**NANYANG
TECHNOLOGICAL
UNIVERSITY**

**THE STUDY OF THE COMMUNICATION OF
INTELLECTUAL CAPITAL**

WEE CHUI NEO JANET

WEE KIM WEE SCHOOL OF COMMUNICATION AND INFORMATION

**A thesis submitted to the Nanyang Technological University
in fulfillment of the requirement for the degree of
Doctor of Philosophy**

2017

ABSTRACT

The study examines the communication of intellectual capital (CIC), defined as information disclosure of an organization's intangible assets through annual report and supplementary corporate disclosure (ARS). Three research gaps were identified: (1) There is insufficient understanding of the drivers behind corporate disclosure of IC in the ARS; (2) How IC is communicated for corporate reporting, particularly content and formats used; and (3) The relationship between CIC and organizational performance (OP) has not been established.

The study of CIC draws from three theoretical perspectives. Stakeholder Theory ascribes management responsibility to report to multiple stakeholders and interests. Thus the need to explore factors underlying CIC (RO1). Legitimacy Theory highlights management's discretion in reporting based on perceived importance to stakeholders, which questions what and how CIC is reported (RO2A). Finally, Impression Management Theory suggests possible influence of CIC in enhancing perception of respectability and importance, thus the examination of the relationship between CIC and OP (RO2B).

To gather empirical evidence, data was collected from surveys, 1-to-1 interviews and ARS. Two global surveys were conducted with 200 senior executives of banks responsible for ARS, supplemented with 1-to-1 interviews from a smaller subset of executives. To address RO1, factor analysis was applied on the survey results, supplemented with 1-to-1 interviews. For RO2A, ANOVA analysis and content analysis was undertaken on ARS, supplemented with 1-to-1 interviews. For RO2B, Negative Binomial Regression was used to investigate the relationship between CIC and OP.

In RO1, four factors were found to drive organizations in CIC, namely compliance, management responsibility to stakeholders, corporate leadership and collective behavior. Stakeholder Theory applied in the context of CIC uncovered four main groups of stakeholders to focus – regulators, community-at-large, investors, stockbrokers and analysts, and peers. In RO2A, structural capital information (SCI)

was the most prevalent content, followed by human capital information (HCI) and relational capital information (RCI). On format, SCI reflected transparency, often presented as narratives and illustrations. RCI resonated with strength and reliability, frequently represented by pictures and graphs. HCI showcased organizational culture, typically displayed as pictures, graphs and tables. These findings identified underlying motives behind the use of content and format, containing tacit messages in CIC to support management's legitimacy. For RO2B, HCI was found negatively correlated with return on assets (ROA). RCI was positively correlated with net profit margin and negatively with ROA. Finally, SCI was negatively correlated with solvency ratio. This study found that Impression Management Theory was applicable, particularly for organizations that were in financial distress or lagging in performance.

This study offers several contributions. Firstly, this is among the first works that investigated factors underlying CIC in corporate reporting. It provides regulators with insights into forces that compel or hinder CIC, and updates literature on management's thinking and priorities. Secondly, empirical evidence extends Stakeholder Theory in the context of CIC, and uncovers the use of content and formats in CIC to suggest legitimacy and impression management. For practice, this study highlights benefits of CIC and motivates organizations to disclose IC as part of corporate reporting.

ACKNOWLEDGEMENTS

My PhD journey is testament to Singapore's thrust towards life-long learning. It is truly never too late to go back to school, even if you are the oldest student among peers. I thank my supervisor, Assoc Prof Alton Chua, for his unwavering support, guidance and good advice. I am eternally grateful to him, as he has opened up a whole new world of academic research and publishing, building on my passion for research. I have made the right choice in choosing Wee Kim Wee School of Communications & Information (WKWSCI) at Nanyang Technological University for my Masters and Doctorate pursuits, as the school has built an amazing team of professors to learn from. Special thanks to Dr Lee Chu Keong, Assoc Prof Ravishankar Sharma, Assoc Prof Margaret Tan, Adjunct Prof Kan Siew Ning, Mr R. Gopinathan, Mr Francis Tay, Emeritus Professor Eddie Kuo, Prof Ang Peng Hwa, Assoc Prof Brendan Luyt, Assoc Prof Chris Khoo and Asst Prof Xu Hong.

The academic pursuits in WKWSCI have provided me with many opportunities to make new friends and reestablish old contacts with several partners from three international accounting firms. These friends have enriched my life and enhanced my knowledge of current practices in corporate reporting. To these friends (names not mentioned here for confidentiality), I thank you for your friendship and time spent with me. Thank you for creating such special and lasting memories of my PhD candidature. I also owe thanks to friends who have helped with proof reading and suggesting alternative approaches to my study. Your kindness and generous help will always be appreciated.

The time spent on my doctorate pursuit would not be possible without the support and encouragement from my parents, Ronnie and Mary, and my husband, Eddy. To my husband, Eddy Tan, thank you for being an amazing parent, husband and soul mate. I am truly grateful for your patience, support and understanding. Finally, to my children, Kelly and Scott, thanks for all the 'perk me up' hugs and kisses.

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DECLARATION

The following papers have been published during the course of this PhD study.

Conferences/ Paper Achievements:

2013

Wee, J. & Chua, A. (2013). The peculiarities of knowledge management processes in SMEs – The case of Singapore, *Journal of Knowledge Management*, 17(6), 958-972.

Wee, J. & Chua, A. (2013). Intellectual capital information in organizations – prevalence and correlations with organizational performance. In Garcia, L., Rodriguez-Castellanos, A., and Barrutia-Geunaga, J. (Eds.), *Proceedings of the 5th European Conference on Intellectual Capital, ECIC 2013, Bilbao, Spain, 11-12 April*, pp. 581-589.

2014

Wee, J. & Chua, A. (2014). The communication of intellectual capital and its relationship with organizational performance. *Proceedings of the 11th Intellectual Capital, Knowledge Management & Organizational Learning, ICICKM 2014, Sydney, Australia, 6-7 November*, pp. 427-435.

2015

Wee, J & Chua, A. (2015). The communication of intellectual capital – Prevalence and relationship with organizational performance, *The Electronic Journal of Knowledge Management*, 13(1), 38-50.

2016

Wee, J & Chua, A. (2016). The communication of intellectual capital: The “Whys” and “Whats”, *Journal of Intellectual Capital*, 17(3), 414-438.

CHAPTER 1

1.1 OVERVIEW TO THE STUDY

1.1.1 Introduction

Corporate reporting to stakeholders came under the spotlight during the global financial crisis of 2008. This crisis highlighted the weaknesses in corporate reporting, particularly in annual reports, which was based on historical information of organizations concerned (Kirkpatrick, 2009; Leech & Leech, 2011). These reports were inaccurate and misleading as a result of ‘dishonesty’ and ‘hypocrisy’ behaviors (Pezzuto, 2016; Shiller, 2012; Stiglitz, 2008). Consequently, stakeholders, pressured by increasing political demands, insisted on more current information that could elucidate the financial numbers reported and how these numbers were derived in order to restore trust and confidence in the organization (Humphrey et al., 2014; Kay, 2012). In addition, stakeholders wanted to know how organizations utilized resources, managed operational controls, and planned forward strategies that assured value creation as well as sustainability of performance (Bismuth & Yoshiaki, 2008; Smith, 2014). As a result, the volume of corporate reporting increased with the inclusion of more non-financial information in organizations’ annual reports (Collis et al., 2012; KPMG, 2009).

Meanwhile, the academic and business communities began to address weaknesses in the annual reports, and to further explore reporting practices by organizations. For the academic community, these weaknesses were addressed by reviewing non-financial reporting critically as a topic. In particular, the communication of the organization’s intellectual capital (IC), which is considered for both voluntary and mandatory reporting. Reviewing IC is critical as past studies have shown evidence that IC promotes innovation, value creation and performance in organizations (Ngha et al., 2009; Serenko & Bontis, 2013). The organization’s IC is defined as the knowledge, experience and creativity of employees as well as the knowledge resources embedded in databases, systems, processes, culture and philosophy of the organization (Al-Ali, 2003; Stewart, 1997; Sullivan, 2000). In terms of practice, the academic community

developed new frameworks to capture and report information on IC to complement financial figures, for example, the balance scorecard and Skandia Navigator (Edvinsson, 1997; Kaplan & Norton, 2007; Tan et al., 2008). Such information on IC could address stakeholder's demand for non-financial information in corporate reporting, which was accentuated during the crisis. The communication of IC would inform how the organization's resources are utilized and managed in corporate reporting so as to provide assurance and reinforce stakeholders' trust lost during the crisis (Bismuth & Yoshiaki, 2008; Collis et al., 2012; Oliveira & Russell, 2010).

For the business community, corporate reporting was enhanced with the introduction of stricter corporate governance policies, which saw corporate social responsibility reporting being transformed into sustainability reporting (Gan et al., 2013; OECD, 2014). In terms of practice, organizations such as the International Integrated Reporting Council (IIRC), Global Reporting Initiative (GRI), World Intellectual Capital Initiative (WICI) and Sustainability Accounting Standards Board (SASB) were formed to provide guidelines on reporting practices of non-financial information to stakeholders (Humphrey et al., 2014; Sroufe & Ramos, 2015). These guidelines are intended for organizations to incorporate the communication of IC as part of their corporate reporting (Abdifatah & Nazli, 2012; Cinquini et al., 2012). The communication of IC can be reported either in the annual report or as a standalone report. This standalone report is also known as the supplementary corporate disclosure, entitled with words such as "Sustainability", "Governance" or "Intellectual Capital Report", among others (Beattie & Smith, 2013; Dumay, 2015; GRI, 2016b). Collectively, these reports are known as the annual report and supplementary corporate disclosure (ARS) (KPMG, 2009).

However, the communication of IC in the ARS is fraught with three challenges. Firstly, there is no mandatory reporting requirement for the communication of IC in a number of jurisdictions globally (Holder-Webb et al., 2009). For example, Singapore and Hong Kong waived mandatory reporting requirements, but set policy guidelines to encourage volunteered reporting since 2011 and 2012 respectively (GRI, 2016a; Singapore Exchange, 2015). As such, most of the communication of IC in the ARS is volunteered by management to stakeholders. In view of this fact, governing bodies such as regulators and trade councils need to identify forces that either compel or

hinder the communication IC as part of non-financial information reporting (Abhayawansa & Abeysekera, 2009; Christensen & Mohr, 2003; European Commission, 2013).

Secondly, while government and market initiatives are promoting the communication of IC, each jurisdiction has created its own framework, often modeled after frameworks developed by IIRC, GRI, WICI or SASB. This resulted in multiple frameworks and significant inconsistencies in the content and formats used (Bismuth & Yoshiaki, 2008; Vafaei et al., 2011). Management responsible for the compilation of the ARS needs to determine what content to disclose in the communication of IC. For example, management has to ascertain whether to include information on its customers, which is considered a trade secret. As such, deciding what information to publish in the ARS can be an arduous process for management.

Finally, there is insufficient empirical evidence on the benefits of the communication of IC reported in the ARS. While there was statistical evidence to show that organizations benefited from their IC (Stewart, 1997; Sydlar et al., 2014; Youndt et al., 2004) little has been discussed in IC literature on the advantages in the communication of IC for corporate reporting, for two possible reasons. First, scholars were more interested in developing frameworks to capture and report IC in addressing the weakness in corporate reporting accentuated during the financial crisis (Edvinsson, 1997; Kaplan & Norton, 2007; Tan et al., 2008). Secondly, the communication of IC as a topic of interest has only gained attention in the recent decade. Discussions on the advantages were limited to securing financing, and how disclosure will benefit the society at large (Ben-Simchon & Andriessen, 2006; Bernstein & Beeferman, 2015; Tee et al., 2015). Yet organizations are obligated to disclose information beyond its financial performance, at the least, to make sense of numbers reported and to provide assurance of future stability (KPMG, 2011). Internally, organizations need to justify the benefits of the communication of IC in the ARS relative to its performance, as additional costs will be involved for systems, manpower and time (Tsui et al., 2014).

In spite of the challenges faced, the efforts made by organizations like IIRC and GRI to promote the communication of IC as part of non-financial reporting are gaining traction. This is evidenced by the number of organizations that have already

incorporated the communication of IC as part of non-financial reports often labeled "Integrated Reporting", "Sustainability Reporting" or "Intellectual Capital Reporting" (Beattie & Smith, 2013; Dumay, 2015; GRI, 2016b). In 2011, KPMG reported that 95% of the 250 largest companies in the world reported non-financial information, and half informed growing their financial values (Hughen & Lulseged, 2014). This trend could be a paradigm shift in the ARS to help organizations preserve and increase their value (Smith, 2014; Zambon, 2013).

The study examines the communication of IC in the light of three fundamental questions - Why, What and How. The question of 'WHY' was motivated by Stakeholder Theory, which is often quoted as one of the main underlying reasons for the communication of IC in the ARS (Guthrie et al., 2004; Oliveira et al., 2013). The theory ascribes the responsibility of management to inform stakeholders on the organization's activities and performance. However, some organizations, such as listed companies on stock exchanges and multinational organizations, have thousands of stakeholders with a large variety of diverging interests. This questions the generalizability of this theory, given the heavy responsibility of satisfying the interests of too many stakeholders. Thus, there is a need to understand what drives the communication of IC, as the business world in the 21st century has undergone dramatic changes (Freeman et al., 2010).

The questions on 'WHAT' and 'HOW' were inspired by Legitimacy Theory, which states that management only reports information they perceive important in meeting the expectations of shareholders. Management is encouraged to report the communication of IC as it is important to convey management's strategic directions and how organizations can be resilient in times of distress (Kamath, 2007; Lengnick-Hall et al., 2011). With the push for greater transparency in the ARS from regulators and governing bodies the likes of IIRC and GRI, the volume of discretionary content and formats reported has significantly increased in the past two decades (Davidson & Skerratt, 2007; Davison, 2014).

In the last ten years, the ARS has evolved to become a communication tool for organizations. This change can be seen in the increasing number of glossy pages and non-financial content increasing in volume, vis-a-vis the financial reporting numbers.

However, the content is neither required nor regulated for corporate reporting (Heath, 2013). Thus, would Legitimacy Theory still stand for the organization that seeks acknowledgement from shareholders through the ARS, when this document has become a marketing tool? Perhaps it could be better explained by Impression Management Theory.

Impression Management Theory highlights that organizations may attempt to influence the desired perceptions of themselves in order to enhance their respectability and importance (Gardner & Martinko, 1988; Highhouse et al., 2009; Schlenker, 1980; Schneider, 1981). For example, organizations could use the communication of IC to garner support from stakeholders in an adverse situation so as to influence the perspectives of these stakeholders (Abhayawansa & Guthrie, 2012; Gardner & Martinko, 1988). One way in which organizations engage in impression management is through their ARS (Neu et al., 1998), by strategically presenting narratives (Cho et al., 2010), visuals (Davidson, 2010) and graphs (Penrose, 2008). It has also been found that management influences the level of detail and complexity in the ARS to obfuscate poor performance (Li, 2008). This raised another dimension to explore the communication of IC in ARS practices.

In the study of the communication of IC, three theories, Stakeholder Theory, Legitimacy Theory, and Impression Management Theory, were used. These theories are often quoted in intellectual capital (IC) literature and were used, not only as inspiration, but also to guide the investigation, analysis and deduction. These three theories, though first reviewed from IC literature, are also often quoted in accounting, management and business-related literature linked to reporting, amongst others. As such in investigating the communication of IC, literature was reviewed beyond IC and guided by these three theories.

1.2 BACKGROUND TO THE RESEARCH GAPS AND QUESTIONS

1.2.1 Insufficient Understanding of What Drives Organizations to Communicate IC

Corporate reporting is practiced by most organizations globally, whether driven by profit or otherwise. According to Stakeholder Theory, the organization and their management are held accountable to their stakeholders and are thus obligated to disclose the status of the organization's performance (Maak & Pless, 2006). For organizations that are larger and more established, and whose responsibilities to stakeholders are greater, the annual report and supplementary corporate disclosure (ARS) is produced as part of corporate reporting to account for their performance. The ARS includes the audited financial statements, management reviews and comments, and the Chairman's or Chief Executive Officer's statement, where applicable (Maak & Pless, 2006).

The communication of IC is important as, in accordance to Resource-based Theory, IC is viewed as a unique collection of resources and capabilities necessary for organizations to remain competitive. The communication of IC would thus reflect the organization's unique resources and capabilities that are difficult to imitate by competitors (Barney, 2007; Nelson & Winter, 1982; Wernerfelt, 1995). However, such communication of IC is not mandatory corporate reporting in most jurisdictions. That means organizations are not obligated to disclose any information on IC in the ARS, but some still do. What then motivates management to report information on IC in their ARS?

Currently, there is insufficient understanding of the factors underlying management's decision in the communication of IC, whether mandatory or voluntary. Existing IC literature does not provide sufficient insights into the motivations behind management's decision to report or disclose information on the organization's IC in the ARS to stakeholders. Existing IC literature, albeit scanty, suggests that organizations are pressured by government to report IC in the annual report and supplementary corporate disclosure (ARS) (Holder-Webb et al., 2009). This is part of corporate governance to improve documentation and connections with stakeholders (Gan et al., 2013). While corporate governance was identified as a possible motivating

force, organizations also faced the dilemma of balancing two other forces: (1) to manage stakeholders' impression of the organization's image, and (2) to meet stakeholders' demand for relevant non-financial information on decision-making and operations (Bismuth & Yoshiaki, 2008; Ousama et al., 2011a). As the communication of IC is linked to information disclosure by organizations, the forces of motivation could be examined from the perspectives of management and business-related disciplines.

Accounting literature has shown that high management ownership could result in lower information disclosure to stakeholders, as management will have more discretion in reporting beyond what is required by law (Craft, 1981; Leung & Horwitz, 2004). Studies from the accounting discipline have highlighted the role of leadership in the communication of non-financial information, where market leaders influence the industry standard of reporting (Ahmed & Courtis, 1999; Ernst & Young, 2014; Robb & Zarzeski, 2001). Peers were found to affect information disclosure practices and thus, the communication of IC could be influenced by herd instinct, driven by competition and the industry (Cooke, 1989; Gibbins et al., 1990; Tartari et al., 2014).

Literature from business strategy advocates organized structures and management systems, given that these are necessary to support the capture and reporting of IC as part of non-financial information to stakeholders (Perrini & Tencati, 2006; Yongvanich & Guthrie, 2006). In ethical and environmental reporting studies, the influence of the organization's level of media exposure is found to positively affect information disclosure of the organization to stakeholders (Brammer & Pavelin, 2004; Liu & Anbumozhi, 2009).

While the factors covered earlier generally apply to organizations, current literature has not shown if these factors are also applicable in the context of the communication of IC. This presents an opportunity to review these factors from the context of the communication of IC, in view of its advantages to business and academic communities. For business practitioners, in understanding the factors underlying the communication of IC, organizations can take advantage of this knowledge to drive, share and analyze its communication of IC in line with its strategic direction, as IC positively impacts organizational performance (Green, 2006). The study also serves as an opportunity to

understand management thinking and their priorities in reporting (mandatory) or organizational disclosure (volunteered). To the academic community, this study aims to explore, in some part, to close the gap in the literature, by adding to the body of knowledge on the topic of factors underlying the communication of IC in organizations, which leads to the first research question (RQ1) and objective (RO1).

RQ1: Why do organizations include the communication of IC in their annual report and supplementary corporate disclosure (ARS)?

RO1: Determine the factors underlying the communication of IC

The first research question, as shown in RQ1, aims at advancing the understanding of factors underlying the organization's communication of IC. The research question is exploratory and it sets the stage to probe deeper into the content and formats used in the communication of IC (RQ2A) and the relationships that the communication of IC may have with the organizational performance (RQ2B). The question is designed to investigate and comprehend the rationale behind management's thinking in dealing with the communication of IC, in particular, its use as part of non-financial information to supplement the traditional annual reports. The objective of this research question (RO1) is to identify the factors underlying the communication of IC, so as to ascertain the priorities that drive corporate reporting of IC, where there is no mandatory requirement in many jurisdictions.

1.2.2 Inadequate Insights into the Communication of IC for Corporate Reporting

As IC becomes more significant in driving an organization's competitive edge and success, it is important that corporate reporting practices be aligned to effectively account financial performances to their stakeholders (ICAEW, 2007). Without the provision of such information, the ARS would be an ineffective medium for stakeholders to rely upon, particularly for investors when making decisions on buying, holding or selling shares (Abhayawansa & Abeysekera, 2009; Alwert et al., 2009). As the communication of IC in the ARS is largely unregulated, insufficient understanding

of extant practices makes it difficult to ascertain how effective corporate reporting practices are developing to maintain their relevance. Past studies have shown that the growing volume of the communication of IC in the ARS was due to the advancement by government and market agencies for organizations to adopt frameworks such as the GRI Sustainability Framework (G4), IIRC Framework or SASB Guidelines (Abhayawansa, 2014a; Nielsen et al., 2006; Oliveira & Russell, 2010; Pedrini, 2007). In fact, 92% of the world's largest 250 corporations have adopted the G4 framework, and more than 90 countries are currently applying the G4 framework for reporting (GRI, 2016a).

While frameworks provide a certain point of view through which to examine a topic, such frameworks may not necessarily be relevant or applicable across all sectors or jurisdictions (Bontis, 2001; Demartini & Pailoni, 2013). For example, the G4 has been criticized to be lacking in providing specific industry framework (also known as sector guidance) as compared to the framework set by the Sustainability Accounting Standards Board (SASB). The framework by SASB, however, is tailored to the Securities Exchange Commission and therefore, more relevant to companies in the United States of America. As such, regulators and organizations “pick and choose” to create their own framework in the communication of IC, resulting in the existence of a number of content and format variations in the ARS. For instance, an international company with significant operations in the United States of America and Europe may choose to adopt a combination of two frameworks, the SASB and the GRI, in order to satisfy regulators in these regions respectively. Management responsible for preparing the ARS is thus challenged with ‘What’ and ‘How’ the communication of IC can be included for corporate reporting. The communication of IC can be reviewed from two perspectives, namely content and format.

