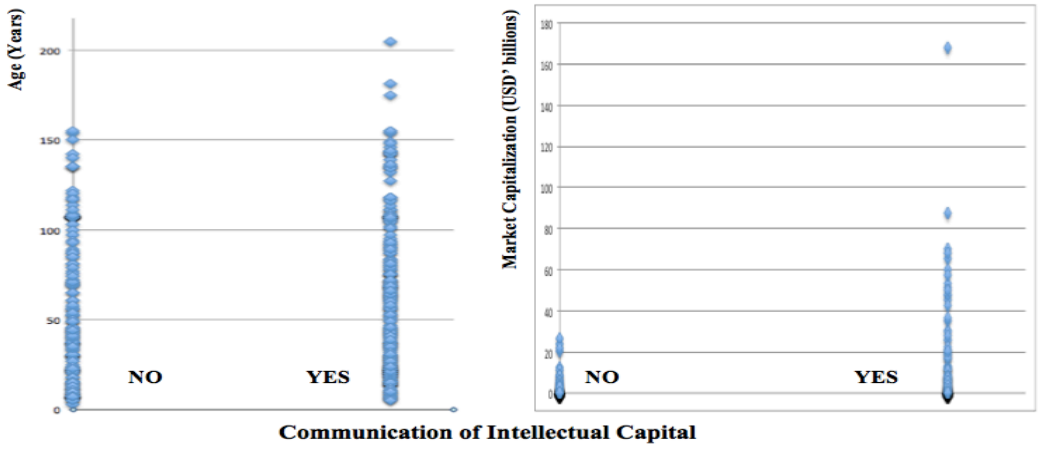
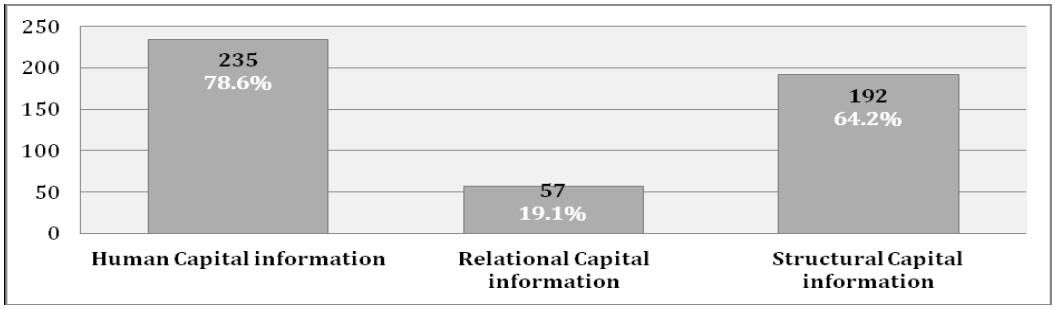


Figure 1: The Communication of Intellectual Capital in Banks, by Age and Size

4.3 The content in the communication of intellectual capital

The data on 299 banks was analyzed for its content in the communication of IC from the perspectives of the three components of IC in terms of Human Capital, Relational Capital and Structural Capital, as reflected in Figure 2. The bulk of the communication of IC was made on Human Capital, where 235 banks or 78.6% of banks had disclosed information on IC in their ARS. The communication of IC focusing on Structural Capital was the next highest reported with 192 banks (64.2%), followed by Relational Capital with 57 banks (19.1%).



*Note: Data are not exclusive and banks can communicate one or more of each of the component of IC.

Figure 2: The communication of intellectual capital by banks

The communication of information on Human Capital covered mostly information on banks' human resources (40.5%) and training (36.8%). For human resources, most information focused on staff by geography, seniority, function and gender. Details of women, including their percentage or representation in the workforce, were commonly found in human resource disclosure. Information on training included hours of training per staff and training spend per profession or function. In Structural Capital information, the prevalence of information on the banks' processes such as risk management and operational flow was significant. Prevalence of Relational Capital information was limited, and those available focused on customer segmentation data and customer satisfaction results.