In terms of content, while several studies have investigated the communication of IC in a number of countries (Ahmed Haji & Mohn Ghazali, 2012; Bhasin, 2011; Cinquini et al., 2012), these studies covered mostly a single jurisdiction rather than on a regional or global scale. For example, Ahmad Haji & Mohd Ghazali (2012) examined the communication of IC of 51 large companies on Bursa Malaysia from 2008 to 2010. Bhasin (2011) studied the disclosure of IC in annual reports of the leading Indian IT corporations, while Cinquini, Passetti, Tenucci and Frey analyzed

information on IC in sustainability reports for 37 companies listed on the Italian Stock Exchange. The study of the communication of IC ought to be undertaken at least at a regional level, as there is evidence showing homogeneous disclosure patterns. For example, in Europe, multinational efforts towards fostering the communication of IC was emphasized at a European (region) level rather than a local one (Bellora & Buenther, 2013). Moreover, a wider geographical coverage would improve generalization of the study and provide further understanding of the practices in the communication of IC.

With the volume increasing sharply in terms of length of page, depth of voluntary information, narrative information and the adoption of different formats, particularly among large organizations (Beattie et al., 2008), there is more content generated on the communication of IC in the ARS. Prior works that reported low prevalence in the communication of IC were mostly based on the analysis of the annual report alone, without any consideration of the supplementary corporate disclosure (Bontis, 2003; Oliveras et al., 2008; Ordóñez de Pablos, 2002). However, recent studies have shown higher prevalence of the communication of IC in the latter (Adams & Simnett, 2011; Ahmed & Hussainey, 2010; Dumay & Garanina, 2013). As such, there is a need to revisit the examination of the type of content in the communication of IC.

In terms of format, while there exists much literature on content, little has been discussed on the formats used in the communication of IC. Formats are arguably as important to accounting as the rhetoric of accounting narratives because formats are ubiquitous, and contain multiple messages that are open to rich and varied interpretation. Moreover, the use of formats, like images, has emotional power to influence the memory of the reader (Davidson, 2014). Studies on formats or the peculiarities of formats used in the communication of IC are limited. In fact, the communication of IC presented in different formats is often neglected, in spite of numerous scholars reporting that formats such as visuals and images are more powerful media than words in the communication of IC (Anderson & Frankle, 1980; Spoehr & Lehmkuhle, 1982). Past studies have also highlighted the need to better comprehend what and how organizations report IC, as the communication of IC is deemed important to stakeholders in interpreting the sustainability of the organization (Abhayawansa & Abeysekera, 2009; Ousama et al., 2011b).

Insights into the content and formats adopted in the communication of IC to stakeholders can form an important step to motivate and guide other organizations in the use and communication of IC. In addition, in gathering insights into organizational practices, the study objective will also ascertain if there exists certain trends or characteristics of the organization, in the use of content and formats for the communication of IC. The discussion above leads to the second research question (RQ2A) and research objective (RO2A):

RQ2A: What (content) and how (format) do organizations disclose the communication of IC in their annual report and supplementary corporate disclosure (ARS)?

RO2A: Ascertain and analyze the content and formats used in the communication of IC

The second research question, as shown in RQ2A, is designed to strengthen existing knowledge on the communication of IC, with focus on the content and formats used by the organization for external communication of IC reported in the annual report and supplementary corporate disclosure (ARS). This question leads to the research objective, as shown in RO2A, to ascertain prevalence, peculiarities and common industry practices in the communication of IC, thus updating IC literature with current reporting practices.

1.2.3 Relationship between the Communication of IC and Organizational Performance has not been Established

While the study of IC is recurrently linked and long acknowledged to be positively correlated to organizational performance, there is limited reference made on the relationship between the communication of IC and organizational performance (Chan, 2009; Zéghal & Maaloul, 2010). The conceptions of IC, which are informed by business practitioners such as Sveiby and Edvinsson, lack the clarity required in corporate reporting, particularly in the turbulence of the modern environment (Sullivan, 2000). Since the communication of IC reflects the status and development of the organization's IC (Edvinsson, 2013; Saint-Onge, 1996), organizational

performance may also be linked to the communication of IC. For example, past studies have shown that the communication of IC such as the organization's strategy and talent development plans could influence the organizational performance (Bismuth & Yoshiaki, 2008; Collis et al., 2012; Oliveira & Russell, 2010). Organizations need to adopt a more holistic practice in the communication of IC, in consideration of its influence on its current stakeholders and society, for future generations and practices (Hubbard, 2006).

The academic community that had undertaken studies previously to ascertain the relationship between the communication of IC and organizational performance, they faced two challenges. Firstly, past studies found that the communication of IC varied by country. For example, studies on technology companies in the United Kingdom found high prevalence in the communication of IC (Liao et al., 2013b), whereas technology companies in India were reported to have negligible disclosure on the same (Bhasin, 2011). Likewise, there were differences in the level of communication of IC in various industries (Bozzolan et al., 2006; Liao et al., 2013a; Nurunnabi et al., 2011). Thus making the generalization of the study difficult.

Secondly, there are few studies that discuss the relationship between the communication of IC and organizational performance. On the few available studies, findings reported were conflicting. For example, a 2006 Canadian study on selected cases of wireless technology companies confirmed the existence of inter-relationship between the communication of IC and business growth performance (Ng, 2006). A Malaysian study in 2015, however, reported the absence of any relationship between the communication of IC and profitability (Salleh & Clivon, 2015). Another study from India in 2014 reported that profitability and leverage have negative relationships with the communication of IC (Mondal & Ghosh, 2014). Findings for these two studies were different for two reasons. First, these studies were country specific and therefore, not generalizable. Secondly, control factors such as industry were not taken into account, thus resulting in dissimilar findings.

Yet in practice, there was statistical evidence that claimed half of the organizations engaged in the communication of IC in their ARS improved their financial performance (Hughen & Lulseged, 2014). According to Legitimacy Theory,

organizations exist in societies under an expressed or social contract. Organizations are thus obliged to report and disclose their activities and performance, so as to help maintain and restore their legitimacy (Lindblom, 1994). Studies have shown that as a form of legitimacy, organizations tend to seek mutually beneficial outcome for themselves and their stakeholders by reporting assets that are considered important and actively managed (Dumay et al., 2015; Lengnick-Hall et al., 2011). This mutual beneficial outcome could be manipulated to put the organization in positive light (Dumay et al., 2015). Noted in practice, the compilation of the non-financial section of the ARS often follows the announcement of the organization's financial performance, even though the compilation process started early. What then is the relationship between the communication of IC and organizational performance? This question is important, as it will impact the significance of the communication of IC in the ARS as a necessary practice for all organizations going forward.

This study aims to fill the gap in existing literature on the communication of IC and its correlation to organizational performance. The focus will be on the communication of IC that has been disclosed in the ARS. The research also seeks to expand the coverage of analysis on existing works on organizational performance to address pertinent business issues involving business continuity, solvency and organizational productivity. This leads to our third research question (RQ2B) and research objective (RO2B), as follows:

RQ2B: What relationships exist between the communication of IC and the performance of the organization?

RO2B: Ascertain the relationship between the communication of IC and organizational performance

The final and third research question, as shown in RQ2B, serves to provide insights into the communication of IC in relation to organizational performance. The objective of this final research question, as shown in RO2B, is to demonstrate if certain organizational performance characteristics have a higher communication of IC than others.

1.3 MOTIVATION FOR RESEARCH

The motivation to study the communication of IC stems from three basic questions to all research – Why, What and How. While IC is long noted for its contribution to organizations, the necessity of communicating this organizational asset as part of the organization's corporate reporting is becoming imperative. Globally, government agencies and market forces are pushing organizations to disclose more information on IC for corporate reporting to reflect sustainability. This is in line with good corporate governance practices. As such, the study on the communication of IC is timely to extend insights and provide empirical evidence on the growing area of IC reporting. The following sub-sections will explore the motivations for this study in greater detail. Section 1.4.1 will address the 'WHY', Section 1.4.2 'WHAT' and 'HOW', and Section 1.4.3 will justify the importance of the communication of IC.

1.3.1 Advocating the Communication of IC as Part of Sustainability

There is growing prevalence of the communication of IC as part of corporate reporting (Adams & Simnett, 2011; Dumay & Garanina, 2013; Yongvanich & Guthrie, 2006), as it can positively influence sustainability (Fernandez et al., 2012). The communication of IC in the ARS is important because it reflects the continuous improvement and development of the organization's IC, which is necessary for the sustainability of the organization (Edvinsson, 2013; Saint-Onge, 1996). However, the communication of IC as a distinct field of study has gained attention only in the recent decade. The need for the communication of IC is fueled in part by changes in regulatory reporting frameworks for sustainability (Coldwell et al., 2012; PricewaterhouseCoopers, 2014), stakeholders' demand (Bismuth & Yoshiaki, 2008; Ousama et al., 2011b), and the need to manage organizational image (Herzig & Schaltegger, 2006).

However, current literature on the factors underlying the communication of IC is limited. This limitation highlights the need to understand these factors for two reasons. First, understanding these factors allow governing bodies such as regulators and trade councils to identify forces that either compel or hinder organizations in the communication of IC (Abhayawansa & Abeysekera, 2009; Christensen & Mohr, 2003;

European Commission, 2013). Secondly, addressing the research gap will update literature on management's thinking and priorities in the communication of IC (Demartini & Pailoni, 2013; Dumay, 2009a). As such, there is a need to explore factors that are associated with the communication of IC, which in turn can help to make sense of the disclosure content made by organizations on IC.

Stakeholders demand that organizations provide more relevant information beyond mandatory requirements and financial numbers on how organizations create and sustain value (Coldwell et al., 2012; PricewaterhouseCoopers, 2014). Such information includes the communication of key capitals, business model and the value creation process to stakeholders, raising the bar beyond a compliance mindset and to set the organization apart from its peers (PricewaterhouseCoopers, 2014; Yongvanich & Guthrie, 2006). As IC is important to organizations in building performance, resilience and innovation, the communication of IC is deemed important to stakeholders (Abeysekera, 2006; Boedker et al., 2004; Miller & Whiting, 2005). The need to understand the underlying factors that motivate organizations to report its IC is growing, as organizations are increasingly dependent on their competitive strengths to perform (Bukh et al., 2005).

1.3.2 Unraveling Content and Formats adopted in the Communication of IC for Corporate Reporting

In recent years, the annual report and supplementary corporate disclosure (ARS) has become more voluminous due to corporate governance, and is increasingly used as a communication tool with an image management function to influence external stakeholders (Herziq & Schaltegger, 2006; Lee, 1994; Neu et al., 1998). The Impression Management Theory highlights that organizations may attempt to influence the desired perceptions of themselves to stakeholders in order to enhance their respectability and impressiveness (Gardner & Martinko, 1988; Highhouse et al., 2009). As such, management will continue to be challenged in finding the balance between obligation towards statutory reporting and communication with stakeholders in the compilation of the ARS. Moreover, there is a need to include more relevant

information in the ARS to build greater trust in corporate reporting (PricewaterhouseCoopers, 2014).

Scholars have emphasized the need to better comprehend content and formats used in the communication of IC in the ARS. Since IC contributes directly to the value creation process and sustainability of organizations, the communication of IC could shed light on growing concerns regarding the organization's sustainable competitive advantage and performance (Oliveira & Russell, 2010). Content analysis has often been undertaken on the ARS with findings reported on the communication of IC from the perspective of the three IC Components. However, these findings shared little insights into management thinking on the inclusion of content or formats in the ARS. This study will respond to the call by scholars to deepen understanding, across a wider regional perspective, the different formats and its appropriate use (Abeysekera & Guthrie, 2002; Petty & Guthrie, 2000).

There is evidence in the growth of the communication of IC in the ARS (Adams & Simnett, 2011; Dumay & Garanina, 2013; Yongvanich & Guthrie, 2006). Moreover, there is a change in trend for organizations to report their IC, as a result of economic uncertainty, regulatory forces overseeing corporate governance, and pressures from investors for improved disclosure to address sustainable results (Dumay, 2009a; Orens et al., 2009; Saleh et al., 2010). As such, the communication of IC is becoming an increasingly important aspect of documentation used to connect with and manage stakeholders' expectations, and to inform how resources are managed within the organizations and used for decision-making (Bukh et al., 2001; Cinquini et al., 2012; Guthrie & Petty, 2000; Johansen et al., 2001; Ousama et al., 2011a).

1.3.3 Justifying Communication of IC Matters for Organizations

In view of IC's contribution to sustainability, the business and academic communities have called for further investigations on the communication of IC and its relationship with organizational performance, as industries are becoming more dynamic and knowledge intensive (Abhayawansa & Abeysekera, 2009; Ousama et al., 2011b). There is also a need to extend the boundaries in the study of IC, as most IC-related

literature on organizational performance tend to focus on IC as an asset for measurement or valuation, ignoring aspects of communication that have huge significance on the delivery of the organization's strategy and performance (Hubbard, 2006).

Organizations need to adopt a more holistic practice in the communication of IC, in consideration of its influence on its current stakeholders and society, as well as for future generations and practices (Hubbard, 2006). The study of the relationship between the communication of IC and organizational performance will thus shed light on the performance characteristics of organizations that are linked to higher communication of IC. At the same time, the study will provide an analysis of management thinking and practice in the communication of IC.

A summary of the research goals, questions, gaps and objectives for this study is illustrated in Figure 1.1.

Note: IC=Intellectual Capital; CIC=Communication of Intellectual Capital; OP=Organizational Performance;

Figure 1.1 - PhD Study: Research Goals, Questions, Gaps and Objectives

1.4 CONTRIBUTIONS

There are several contributions that can be derived from this study. These contributions are introduced from the perspective of each research objective outlined, followed by the significance of this study to business practices.

In RO1, the study aims to contribute by identifying factors influencing the communication of IC in organizations. The study will examine other factors that motivate organization communication of information disclosure that have been overlooked in current IC literature. In doing so, the research aims to further extend findings across other fields to the study of the communication of IC. In addition, the findings would provide insights into the factors that could influence organizations' adoption and management's decision in the communication of IC. As such, the study will fill the gap in existing literature by adding to the body of knowledge and improve generalizability. Contributing to the business practice, this study could raise the awareness for government and organizations in driving the initiative for a higher level of the communication of IC as part of sustainability reporting.

Arising from RO2A, the study will respond to the call by scholars to extend content analysis findings in the communication of IC from the perspective of different formats used. Formats will be further analyzed with respect to content for each IC Component across a wider regional perspective (Abeysekera & Guthrie, 2002; Petty & Guthrie, 2000). The study will also provide further understanding of the prevalence of content in the communication of IC and how it is being communicated. This study will ascertain and update the validity of previous findings that reported limited or low levels in the communication of IC in annual reports (Ahmed & Hussainey, 2010; April, et al., 2003; Bontis, 2003; Brennan, 2001; Ordóñez de Pablos, 2002). For the business practice, this study is deemed essential in assisting management to better comprehend and make informed decisions about how the communication of IC can be utilized and presented for monitoring and reporting. The study contributes further by enhancing stakeholders' knowledge in the communication of IC so as to better understand the utilization and effect of IC within the organization.

Finally, from RO2B, the study seeks to fill the gap in existing literature on the communication of IC and its correlation to organizational performance. The study will contribute by expanding the coverage of analysis on organizational performance, currently dominated by revenue growth, profitability and shareholders' return (Hubbard, 2006). Organizational performance will address pertinent business issues linked to sustainability, in particular, business continuity, solvency and organizational productivity (Al Bawaba, 2010; Eurosif, 2011; Marsh, 2012; Rudrajeep et al., 2011). For the business practice, the study will provide insights into how the communication of IC is associated with organizational performance, so as to better equip management to make informed investment decisions.

1.5 ORGANIZATION OF THE STUDY

This study is organized into five chapters, followed by references and appendices. In this current chapter, Chapter 1, an introduction and background of the present study comprising the research problem, research gaps, questions and objectives, motivation, and the contribution of this study are provided.

Chapter 2 will review theories and literature on IC and the communication of IC. A review of literature linked to the factors underlying the communication of IC, content and formats used, and the relationship between the communication of IC and organizational performance is also presented. The chapter also introduces the research framework developed to investigate the three research objectives.

In Chapter 3, the research methodology is presented to address the three research objectives (RO1, RO2A and RO2B) framed in Section 1.3. Details of the research methodology, data collection, selection process, collection methodology, coding methodology for the communication of IC and organizational performance, and statistical methods used for analysis are described in this chapter.

Chapter 4 presents the analysis with descriptions and findings following the implementation of the research methodology described in Chapter 3. Findings are organized and presented according to RO1, RO2A and RO2B. This is followed by a discussion on the analysis and findings in respect of each research objective outlined in this study.

Finally, in Chapter 5, a recapitulation of chapters and discussion of this study's findings are outlined. This is followed by the contributions of the research, organized from three perspectives, namely theoretical, methodological and practical. The chapter ends with the delimitation and limitations of the study identified, and future recommended works detailed.

CHAPTER 2

This chapter covers the literature review on the communication of IC. It examines the definitions, theories and discussions salient to the topic of study, as well as highlights the practices linked to the communication of IC in organizations today. This chapter is organized into six sections, as shown in Figure 2.1. These sections are organized to review literature from the perspectives of the three research objectives identified in the study, so as to link to each research problem and the relationship with the wider body of knowledge. In addition, literature was evaluated to highlight the theories and concepts linked to the communication of IC, and to establish the significance of this research to theory and practice.

Figure 2.1 - Outline of Chapter 2: Literature Review

The chapter begins with the introduction to the concept of IC, in Section 2.1, where the definitions and theories linked to IC, namely Resource-based Theory, Human Capital Theory and Irving Fischer's Capital Theory, are introduced. This is followed by an overview on the importance of IC and a review of the IC Components. In

Section 2.2, the definitions of the communication of IC are examined and its related theories, namely Stakeholder Theory, Legitimacy Theory and Impression Management Theory, are introduced. This section also discusses the development of the communication of IC in organizations and the constituents of the communication of IC. In Section 2.3, factors underlying the communication of IC are explored, with literature drawn from studies across several disciplines. These factors are further explored from the internal and external perspectives of the organization. Section 2.4 examines the literature on the content and formats used in the communication of IC. Content is examined with respect to Human Capital information, Relational Capital information and Structural Capital information. On formats, there are five formats examined, namely narratives, pictures, tables, illustrations and graphs. In Section 2.5, the concept of organizational performance is introduced and examined. This is followed by a literature review on the relationship between the communication of IC and organizational performance. Finally, Section 2.6 concludes the chapter and presents a conceptualization to the research framework in the study of the communication of IC.

2.1 INTRODUCTION TO INTELLECTUAL CAPITAL (IC)

2.1.1 Definitions and Theories

Intellectual capital (IC) is an important asset in organizations and has drawn interest from academics, regulators, investors and other organizational stakeholders in the past decade (Bezhani, 2010; Sanchez & Elena, 2006; Serenko & Bontis, 2009). The IC of an organization can be defined as the knowledge, experience and creativity of employees as well as knowledge resources embedded in databases, systems, processes and culture (Al-Ali, 2003; Bontis, 1999; Brooking, 1996; Stewart, 1997; Sullivan, 2000). Organizations maintain and invest in IC to generate value and competitive edge within the industry (Al-Ali, 2003; Coldwell et al., 2012; Klimontowicz, 2010). Before further discussions are made on the definition of IC, the theories relevant to IC are first examined.

The theoretical base of IC could be traced from Resource-based Theory, Human Capital Theory and Irving Fisher's Capital Theory. In Resource-based Theory, the

organization is viewed as a unique collection of resources and capabilities (Nelson & Winter, 1982; Penrose, 1959; Wernerfelt, 1984). The theory states that organizations compete on the basis of unique resources that are difficult to imitate by competitors and non-substitutable by other resources (Barney, 2007). Thus an organization may achieve sustainable competitive advantage not due to better resources, but because of the organization's distinctive competence that involves better use of its resources (Mahoney & Pandian, 1992; Penrose, 1959). These resources are identified to be heterogeneous, tacit and often intangible in nature (Penrose, 1959). Resources with such characteristics equate to intellectual resources, which broadly include people-based skills, organizational processes and capabilities (Kristandl & Bontis, 2007; Newbert, 2007; Penrose, 1959; Wernerfelt, 1984, 1995).

In Human Capital Theory, the recognition of human knowledge contribution to the organization is significant, yielding income and useful outputs over time (Becker, 1964; Becker, 1993; Harris, 2000; Schultz, 1961). The theory postulates that this knowledge increases the output in a number of ways, such as *“generating new ideas and techniques that can be embodied in production equipment and procedures; by equipping workers to utilize the new production techniques and initiate changes in production methods; by improving the links among consumers, workers and managers; and by extending the useful life of the stock of knowledge and skills that people embody”* (Schultz, 1963; p25). As such, Human Capital Theory links knowledge (intellectual) to capital (asset) (Harris, 2000; Stewart, 1997).

In Irving Fisher's Capital Theory, Fisher (1906, p52) described that *“any constitution of a stock (material or immaterial) can be qualified as capital so long as it gives rise to income”*. Fisher's definition of “capital” at that time was able to cut through many controversies that had defined capital goods in terms of materiality, monetary value, robustness or how goods could be reused. Considering the intellectual resources of the organization as the “stock” in this theory, it qualifies intellectual resources as “capital” as it generates revenue (Boedker et al., 2005; Dean & Kretschmer, 2007; Nerdrum & Erikson, 2001). As such, the term “intellectual capital” was introduced.

Among the three theories, Resource-based Theory (RBT) was most quoted in the literature on IC, where the theory highlighted the importance of the organization's

resources to provide its competitive edge (Komnenic & Pokrajcic, 2012; Ng, 2006; Pike et al., 2005). While employees' competencies are considered one of the important resources as informed by RBT, the theory does not explicitly mention other aspects of IC such as innovation and relationships, which are also human resource dependent. Thus Human Capital Theory complements RBT and brings to light the importance of human resource to the organization. Human resource not only contributes in terms of competencies to the organization for work delivery, but also in terms of creativity, innovation, and relationships with clients, suppliers, business alliances and employees (Fox & Royle, 2014; Kijek & Angowski, 2014). Augmenting RBT further is the importance of value generation as explained by Irving Fisher's Capital Theory. According to Irving Fisher's Capital Theory, there is no worth in having the best resources or competencies that generate little value. As such, resources have to generate revenue or value that can sufficiently sustain an organization (Bader, 2005; Chouinard et al., 2011). This theory thus explains the importance of IC for organizations to remain sustainable.

There is growing acknowledgement of IC as a topic for boardroom discussions and for academic investigations. Testament to this growth is the proliferation of conferences on IC, the numerous books, working papers, and journal articles published on IC. In addition, there are a large number of consulting firms offering products and services that revolve around IC (Tan et al., 2008). The growth of IC as a field can be segmented into three stages of development (Petty & Guthrie, 2000). In the first stage, the focus on IC was to raise its awareness, communicate its importance and create understanding of its value to the organization. The second stage of development was to legitimize IC, resulting in the increase of models and frameworks, and the search for appropriate measures to make IC accountable. Currently in the third stage, the study of IC applies to organizational performance, in view of its contribution to competitive advantage and sustainability (Dumay & Garanina, 2013).

In spite of IC's importance, there is no agreement on a single definition (Abeysekera, 2006; Beaulieu et al., 2002; Kristandl & Bontis, 2007). For example, IC's definition in relation to wealth creation can be seen through the investments in knowledge, information, intellectual property and experience. This definition is closely linked to RBT. The organization's IC is also defined as the stock and flow of knowledge within

the organization that can be converted into financial value, as conceived in Irving Fisher's Capital Theory (Edvinsson & Malone, 1997; Stewart, 1997). A similar but extended definition of IC, closely linked to Human Capital Theory, describes it as the knowledge resource of the organization, comprising all intangible resources and interconnections used to create value for the organization (Bontis et al., 1999; Harrison & Sullivan, 2000). This knowledge resource involves a combination of human experiences, values, contextual information, and expert views that provide a structure for evaluating and incorporating new experiences and information (Dulipovici & Baskerville, 2007).

The reasons for the lack of a single definition could be two-fold. First is the heterogeneity of scholars who had published studies on IC (Lev & Zambon, 2003). These studies on IC are scattered across business related fields such as economics, organization and management journals; professional related fields like accounting, legal and human resource journals; and information related fields the likes of knowledge management, technology and information science journals. As such, there is a wide variety of terminologies used in these journals to define and discuss IC (Kaufmann & Schneider, 2004; Kwee, 2008; Marr & Chatzkel, 2004). These terms were often used interchangeably in place of IC. A reference of this list of terms has been compiled in Appendix A.

Secondly, the single definition of IC remains elusive because elements regarded as IC depend on the purpose and application (Blair & Wallman, 2001). Purpose refers to the objectives towards which one strives for, while application involves the context in which IC is used. The definition of IC is perceived differently by accountants, economists and the human resources professionals. In accounting literature, the terms 'intangibles' and 'intangible assets' are used (Barth et al., 2001; IASB, 2004). Likewise, 'knowledge assets' are often used in economic publications (Castro & Delgado-Verde, 2012; Merges, 2004). The term 'IC' can be frequently seen in the human resources (Whiting & Miller, 2008), management (Youndt et al., 2004) and legal literature (Yeoh, 2010).

There are two observations that can be made on the wide definition of IC. Firstly, scholars attempt to offer a means to parsimoniously synthesize the different

approaches that knowledge is accumulated and used in organizations, even though there exists different conceptualizations of IC (Subramaniam & Youndt, 2005). The aim of this synthesis is to organize IC into simple classifications to enable analysis (Abeysekera, 2006). Secondly, most of the definitions on IC evolved primarily from the accounting perspective with two key objectives (Bontis, 1998; Roos et al., 1997; Sveiby, 1997). The first objective is to comprehend what IC comprises so as to pin down categories that could classify IC, and the second is to understand what causes organizations to be worth more than their book values (Bontis, 2001). Nevertheless, most of the definitions available seem to agree that IC has three characteristics, namely sources of probable future economic profits, lacks physical substance and controlled by an organization (Abernethy & Wyatt, 2003; Blair & Wallman, 2001; Cañibano et al., 2000; OECD, 1992).

2.1.2 The Importance of IC

While there is growing acknowledgement of IC, the term “intellectual capital” may not be widely used or even recognized in the organization’s every day context. Nevertheless, managing IC is still necessary to remain competitive and to keep up with the changing dynamics of the business world (Freeman et al., 2010; Roos et al., 2007). Since 1999, the global economy has evolved, driven by information and knowledge (Petty & Guthrie, 2000). This change in trend has caused a leap in terms of acceptance for IC, which is accredited for the shift towards knowledge-based work through technology advancements (Harris, 2000).

The importance of IC was further emphasized in four development trends (Guthrie, 2001; Guthrie et al., 2012). First, the revolution in information technology and information society where rapid innovations in science, convergence in communication and computing technologies as well as big data analytics have enabled the process, storage, retrieval, analysis and communication of information, in whatever form, unconstrained by distance, time, volume and increasing cost (Bontis, 2004; Ohlhorst, 2012; Tohidi, 2011). This trend has transformed how organizations interact and do business. Secondly, the rising importance of knowledge and the knowledge-based economy, where the awareness of specialized knowledge is needed to cope with growing pressures from globalization (Inyang, 2010; Leiponen, 2000; Prusak, 1997).

This knowledge is concerned with the organization's IC, where the competencies, experience and creativity of the employees are necessary in dealing with globalization pressures such as competition, adaptability, innovation and processing speed.

Thirdly, the changing patterns of interpersonal activities and the network society, where organizational frameworks to nurture and cope with the changes required of them have evolved (Chen et al., 2012; Welsch & Maltarich, 2004). Network society is a term created by social theorists to reflect the changes to social, political, economic and culture as a result of the dissemination of networked, digital information and communications technologies. These frameworks are directly linked to IC. For example, the need to nurture or hire employees with interpersonal competencies such as communication skills, persuasiveness and employee management. There is also the need for intellectual competence, the likes of analytical power, planning and commercial judgment (Becker, 2011). Finally, the emergence of innovation as the principal determinant of competitiveness (Anand et al., 2007; Chahal & Bakshi, 2015; Guthrie, 2001). Innovation is considered crucial in securing sustainable competitive advantage, and IC is the antecedent to innovation (Leitner, 2011; Prajogo et al., 2004).

Figure 2.2 - Two Perspectives of Intellectual Capital
(Extracted from *Intellectual Capital: Navigating in the New Landscape*, Roos et al, 1998, p15)

Existing literature on IC can be broadly split into two perspectives, namely strategy and measurement (Roos et al., 1997) (See Figure 2.2). From the strategy perspective, IC is seen as the knowledge that can be developed and leveraged to enhance value in the organization. In contrast, the measurement perspective focuses on the reporting

mechanism so to enable non-financial qualitative measurements of IC that can be used in tandem with traditional quantifiable financial numbers (Petty & Guthrie, 2000). These measurements have to be strategy-specific, for example, the contribution and performance of its employees as part of human resource accounting. Measurements as a scorecard provide multiple metrics needed to help management navigate the organization's environment and signal areas that require improvements (Roos et al., 2007; Roos et al., 1997). While the strategy and measurement perspectives continue to be discussed in literature, recent journal article publications reflect a converging trend of these two perspectives in corporate reporting (Gates & Langevin, 2010; Guthrie et al., 2012; Zardini et al., 2015).

Competition, deregulation and the series of economic downturns in the past decade have further accentuated the importance of IC in supporting organizational resilience, particularly the sustainability of organizational performance (Kamath, 2007; Lengnick-Hall et al., 2011). 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, 2009b).

2.1.3 IC Components

In the past two decades, following seminal works such as Bontis (1998), Edvinsson & Malone (1997), Brooking (1996), Stewart (1991) and Sveiby (1989), among others, the definition of IC has been refined to include a combination of human capital, relational capital and structural capital, which are commonly referred to as IC Components. These works include the Technology Broker model by Brooking (1996), Skandia Navigator developed by Edvinsson and Malone (1997) for Skandia Group and the Intangible Asset Monitor by Sveiby (1997). However, similar to the definition of IC, there is no agreement to the components that segment IC.

Brooking (1996)'s Technology Broker defines IC as the combination of the four IC Components, namely market assets, human centered assets, infrastructure assets and intellectual property assets. Market assets are those that give a company a competitive advantage in the industry. They include brands, market positioning, customer base, company name and distribution channels. Human centered assets comprise the

collective expertise, creative and problem solving capability, leadership, entrepreneurial and managerial skills embodied by the employees of the organization. Infrastructure assets include a broad range of assets that enable the organization to function, for example, management philosophy, culture, processes, methodologies and technologies. Finally, intellectual property assets include legally protected assets of the organization such as patents, copyrights, design rights, trade secrets and trademarks.

Skandia Navigator recognizes that there are three IC Components, namely human capital, organizational capital and customer capital, where the latter two originated from the combined component of structural capital. Human capital is seen as the total of all knowledge, skill, innovativeness and abilities. It is not owned by the company, but rather, borrowed from its people (Edvinsson, 1997; Edvinsson & Sullivan, 1996). Organizational capital and customer capital and are seen as all of the IC that remains in a business when all of its employees have gone home. The model emphasized renewal and development dynamics, and takes into consideration the operating environment. Edvinsson and Malone (1997) assert that the three dimensions of IC must be in alignment, so as to complement each other. The potential to turn IC into corporate value arises from the interaction among the three IC Components (Edvinsson & Malone, 1997).

The Intangible Asset Monitor (IAM) was developed as a non-financial measurement system for IC based on the concept of knowledge organization (Sveiby, 1989, 1997, 2007; Sveiby, 2001a, 2001b). The IAM is grouped into three main components representing individual competence, internal structure and external structure. They broadly correspond to human, organizational and relationship capital respectively. Individual competence is the knowledge, skills, experience, value judgments and the social networks of employees. Internal structure comprises the organizational structure such as the management, legal structure, R&D, software, routines and processes. The external structure includes brands, customer and supplier relations. The model identifies four critical measurement areas of growth, innovation, efficiency and stability that contain the individual indicators of IC.

Table 2.1 - Intellectual Capital Components as Defined by Different Authors

IC Component	Description	Source
HUMAN CAPITAL	Human centered assets: Collective expertise, creative and problem solving capability, leadership, entrepreneurial and managerial skills embodied by the employees of the organization	Technology Broker, Brooking (1996)
	Human capital: The total of all knowledge, skill, innovativeness and abilities. It is not owned by the company, but rather, borrowed from its people	Skandia Navigator, Edvinsson (Edvinsson, 1997; Edvinsson & Malone, 1997; Edvinsson & Sullivan, 1996),
	Individual competence is the knowledge, skills, experience, value judgments and the social networks of employees.	IAM, Sveiby (1989, 1997, 2001a, 2001b)
RELATIONAL CAPITAL	Market assets: customer base	Technology Broker, Brooking (1996)
	Customer capital: customers, suppliers, business partners, shareholders and other stakeholders such as the local community	Skandia Navigator, Edvinsson (Edvinsson, 1997; Edvinsson & Malone, 1997; Edvinsson & Sullivan, 1996),
	The external structure includes customer and supplier relations	IAM, Sveiby (1989, 1997, 2001a, 2001b)
STRUCTURAL CAPITAL	Market assets: Brands, market positioning, company name, distribution channels; Infrastructure assets: Broad range of assets that enable the organization to function, for example, management philosophy, culture, processes, methodologies and technologies; and Intellectual property assets: Legally protected assets of the organization such as patents, copyrights, design rights, trade secrets	Technology Broker, Brooking (1996)

IC Component	Description	Source
	and trademarks	
STRUCTURAL CAPITAL	Organizational capital: All of the IC that remains in a business when all of its employees have gone home. The model emphasized renewal and development dynamics, and takes into consideration the operating environment	Skandia Navigator, Edvinsson (Edvinsson, 1997; Edvinsson & Malone, 1997; Edvinsson & Sullivan, 1996),
	Internal structure comprises the organizational structure such as the management, legal structure, R&D, software, routines and processes; and External structure: brands	IAM, Sveiby (1989, 1997, 2001a, 2001b)

A common theme among the models in Table 2.1 is that organizational performance is influenced by the organization's IC, which is embedded in the skills and experiences of its employees as well as in its processes and external relationships. The main aim of the models appear to evaluate intangible assets for the purpose of reporting, so that stakeholders can be informed of the 'true' value of the firm. Next, it can be seen that human capital is a common IC Component. Additionally, IC can be divided into two other components, namely structural capital and relational capital (Bontis, 2002; Roos et al., 1997; Stewart, 1997). Drawing from literature, the three IC Components are further elaborated.

Human capital is closely associated with employees and it refers to their knowledge, competencies, experiences and know-how, and their combined skills and innovativeness necessary to solve customer needs and problems (Abdullah & Sofian, 2012; Nahapiet & Goshal, 1998). Employees generate IC through their competence, attitude and intellectual agility. In addition to know-how, expertise and tacit knowledge, human capital includes individual problem-solving capability, creativity and entrepreneurial spirit (Nelson & Winter, 1982; Roos et al., 1997; Wang et al., 2015). Human capital is thus a source of innovation and strategic renewal (Bontis, 1998; Subramaniam & Youndt, 2005). However, human capital requires inspiration, motivation, direction and/or focus to generate results (Bontis & Fitz-Enz, 2002). The

organizational efforts in building a positive environment and the encouragement for organizational learning can improve knowledge both at the individual and organizational levels, which in turn improves the absorptive capacity (Mariano & Walter, 2015). This will enable individuals to recognize and value new external information and add it to their own knowledge base (Cohen & Levinthal, 1990). At the same time, organizations evolve to possess some form of collective intelligence (Bontis, 1998).

Relational capital refers to the knowledge embedded in the relationships that the organization has developed internally and externally (Bontis et al., 1999; Leaniz & Bosque, 2013; Tsai & Ghoshal, 1998). It resides in the social relations and networks of the organization. The most important sources of relational capital are customers, suppliers, business partners, shareholders and other stakeholders such as the local community (Sveiby, 2001a). Relationships could also be established in the form of licensing agreements, partnering arrangements, financial relations, contracts and agreements about distribution channels, and employee contracts. Relational capital includes all knowledge assets that emerge not only from the organization's marketing channels and relations, and connections with customers, but also from relationships with competitors, current and potential suppliers, shareholders, other agents, and society in general (Ordóñez de Pablos, 2005).

Structural capital concerns the mechanisms and structures of the organization that support employees in their quest for intellectual performance and therefore, overall organizational performance (Bontis, 1998; Dumay & Garanina, 2013). It comprises supporting structures and enabling conditions that provide the environment to encourage employees to create, leverage and embed knowledge within the organization. This IC Component is proprietary and includes all the physical and non-physical manifestations such as routines, processes, databases, process manuals, strategic plans, culture and internal networks (Brooking, 1996; Chen et al., 2005). It also includes intellectual property such as brands, patents and trade secrets (Lev & Zambon, 2003; Pollard, 2000).

The three IC Components are not always separate constructs, for they can overlap and intertwine with each other (Subramaniam & Youndt, 2005; Youndt et al., 2004). They

work interdependently to create value and generate growth (Kong & Ramia, 2010; Mafía & Martí, 2007; Menor et al., 2007). Human capital, relational capital, structural capital and its definitions form the basis of segmentation of the communication of IC used in this study, and is explored further in the next section.

2.2 COMMUNICATION OF INTELLECTUAL CAPITAL (IC)

2.2.1 Definitions and Theories

The communication of IC is defined in this study as the information disclosure of the organization's IC through its annual report and supplementary corporate disclosure (ARS). It differs from IC in that IC is an asset, while the communication of IC is a disclosure. The communication of IC is generally reported as part of non-financial information in the ARS. Unlike conventional non-financial information, the communication of IC focuses on mandatory reporting and voluntary disclosure of the organization's IC (Oliveira & Russell, 2010). For example, in the communication of IC, information on human capital includes training, human resources and employee retention or attrition; information on relational capital comprises customers, suppliers and business alliances; and information on structural capital covers intellectual property, processes and accreditation (Beattie & 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).

In reviewing literature on the communication of IC, scholars have identified several theories, namely Stakeholder Theory, Legitimacy Theory, Signaling Theory and Agency Theory (An et al., 2011; Dumay & Cai, 2015; Guthrie et al., 2012). The two most quoted theories on the communication of IC are Stakeholder Theory and Legitimacy Theory. Agency Theory is often discussed with respect to corporate governance and board of directorship roles to improve information asymmetry (An et al., 2011; Demirag et al., 2000). This theory is not covered in this study, as the focus is not on corporate governance. Signaling Theory is associated with information exchanges between individuals, which often links to behavioral studies (Abeysekera, 2006; Connelly et al., 2011). Thus, this theory is also not included in this study. In

addition to Stakeholder Theory and Legitimacy Theory, a third theory is examined in this study, namely Impression Management Theory. This theory is included for two reasons. First, the theory is increasingly discussed in relation to non-financial reporting (Abhayawansa & Guthrie, 2012; Maria & Maria, 2015; Melloni, 2015). Secondly, past works have examined this theory with reference to content and formats used in non-financial reporting (Agostinelli et al., 2012; Beattie et al., 2008; Falschlunger et al., 2015; Leung et al., 2015).

According to Stakeholder Theory, organizations and their leaders are held accountable to its stakeholders and are thus, obligated to disclose the status of both financial and non-financial performance of the organization (Maak & Pless, 2006). In line with this theory, the communication of IC could enhance stakeholders' confidence, support decision-making and possibly serve to improve organizational performance. Unlike general narrative of non-financial information, the communication of IC focuses on a narrow definition of the organization's IC to shed light on growing concerns regarding the organization's sustainable competitive advantage and performance (Oliveira & Russell, 2010). The turbulent conditions in the global economy over the last decade have also accentuated the importance of IC in building organizational resilience (Kamath, 2007; Lengnick-Hall et al., 2011). In fact, organizations that have weathered the economic shocks seem to be those that recognize the value of IC and regularly announce and publicize its performance to stakeholders (Dumay, 2009b).

There are four branches to Stakeholder Theory, namely descriptive, instrumental, normative and managerial (Freeman, 1999). The descriptive branch of the theory focuses on behavior and characteristics of management, where previous works researched on the board of directors, while the instrumental branch looks at the empirical relationship between stakeholders and their goals. These two branches are not covered, as they are not relevant to the research objectives in this study.

The normative branch to Stakeholder Theory informed that management is ethically responsible to acknowledge the interest of every stakeholder no matter how diverse those interests may be (Donaldson & Preston, 1995). The range of stakeholders that is linked to an organization include owners, customers, employees, suppliers, competitors, communities, regulators, environmental groups, trade bodies and business

alliances (see Appendix B for a compiled list of stakeholders). This means that organizations will be challenged to deal with the wide varying interests of different groups of stakeholders, the multitude of organizational resources and the variation of performance over time (Fitzgerald & Storbeck, 2003; Freeman, 1984; Richard, et al., 2009). In addition, the managerial (or positive) approach of Stakeholder Theory emphasizes the need to manage stakeholder groups, particularly those capable of controlling resources required by the organization (Oliveira et al., 2013). For such relationship between the organization and stakeholders with sources of wealth, for example, can be critical to organizational success (Post et al., 2002).

Legitimacy Theory is most widely used to explain social and voluntary related disclosures (Guthrie & Parker, 1989). The theory states that organizations exist in societies under an expressed or social contract and are thus, obliged to report their activities and performance to help maintain and restore their legitimacy (Lindblom, 1994). This contract specified the rights of the management in the organization to exercise power. To keep the rights to power, organizations have to operate within the expectations set by society. One way to achieve this is through the medium of corporate reporting, the ARS (Guthrie et al., 2006; Lang & Lundholm, 1993). From the perspective of Legitimacy Theory, the communication of IC would be volunteered by organizations as part of corporate reporting in the ARS, if management perceived that certain IC would be deemed necessary for disclosure by the community in which it operates (Guthrie et al., 2005, 2006).

Moreover, there is a growing trend for organizations to disclose information on their IC, motivated by factors such as regulatory forces overseeing corporate governance, and pressures from investors for improved disclosure to address sustainable results (Dumay, 2009b; Orens et al., 2009; Saleh et al., 2010). Some organizations, particularly those in Scandinavian countries, are reporting IC to supplement traditional financial reporting annually. Such communication of IC is presented as stand-alone reports entitled with words such as “Intellectual Capital”, “Responsibility” or “Sustainability” in the title of the report (Lin & Edvinsson, 2011; Meritum, 2002; Oliveira & Russell, 2010). As such, the communication of IC is becoming an increasingly important aspect of documentation used to connect with and manage stakeholders’ expectations, to inform how resources are managed within the

organization and used for decision-making (Bukh et al., 2001; Cinquini et al., 2012; Guthrie & Petty, 2000; Johansen et al., 2001; Ousama et al., 2011a).

Impression Management Theory highlights that organizations may attempt to influence the desired perceptions of themselves in order to enhance their respectability and impressiveness (Gardner & Martinko, 1988; Highhouse et al., 2009; Schlenker, 1980; Schneider, 1981). In the context of the communication of IC, impression management occurs when the organization reports information in a manner that distorts readers' perceptions of organizational achievements, often in unregulated disclosure (Brennan et al., 2009; Neu et al., 1998). For example, organizations could include the communication of IC in the ARS to garner support from stakeholders in an adverse situation so as to influence the perspective of stakeholders' opinion of the organization (Gardner & Martinko, 1988).