On granular review of content in the level of communication of IC, reflected in Table 5, the higher the levels of communication, the higher the depth of information disclosed with more varied presentation used. Low levels of communication (Level 1) had content that were mostly narratives. Some exceptions were found, such as the disclosure of information on Relational Capital, where annotated pictures showed long-standing client-bank relations. Up to 40.5% of banks reported Level 1 communication of IC. As for average communication (Level 2), content was presented as narratives, numbers, tables or charts. These contents occupied at least half a page. The percentage of banks with Level 2 IC communication ranged from 0% to 29.4%. Finally, in Level 3, where more depth of IC was reported, content included narratives, numbers, charts, tables, and illustrations or pictures. This content covered at least a full page of the ARS. The percentage of banks that had a high level of the communication of IC ranged from 0% to 7.4%.

Table 5: Level of the communication of intellectual capital, number of banks (percentage)

Level of Communication		Human Capital Information			Relational Capital Information			Structural Capital Information		
		Training	*HR**	*EA**	*Customer*	*Supplier*	*Alliances*	*IP**	*Processes*	*AC**
	1	110	121	26	32	8	32	15	118	37
		(36.8%)	(40.5%)	(8.7%)	(10.7%)	(2.7%)	(10.7%)	(5.0%)	(39.5%)	(12.4%)
	2	12	88	3	7	0	2	1	48	2
		(4.0%)	(29.4%)	(1.0%)	(2.3%)	(0.0%)	(0.7%)	(0.3%)	(16.1%)	(0.7%)
	3	1	6	0	4	0	0	5	22	2
		(0.3%)	(2.0%)	(0.0%)	(1.3%)	(0.0%)	(0.0%)	(1.7%)	(7.4%)	(0.7%)

4.4 The correlation of the communication of IC with organizational performance

Kendall's tau-b was used to examine the correlation between the communication of IC and OP. As shown in Table 6, the correlation between the communication of Human Capital and a number of OP DV was significant. The correlation between Human Capital and Business Continuity, in particular, liquidity of the banks was significant (τ=.088, p<.001; MCG τ=-.127, p<.001, two tailed, N=299). This relation reflected the importance of communicating information on Human Capital, which could affect the long-term sustainability of banks. Even though employees are important to

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organizations, over publicizing information on human resources could negatively impact market perception of the banks. The communication of information on human resources also negatively correlated to risk management, Tier1 (τ=-.097, p<.05) and Solvency (τ=-.159, p<.001). Communicating information on training, however, was significant and positive with Organizational Productivity, ROA (τ=.169, p<.001) and ROE (τ=.155, p<.001). The above results highlighted the importance of human capital to banks and the latter's dependency on employees.

Table 6: Correlation between the communication of intellectual capital and organizational performance using Kendall's tau-b

THE COMMUNICATION OF IC	BUSINESS CONTINUITY		RISK MANAGEMENT		ORGANIZATIONAL PRODUCTIVITY	
	Liquidity	MCG	Tier1	Solvency	ROA	ROE
Human Capital	.088**	-.127**	-.083	-.113**	.048	.134**
Training	.115*	-.131**	-.033	.024	.169**	.155**
Human Resources	.069	-.127**	-.097*	-.159**	-.035	.087
Employee Attrition	-.019	.005	-.029	-.104*	-.021	.045
Relational Capital	.098*	-.102*	.021	.013	.114*	.075
Customers	.076	-.101*	.032	.021	.106*	.111*
Suppliers	.011	.001	-.058	-.064	-.066	-.049
Alliances	.132**	-.077	.023	.021	.089	.030
Structural Capital	.036	.003	.112*	.063	.017	-.010
Intellectual Property	-.015	-.003	-.004	-.012	.074	.042
Processes	.027	-.005	.138**	.094*	-.023	-.024
Accreditation	.088	.041	-.028	-.077	.041	.021

** Significant at p<0.001, * Significant at p<0.05

In terms of the communication of Relational Capital, there was significant correlation with Business Continuity and Organizational Productivity. On Business Continuity, the communication of information on Relational Capital was positively correlated to liquidity (τ=.098, p<.05), in particular, information on banks' alliances, where the relationship was significant and positive to liquidity (τ=.132, p<.001). Relational Capital information, however, was negatively correlated to MCG (τ=-.102, p<.05), attributed to the communication of customers' information (τ=-.101, p<.05). Hence, banks should disclose less customers' information, due to negative impact on the perception of banks. In terms of Organizational Productivity, customer information was positive and significant with ROA (τ=.106, p<.05) and ROE (τ=.111, p<.05). Suppliers' information had no correlation on OP, due to the limited information available on suppliers in the ARS.