Visual and presentation techniques are also expected to underplay negative performance and exaggerate positive performance, as part of impression management (Beattie & Jones, 2002; Courtis, 2004). One way in which organizations engage in impression management is through their corporate reporting practices (Neu et al., 1998), by strategically presenting narratives (Cho et al., 2010), visuals (Davidson, 2010) and graphs (Penrose, 2008). Impression Management Theory suggests that management is motivated by a desire to present a self-serving view of the organization's performance and thus may use rhetorical devices, language and syntactical features that make text more difficult to read (Brennan et al., 2009). It has also been found that management influences the level of detail and complexity in the ARS to obfuscate poor performance (Li, 2008). This raised another dimension to explore the communication of IC in corporate reporting practices.

2.2.2 Development of the Communication of IC in Organizations

In this section, the development of the communication of IC is reviewed so as to provide context on the importance of reporting IC. The development of the communication of IC in organizations can be traced back to the desire of management to improve their *“understanding of what comprise the value of the business so as to better manage those things that generate value”* (Petty & Guthrie, 2000, p160). This

realization can be drawn from the term “goodwill”, which continues to be a difficult intangible to be recognized by accountants since its first acknowledgement in the 1880s (Gynther, 1969; Ratiu & Tiron Tudor, 2012). The International Standard Committee only observed the recognition of goodwill in 1981 and admitted in 1983 (Guthrie, 2001; Ratiu & Tiron Tudor, 2012). Goodwill exists because assets presented are not tangible. For example, on the organization’s human capital “special skills and knowledge”, “high managerial ability” and “excellent staff”; on the organization’s structural capital “monopolistic situation”, “good name and reputation” and “trade names”; and on the organization’s relational capital “social and business connections” and “established clientele” (Gynther, 1969).

In the 1990s, the communication of IC was first introduced as a voluntary disclosure by organizations, where there were early attempts to construct statements that measure IC (Ousama et al., 2011a; Petty & Guthrie, 2000). In 1994, Skandia produced a supplement to its annual report, presenting an evaluation of the company's IC, generating interest among companies and influencing others to follow (Edvinsson, 1997). Several large projects were also initiated at regional and international levels in the communication of IC. These projects include the European Commission’s Meritum project, which aimed to produce guidelines for managing and reporting intangibles (Meritum, 2002), Danish Agency for Development of Trade and Industry’s (DATI) project, which developed guidelines for the production of IC statements (Bukh, 2003; Fincham & Roslender, 2003), and OECD’s symposium on measuring and reporting IC that focused on experience, issues and prospects (OECD, 1999). Early attempts in the communication of IC were aimed to create awareness of the importance, measurement and reporting of IC (Petty & Guthrie, 2000).

Legislation to report IC as part of mandatory disclosure came about only in the early 2000s (Eurosif, 2011). These legislations required organizations to provide more non-financial information on its performance, in view of the changing dynamics of the world, influenced by events such as the economic downturns of the global and Asian financial crisis, the collapse of the dot-com era, and terrorist attacks such as those of September 11 in 2001. By the mid-2000s, European countries, in particular those in Scandinavia, started reporting IC to supplement the traditional annual report (Bukh et al., 2001; Johansen et al., 2001; Mouritsen et al., 2001). This approach in the

communication of IC emphasized the role of IC and conveyed how resources were managed within the strategic framework of the organization. This supplementary report can be seen as an assessment of the IC in an organization, like a balance sheet of the organization's knowledge.

In 2011, the European Sustainable Investment Forum (Eurosif) called for public consultation in order to gather stakeholders' views on ways to further improve the disclosure of non-financial information, including the communication of IC (Eurosif, 2011). This was an important step towards the context of developing sustainable performance and risk management reporting. The actions by Eurosif paved the way for other countries, particularly the developed countries that have strong knowledge-intensive economies, to consider policies towards greater corporate governance. These actions helped to improve the organization's image, convey intrinsic value of the organization to investors and stakeholders, and manage growth (Eurosif, 2011).

In the last ten years, there was a rise of organizations such as the International Integrated Reporting Council (IIRC), Global Reporting Initiative (GRI), World Intellectual Capital Initiative (WICI), Sustainability Accounting Standards Board (SASB) and the World Bank Institute (WBI) providing frameworks on reporting practices of non-financial information to stakeholders (Chen & Dahlman, 2005; Humphrey et al., 2014; Sroufe & Ramos, 2015). These frameworks are intended for organizations to include the communication of IC as part of their corporate reporting (Abdifatah & Nazli, 2012; Cinquini et al., 2012). Taking the GRI G4-framework as an example, as shown in Appendix C, much of the disclosure standard can be associated with the communication of IC.

There was a shift from existing Corporate Social Responsibility frameworks, which had focused mostly on philanthropy, environmental and social responsibility statements of the organizations, to a sustainability framework the likes of IIRC, GRI, WICI, SASB or WBI (Chan, 2012; Humphrey et al., 2014). As a result, some of these Corporate Social Responsibility reports are renamed with words such as "Responsibility" or "Sustainability" in the title of the reports, or similar naming conventions, to address organizational sustainable issues (Beattie & Smith, 2013; Dumay, 2015; GRI, 2016b).

2.2.3 Constituents of the Communication of IC

Legitimacy Theory is most widely used to explain voluntary disclosures, including the communication of IC. The theory states that management discloses information as a reaction to its role in stewarding the organization, and that these disclosures help to legitimize their actions. In line with this theory, IC scholars have developed several frameworks to measure IC that management could voluntarily disclose, as IC is increasingly seen to be an important asset to the organization (Kent & Zunker, 2013). Some examples of these frameworks can be seen from the Invisible Balance Sheet (Sveiby, 1989), Intangible Asset Monitor (Sveiby, 1997), Technology Broker (Brooking, 1996), Intellectual Asset Valuation (Sullivan, 2000), Financial Method of Intangible Asset Measurement (FiMIAM)(Rodov & Leliaert, 2002), Skandia Navigator (Edvinsson, 1997), and the Balanced Scorecard (Kaplan & Norton, 2005), among others. The classification and conceptual models developed by these scholars are illustrated in Table 2.2.

Table 2.2 - Constituents and Examples of The Communication of Intellectual Capital

Communication of IC	Sub-component	Examples	Reference
Human Capital Information	<i>Human resources</i>	Proportion of professionals; Number of full time staff; Leadership and management	<i>Boedker et al. (2004), Kaplan & Norton (2005), Kent & Zunker (2013),</i>
	<i>Employee retention</i>	New employees; Staff turnover; Rookie ratio	<i>Rodov & Leliaert (2000), Sveiby (1989, 1997)</i>
	<i>Training</i>	Training/education costs and investments; Growing competencies and skills; Training hours	
Relational Capital Information	<i>Customers</i>	% of large customers; Customer closeness; Customer turnover;	<i>Brooking (1996), Edvinsson</i>

Communication of IC	Sub-component	Examples	Reference
		Customer satisfaction	(1997),
	<i>Suppliers</i>	Suppliers and partners network; Share of key account purchases	Kaplan & Norton (2005),
	<i>Alliances</i>	Distribution channels	Mangena et al. (2010), Setia et al. (2015), Sullivan (2000)
Structural Capital Information	<i>Processes</i>	Capacity utilization; Processes improvement; Administrative costs per employee; On-time delivery	Brooking (1996), Dammak et al. (2010), Edvinsson
	<i>Intellectual Property</i>	R&D costs; Trademarks; Patents; Brands	(1997), Kaplan & Norton
	<i>Accreditation</i>	Reputation; Technology leadership; Win/loss index	(2005), Sveiby (1989, 1997)

As seen in Table 2.2, the constituents of the communication of IC mirror the IC Components identified in Section 2.1.3, which are Human Capital information, Relational Capital information and Structural Capital information. A detailed coverage of the content on the communication of IC, organized by the three IC Components, can be seen in Appendix D.

Human Capital information is associated with the organization's employees (Brooking, 1996; Edvinsson & Malone, 1997; Sveiby, 1997). It is disclosed predominantly on a voluntary basis to legitimize management's stewardship of the organization (Kent &

Zunker, 2013). Human Capital information includes information on employee demographics and diversity of employees within the organization (*Human Resources*), staff hire, turnover, career planning and development (*Employee Retention*), competencies of employees, learning and development (*Training*) (Boedker et al., 2004). Most Human Capital information disclosed training, human resources and employee retention information (Boedker et al., 2004; Collett, 2002). Examples of training were education costs, growing competencies and skills within an organization, training hours and personnel development (Edvinsson, 1997; Kaplan & Norton, 2005; Rodov & Leliaert, 2002; Sveiby, 1989, 1997). As for information on human resource, these include proportion of professionals, number of full time staff, and leadership and management (Brooking, 1996; Edvinsson, 1997; Sveiby, 1989, 1998). Examples of employee retention include new employees, staff turnover ratio and rookie ratio (Edvinsson, 1997; Sveiby, 1989, 1998).

Relational Capital information is associated with information on the external relationships of the organization with its customers, suppliers and business alliances (Brooking, 1996; Edvinsson & Malone, 1997; Sveiby, 1997). With the adoption of international frameworks developed by organizations such as IIRC and GRI, an increase of Relational Capital information was found in the ARS as part of management's legitimacy strategy (Setia et al., 2015). It includes information on the turnover rate and growth of the organization's business relationships with clients (*Customers*), suppliers and affiliates such as agents, distributors, partners and business associates (*Suppliers*), as well as information on the knowledge embedded in the channels and networks of these relationships (*Alliances*) (Mangena et al., 2010). Examples of customers include the percentage of large customers, customer closeness, customer turnover, and customer satisfaction (Edvinsson, 1997; Rodov & Leliaert, 2002; Sullivan, 2000; Sveiby, 1989, 1998). Examples of suppliers include suppliers and partners network, and share of key account purchases (Kaplan & Norton, 2005; Rodov & Leliaert, 2002). An example of alliance is distribution channels (Brooking, 1996).

Structural Capital information covers information on the development of the organization's knowledge deposits in information systems and processes (Brooking, 1996; Edvinsson & Malone, 1997; Sveiby, 1997). Organizations are more likely to

disclose their Structural Capital information when they are unable to legitimize their status based on physical assets, which are traditionally recognized as the symbols of corporate success (Dammak et al., 2010). Structural Capital information includes intellectual property, processes and accreditation (Brooking, 1996; Edvinsson & Malone, 1997; Sveiby, 1997). Examples of intellectual property include R&D costs, trademarks, patents and brands (Brooking, 1996; Edvinsson, 1997; Sveiby 1989). As for processes, examples include capacity utilization, performance improvement, administrative cost per employee, and on-time delivery (Brooking, 1996; Edvinsson, 1997; Kaplan & Norton, 2005; Sveiby, 1989, 1998). In terms of accreditation, examples include reputation, technology leadership and win/loss index (Brooking, 1996; Kaplan & Norton, 2005; Sveiby 1989).

The demand to publicize Human Capital information is increasing as organizations are relying more on human assets to generate earnings, and are expected to compete on those knowledge grounds (Aboody et al., 2004; Lajili & Zeghal, 2005). While Human Capital information is the most important resource for the organization, the organization's Relational Capital information is considered the most important for survival (Huang & Salleh, 2010). In addition to building long-standing relationships with customers, organizations conduct regular surveys with customers to ensure that customers are satisfied. This is key to sustaining profitability, maintaining stable relationships and enhancing competitiveness (Huang & Salleh, 2010). In a competitive environment, Structural Capital information is seen as the most important of the three IC Components to increase value of the organization (Drucker, 1994; Porter, 1985). As such, it is also imperative to monitor and report structural capital.

2.3 FACTORS UNDERLYING THE COMMUNICATION OF IC

2.3.1 Importance of Understanding Factors Underlying Communication of IC

In Stakeholder Theory, as introduced in Section 2.2.1, organizations and their leaders are obligated to report both their financial and non-financial performance annually to stakeholders (Corcoles et al., 2011). Though such reporting is not mandatory, as pointed in Section 1.2.1, the number of companies that have engaged in the communication of IC for their ARS has been on the rise. The nominal branch of Stakeholder Theory highlights the ethical responsibility of management to acknowledge the interest of every stakeholder no matter how diverse those interests may be (Donaldson & Preston, 1995). However, it is impossible, particularly for large organizations such as listed companies and multinational corporations, to meet every stakeholder's needs. While investigating the content in the communication of IC to stakeholders is important, the need to understand "WHY" is necessary to make sense of "What" and "How" (Kerwin, 2013; Sinek, 2009). As such, understanding the underlying factors that reflect management's thinking and priorities in the communication of IC in the ARS provides an overarching view to examine content and format used in the communication of IC. At the same time, it can form an important step to motivate and guide other organizations in the disclosure of IC in meeting stakeholders' needs (Demartini & Pailoni, 2013; Dumay, 2009b). Moreover, in understanding these factors, organizations can also take advantage of this knowledge to formulate the communication of IC in line with its strategic directions (Green, 2006).

Guided by Stakeholder Theory, the examination of factors underlying the communication of IC can be reviewed from two perspectives, factors that motivate the organization internally and those that influence the organization externally. On internal factors, existing IC literature, albeit scanty, suggests that organizations are pressured by government to report IC in the annual report and supplementary corporate disclosure (ARS) (Holder-Webb et al., 2009). This is part of corporate governance to improve documentation and connections with stakeholders (Gan et al., 2013; Too et al., 2015). As the communication of IC is linked to information

disclosure by organizations, the forces of motivation could be examined from the perspectives of management and business-related disciplines.

In reviewing Stakeholder Theory from the accounting discipline, high management ownership was found to lower information disclosure to stakeholders, as management will have more discretion in reporting beyond what is required by law (Craft, 1981; Leung & Horwitz, 2004; Iyer & Lulseged, 2013). Studies from the accounting discipline also highlighted the role of leadership in the communication of non-financial information to stakeholders, where market leaders influence the standard of reporting (Bellringer et al., 2011; Ernst & Young, 2014; Robb & Zarzeski, 2001). Literature from business strategy advocates organized structures and management systems, given that these are necessary to support the capture and reporting of IC as part of non-financial information to stakeholders (Johansson, 2008; Perrini & Tencati, 2006; Yongvanich & Guthrie, 2006).

Reviewing external factors, literature quoting Stakeholder Theory from the IC discipline featured two forces that could potentially stimulate or hasten the communication of IC. First, the management of stakeholders' impression of the organization's image, and second, meeting stakeholders' demand for relevant non-financial information on decision-making and operations (An et al., 2011; Bismuth & Yoshiaki, 2008; Ousama et al., 2011a). Organizations could face the dilemma of balancing these two forces in meeting with its obligations to stakeholders (Abhayawansa & Guthrie, 2012; Melloni, 2015).

Studying further afield, peers have also been found to influence information disclosure practices to stakeholders and thus, the communication of IC could be motivated by the herd instinct within the community (Cooke, 1989; Gibbins et al., 1990; Macve & Chen, 2010; Tartari et al., 2014). In ethical and environmental reporting studies, the influence of the organization's level of media exposure is found to positively affect information disclosure of the organization to stakeholders (Brammer & Pavelin, 2004; Liu & Anbumozhi, 2009; Reverte, 2009). Table 2.3 summarizes current literature on the eight possible factors underlying the communication of IC, which will be further explored in Sections 2.3.2 and 2.3.3.

Table 2.3 - Factors Underlying the Communication of Intellectual Capital

	Factors	Description	Discipline
INTERNAL FACTORS	Governance	Corporate governance improves documentation and connections with stakeholders (<i>Gan et al., 2013; Too et al., 2015</i>)	Intellectual Capital
	Management Ownership	Management ownership causing lower information disclosure (<i>Craft, 1981; Leung & Horwitz, 2004; Iyer & Lulseged, 2013</i>)	Accounting
	Leadership	Leadership influences standard of reporting (<i>Bellringer et al., 2011; Ernst & Young, 2014; Robb & Zarzeski, 2001</i>)	Accounting
	System	Structure and system support capture and reporting of IC to stakeholders (<i>Johansson, 2008; Perrini & Tencati, 2006; Yongvanich & Guthrie, 2006</i>)	Business Strategy
EXTERNAL FACTORS	Image	Managing stakeholders' impression of organizations' image to maintain vested interest (<i>An et al., 2011; Bismuth & Yoshiaki, 2008; Ousama et al., 2011b</i>)	Intellectual Capital
	Stakeholders' Demand	Stakeholders' demand for relevant non-financial information on decision-making and operations (<i>An et al., 2011; Bismuth & Yoshiaki, 2008; Ousama et al., 2011b</i>)	Intellectual Capital

Factors	Description	Discipline
Herd Instinct	Herd instinct influences habit of information disclosure (<i>Cooke, 1989; Gibbins et al., 1990; Macve & Chen, 2010; Tartari et al., 2014</i>)	Accounting
Media Exposure	Media exposure affects information disclosure to stakeholders (<i>Brammer & Pavelin, 2004; Liu & Anbumozhi, 2009; Reverte, 2009</i>)	Ethical and Environmental Reporting

2.3.2 Internal Considerations

In Section 2.3.1, four internal factors were identified, namely governance, management ownership, leadership and system. This section examines these four factors and the discussions surrounding these factors in light of the communication of IC.

On governance, studies have shown that the communication of IC could be a result of a higher-level application of the Global Reporting Initiative (GRI) framework. Reputation and the enhancement of legitimacy were reported in these studies to be the potential incentives for organizations in adopting the GRI framework for corporate reporting (Oliveira & Russell, 2010; Saleh et al., 2010). In fact, 92% of the world's largest 250 corporations have reported using the GRI framework (GRI, 2016a). The adoption of the GRI framework is part of the corporate governance practiced in an organization. Such practice of governance aims to raise the reporting quality on the organization's value-creation processes, competencies in managing the business and reputational disclosure in annual reports (Holland, 2006; Li et al., 2008). Past studies have also shown that in meeting with stakeholders' demand, corporate governance was found to positively correlate with the voluntary disclosure of all three IC Components (Li et al., 2008; Madhani, 2013). Corporate governance was reported to positively impact the volume (word count) and formats (text, numbers, graphs/pictures) of IC

disclosure (Cerbioni & Parbonetti, 2007; Gan et al., 2013; Li et al., 2008; Mubaraq & Abdifatah, 2014).

On management ownership, there were two schools of thought on how management ownership influences information disclosure for corporate reporting. On one hand, the existence of some degree of managerial ownership was found to positively influence information disclosure, as management ownership in the company is a mechanism for ensuring alignment of management-shareholder interests (Bukh et al., 2005; Demirag et al., 2000; Jiang et al., 2011; Xu & Zeng, 2016). On the other hand, studies found that board of directors' (BOD) ownership of shares in the company negatively correlated to the level of disclosure (Hossain et al., 1994; Leung & Horwitz, 2004; O'Sullivan, 2000). The BOD should thus limit their equity ownership so as to remain independent in their role to support transparency and disclosure (Hossain et al., 1994; Leung & Horwitz, 2004; O'Sullivan, 2000). Of the three IC components, human capital information disclosure was most discussed in relation to management ownership (Cinquini et al., 2012; Lee et al., 2011; Saad & Hassan, 2013). However, previous studies on this topic have also found differing views in terms of its prevalence. Human capital information in developing countries was found to be lower in organizations that are family owned (Ching et al., 2013). The relation between human capital information and management ownership was also found to be insignificant in IT companies in India, contrary to popular belief (Jindal & Kumar, 2012). As the communication of IC forms a part of non-financial corporate reporting, management ownership could be considered as a motivating factor in view that such ownership has a correlation with information disclosure.

On leadership, studies have found that a change in leadership can influence the disclosure of salient aspects of IC for corporate reporting. As the organization is a dynamic entity, a change in leadership would signal a re-orientation in strategy and therefore, influence the disclosure that the organization makes (Rylander & Peppard, 2003; Slack & Munz, 2016). Likewise, such leadership can influence the standard of disclosure practices within the sector (Ahmed & Courtis, 1999; Ernst & Young, 2014; Robb & Zarzeski, 2001). The importance of IC is often embedded in the corporate strategy of the organization. With a change in strategy, the emphasis of IC is cognizant with the change in corporate reporting to reflect management's focus of resources for

value creation (Striukova et al., 2008). In corporate reporting, the annual report and supplementary corporate disclosure acts as a communication tool for management to showcase their vision in reflecting the values and position of the organization (Abeysekera, 2008).

On systems, the growth in the communication of IC was fuelled in part by the advancement in technology such as the extravagant processing capacity, and rising connectivity of the Internet and social media (Al Bawaba, 2010; Eurosif, 2011; Marsh, 2012; Rudrajeep et al., 2011). Moreover, organizations are faced with further pressures to increase adaptability, innovation and process speed (Lin & Edvinsson, 2011; Sasikala, 2010). The structure and system within the organization were found to be necessary to support the capture and reporting of IC to stakeholders (Perrini & Tencati, 2006; Yongvanich & Guthrie, 2006). Organizations lacking the appropriate system to manage IC would not be able to report IC meaningfully for management to monitor and take actions appropriately (April et al., 2003; Boedker et al., 2004). As such, having the appropriate structure and system could influence the level of communication of IC by organizations.

2.3.3 External Considerations

In Section 2.3.1, four external factors were identified, namely image, stakeholders' demand, herd instinct and media exposure. This section examines these four factors and the discussions surrounding these factors in light of the communication of IC.

On image, the communication of IC was found to positively influence the perception of stakeholders, in particular, analysts and investors (Abhayawansa & Guthrie, 2012; Melloni, 2015). Such influence is necessary to manage stakeholders' impression of organizations' image to maintain vested interest (Bismuth & Yoshiaki, 2008; Ousama et al., 2011b). Human capital information, in particular, was found to positively affect the corporate image (Alvarez Dominguez, 2011). A recent study found that the current tone of IC disclosure is optimistic, and increasingly so with declining performance as part of impression management strategy to improve its image. This tone is also negatively correlated with organizations that are bigger sized and have higher levels of intangibles (Melloni, 2015). To improve image, organizations were encouraged to

consider non-verbal tactics via their corporate reporting practices. Reporting could include strategically presenting narratives, visuals and graphs, which in turn increased the communication of IC (Cho et al., 2010; Davidson, 2010; Li, 2008).

On stakeholders' demand, stakeholders for both public and private organizations were driving the demand for the communication of IC in the annual report and supplementary corporate disclosure (Bismuth & Yoshiaki, 2008; Corcoles et al., 2011; Ernst & Young, 2014). This positive correlation between stakeholders' demand and the communication of IC reflected the need for relevant non-financial information to assist stakeholders with their decision-making and in understanding the value of the organization (Bismuth & Yoshiaki, 2008; Ousama et al., 2011b). In addition, the communication of IC was essential for management to account to stakeholder groups and to discharge its accountability. If the communication is successful, the organization could reap the benefits of gaining support and approval from stakeholders, which is necessary for survival and sustainability (Veltri, 2014).

On herd instinct, the pressure to conform to the herd (peers) may increase information disclosures. Management could be compelled to comply with past disclosure decisions made by other organizations within the same industry (Botosan & Harris, 2000; Tartari et al., 2014). The propensity to herd was higher for organizations that were less capital-intensive or operating in highly competitive industries. In addition, herding was reported to be greater for management that was comparably less reputable (Brown et al., 2006). Previous studies found that the tendency to herd was also greater in emerging markets and where negative news or events took place, thus resulting in higher information disclosure (Murali, 2012; Tse & Tucker, 2010). While these studies were centered on information disclosure, the influence of herd instinct could also affect the communication of IC.

On media exposure, positive correlation was previously found between media exposure and information disclosure (Brammer & Pavelin, 2004; Liu & Anbumozhi, 2009). In particular, higher corporate social responsibility reporting was statistically significant for larger sized organizations with greater media exposure. In addition, organizations that belonged to environmentally sensitive industries had higher levels of disclosure (Brammer & Pavelin, 2008; Reverte, 2009; Wang et al., 2013). In line

with this finding, media exposure of an organization was also found to be a key determinant of print environmental disclosure (Cormier & Magnan, 2004). With the shift from corporate social responsibility reporting to sustainability reporting (Chan, 2012), the factors affecting the social and environmental disclosure could also motivate the communication of IC.

2.4 CONTENT AND FORMATS USED IN THE COMMUNICATION OF IC

2.4.1 Content used in the Communication of IC

In Section 2.2.3, the constituents of the communication of IC were discussed. This section will examine the literature on the content used in the communication of IC.

The demand for the communication of IC is growing, as organizations are increasingly dependent on their competitive strengths (Bukh et al., 2005). This demand has led to new ways of communication in reaching out to a wider spectrum of stakeholders. It ranged from business reporting models and Internet reporting, to disclosure through investor relations meetings between the organization's management, and institutional investors and analysts (Beattie, 1999; Beattie & Pratt, 2001; Holland, 1997). The past decade also saw a change in the content of the communication of IC reported. More organizations are disclosing strategies, competencies and processes as part of their corporate reporting of Corporate Social Responsibility or Sustainability reports (Bismuth & Yoshiaki, 2008; Chan, 2012).

The study on content used in the communication of IC has been widely undertaken for more than two decades, where the annual report is often used as the proxy for research (Dumay & Cai, 2015; Guthrie et al., 2004). Early studies in the 2000s reported little evidence on the communication of IC (Bontis, 2003; Brennan, 2001; Petty & Guthrie, 2000). By mid-2000s, there were reports on the prevalence of the communication of IC, though inconsistencies in the content between countries exist (Abeysekera, 2007; Guthrie et al., 2006; Vandemaele et al., 2005). For example, in Italy, United Kingdom and Spain, previous works reported that Structural Capital information was prevalent compared to studies in Australia and Malaysia, which found that Relational Capital information was more common (Boedker et al., 2005; Bozzolan et al., 2006; Garcia-

meca et al., 2005; Goh & Lim, 2004). Moreover, disclosure on IC during this period was mostly descriptive.

Past the mid-2000s, further developments were made to refine the methodology used in analyzing the content in the communication of IC (Abeysekera, 2006; Beattie & Thomson, 2007; Guthrie & Abeysekera, 2006). Prior to the year 2010, more articles were published to reflect the active disclosure on the communication of IC (Orens et al., 2009; Sonnier, 2008; Striukova et al., 2008). By the 2010s, the communication of IC was often explored from the perspective of corporate governance (Ahmed Haji & Nazli, 2013; Gan et al., 2013; Hidalgo et al., 2010) and sustainability reporting (Cinquini et al., 2012; Oliveira & Russell, 2010; Veltri & Nardo, 2013).

Literature on content of the communication of IC was further explored from the perspective of the three IC Components - Human Capital information, Relational Capital information and Structural Capital information. For Human Capital information, information on employees was often related to the organization's contribution to staff welfare (for example, on health and safety) rather than the role played by human resource in enhancing the organization's value (Alvarez, 2015). In communicating Human Capital information, organizations can address their perception of being good employers, improve industrial relations and attract talent (Kateb, 2015; Lewis et al., 1984). Human Capital information may also be disclosed to satisfy union and governmental requirements (Guthrie & Parker, 1990).

Relational Capital information that focused on the organization's external relations with stakeholders were often reported and widely made known to reflect the extensiveness of the organization's network and access to resources (Abeysekera, 2010). Most of this information is discretionary. Relational Capital information is important due to trends in *"rationalizing distribution channels, re-configuring firm value chains and reassessing customer value"* (Guthrie and Petty, 2000, p. 248). In meeting with globalization and competition, organizations disclose Relational Capital information to highlight its strengths to stakeholders in order to gain market share (Whiting & Miller, 2008). On Structural Capital information, the disclosure of the organization's infrastructure and subsidiaries is common (Liao et al., 2013a). Disclosing Structural Capital information is necessary to both internal management

and investors. For the management, such information would be useful to determine resource allocation decisions, whereas for investors, the Structural Capital information disclosed would provide insights into the organization's management processes and corporate culture (Abeysekera, 2010; Mention, 2011).

Past research however showed inconsistencies in the findings on the three IC Components for disclosure. For example, within Europe, findings showed that Structural Capital information dominated the communication of IC in Germany, Sweden, United Kingdom and Denmark (Goebel, 2015; Vergauwen et al., 2007), in contrast to Italy, where prior literature found Human Capital information to be most frequently reported (Cinquini et al., 2012). Elsewhere, in Malaysia and Sri Lanka, Structural Capital information was found to account for the largest portion in the communication of IC (Abeysekera & Guthrie, 2005; Ahmed Haji & Mohd Ghazali, 2012). Studies from South Africa, Bangladesh and China found Human Capital information to be the most popular disclosure on IC (Khan & Ali, 2010; Wagiciengo & Aatur, 2012; Xiao, 2008).

Inconsistencies in the communication of IC were also found in industries. For example, organizations engaged in high technology had more disclosure on IC than organizations in traditional sectors (Sonnier, 2008). Organizations in the public sector were more likely to disclose Structural Capital information and Relational Capital information than Human Capital information (Guthrie et al., 2009; Schneider & Samkin, 2008). Within the banking industry, there were also inconsistencies in the research findings. For example, in Malawi, banks emphasized most on Structural Capital information, followed by Relational Capital information and least on Human Capital information (Lipunga, 2013). In Nigeria, Human Capital information and Structural Capital information dominated the banks' IC disclosures (Ahmed Haji & Mubaraq, 2012). In Europe, Relational Capital information is the most reported category, followed by Human Capital information and Structural Capital information (Mention, 2011).

Studies also suggested that the underlying factors that drove the communication of IC could motivate variation in the disclosure of IC Components (Li et al., 2012; Liao et al., 2013a). For example, in China, the Chinese version of the annual report was meant

for Chinese investors. Content on Structural Capital information was necessary to satisfy reporting requirements to controllers. The information had to reflect how the visions of the Chinese government were disseminated and achieved by the organizations concerned. On the other hand, the English version of the annual report provided information to all the English-speaking investors globally, and it emphasized on the relational capital of the organization (Liao et al., 2013a).

2.4.2 Formats used in the Communication of IC

The past decade saw significant changes to the annual report and supplementary corporate disclosure (ARS) from a financially driven, statutory document into a presentational, public relations document (Beattie et al., 2008). The ARS was also reported to have increased sharply in terms of page length, voluntary information and the adoption of different formats (Beattie et al., 2008; Deloitte, 2009). As a topic of study, formats used in the ARS has been examined with respect to Legitimacy Theory, suggesting the use of format as a communication tool to convince stakeholders of management's stewarding activities (Cho et al., 2012; Stanton & Stanton, 2002). With the advancement in communications technology, more organizations are opting to distribute their ARS electronically through various online platforms (Guillaume, 2014). This signals access to the ARS by a wider group of stakeholders, and the expanded use of rich formats such as infographics and pictures.

The formats used in ARS are arguably as important to accounting as the rhetoric of accounting narratives. Though formats appear to be a form of presentation, they can contain multiple messages that are open to rich and varied interpretation, and have emotional power to influence the memory of the reader (Davison, 2014). However, existing literature on the use of formats or the peculiarities of formats used in the communication of IC is limited. In fact, the communication of IC presented in different formats is often neglected, in spite of numerous scholars reporting that formats such as visuals and images are more powerful media than words (Anderson & Frankle, 1980; Spoehr & Lehmkuhle, 1982). Scholars have also recognized the need to better comprehend how organizations report IC as the communication of IC is deemed important to stakeholders in interpreting the sustainability of the organization (Abhayawansa & Abeysekera, 2009; Ousama et al., 2011b).

Due to its tacit nature, the communication of IC is difficult to be represented in a singular numeral, and as such, is presented in different formats (Davidson, 2014; Vafaei et al., 2011). These formats include narrative (Cho et al., 2010), table, graph (Penrose, 2008), picture and illustration (Beattie et al., 2008; Davison, 2014). Each of these formats is further discussed below. Prior works have highlighted that social and cultural attitudes, technology, and the institutional and regulatory setting could influence the use of formats in the ARS (Beattie et al., 2008; Penrose, 2008).

Narrative is defined as the format used to describe information disclosed in the ARS that is not mandated by the Companies Act and not reported as part of the audited financial report (ACCA, 2008). This format complements information in the financial reporting to legitimize management's views on prospects, risks, operational management, social responsibility and any considerations, which may impact the organization's valuation (Yeoh, 2010). Narrative is a scene-setting device that either tells a story or presents specific data (Beattie et al., 2008; Smith & Taffler, 2000). The format is a powerful communication tool used by organizations to send desired signals from management to investors and other stakeholders (Blair, 2003).

There are three management perspectives for using narratives in the ARS. First, it is employed to improve transparency and complement financial reporting. Second, it serves to garner support from stakeholders and to increase access to cheaper sources of funds or enhance corporate share valuation. Finally, in fraudulent cases, narrative is used to lend support as impression management through discretionary disclosure (Ambler & Neely, 2008; Yeoh, 2010). Previous studies also found that organizations used narratives as part of defensive techniques as suggested by Impression Management Theory to gain, maintain and repair its image in the light of negative publicity (Hassan, 2014; Samkin & Schneider, 2010).

Table is defined as a two-dimensional presentation of logical relationships between groups of data (Gatterbauer et al., 2007). The connected relationships are reflected by horizontal and vertical alignment of data in a grid to present structured information. The contents in the table can be represented by words, phrases and numbers (Ditlevsen, 2012). The use of tables in the ARS saw a significant increase between 1989 and 2004. This format appeared frequently in the historical record, remuneration report, directors'

report, and operating and financial reviews (Beattie et al., 2008). Academically, table was also reportedly the most common format used in social science scientific journals (Free & Qu, 2011).

There are three advantages is using tables as a format. First, tables present information in a simple, condensed and well structured way for easy understanding. Secondly, tables are processed more effectively than raw text. Finally, tables provide immediate information visualization (Gatterbauer et al., 2007). A recent study reported that the dominant use of tables in the ARS could reflect positively on the organization's strategy to legitimize management's intent in showing a true and fair view (Ditlevsen, 2012).

Graph is defined as a diagram that depicts "*variation of a variable in comparison with one or more other variables*" (Meriam-Webster, 2016). Graphs can be presented as chartings of columns, bars, pies, lines, scatters and pies, with the option to color-code. Among the formats used in the communication of IC, graphs were most widely reported and its usage increased in the ARS of large companies worldwide (Beattie & Jones, 2002, p. 546). In fact organizations have, to some degree, replaced tables with graphs in corporate reporting (Dilla & Janvrin, 2010).

Although there are many advantages in the use of graphs, there are three significant ones to highlight (Uyar, 2009). First, graphs can be used to legitimize management's performance, attract attention and stimulate interest (Beattie & Jones, 1992, 2002, 2008). Second, the format allows the mediation of (large amounts of) information in a way that is easier to grasp and read (Ditlevsen, 2012; Platts & Tan, 2004). Finally, graphs can also reveal patterns and underlying trends that may not be obvious from tables (Courtis, 1997; Penrose, 2008). Prior studies have found that graphs did not make any significant difference to a user's decision-making ability, although line graphs were more helpful than bar charts (Courtis, 1997). However, the capacity for users to remember visual patterns like graphs was vastly superior compared to narratives or tables. Previous studies found graphs were used in the ARS to manage impression management. Companies with larger increases in sales were more likely to graph than companies with larger increases in the "bottom line" measures of net income and earnings per share (Dilla & Janvrin, 2010).

A picture can be defined as a painting, drawing or photograph of subjects that are either people, scenery, objects, events or a combination of these subjects (Li & Mangena, 2014; Meriam-Webster, 2016). Prior literature reported that pictures, like narratives and graphs, were important in the communication of IC to provide richness and variety to messages communicated (Beattie et al., 2004; Davidson & Skerratt, 2007). Experimental psychology suggested that pictures could be more powerful in the cognitive memory than narratives and that this format simplified the comprehension of complex messages (Anderson, 1980). Past studies found that intangibles could be rendered literally visible from the discretionary pictures in the ARS (Davison & Skerratt, 2007). For example, pictures could be used to demonstrate the corporate history and therefore, reflect the corporate culture of an organization, which otherwise would be difficult to express using graphs and narratives (Li & Mangena, 2014).

Emerging works on visual anthropology in the field of accounting noted the manner that *“photographs are embedded in historical, social, cultural, political, economic and institutional contexts”*, which revealed cultural symbols and identity (Parker, 2006; p. 10). One example to highlight is the use of portraits of directors found in the ARS. These portraits were pictures that were not only eye-catching, but it reflected the morality of the board of directors, and legitimize management’s mandate in the promotion of gender and race diversity in the organization (Bernadi et al., 2005; Campbell et al., 2009; Kemp, 2004). Pictures, like graphs, are ubiquitous, constitute part of impression management in making reports more attractive, and convey complex messages that are open to rich and diverse meanings (Davidson, 2014; McKinstry, 1996).

An illustration is defined as a graphic depiction of any concept or subject visually presented as a SmartArt graphic, flowcharts, infographics, or a combination of these visuals (Abhayawansa, 2014b; Free & Qu, 2011). Illustrations could contain indicators, important statements and contexts that management would want conveyed (Abhayawansa, 2014b). As IC involves human attributes and contribution, as well as in abstract concepts such as strategy, illustrations would be better in forming expressions on IC than words or numbers (Davidson, 2014). Some examples of illustrations in the ARS reflects information on ‘Strategy’, ‘Shareholder value’, ‘Transformation’ and ‘Customers’. This format was also reported to assist in

developing an equity story as a case for attracting investment and in constructing corporate identity (Ditlevsen, 2012, p379). Illustrations could be a rich format used to reflect a crossover between advertising and accounting (Davidson, 2010; Shapiro, 1997; Williamson, 2002).

In the ARS, illustrations are often used to promote and legitimize management ideas, linking measures with strategy, expressed through the organization's mission, vision, and value (Ditlevsen, 2012). One such example is the Balance Scorecard, where illustration was often the format used to communicate the strategy of the organization (Free & Qu, 2011; Swieringa & Weick, 1987). Boxes and arrows are formed and connected, where boxes established the key categories and arrows reflected the relations to enact the organization's activities, such as systems and processes, in different ways (Justesen & Mouritsen, 2009; Kress & van Leeuwen, 2006). Prior studies have shown that the illustration format is a presentational technique that could emphasize two communicative purposes. First, in developing the positive image of performance in the organization while downplaying negative outcomes to impress stakeholders (Ditlevsen, 2012; Osma & Guillamon-Saorin, 2011). Second, to provide a true and fair view of the state of affairs of the organization for decision-making (Ditlevsen, 2012; Husin et al., 2012).

Table 2.4 – Summary of Formats used in the Communication of IC from the perspectives of Legitimacy Theory

Format	Contributions and Findings from Legitimacy Theory	References
Narrative	Narrative complements information in the financial reporting to legitimize management's views on prospects, risks, operational management, social responsibility and any considerations, which may impact the organization's valuation.	Yeoh (2010)
Table	The use of tables in the ARS reflects positively on the organization's strategy to legitimize management intent in showing a true and fair	Ditlevsen, (2012)

Format	Contributions and Findings from Legitimacy Theory	References
	view.	
Graph	Management uses graphs to legitimize their performance, attract attention and highlight underlying trends that may not be obvious from tables.	Beattie & Jones (2008), Courtis (1997), Penrose (2008)
Picture	Pictures are used to reflect the morality of the board of directors, and legitimize management's mandate in the promotion of diversity of gender and race in the organization.	Bernadi et al. (2005), Campbell et al. (2009), Kemp (2004)
Illustration	Illustrations are often used to promote and legitimize management ideas, linking measures with strategy, expressed through the organization's mission, vision, and value.	Ditlevsen (2012)

2.5 THE RELATIONSHIP BETWEEN THE COMMUNICATION OF IC AND ORGANIZATIONAL PERFORMANCE

2.5.1 Organizational Performance

The concept of organizational performance was developed between the end of the 1950s and in the early 1960s, driven by efforts to understand the success of organizations (Aubry & Hobbs, 2010). Literature on organizational performance continued to develop in the 1960s through to 1980, narrowing down to focus on concepts like 'quality', as industries shift towards ISO certification in developing standards and excellence (Boyne, 2003). Several words were used almost as synonyms to organizational performance. These included efficiency, output, productivity, effectiveness, health, success, accomplishment, and organizational excellence (Savoie & Morin, 2002). Organizational performance is one of the most important constructs

in management research, the ultimate dependent variable of interest for scholars studying any area of this field (Aubry & Hobbs, 2010; Richard et al., 2009).

While the term ‘organizational performance’ is common in management research, its structure and definition are rarely explicitly justified or questioned in any form (March & Sutton, 1997). There are few consistent definitions and measures for organizational performance as it is a complex and multidimensional phenomenon (Carton & Hofer, 2007; Dess & Robinson, 1984; Kirby, 2005; Richard et al., 2009). The concept of organizational performance is based on the idea that an organization comprises productive assets, including human, physical and capital resources to achieve a shared purpose (Barney, 2007; Jensen & Meckling, 1976). Shareholders and investors that provide the assets will only commit these assets to the organization so long as they are satisfied with the value they receive in exchange, relative to alternative uses of the asset (Carton & Hofer, 2007). As a result, the essence of organizational performance is the creation of value.

Literature on organizational performance has defined it as encompassing three specific areas of outcomes, namely financial performance, product market performance and shareholders’ return (Richard et al., 2009). In terms of financial performance, organizational performance is reflected in the organization’s profitability and can be measured in terms of the organization’s achievement, for example, in its return on assets and return on investment. In regard to product market performance, it can be measured in terms of sales performance and market share, while shareholders’ return can be calculated using measures such as the total shareholder return and economic value added. Organizational performance can also be categorized into profitability, growth and survival, which are the outcomes most prominent in strategy literature (Hambrick, 2007). Stakeholder Theory has long held that leaders and their organizations are held accountable by a large number of stakeholders. Limiting the assessment of their effectiveness to the realm of economic success, as observed through shareholder value alone, is shortsighted (Maak & Pless, 2006).

Organizational performance is directly linked to measurement, as it allows management to evaluate specific actions of the organization, when it stands vis-à-vis their rivals, and how organizations evolve and perform over time (Richard et al., 2009).

This is essential to the survival and success of modern businesses. However, both the business and academic communities are challenged with two basic issues when incorporating organizational performance in their research and analysis. Firstly, they have to address the selection of a conceptual framework from which to define organizational performance, and secondly, they need to accurately identify available measures that operationalize organizational performance (Dess & Robinson, 1984). The challenges are magnified in view of the multidimensionality of stakeholders' interest, the heterogeneity of organizational resources, environments and strategic choices, and the variation of performance over time (Fitzgerald & Storbeck, 2003; Freeman, 1984; Hillman & Keim, 2001; Richard et al., 2009).

In the past decade following the series of economic downturns, organizations globally were introduced to a new buzzword 'sustainability', with emphasis on organizational performance. Current financial measures reflect historical performance and are not sufficient to evaluate present or forward perspectives of the organization's capacity and ability to perform (Eccles et al., 2001; Lev, 2001; Ousama et al., 2011a). While it is still important to ensure growth in revenue, profitability and shareholders' value, economic uncertainty and global competition are forcing organizations to recode their views of organizational performance in line with business continuity, solvency and organizational productivity (Al Bawaba, 2010; Eurosif, 2011; Marsh, 2012; Rudrajeep et al., 2011).

Business continuity refers to the ability of the organization to maintain its critical business functions and performance in emergency or bad economic conditions (Elliott et al., 2010; Hiles, 2010). This includes having protection plans to safeguard the organization's assets, both physical and intangible. Organizations thus have to undertake analysis to identify the impact on their cash and non-cash assets in the event of a disaster, to justify the extent of funding required (Hiles, 2010). One significant non-cash loss is the damage of image, which directly affects the market value, market share, brand value and the loss of perceived confidence of stakeholders, among others. Fundamentally to maintain business continuity, corporations have to remain profitable to exist for a long term (Hiles, 2010). A common measurement for profitability used in research is the net profit margin of the organization, measured as the percentage of net profit to the revenue (Jiang & Qureshi, 2006; Leiponen, 2000).