The study findings showed that Structural Capital information was positively related to Risk Management. Specifically, the communication of internal processes was significant and positively correlated to Tier1 (τ=.138, p<.001) and Solvency (τ=.094, p<.05). Thus banks that reported more internal processes appear to have better risk management.

Most of the significant relationships (p<.05 and p<.001) had Kendall's tau-b values between .1 and .2 (.1<|τ|<.2), which showed moderate strength of relationship (Cohen, 1998). This result was an improvement to previous studies,

which were unable to show a definitive relationship between the communication of IC and OP. Consistent to this study, other studies supported the correlation between OP and Human Capital information (Abdolmohammadi, 2005; Ousama, Abdul Hamid, et al., 2011; Saenz, 2005).

5. Discussion

5.1 Higher Prevalence of the Communication of Intellectual Capital

This study investigated the prevalence of the communication of IC in 503 banks that are listed on the stock exchange located globally. The findings in this study found more than half of the banks in the dataset have included the communication of IC in their ARS, as opposed to prior literature that found limited or low levels of the communication of IC (Ahmed and Hussainey, 2010; April, et al., 2003; Bontis, 2003). In line with Legitimacy Theory (Lindblom, 1994), which states that organizations are obliged to report and disclose their activities and performance, both financial and non-financial information, the study found that the communication of IC to be prevalent particularly on Human Capital information (78.6%), followed by Structural Capital information (64.2%) and lowest on Relational Capital information (19.1%).

Human Capital information covered mostly information on the banks' human resources (71.2%) and training (41.1%). For human resources, most information were focused on segmented data of staff by geography, seniority, function and/or gender, while training information included hours of training per staff and training spend per profession or function. In Structural Capital information, the prevalence of information on the banks' processes was significant. The prevalence of Relational Capital information was limited, and those available focused on customer segmentation data and customer satisfaction results. Past literature argued that the low or limited prevalence of communication of IC reported were based mostly on annual reports of organizations and did not include other supplementary corporate disclosure. Such exclusion could distort the true evaluation on communication of IC (Beattie and Thomson, 2007). Annual reports were the focus for most prior studies in view of their easy access and availability, while the supplementary corporate disclosure was used as the document contained more non-financial information, including the communication of IC (Guthrie, et al., 2004; Pedrini, 2007).

5.2 The communication of intellectual capital is prevalent, not organized

While the communication of IC was prevalent, the content of the communication was not organized or standardized like a financial statement. In reviewing the content from 299 banks that have disclosed information on IC in their ARS, the content of at least one component of IC was represented, with Human Capital information forming the bulk of the communication of IC, followed by Structural Capital and lesser on Relational Capital.

There was no consistency in the use of content in the communication of IC. This study supports past findings where content was found to be inconsistent and could differ from one industry to another (Bruggen et al, 2009). However, the analysis of the content saw that the communication of IC had found its way around the issue on the lack of mechanism from the accountant's perspective in recognizing IC raised in previous literature (Firer and Williams, 2003; Vafaei et al., 2011). This issue was addressed through disclosure in supplementary reports or part of management discussion.

5.3 Content in the Communication of Intellectual Capital are Lacking in Smaller Banks

Findings from the study showed that banks that did not include content in the communication of IC in their ARS were smaller in size. A Pearson's chi-square test of contingencies (with $\alpha = .05$) showed statistical evidence that the size of the banks was related to communication of IC ($\chi 2(2,N=530) = 27.58$, $p < .001$). Although the association between size and communication of IC was actually quite small, $\Phi = .21$. The same evaluation undertaken on the age of the banks showed that age of the banks had no impact on communication of IC. This contradicted previous studies that suggested age could influence the communication of IC (Bukh, et al., 2005). At the same time, the finding on organizational size influencing communication of IC updates studies that found similar trends more than a decade ago (Ahmed and Courtis, 1999; Robb and Zarzeski, 2001).