Solvency is defined as the ability of the organization to pay its debts when they fall due (Banks, 2005). An organization that is unable to maintain its access to liquid resources and adequate capital is likely to enter into financial distress, where ongoing survivability becomes questionable. The rationale for maintaining adequate capital is to ensure that sufficient resources are available to provide protection against unexpected losses and declines in asset value (Ghosh & Manji, 2014). Organizations can become insolvent when more debts are unserviceable, resulting in a shut down. Organizations are thus dependent on their human resources to generate revenue, maintain profitability and solvency (Effiok et al., 2012; Ghosh & Manji, 2014). For example, in managing credit, the skill, knowledge and professional experience of employees in identifying any possible threats and problem solving could affect the solvency of the organization. The measure to monitor solvency is the solvency ratio, calculated as a percentage of shareholders' funds to total assets (Pazarskis et al., 2011; Vecchi et al., 2015; Wagner, 2005)

Finally, organizational productivity refers to the organization maximizing the use of its resources, reducing costs, preventing duplication, and running an efficient as well as effective operation (Goodman & Harris, 1995; Pritchard, 1990). Organizations need to be productive to meet with customers' needs and to stay competitive with similar organizations (Haas & Hansen, 2007). There are two approaches to improving productivity within organizations, namely through physical assets such as technology advancement and automation, or through non-physical assets, which deals with people behavior and processes (Pritchard, 1995). A common measurement used for organizational productivity is return on assets, which is also a leading indicator used in many studies (Carton & Hofer, 2007). Shareholders will commit to organizations only if they are satisfied with the productivity the organization can achieve to generate the appropriate returns (Carton & Hofer, 2007).

2.5.2 The Communication of IC and Organizational Performance

Impression Management Theory suggests that organizations could influence the communication of IC to enhance its respectability and perception of importance, so as to garner support from stakeholders in the event of an adverse situation (Abhayawansa & Guthrie, 2012; Gardner & Martinko, 1988; Highhouse et al., 2009). However, the organization's IC has been shown to improve performance, particularly in value-creating processes to support organizations achieve their objectives, strategies and goals (Abeysekera, 2006; Boedker et al., 2004; Miller & Whiting, 2005). Studies have also found that an organization's IC significantly affects its bottom lines. The importance of accessing, monitoring and publicizing IC is thus important as information on IC could be an early indicator for the organization's subsequent performance (Goh, 2005; Lu & Hung, 2011; Ross & Ross, 1997). Past literature has raised the importance to increase and improve the communication of IC and highlighted its significance to organizations in making informed judgments for decision-making (Heitzman et al., 2010; Kent & Chan, 2009; Schuster & O'Connell, 2006). For example, stockbroking analysts are especially concerned with the communication of IC such as competencies improvements, strategic growth stories and business alliances. This information is relevant and can influence the future potential growth of an organization (Barth et al., 2001; Mavrinac & Boyle, 1996).

While IC was long acknowledged to positively correlate with organizational performance, there was limited empirical evidence found on the relationship between the communication of IC and organizational performance (Chan, 2009; Zéghal & Maaloul, 2010). There are two possible reasons highlighted by scholars for this gap in literature. Firstly, current mandatory corporate filings in most countries do not require organizations to account and report their business continuity, solvency and productivity performance (Holder-Webb et al., 2009). Secondly, there are inconsistencies reported on the prevalence of the communication of IC in the traditional annual reports (Firer & Williams, 2003). In view of IC's contribution to the organization's sustainability, the academic and business communities have called for further understanding of the communication of IC and its relationship with organizational performance, as industries are becoming more competitive and knowledge intensive (Abhayawansa & Abeysekera, 2009; Ousama et al., 2011a).

Reviewing the limited empirical research found on the relationship between the communication of IC and organizational performance, most of these studies were found to focus mainly on the relations between Human Capital information and organizational performance. Human Capital information was found to be positively correlated with organizational performance, where proxies were market-to-book ratio and return on assets (Lin et al., 2012; Saenz, 2005). A recent study found that relational capital disclosure was statistically significant with revenues, net operating cash flow and capital expenditures, and non-significant with enterprise value (Martini et al., 2016).

Though studies lack empirical support, there were diverging schools of thought on the relationship between the communication of IC and organizational performance. One recent study highlighted the importance of the communication of IC, in particular, Human Capital information and Structural Capital information, which could help improve the solvency of organizations (Ghosh & Manji, 2014). Another study reported that there is no association between organizational performance and the communication of IC, though it was acknowledged that such disclosure would reinforce the presence of such resources (Abeysekera, 2010). There was also a study that found organizations with a high level of solvency to have lower IC disclosure (Ousama et al., 2011a).

According to Resource-based Theory, accumulating resources alone is not sufficient to guarantee sustainability (Teece & Pisano, 1994; Teece et al., 1997). The success of sustaining organizational performance is differentiated by those that are able to respond quickly and is flexible to changing conditions (Eisenhardt & Martin, 2000). The access, monitoring and reporting of the communication of IC is thus critical to management in ascertaining the status and strength of its IC to make the necessary decisions and/or actions to achieve sustainable organizational performance. In addition, the pervasive use of multiple techniques to improve public image in the ARS, as suggested by Impression Management Theory, raised the need to examine such disclosure practices in greater light (Ahmed Haji & Hossain, 2016). This highlights the opportunity to update current literature and provide empirical evidence on the relationship between organizational performance and the communication of IC.

Reviewing literature linked to Impression Management Theory, Human Capital information was found to positively affect corporate image (Alvarez Dominguez, 2011). As such organizations disclose information on its size and structure of employees (human resources), ability to attract and retain employees (employee retention) and talent development (training) so as to reflect positively on its image (Alvarez Dominguez, 2011; Lin et al., 2012). On Relational Capital information, to improve corporate branding and image, organizations convey strengths in their customers and customer experience (Customers), highlight the role of their suppliers to reflect deep knowledge in meeting customers' expectation (Suppliers) and disclose strategic alliances (Business Alliance) (Dessi & Floris, 2010; Pérez & Del Bosque, 2012; Spear & Roper, 2013). As for Structural Capital information, processes were reported to relay potential outcome and goals for accountability (Processes), information on intellectual property and other intangible assets were disclosed to portray a positive image (Intellectual Property), and achievements were presented to improve their corporate branding and reputation (Carnaghan, 1999; Frink & Ferris, 1998; Spear & Roper, 2013).

2.6 CONCLUSION

This chapter provides a review of literature and theories relevant to the study.

Section 2.1 introduced IC as an important asset to organizations, with founding theory traced from Resource-based Theory, Human Capital Theory and Irving Fisher's Capital Theory. This section discussed IC's lack of agreement on a single definition, its rationale and how finally, its definition was refined to include the combination of three IC Components, namely human capital, relational capital and structural capital. Several classification and conceptual models of IC were introduced, with further elaboration on the three IC Components. This formed the basis of the segmentation in the communication of IC used in the study.

In Section 2.2, the definition of the communication of IC and its related theories, namely Stakeholder Theory, Legitimacy Theory and Impression Management Theory were introduced. The section also provided an overview of the communication of IC in organizations and its development in the past two and a half decades. The communication of IC was further explored from the perspectives of three IC Components - Human Capital information, Relational Capital information and Structural Capital information - where each component was expounded with examples. This section also raised issues faced by both the academic and business communities in the communication of IC, which in turn, creates opportunities to be examined in this study.

Section 2.3 explored the factors underlying the communication of IC, where eight factors were identified, drawn from literature across disciplines. These factors were governance, management ownership, leadership, system, image, stakeholders' demand, herd instinct and media exposure. Each factor was examined further and discussions surrounding these factors were made in light of the communication of IC.

Section 2.4 examined the literature on the content used in the communication of IC, including the findings from prior studies over the past decade. Literature was also explored from the perspective of the three IC Components and highlighted inconsistency of findings in different regions and industries. This section also examined the formats used in the communication of IC, reporting on the significant

changes in the use of formats in presenting and disclosure. Five formats were discussed in this section, namely narratives, tables, graphs, pictures and illustrations.

Section 2.5 introduced the concept of organizational performance, and like IC, did not have a specific definition. The section showed how the definition of organizational performance has extended to include business continuity, solvency and organizational productivity. The section also reviewed organizational performance and the communication of IC jointly, though there are limited references available on the relationship between the communication of IC and organizational performance. The rationale for the gap in literature raises challenges faced, which provides another opportunity to update literature with current market practice and empirical evidence to study.

CHAPTER 3

This chapter is organized into six sections, namely introduction, data sources, data selection, data collection, analysis and conclusion, as shown in Figure 3.1. In Section 3.1, the introduction provides justifications of the research design applied and the use of mixed methods in this study. Section 3.2 describes the two sources of data used in this study, namely senior executives of banks, and annual report and supplementary corporate disclosure (ARS). This is followed by details on data selection in Section 3.3, which explains the approach and sampling methods adopted for the selection of banks and senior executives. Section 3.4 introduces the data collection instruments and procedures for each research objective. For analysis, Section 3.5 details the factor analysis, content analysis and regression analysis undertaken for this study. Finally, the chapter ends in Section 3.6 with a conclusion of the research methodology.

Figure 3.1 - Outline of Chapter 3: Research Methodology

3.1 INTRODUCTION TO THE RESEARCH METHODOLOGY

3.1.1 Research Design

The research framework in Section 2.6 presented the focus of the study, which is to study the communication of IC. The research design was constructed with different methodologies deployed to address each research question and objective presented, as shown in Figure 3.2.

To address Research Objective 1 (RO1), which is to determine the factors underlying the communication of IC, mixed methods were applied. For the quantitative approach, a survey (Survey A) was conducted with senior executives of 200 banks globally, selected based on criteria elaborated in Section 3.3.2. These senior executives surveyed were staff responsible for the compilation of their bank's annual report and supplementary corporate disclosure (ARS). Survey A asked a series of 24 opinion statements focused on eight factors underlying the communication of IC, guided by literature discussed in Section 2.3. Factor analysis was used to analyze the key underlying forces in the study.

To delve deeper into the responses gleaned from Survey A, respondents were invited to participate further in 1-to-1 interviews, as elaborated in Section 3.4.1. This approach supported triangulation and provided a fuller understanding of the respondents' rationale on their views regarding the factors underlying the communication of IC. Respondents were also asked for their opinions on trends, development and regulatory changes that might shape their views on the factors underlying the communication of IC in the ARS. In addition, respondents were also asked to share their opinions on possible internal forces such as management practices that may have influenced their views on the factors underlying the communication of IC in their organization. A general inductive approach for analysis of data collected from the 1-to-1 interviews was applied.

For Research Objective 2A (RO2A), which is to determine the content and formats used in the communication of IC in the ARS, mixed methods were applied. Using the quantitative approach, the same respondents covered in RO1 were concurrently sent a survey (Survey B) to gather their views on the importance of content in the

communication of IC. Survey B was organized according to the three IC Components, namely Human Capital information, Relational Capital information and Structural Capital information, as guided by the literature reviewed in Section 2.4. Details of Survey B are discussed in Section 3.4.1. Taking one step further in gathering insights into the ‘What’ and ‘How’ the communication of IC is applied, each respective bank’s ARS was analyzed. Using content analysis, the codification of the ARS was undertaken to focus on three categories, representing the three IC Components as shown in Section 3.4.2. On format, the communication of IC was coded in terms of tables, graphs, illustrations, pictures and narratives. The codification process is further elaborated in Section 3.4.2.

Similar to the qualitative approach undertaken in RO1, for RO2A, the same respondents who completed Survey B were invited to participate further in 1-to-1 interviews, as detailed in Section 3.4.1. Respondents were asked for their views on the importance of content and formats used in the communication of IC. The questions encouraged respondents to share and provide insights into their management experiences and perspectives. The intention of these questions was to shed light on the choices made by the respondents for Survey B. The mixed methods applied in RO2A enhanced the validity of content and formats used in the communication of IC, as well as reinforced findings obtained in RO1 of the research.

To address Research Objective 2B (RO2B), which is to ascertain the relationship between the communication of IC and organizational performance, regression analysis was applied. The same data collected from the ARS for content analysis was used as the variables representing the communication of IC to analyze RO2B. The communication of IC was investigated from the perspectives of the three IC Components, namely Human Capital information, Relational Capital information and Structural Capital information. Organizational performance, guided by the literature presented in Section 2.5, was represented by three indicators, namely net income margin, solvency ratio and return on assets. These indicators were computed from each of the respective bank’s financial performance extracted from the ARS, as discussed in Section 3.4.1. In terms of statistical analysis, this study used Negative Binomial Regression to analyze the relationship of the data between the communication of IC and organizational performance. Negative Binominal Regression

was chosen in view that the data collected in this study was count data and did not require normality. Further details on the statistical methods applied are discussed in Section 3.5.3.

A summary of the research design is illustrated in Figure 3.2.

Figure 3.2 - Research Design

3.1.2 Justification for the Use of Mixed Methods

This study was undertaken using mixed methods. Mixed methods research is the use of two or more quantitative and/or qualitative methods in the collection and analysis of data in a single study (Creswell, 2009; Creswell & Plano Clark, 2011; Driessnack et al., 2007).

Current research methodology used to study the communication of IC is dominated by quantitative methods. These studies provided mostly statistical significance that lacked further understanding of the relationships found. As such, many IC scholars have recommended that further studies include mixed methods (Abhayawansa & Guthrie, 2010; Yi & Davey, 2010). In using mixed methods for this study, the primary method

applied was quantitative as it provides statistical evidence necessary to address the research objectives. The secondary method was qualitative, to enable further evaluation of results from quantitative research findings (Driessnack et al., 2007; Morgan, 1998).

Mixed methods research was chosen for two reasons. Firstly, mixed methods can help make sense of inconsistencies among existing works. Like many other subject matters, the study of the communication of IC is also plagued with challenges in dealing with findings inconsistencies (Malina et al., 2011). For example, some studies have found limited or low levels of the communication of IC (Ahmed & Hussainey, 2010; April et al., 2003; Bontis, 2003; Brennan, 2001; Ordóñez de Pablos, 2002), while others have reported its prevalence (Liao et al., 2013a; Oliveras et al., 2008; Orens et al., 2009; Petty & Cuganesan, 2005; Sonnier, 2008). The use of mixed methods can enhance findings in this study to make sense of non-results and the causes for having low statistical relations (Ahmed & Hussainey, 2010; April et al., 2003; Bontis, 2003; Ordóñez de Pablos, 2002), where previously such results were often ignored (Malina et al., 2011).

Secondly, mixed methods will assist in making sense of statistical differences. In the case of this study, undertaking a quantitative approach would provide statistical evidence across regions in a global study, but lack insights and depth (Driessnack et al., 2007; Malina et al., 2011). Complementing quantitative with a qualitative approach would take into consideration peculiarities and diversities across the world (Karasz, 2011; Morgan, 1998). In other words, qualitative data is used as a basis for collecting and interpreting the quantitative data. Moreover, mixed methods allow inquiries of more complex questions such as the motivations behind the communication of IC, which cannot be answered with a purely quantitative or qualitative study. In this way, the limitations of using a single method can be overcome (Gelo et al., 2008).

3.2 DATA SOURCES

There are two data sources used in this study. Firstly, senior executives from 200 banks, responsible for publishing the annual report and supplementary corporate disclosure (ARS), were surveyed. Secondly, the same banks' ARS were used for content analysis. These ARS were published in English for the financial year ending 2014 and contained content on the communication of IC.

3.2.1 Senior Executives of Banks

Senior executives responsible for the publishing of the bank's ARS were chosen as data source for this study for two reasons. Firstly, they have oversight on the procedure of publishing the ARS and content compiled for this publication. Secondly, senior executives are insiders, who are knowledgeable in the organization's overall strategy and operations (Ahmed & Hussainey, 2010; Huang & Salleh, 2010; Ivoni, 2010). The study interviewed these senior executives to address RO1 and RO2A. Two surveys (Survey A and Survey B) were conducted with 200 senior executives, followed by 1-to-1 interviews with a smaller subset (44) of the same senior executives, who had agreed to participate in a longer discussion. The 1-to-1 interviews were conducted to gather insights into the replies provided on the two surveys. The list of senior executives and the details of the banks they represent, such as background, financial performance and contact details, were generated from two databases subscribed by the University, namely BvD Osiris and Bloomberg.

BvD Osiris provides financial information on 80,000 publicly listed and major unlisted companies worldwide (Osiris, 2015). Its coverage includes over 120 countries that engage in the banking, industrial and insurance sectors, among others (Lara et al., 2006). Bloomberg LLP (Bloomberg) is one of the leading players in providing real-time financial and business data, history, news, analytics and research for global financial markets (Bloomberg, 2015). Bloomberg's financial information services include securities data from all regions (Alexander Jr et al., 2001). Its financial data is often used when analyzing organizations in relation to IC (Melloni, 2015; Subramaniam & Youndt, 2005; Sydler et al., 2014; Youndt et al., 2004).

The list of banks for this study was generated from databases that are commonly used for research and analysis on IC (Gigante & Previati, 2013; Malik, 2012; Ousama et al.,

2011a; Youndt et al., 2004). The study used two databases, instead of only one, for two reasons. Firstly, the use of two databases will ensure completeness of the banks covered in this study. Secondly, two databases will enable the cross checking of contact data on the banks for accuracy. There was no discrepancy found on the list of banks generated from the two databases, with the exception of spelling differences in the names of the banks due to name abbreviations.

3.2.2 Annual Report and Supplementary Corporate Disclosure (ARS)

The annual report and supplementary corporate disclosure (ARS) was chosen over other corporate communication materials such as the prospectus, analyst reports, press releases and the corporate website for three reasons. Firstly, the use of ARS to study the communication of IC is common (Beattie & Thomson, 2007; Guthrie et al., 2004). Secondly, the ARS is regularly produced in fixed time periods, making the ARS a good source to analyze the communication of IC as part of corporate reporting. Finally, the ARS is widely available across different regions, which would broaden the geographic coverage for the study (Guthrie et al., 2004). The study covers the communication of IC from ARS, rather than annual report or the supplementary corporate disclosure alone, to provide a more complete picture (Beattie & Thomson, 2007).

The ARS provided two types of information necessary for this study. First, it contained non-financial information, out of which the communication of IC could be coded. Second, the ARS had financial information, which was used to calculate the necessary financial ratios to represent the organizational performance. In addressing RO2A, the non-financial information from the ARS that represented the communication of IC was used. While for RO2B, both the non-financial information and the financial information were used. Most of the ARS were obtained from each bank's website, where these reports can be downloaded from the webpage labeled "Investor Relations", "Annual Reports", "Financials" or "Sustainability". For consistency, the ARS for financial year ending 2014 (FYE2014) was used, as it was the latest financial year available for all banks covered at the time of this study. For financial data, the data was downloaded from BvD Osiris and Bloomberg. These databases were used to extract the financial data instead of the ARS for two reasons.

Firstly, the use of these databases saved time in extracting the necessary financial data physically from the ARS. Secondly, the use of two databases enabled cross checking of the banks' financial data for accuracy. The financial data had one minor difference. Financial data extracted from BvD Osiris was depicted in thousands, whereas data from Bloomberg was in millions. For consistency, the data from BvD Osiris was used as the rounding error, if any, would be less significant.

The information on IC is often found in the preceding section of the annual report before the audited financial statements, or in the supplementary corporate disclosure that is often published as a stand-alone report entitled with words such as "Responsibility", "Sustainability", "Intellectual Capital", "Integrated", "Review" and "Governance" (Abeysekera, 2013; Beattie & Smith, 2013; Dumay, 2015; GRI, 2016b). Examples of content representing information on human capital, relational capital and structural capital are shown in Appendix E.

3.3 DATA SELECTION

3.3.1 Selection of Banks

Banks around the world were reviewed and sampled for this study. The banking sector was selected as the industry to 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., 2013; Gigante & Previati, 2013; Goh, 2005). 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 (Curado et al., 2014; Goh, 2005). As such, this made banks attractive and a suitable context for investigation.

Secondly, banks operate in a highly regulated environment, under great scrutiny to perform. As such, banks are required to produce reports on their performance to regulators and stakeholders annually. Unlike other companies, most banks will report their performance in the public domain, whether or not they are listed entities on the stock exchange. Regulated organizations have better editorial control over the information published and are less susceptible to the potential risk of external media interpretations or falsification (Campbell, 2000; Guthrie & Parker, 1989). Thus, banks offer high quality data for study.

Finally, while the banking sector as an industry has fewer numbers of players compared to other industries, it has service universality, supporting all organizations across all industries (Berger et al., 2014). Performance and operations of the banks are thus linked to the industries and the economies that they support. Hence, banks are favored subjects for this study.

The selection of banks was done via a two-step approach. The first step involved filtering the population for active banks. This filtering removed banks that were merged, decommissioned and inactive, for reasons such as insolvency and having status involving significant debt restructuring, from the list. For the merged or acquired banks, the larger combined entity was chosen. The second step involved filtering banks with English ARS published publicly for the financial year ending 2014 (FYE2014). The FYE2014 was considered rather than FYE2015, as not all banks had

completed the corporate reporting of their FYE2015 at the point when the study was conducted. Each bank's ARS was checked for completeness, as covered in Section 3.2.1, for some banks may not report all financials required for this study due to jurisdictional and regulatory differences.

The number of banks globally was 2,965, based on list of banks available on BvD Osiris and Bloomberg combined. There were 832 banks that were inactive for FYE2014, representing almost 28.1% of all banks. An additional 866 banks with incomplete financial information necessary for this study were removed from the list. The remaining banks numbered 1,267, where 657 banks were from the Americas, 200 were from Asia Pacific, 267 were from Europe, and 143 were from the Middle East & Africa (MEA), as shown in Table 3.1.

Table 3.1 - Sample Population of the Study of the Communication of Intellectual Capital

	Population of Active Banks in FYE2014	Sample Population of Banks	Sample Population as % of Active Bank Population
Americas	657	50	7.61
Asia Pacific	200	50	25.00
Europe	267	50	18.73
Middle East & Africa	143	50	34.97
Global	1,267	200	15.79

Stratified random sampling, as opposed to stratified proportional sampling, was applied to this study. This sampling method was chosen for two reasons. First, the sampling method helps to reduce the potential for human bias in the selection of cases. Second, it provides an “equal voice”, rather than representativeness of the global population, for this study (Goddard & Melville, 2001; Maxwell, 2013). Moreover, banks increasingly have presence in more than one jurisdiction, making it difficult to fairly justify a proportional representation. A sample size of 50 banks from each region was selected for study comparison across regions, as this would prevent issues of over-representation or under-representation (Hill et al., 2007; Lund Research Ltd, 2015).

The final dataset of 200 banks for this study had representations from different continents around the world. The dataset of 200 banks was considered a reasonable sample size (MacCallum et al., 1999; Mundfrom et al., 2005; Rose & Bliemer, 2013). Only one representation from each bank was allowed to prevent duplication and double counting. The bank could be the parent bank or its subsidiary. For example, OCBC is headquartered in Singapore, but has regional presence. If both OCBC Singapore and OCBC Malaysia responded, where both banks have their own ARS published in their country, only the first bank that completed the survey was included in the study. In terms of country, there are 64 countries represented in this dataset. A further breakdown of the list of banks selected for this study is included in Appendix F.

3.3.2 Selection of Senior Executives

Purposive sampling was used in the selection of senior executives to complete the surveys and interviews reflected in RO1 and RO2A of this study. Purposive sampling (also known as purposeful selection) is neither probability sampling nor convenience sampling. It is a strategy where *“particular settings, persons, or activities are selected deliberately to provide information that is particularly relevant to your questions and goals, and that can’t be gotten as well from other choices”* (Maxwell, 2013, p. 97).

The use of purposive sampling for this study can assist in achieving representativeness of a specific situation or activities involved (Weiss, 1994), where situation involves specific events such as the Sichuan earthquake in 2008 (Nara, 2009) and specific activities describe certain undertakings that are knowledge or experience linked, for example, gambling (Back et al., 2011). While purposive sampling is a type of non-probability sampling, it is most effective in studying a specified domain that is knowledge dependent, and remains robust even when tested against random sampling (Bernard, 2002).

As this study focuses on the communication of IC in the ARS of banks, senior executives that are directly involved in the preparation or compilation of the ARS would be best approached for this study. These senior executives were part of the ARS team that comprise, but were not limited to, the Chief Financial Officer, Head of Finance & Administration, Head of Investor Relations or Public Relations, Marketing

& Communications Director, Head of Sustainability, Head of Risk Management and other similar titled managerial executives responsible for the bank's communication and corporate reporting (Adams & McNicholas, 2007; Stubbs & Higgins, 2014). Senior executives were chosen over junior staff, as senior executives had oversight on process, content compiled and knowledge of the organization's overall strategy and operations.

A minimum of three senior executives' names were generated for each bank identified, but only one was contacted at any one point in time to reduce duplication of surveys completed. The initial contacts for this study began in February 2015. Emails were sent, and in some cases, telephone calls were made, to identify the relevant senior executives responsible for the ARS. A copy of the email sent is enclosed in Appendix G. On confirmation, the survey link to the study was sent. As multiple executives from different departments could be involved in the ARS, priority was made to contact the Chief Financial Officer (CFO) or the Head of Finance and Administration, and the Head of Investor Relations or Communications. This approach was made in view that the responsibility of publishing the ARS is increasingly shifting from the purview of the CFO to Investor Relations (Arvidsson, 2011). The process of approaching these senior executives for this study is further explained in the data collection methods in Section 3.4.1.

3.4 DATA COLLECTION

This section on data collection is organized into two parts. In the first part, the research instruments are introduced with details. The second part provides the data collection procedure undertaken in this study. In developing the research instruments, the Stakeholder Theory, Legitimacy Theory and Impression Management Theory as detailed in Section 2.2.1, and literature in Sections 2.3, 2.4 and 2.5, have guided the development of the research instrument and data collection. A pilot study was undertaken with 47 senior executives of banks, as shown in Appendix H. The purpose of the pilot study was to pre-test the research instruments to ascertain the logical order of the questions in the surveys, the clarity of the questions asked, and the time taken to complete the surveys (Gillham, 2005). The data generated from the pilot study were not included as part of the data collected for this study.

3.4.1 Research Instruments

There were three types of research instruments used in this study, namely surveys, 1-to-1 interviews and the ARS, as shown in Figure 3.3.

Figure 3.3 - Research Instruments Used in the Study of the Communication of IC

Research Instrument 1: SURVEYS

There were two surveys launched and undertaken concurrently to address RO1 and RO2A. In addressing RO1, data was gathered using Survey A to focus on eight factors, namely governance (Gov), image (Image), management ownership (Mgt), leadership (Lead), stakeholders' demand (Stake), herd instinct (Herd), system (Sys) and media exposure (MeEx). These factors were derived from literature as shown in Section 2.3. For each factor, three opinion statements were made. The survey comprised a total of 24 opinion statements that focused on eight factors underlying the communication of IC, as shown in Table 3.2. From the pilot study, it was found that the term "the communication of IC" was not generally understood. As such, the term was replaced with "non-financial information" to collectively represent Human Capital information, Relational Capital information and Structural Capital information. Steps taken to prevent the misinterpretation of "non-financial information" were explained in the data collection procedure in Section 3.4.2. A copy of Survey A can be found in Appendix I.

Respondents were asked to provide their views using a 5-point Likert scale, which ranged from 1 = "strongly disagree" to 5 = "strongly agree". There are three reasons for the use of the Likert scale. First, Likert scale allows quantifying constructs, which otherwise, are not directly measurable (Gliem & Gliem, 2003). In the case of this study, Likert scale is used to measure the opinion of the factors underlying the communication of IC. Secondly, Likert scale also provides better quantitative measurement continuum and ratings intensity, compared to a scale of a dichotomous nature (Chimi & Russell, 2009; Muñiz et al., 2005). Finally, Likert scale is one of the most universally used methods for survey data collection (Laerhoven et al., 2004; Ogden & Lo, 2012). Cronbach's Alpha Reliability Coefficient was calculated to ascertain the internal consistency and reliability of the survey responses (Gliem & Gliem, 2003).

Table 3.2 - Survey to Explore the Factors Underlying the Communication of Intellectual Capital (Survey A)

Discipline (Factor)	Contributions and Findings from Stakeholder Theory	References	Opinion Statements Developed for Survey A:	Variables
Intellectual Capital (Governance)	Organizations and their leaders are obligated to report their financial and non-financial performance to stakeholders	Corcoles et al. (2011)	It is mandatory to communicate non-financial information annually	Gov1
	Management report IC in their annual report and supplementary disclosure as it is part of their organization's corporate governance	Gan et al. (2013), Too et al. (2015)	We communicate non-financial information as it is part of our organization's corporate governance policy	Gov2
	Corporate governance improves documentation and connections with stakeholders	Gan et al. (2013), Too et al. (2015)	Communication of non-financial information is an important aspect of documentation used to connect with and manage stakeholders' expectations	Gov3
Accounting (Management Ownership)	Management ownership in the company is a mechanism for ensuring alignment of management-shareholder interests	Bukh et al. (2005), Demirag et al. (2000), Jiang et al. (2011)	Management has decided that it is important for us to report non-financial information as it is our responsibility to stakeholders	Mgt1

Discipline (Factor)	Contributions and Findings from Stakeholder Theory	References	Opinion Statements Developed for Survey A:	Variables
	High management ownership can influence information disclosure to stakeholders	Craft (1981), Leung & Horwitz (2004), Iyer & Lulseged (2013)	We need to communicate non-financial information to our management, who are also the key owners of the organization	Mgt2
	High management ownership gives management more discretion in reporting beyond what is required by law	Craft (1981), Leung & Horwitz (2004), Iyer & Lulseged (2013)	We have a hands-on management that insists on the reporting of non-financial information	Mgt3
Accounting (Leadership)	Leadership can influence the content of reporting by the organization to stakeholders	Ernst & Young (2014), Striukova et al (2008)	As the market leader in our industry, we lead in the communication of non-financial information	Lead1
	Leadership can influence the standard of reporting of non-financial information to stakeholders within the industry	Bellringer et al. (2011), Ernst & Young (2014), Robb & Zarzeski (2001)	We believe in leading by example, including the communication of non-financial information	Lead2
	Leadership influences the disclosure practices within the sector	Ernst & Young (2014), Robb &	We have influence over industry reporting of non-financial information	Lead3

Discipline (Factor)	Contributions and Findings from Stakeholder Theory	References	Opinion Statements Developed for Survey A:	Variables
		Zarzeski (2001)		
Business Strategy (System)	Organizations need an appropriate system to capture non-financial information meaningfully for management for reporting to stakeholders	Perrini & Tencati (2006), Yongvanich & Guthrie (2006)	We have an established reporting framework to communicate non-financial information on a regular basis to our management	Sys1
	Management systems are necessary to support the capture and reporting of IC as part of non-financial information to stakeholders	Johansson (2008), Perrini & Tencati (2006), Yongvanich & Guthrie (2006)	Our current management system supports the capturing and reporting of non-financial information	Sys2
	Organizations need to have a system in place to report non-financial information to stakeholders regularly	Johansson (2008), Perrini & Tencati (2006)	We have a dedicated team responsible for communicating non-financial information on a regular basis	Sys3
Intellectual Capital (Image)	The management of the stakeholders' impression of the organization is a potential force that either stimulate or hasten the communication of IC	An et al. (2011), Bismuth & Yoshiaki (2008), Ousama et al. (2011b)	We communicate the organization's non-financial information as part of our branding and image	Image1

Discipline (Factor)	Contributions and Findings from Stakeholder Theory	References	Opinion Statements Developed for Survey A:	Variables
	The communication of IC can influence stakeholders' impression of the organization	An et al. (2011), Bismuth & Yoshiaki (2008), Melloni (2015)	We report non-financial information to manage stakeholders' impression of our company	Image2
	The communication of IC can positively influence the perception of stakeholders to maintain vested interest	An et al. (2011), Bismuth & Yoshiaki (2008), Ousama et al. (2011b)	We regularly report non-financial information to maintain vested interest in our organization	Image3
Intellectual Capital (Stakeholders' Demand)	Stakeholders demand for relevant non-financial information	An et al. (2011), Bismuth & Yoshiaki (2008), Ousama et al. (2011b)	Our stakeholders demand that we provide non-financial information on a regular basis	Stake1
	There is a positive correlation between stakeholders' demand and the communication of IC, which reflects the need for relevant non-financial information to assist	Bismuth & Yoshiaki (2008), Ousama et al. (2011b)	We believe that communicating non-financial information can help our stakeholders better evaluate our company	Stake2

Discipline (Factor)	Contributions and Findings from Stakeholder Theory	References	Opinion Statements Developed for Survey A:	Variables
	stakeholders understand the value of the organization			
	Stakeholders demand for information on the organization's decision-making process and operations	An et al. (2011), Bismuth & Yoshiaki (2008), Ousama et al. (2011b)	Stakeholders need to be informed how resources are managed and used for decision-making	Stake3
Accounting (Herd Instinct)	Peers can influence information disclosure practices to stakeholders	Cooke (1989), Gibbins et al. (1990), Macve & Chen (2010), Tartari et al. (2014)	We communicate non-financial information as everyone in our industry is doing it	Herd1
	Management can be compelled to comply with past disclosure decisions made by other organizations within the same industry	Botosan & Harris (2000); Tartari et al. (2014)	We are influenced by our peers in communicating non-financial information	Herd2
	Herd instinct influences the habit of information disclosure to stakeholders	Cooke (1989), Gibbins et al. (1990),	We report non-financial information as it is a common practice	Herd3

Discipline (Factor)	Contributions and Findings from Stakeholder Theory	References	Opinion Statements Developed for Survey A:	Variables
		Macve & Chen (2010), Tartari et al. (2014)		
Ethical and Environmental Reporting (Media Exposure)	The organization's level of media exposure positively affects information disclosure of the organization to stakeholders	Brammer & Pavelin (2004), Liu & Anbumozhi (2009), Reverte (2009)	We report non-financial information as we have a high level of media exposure	MeEx1
	There is a positive correlation between media exposure and information disclosure to stakeholders	Brammer & Pavelin (2004), Liu & Anbumozhi (2009)	We disclose non-financial information as it will increase our exposure to media	MeEx2
	Higher levels of reporting non-financial information is statistically significant for larger sized organizations with greater media exposure	Brammer & Pavelin (2004), Reverte (2009), Wang et al. (2013)	We communicate non-financial information as we have a high disclosure practice	MeEx3

The second survey, Survey B, was used to address RO2A. The study was adapted from prior works that have undertaken similar approaches in data collection and guided by literature covered in Section 2.4 (Abdel-Aziz et al., 2010; Bontis, 2003). The IC Components were segregated into Human Capital information (HCI), Relational Capital information (RCI) and Structural Capital information (SCI), shown in Table 3.3. In the definition of human capital reviewed in Section 2.2.1, it is often associated with people within the organization, be it in terms of human resources (HR), employee retention (ER) or training (TR), to reflect the pool of talent, experience and knowledge of the employees. Likewise, relational capital is often associated with the relationships that the organization has, both internally and externally, and includes clients (CL), suppliers (SS) and business associates (BA) of the organization. Structural capital is often associated with the permanent processes and structures belonging to the organizations such as intellectual property (IP), processes (PR) and accreditation (AC). Following the pilot study, the questionnaire was simplified to enable respondents to understand the terms human capital, relational capital and structural capital easily. HCI was referred as information on “People” in the survey; RCI was referred as “Internal and External Relationships”; and SCI was referred as “Processes and Structures”.

As directed by literature covered in Section 2.2, each IC Component was further elaborated through nine opinion sentences, where every three sentences represented a sub-component of the communication of IC, as shown in Table 3.3. A copy of Survey B can be found in Appendix I.

Table 3.3 - Survey on the Importance of Content in the Communication of Intellectual Capital (Survey B)

Communication of IC	Contributions and Findings from Legitimacy Theory	References	Sub-component	Opinion Statements: To what extent do you agree with the following statements?	Variables
Human Capital Information	Information on human capital is disclosed predominantly on a voluntary basis to legitimize management's stewardship of the organization information to include information on employee demographics and diversity of employees within the organization (<i>Human Resources</i>), staff hire, turnover, career planning and development (<i>Employee Retention</i>), competencies of	<i>Boedker et al. (2004), Kaplan & Norton (2005), Kent & Zunker (2013), Rodov & Leliaert (2000), Sveiby (1989, 1997)</i>	Human resources	We report the number of employees by seniority	HCI_HR1
				We provide figures of our staff by country/region	HCI_HR2
				We report gender numbers (men/women employees)	HCI_HR3
			Employee retention	We report the numbers of new hires (and departures) in our organization	HCI_ER1
				We disclose the number of staff promoted	HCI_ER2
				We report staff retention numbers in our organization	HCI_ER3
			Training	We showcase our talent development	HCI_TR1
				We report on our investment in training employees	HCI_TR2

	employees, learning and development (<i>Training</i>).			We provide indicators that reflect training investments (e.g. training hours per employee per year)	HCI_TR3
Relational Capital Information	Relational Capital information in the ARS is part of management's legitimacy strategy to include information on the turnover rate and growth of the organization's business relationships with clients (<i>Customers</i>), suppliers and affiliates such as agents, distributors, partners and business associates (<i>Suppliers</i>), as well as information on the knowledge embedded in the channels and networks of	<i>Brooking (1996), Edvinsson (1997), Kaplan & Norton (2005), Mangena et al. (2010), Setia et al. (2015), Sullivan (2000)</i>	Customers	We report statistics of customers satisfaction surveys	RCI_CL1
				We showcase our strength in client numbers	RCI_CL2
				We profile our satisfied customers	RCI_CL3
			Suppliers	We document our commitment to quality while dealing with suppliers	RCI_SS1
				We disclose our relationship with major suppliers and contractors	RCI_SS2
				We report collaboration with suppliers	RCI_SS3
			Alliances	We profile our business alliances	RCI_BA1
				We highlight our collaboration with third parties partners	RCI_BA2
				We report our strength in marketing	RCI_BA3

	these relationships (Alliances).			channels relationships	
Structural Capital Information	Organizations are more likely to disclose information on their Structural Capital information when they are unable to legitimize their status based on hard assets, which are traditionally recognized as the symbols of corporate success. These Structural Capital information includes processes, intellectual property and accreditation.	<i>Brooking (1996), Dammak et al. (2010), Edvinsson (1997), Kaplan & Norton (2005), Sveiby (1989, 1997)</i>	Processes	We report the strategy implemented to enhance business performance	SCI_PR1
				We disclose our efforts to improve our operating procedure	SCI_PR2
				We describe activities that enhance our product/service standards	SCI_PR3
			Intellectual Property	We report technology developments within our organization	SCI_IP1
				We disclose investments made to improve business processes	SCI_IP2
				We showcase new technology implemented	SCI_IP3
			Accreditation	We communicate our brand value	SCI_AC1
				We provide details of our networks within the country and worldwide	SCI_AC2
				We showcase the awards and other service recognition received	SCI_AC3

Research Instrument 2: 1-to-1 Interviews

The 1-to-1 interviews were crafted as a follow on to Survey A and Survey B to address the RO1 and RO2A respectively. The objective in having a second research instrument was to gather further understanding, through qualitative means, of the answers provided in the completed surveys. The 1-to-1 interviews provided depth to the study in two ways. Firstly, the 1-to-1 interviews lend the opportunity to discuss, in greater detail, the importance of the communication of IC in the ARS for each of the IC Components. Secondly, these interviews explored other possible factors, not identified in literature, from management's perspectives. Details of the way the interviews were conducted are covered as part of data collection in Section 3.4.2.

The first part of the 1-to-1 interviews focused on RO2A to gather the rationale behind the answers made in Survey B on the communication of IC in the ARS. These interviews give deeper meaning to information on HCI (people), SCI (process and structures) and RCI (external and internal relationships) from the management's perspective and help shed light to any legitimacy claims (Kent & Zunker, 2013) The questions were kept simple and open as shown in Table 3.4. Based on the answers provided and using a 5-point Likert scale, respondents were asked to provide their views on the rankings made, and why certain communication of IC higher than others.

Table 3.4 - Questions for Part 1 (RO2A) of the 1-to-1 interviews

1. Why is the communication of PEOPLE information important to your organization?2. Why is the communication of PROCESSES and STRUCTURES information important to your organization?3. Why is the communication of EXTERNAL and INTERNAL RELATIONSHIPS information important to your organization?

The second part of the 1-to-1 interviews aimed to identify other possible factors that were not found from literature review. Guiding the discussion, topics of the interviews covered regulatory changes, trends and development, to gain insights into RO1. Three questions were developed for the second part of the 1-to-1 interviews, as shown in

Table 3.5. The interviews began with a general question to ascertain if respondents had views of other factors that could drive the communication of IC (non-financial information). The second question in the 1-to-1 interviews was included to explore if there were potentially new regulatory changes that could influence the disclosure content by banks (Cheng & Courtenay, 2006). Afterall, government bodies are responsible to regulate and ensure no misrepresentation in the reporting of the organization's performance, while meeting its responsibility to stakeholders (Saleh et al., 2010). The question also aimed to encourage respondents to share their views from the survey. In the final question, the query was aimed to draw more views on the possible trends and developments, reflecting a second attempt in gathering inputs on other possible factors that may motivate the communication of IC in the ARS of banks.

Table 3.5 - Questions for Part 2 (RO1) of the 1-to-1 Interviews

1. What other factors drive your organization to communicate non-financial information?
2. Regulatory Changes
 - a. What other regulatory changes will affect your industry reporting requirements?
 - b. How will this regulatory change affect your industry?
3. Industry Trends and Development
 - a. What other trends/development will affect your industry reporting requirements?
 - b. How will this trend/development affect your industry?

For both the surveys and 1-to-1 interviews, social desirability bias was reduced as much as possible by adopting several measures. First, the study's validity was enhanced by using clear and concise questions in the surveys and interviews (Podsakoff et al., 2003). A pilot study was undertaken to ensure that the questions were not confusing and easily understood. Second, the study assured respondents' anonymity by keeping all individual responses completely confidential. Moreover,

analysis was made from aggregated data that would prevent any identification or links to the respondents (Tsai & Ghoshal, 1998).

Research Instrument 3: ARS

Two types of data points were collected from the ARS, namely data on the communication of IC and the organizational performance.

For the communication of IC, information on human capital, relational capital and structural capital each had three IC Component identified, guided by literature in Section 2.2 and Section 2.4. For each IC Component, a count was made for narratives (number of words), tables, graphs, illustrations and pictures in the ARS of each bank, coded by the two reviewers, as shown in Figure 3.4. While this method of data collection was commonly undertaken in a number of studies on the communication of IC (Beattie & Thomson, 2007; Dumay, 2009b), the study has expanded the coding to include pictures, illustrations and tables, which have not been explored in previous IC literature. The count scores were then compared for inter-coder reliability. Both reviewers evaluated a sample size of 30 banks representing approximately 15.0% of the total dataset, which guided by past studies, were the recommended size of testing (Lacy & Riffe, 1996; McHugh, 2012). Cohen's Kappa measure of 0.80 indicated an excellent level of agreement between the reviewers (Allen & Bennett, 2008; Cohen, 1960). Table 3.6 provides examples of keywords identified in the narrative coding of the communication of IC compiled from the dataset of 200 banks. Examples of the tables, graphs, illustrations and pictures coded for the communication of IC are shown in Appendix E.