There are two possible reasons why small banks tend not to include the communication of IC in the ARS. Firstly, smaller banks may lack the appropriate human resources to undertake the compilation of IC to be reported. Previous literature has highlighted the difficulty in expressing and codifying IC (Bontis, 1998; Edvinsson and Sullivan, 1996). Secondly, smaller banks may not have the budget to incur the information handling costs, which may be

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proportionately higher, compared to larger banks as the latter have higher revenue and earnings capacity (European Commission, 2013). This could raise the overall administrative burden disproportionately high for smaller organizations, particularly SMEs, if communication of IC is made compulsory.

5.4 Peculiarities of the communication of intellectual capital

There were three peculiarities arising from the analysis of the communication of IC, namely, the inclusion of information on women, importance of information on training and extensiveness of risk management processes in banks. Firstly information on women includes narratives and numbers tabulated on roles, responsibilities and seniority of women within banks. Such inclusion could be due to the rise of CSR disclosure to reflect organizational diversity and equality that portray fair employment and equality (Vuontisjärvi, 2006; Wilmshurst and Frost, 2000). Studies have shown that women have a positive impact on organizations as they bring forth essential managerial skills in building relations, facilitation, empowerment and development of self-knowledge (Colwill and Townsend, 1999; Peebles, 2014).

Secondly, banks reported significantly more information on human resources compared to training. Most training information reported content in line with GRI guidelines "LA10 - Training per year per employee" (GRI, 2013) and provided limited details on the type of training programs, the relevance to employees, or even the effectiveness of the training received. Statistically, training had stronger and positive correlation with Business Continuity (liquidity, τ=.115, $p<.05$, N=299) and Organizational Productivity (ROA, τ=.169, $p<.001$; ROE, τ=.155, $p<.001$), compared to human resource, as shown in Table 6. Organizations may want to publicize less on human resource and more information on training, as training directly impacts Organizational Productivity and Business Continuity, and possibly could increase organizational competencies (Tohidi, 2011).

Finally, information on Structural Capital particularly on risk management processes stands out among banks. Some banks reported detailed risk management processes beyond compliance requirements. These contents were mostly narratives, but supported by pictured flowcharts of methodology, and highlighting strategy and operational processes adopted (Hiles, 2010). The extensiveness of risk management processes in banks can be seen in the highest level of communication of IC. Twenty-two banks that reported such detailed information for processes versus only six banks disclosing a similar level of communication for human resource, as shown in Table 5.

6. Conclusion

The study showed that the prevalence of the communication of IC was evident. The communication of IC was significantly less in smaller banks compared to its larger peers ($\chi2(2,N=503) = 27.58$, $p < .001$), while age did not yield any significant result. The content in the communication of IC was most dominantly represented by information on Human Capital, followed by Structural Capital that emphasized mostly on risk management process and least information on Relationship Capital. Statistical evidence showed correlation between the communication of IC and OP, as shown in Table 6. Human Capital information moderately correlated with Business Continuity and positively with Organizational Productivity. Relational Capital, in particular, customer information, positively correlated with Organizational Productivity, and finally, Structural Capital information positively related to Risk Management.

There are four contributions arising from this study. Firstly, this study helps to ascertain the validity of previous findings that reporting limited or low levels in the communication of IC (Ahmed & Hussainey, 2010; April, et al., 2003). Secondly, the study increases the generalizability of such a line of research, where studies were often derived from small datasets, covering mostly one jurisdiction (Beattie and Smith, 2012; Striukova et al., 2008; Unerman et al., 2007). Thirdly, this study assists management to better comprehend and make informed decisions through the communication of IC for monitoring and reporting. Finally, the study will enhance stakeholders' knowledge in the communication of IC to better understand the communication and effect of IC within the organization.

There are four limitations to this study. Firstly, the current data source was limited to banks that were listed on the stock exchanges globally. It did not include other banks that were not listed, merged or acquired, or wounded up due to insolvency, in view of the lack of financial information. Secondly, the study is focused on the banking sector, which may not be representative of the organizations operating in different industry sectors. Thirdly, the study is reliant on secondary data, not primary views. Finally, English language publications of banks were focused in this study, removing publications in other mediums such as Japanese, Chinese and several European languages due to insufficient ability to translate or comprehend the language concerned. Further research can be undertaken, expanding research

to other industries, exploring drivers of the communication of IC, the use of formats in the communication of IC and the motivations of management in the communication of IC.

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