Figure 3.4 - Structure of the Coding for the Communication of IC in the ARS

Table 3.6 - Examples of Communication of Intellectual Capital Recognized For Narrative Coding

Communication of IC	Contributions and Findings from Impression Management Theory	References	Sub-component	Examples as found from data collected
Human Capital Information	Information on human resources positively affects the corporate image	Alvarez Dominguez (2011)	<i>Human resources</i>	“Employees worldwide” “Employment diversity” “Gender distribution”
	Information on employee disclosure gives a positive signal to shareholders	Alvarez Dominguez (2011); Lin et al. (2012)	<i>Employee retention</i>	“Structure classification of jobs offered” “Staff turnover” “Annual attrition rate of senior and middle management”
	Information on training positively relates to corporate image	Alvarez Dominguez (2011)	<i>Training</i>	“Training programs” “Diversity training and mentoring” “Training given to employees by grade”
Relational Capital Information	Organizations convey strengths in their customers and customer experience to build their corporate brand	Spear & Roper (2013)	<i>Clients</i>	“Customer service” “Percentage of customers who are very satisfied or satisfied with their cooperation with the bank”

Communication of IC	Contributions and Findings from Impression Management Theory	References	Sub-component	Examples as found from data collected
				“Customer statistics”
	Organizations report the role of the supplier of a product/service to highlight the importance of deep knowledge between the organization and their customers so as to meet the expectations of their customers	Dessi & Floris (2010)	<i>Suppliers</i>	“Support services” “Important contracts” “Relations with stakeholders (including suppliers)”
	Organizations disclose information on their strategic business alliances to reflect the successful image of the organization	Pérez & Del Bosque (2012)	<i>Business alliances</i>	“Strategic external initiatives” “Foreign correspondents” “Key partnerships”
Structural Capital Information	Information disclosure on processes are important in relaying the potential outcome and goals necessary to reflect accountability in the organization	Frink & Ferris (1998)	<i>Processes</i>	“Employee participation for improvement and innovation” “Workplace security and health” “Implementation of risk management and internal control”
	Managers disclose information on	Carnaghan	<i>Intellectual property</i>	“Patents and know-how”

Communication of IC	Contributions and Findings from Impression Management Theory	References	Sub-component	Examples as found from data collected
	their intellectual property and other intangible assets in respond to accountability pressure from analysts and to create a positive image of the company	(1999)		“Our brand promise” “R&D expenditure and achievement for the last two years”
	Organizations tell the story of their achievements to improve corporate branding and reputation.	Spear & Roper (2013)	<i>Accreditation</i>	“Ranking and awards” “Good corporate government assessment” “Prizes, rewards and certifications”

For organizational performance, the data collected was reviewed from three perspectives, namely business continuity, solvency and organizational productivity. In operationalizing organizational performance, this study considered more than one indicator, as previous studies showed that the use of a single indicator to measure aspects of the phenomenon of interest might be categorized as being simple for generalization and lacking in accuracy (Richard et al., 2009; Shah & Corley, 2006). Guided by the literature as discussed in Section 2.5, the choice of the three indicators was net profit margin (business continuity), solvency ratio (solvency) and return on assets (productivity). These indicators were commonly used in past studies and often associated with organizational performance (Carton & Hofer, 2007).

As described in Section 2.5.1, profitability is critical to the business continuity of organizations. As such, net profit margin is the first indicator used to reflect organizational performance. Net profit margin is the ratio of net profit to the revenues earned, reflecting how much each dollar earned by the organization can be translated into profits (Graham & Smart, 2012). The past decade of turbulent economic crises has deeply impacted banks, its solvency and financial performance. Prior studies showed that it is the solvency, rather than the liquidity, that is important in tranquilizing financial crisis (Park, 2012). Solvency is defined as shareholders' funds divided by total assets. Finally, the return on assets is often adopted in measuring the effectiveness of the use of the organization's resources. Return on assets is defined as the net income divided by the total assets of the organization. These three indicators are calculated from formulae, which are shown in Table 3.7.

Table 3.7 - Calculation of Indicators used for Organizational Performance

Organizational Performance	Formula
<i>Net Profit Margin</i>	Earnings After Tax/Revenue*100
<i>Solvency Ratio</i>	Shareholders' Funds/Total Assets*100
<i>Return on Assets</i>	Net Income/Total Assets

The financial information in the ARS was downloaded from two databases, namely BvD Osiris and Bloomberg, as these databases contained financial data extracted from the ARS. Moreover, the use of financial data from these databases would save time and effort in having to extract the financial data manually. As with the list generation

for senior executives of banks, the utilization of two databases was made to cross check data for completeness and accuracy.

3.4.2 Data Collection Procedure

Figure 3.5 - Data Collection Process for the Study of the Communication of Intellectual Capital

Data collection procedure for the three research objectives in this study was undertaken in two stages, as illustrated in Figure 3.5. There were three instruments used in this study, namely surveys, 1-to-1 interviews and codification of the communication of IC in the ARS, as shown in Figure 3.3.

The first stage of data collection involved the concurrent distribution and completion of Survey A and Survey B to address RO1 and RO2A respectively. From the pilot study undertaken, it was found that the term “the communication of IC” was not generally understood. The pilot study also found that a two-step approach could improve respondents’ understanding of the concept of the communication of IC, and prevent any misinterpretation of its meaning. First, Survey B had to be carried out before Survey A. Second, the term “non-financial information” was used to collectively represent Human Capital information, Relational Capital information and Structural Capital information.

Data collection began with the selection of senior executives in the ARS team as specified in Section 3.3.2, where three names of senior executives were identified for each bank. While only one senior executive could be contacted at any point in time, the remaining two names were used as back up, in case the senior executive contacted was unavailable or had chosen not to participate in the survey. The surveys were distributed using the online survey tool, SurveyMonkey, a popular Internet based survey and evaluation tool (Abraham et al., 2014). The development of the surveys is further elaborated in Section 3.4.1.

Follow-ups with senior executives contacted were made on alternate weeks, either via emails or telephone calls, as a reminder to complete the surveys. Each survey took about 20 minutes. The surveys were completed via telephone rather than on-line, in view of evidence from past studies that showed decreasing response rates using web-based survey platforms (Sills & Song, 2002; Van Gelder et al., 2010). In line with past studies, the response rate from the pilot study was very slow via the web-based platforms. Over the three-month period from February 2015 to May 2015, only 47 banks completed the survey online, compared to telephone interviews, where 200 banks were completed within a three-month period from May 2015 to July 2015. Nevertheless, the SurveyMonkey platform was still used for its convenience to inform respondents of the survey and to provide assurance of the authenticity of the study undertaken.

To ensure the reliability and integrity of the telephone interviews conducted using the survey, proper planning and steps were undertaken to address the before, during and after of telephone-based data collection (Burke & Miller, 2001). Before telephone-based data collection was made, pre-testing the survey was undertaken with 47 banks, as listed in Appendix H, to ascertain three important aspects, namely the logical order of the survey questions, the clarity of the questions asked, and the time taken to complete the survey (Gillham, 2005). The surveys completed for the pre-testing were not admitted for analysis and only used for fine-tuning the study.

During the telephone-based data collection, respondents were briefed on the purpose of the survey, informed of the confidentiality and asked objectively for their inputs on

the survey using the Likert scale (explained in Section 3.4.1). Post telephone-based data collection, the responses completed over the telephone were then manually keyed into the SurveyMonkey platform, with a softcopy of the completed surveys sent to the respondents, to allow respondents to refute the answers, should there be any. In this study, there was no rejection or any request to change the answers of the completed surveys. A copy of the surveys is appended in Appendix I of this study.

All participants were requested for their informed consent for this research, based on guidelines set by the Nanyang Technological University Institutional Review Board, prior to answering any questions for the surveys. The consent form comprised an overview of the research background, objectives, procedures and necessary contact numbers for this research. A copy of the consent form can be seen in Appendix J.

The second stage of the data collection process involved two steps undertaken concurrently. First, the engagement for 1-to-1 interviews with senior executives, who had expressed their interest and willingness to participate further in this study. Second, the codification of the communication of IC and the calculation of the variables for organizational performance from the ARS.

The 1-to-1 interviews followed similar protocols as the surveys. To ensure reliability of answers, every question was asked explicitly using the same wordings in the prescribed order for each interview (Judd et al., 1991). The facilitation of data collection for 1-to-1 interviews was initiated by the inclusion of an additional question in RO1 of the survey to ascertain the availability and interest of senior executives to participate in a deeper discussion on the communication of IC. These senior executives were contacted individually via email to confirm their interest and to determine their availability for a 1-to-1 interview. The coordination and scheduling of the 1-to-1 interviews were made at a time of convenience for these senior executives, taking note of possible time differences, in view that this is a global study. This data collection process is illustrated in Figure 3.6. A copy of the questions for 1-to-1 interviews, as shown in Table 3.4 and Table 3.5, were also sent to these senior executives for ease of reference.

Figure 3.6 - Collection Process for 1-to-1 Interviews

The 1-to-1 interviews commenced with a briefing of the research objectives and references were often made to the completed surveys, to deepen research findings and to provide context to answers provided in the surveys. Respondents were also probed further for any vague or general answers given, so as to encourage the respondent to expand thoughts without biasness (Burke & Miller, 2001). The respondents were asked for their opinions as well as for their explanation on their decisions made in the surveys. Answers were rich in context and notes of discussion were minuted. During interviews, points were clarified and inquired further, to expand understanding. Interview memos were drafted from the completed interviews and observational notes were written down quickly, so as to capture as much data as possible.

While on the average, each 1-to-1 interview took about 40 minutes to complete, there were some interviews that lasted as long as 90 minutes, as the length of each 1-to-1 interview was subject to the willingness of the respondents to share. No video or tape recordings were made as banks have strict security policies, creating a barrier for interviews to be conducted should such device be utilized.

In terms of the codification of the communication of IC and the calculation of the variables for organizational performance, two independent reviewers evaluated the

dataset of 200 banks that completed the surveys. Codification of the respective bank's ARS was undertaken along with the calculation of the relevant ratios from the bank's financial performance. For the communication of IC, the reviewers were graduate students, who were trained and familiarized with the objectives of the project, and understood the concepts underlying the communication of IC in ARS. Guided by the literature as described in Section 2.2, Section 2.4, and previous studies that had adopted the counting method of coding (Abeysekera, 2011; Abhayawansa, 2011; Cinquini et al., 2012; Serena Chiucchi, 2013), relevant content reflecting the communication of IC was compiled in a table, reflecting the availability of information for each IC Component – Human Capital information, Relational Capital information and Structural Capital information. While care and due diligence were taken to ensure that as much content on the communication of IC was coded, issues in regard to coding reliability and concept boundary were addressed using Cohen's Kappa measure (Beattie & Thomson, 2007). Cohen's Kappa is a measure of inter-rater reliability, often used to assess the reliability of behavior observations and the coding of interview transcripts or, in the case of this study, the coding of ARS (Cohen, 1960).

In the calculation of the organizational performance, as elaborated in Section 3.4.3, the financial data of the 200 banks was extracted from two databases detailed in Section 3.2, and compared for accuracy checks. These financial data were then used to compute financial ratios, as guided by literature reviewed in Section 2.5.1. There was no difference in financial data collected from these databases.

3.5 ANALYSIS

The analysis undertaken for this study was organized in accordance to the three research objectives. Three primary methods were used for analysis. For RO1, factor analysis was undertaken, with exploratory factor analysis used to identify potential factors that could motivate the communication of IC. As for RO2A, content analysis was used to determine the content and formats of the communication of IC in the ARS. ANOVA statistical analysis was applied to provide empirical evidence to the data collected. Finally for RO2B, regression analysis was made to ascertain the existence of relationship between the communication of IC and organizational performance. A secondary method using inductive analysis was also applied for RO1 and RO2A to enhance the understanding to findings from the primary method used.

3.5.1 Factor Analysis

To uncover the factors underlying the communication of IC, as specified in Research Objective 1 (RO1), factor analysis was applied. Factor analysis is a multivariate statistical method where its primary purpose is data reduction and summarization (Matsunaga, 2010). Factor analysis was chosen to address RO1 for two reasons. Firstly, it is a statistical approach that can be used to discover inter-relationships among a large group of variables and explain these variables in terms of their common underlying dimensions (factors). Secondly, there was no previous theoretical framework found in IC literature to describe the structure of factors underlying the communication of IC. This made the use of factor analysis appropriate to uncover if factors drawn from other disciplines, such as public relations and organizational communication, could also motivate the communication of IC, as proposed in the study.

Exploratory factor analysis (EFA) was used in this study to establish what factors could influence the communication of IC. In this case, EFA can be used to provide a smaller set of underlying factors that summarized the essential information contained in the variables. (Coakes et al., 2010). The study has used EFA as opposed to confirmatory factor analysis (CFA), to address RO1 because EFA is reportedly more relevant than CFA if there is uncertainty in the evidence for the number of common factors, the relations between measured variables and latent structure (Fabrigar et al., 1999). While CFA can show what items are loading on the same factor, this method of

analysis does not show if the factor is measuring the intended construct. As such, CFA would be more appropriate for theory testing where there is already adequate rationale of the structure of the data (Henson & Roberts, 2006).

There were four main steps taken for the factor-analytic procedure. The analysis started with the computation of the correlation matrix to determine the appropriateness of the factor-analytic model. The second step involved factor extraction to ascertain the number of factors necessary to represent the data. The third step involved rotation undertaken to establish an interpretable factor structure. The final step determined the number of factors to be interpreted and assignment of a label to these factors. To ensure the reliability, Cronbach's alpha coefficient was computed to ensure internal consistency.

Using SPSS version 17, exploratory factor analysis was conducted with 24 items collected from the survey to represent eight categories, namely governance, image, management ownership, leadership, stakeholders' demand, herd instinct, system and media exposure, as shown in Table 3.2. In evaluating the appropriateness of the factor-analytic model, three tests were undertaken as part of the computation of the correlation matrix – Bartlett test of sphericity, Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and anti-image matrices (Allen & Bennett, 2008; Coakes et al., 2010). Bartlett test of sphericity was used to examine the presence of correlations among the variables, where a result of p less than 0.05 ($p < .05$) reflects significance of possible relationships. The test undertaken on KMO and the anti-image matrices were used to examine the suitability of each of the 24 items for factor analysis, where results greater than 0.6 confirmed the sampling adequacy. To investigate the underlying structure of a 24-item survey assessing opinions on the factors underlying the communication of IC, data collected from 200 banks were subjected to principal axis factoring with varimax rotation (Huang et al., 2007). For extraction, factors with eigenvalues greater than 1.0 and factor loadings greater than 0.3 were considered. Variables with higher loadings were considered more important and useful in naming the selected factor (Hair et al., 1998). The outcome of the analysis was the identification of factors underlying the communication of IC.

3.5.2 Content Analysis

In addressing Research Objective 2A (RO2A), the content and formats used in the communication of IC reported by banks were examined. To investigate the ‘what’ and ‘how’ the communication of IC were disclosed, content analysis was undertaken to collect, code and analyze the communication of IC by each IC Component as well as the nuances in the formats or presentation, a common method adopted by past scholars (Beattie & Thomson, 2007; Guthrie et al., 2004). Content analysis is a process, which gathers and codifies information into pre-defined categories (Guthrie & Abeysekera, 2006). Content analysis was used in this study to ascertain if there were any overall, specific trends or outliers in the communication of IC.

The rationale for the use of content analysis to investigate the communication of IC in ARS is three-fold. Firstly, the unobtrusive nature of content analysis (Clatworthy & Jones, 2001), in that the researcher is able to evaluate documents without the cognizance of the preparer of the document, makes it well suited for investigating the communication of IC. In this study, the document in review is the ARS. Secondly, the knowledge, new insights and representation of the communication of IC that would otherwise be undetected within standard terms, a sentence or a paragraph, if undertaken electronically (Krippendorff, 2004). Content in the ARS is increasingly formatted beyond text to include tables, charts and pictures, which computers are not able to detect, in spite of coding rules that have to be made explicit. Finally, content analysis is potentially one of the most important research techniques in social sciences (Krippendorff, 2004; Silverman, 2006) and has been used by many researchers in the review of ARS (Gray et al., 1995b; Guthrie et al., 2004).

To investigate content used in the communication of IC, data was examined from the three IC Components. In Human Capital information, human resources, employee retention and training were examined as they reflect the pool of talent, experience and knowledge of employees. Relational Capital information included information on clients, suppliers and business alliances. Structural Capital information, associated with the permanent structures in the organizations, encompassed intellectual property, processes and accreditation. The content used was then further investigated in terms of formats used, where a count was made for narratives (number of words), tables, graphs,

illustrations (visuals and flowcharts) and pictures. Content analysis of the formats used, in line with the three IC Components, was tabulated for comparison and review.

3.5.3 Regression Analysis

For Research Objective 2B (RO2B), in determining the relationship between the communication of IC and organizational performance, the investigation was undertaken using regression analysis. As the communication of IC is often prepared after the release of the financial performance of the organization, the outcome of the financial performance could have an impact on what and how the communication of IC is reported in the ARS. As the data for the communication of IC is non-negative count values with skewed distribution, nonlinear count models are often used instead of the linear regression model (Cameron & Trivedi, 2013). The two most commonly used count models are Poisson Regression model and Negative Binomial Regression model.

The Poisson Regression model assumes that the number of occurrences of an event or activity (dependent variable) has the probability distribution function of a Poisson distribution, given the explanatory variables (independent variables). Poisson Regression analysis does not require normality of data and the variance approximate to the mean. However, Poisson Regression analysis does not accommodate overdispersion, which is common in count data (Cameron & Trivedi, 2013; Thanassoulis, 1993). In this regard, Negative Binomial Regression model was used as overdispersion is accommodated. Checks were also made to ensure that there was no issues caused by multicollinearity. In checking multicollinearity, the variance inflation factor (VIF) score was calculated for each independent variable. The VIF scores higher than ten are likely to cause a multicollinearity problem (Gujarati, 2004).

The Poisson Regression model and Negative Binomial Regression model have been used in previous studies on IC (Ho et al., 2012; Jindal & Kumar, 2012; Kateb, 2012, 2015; Maaloul & Zeghal, 2015; Zeghal et al., 2007). Three models were estimated for this study. They are extended from previous studies of IC, which have examined IC from the perspectives of the three components of IC, namely human capital, relational

capital and structural capital, and its relationship with organizational performance respectively (Abdullah & Sofian, 2012; Ahangar, 2011; Sharabati et al., 2010).

Model 1:

$$HCI_i = \beta_0 + \beta_1 \text{Net Income Margin} + \beta_2 \text{Solvency Ratio} + \beta_3 \text{Return on Assets} + \varepsilon$$

Model 2:

$$RCI_i = \beta_0 + \beta_1 \text{Net Income Margin} + \beta_2 \text{Solvency Ratio} + \beta_3 \text{Return on Assets} + \varepsilon$$

Model 3:

$$SCI_i = \beta_0 + \beta_1 \text{Net Income Margin} + \beta_2 \text{Solvency Ratio} + \beta_3 \text{Return on Assets} + \varepsilon$$

where:

HCI	= Human Capital information
RCI	= Relational Capital information
SCI	= Structural Capital information
Net Profit Margin	= Earnings After Tax/Revenue
Solvency Ratio	= Shareholders' Funds/Total Assets
Return on Assets	= Net Income/Total Assets

3.5.4 Secondary Method – Inductive Analysis

Inductive analysis, a general inductive approach, was undertaken for this study to investigate the qualitative data gathered from the 1-to-1 interviews with senior executive of banks, as shown in Table 3.4 and Table 3.5. The purpose for using inductive analysis was to *“condense raw data into summary findings, (help) establish clear links between the research objectives and the summary findings, and develop a framework of the underlying structure of experiences or processes that are evident from the findings”* (Thomas, 2006; p.237).

The initial steps in inductive analysis involved the review of interview meeting notes, observational notes and the ARS of the respective bank executives interviewed (Bogdan & Biklen, 2003; Maxwell, 2013). While analyzing the notes and the ARS of

the banks, memos were written to capture nuances as well as develop ideas about key relationships and findings (Groenewald, 2008).

Two processes were adopted when minuting interviews into memos, namely comparing and contrasting, and the search for antecedents and consequences (Maxwell & Miller, 2008). Comparing and contrasting is a technique generally used to define categories, where groups of data could be compared and categorized. This would enable common features and nuances in the study findings to be identified. The search for antecedents and consequences involved the identification of relationship, the connections between things, or the influence of one thing on another. Such techniques are also known as contextualizing strategies (Maxwell, 2011). The findings in the summarized memos from the interviews were then matched with the research objectives of this study.

3.6 CONCLUSION

This chapter provides details on the research methodology adopted in this study. The following section reviews the robustness of the study, which will also address the ethical statements when conducting this research.

3.6.1 Robustness of Study

This chapter began with details to explain the use of mixed methods as the most appropriate research strategy for this study (in Section 3.1.2) and the rationale behind the choice of data sources, namely the annual report and supplementary corporate disclosure (ARS) and senior executives of banks responsible for the publishing of the bank's ARS (in Section 3.2). The list of banks, names of executives and financial data on the banks were downloaded from two databases subscribed by the University, as detailed in Section 3.2.1. Two databases were used to ensure reliability of data source.

Fundamental to the design of the study was the data collection process and the operationalization of variables applied to capture the communication of IC and organizational performance. Three research instruments were used, namely surveys, 1-to-1 interviews and the codification of the communication of IC and financial data extracted from the ARS of 200 banks globally. The development of the research instruments was guided by literature, as detailed in Section 3.4.

To check the internal consistency and reliability of the responses for Survey A and Survey B, Cronbach's Alpha Reliability Coefficient was computed. Measures were also taken to reduce social desirability bias for the 1-to-1 interviews conducted with a smaller pool of senior executives. In coding of the communication of IC, reliability of data was assured, following checks made using Cohen Kappa's measure on inter-coder reliability, which calculated 0.80. This reflected an acceptable level of agreement between coders involved in the study. Credibility of the data was also assured in using published data by banks, which in turn, were highly regulated by government agencies in their respective jurisdictions.

Two statistical analyses were undertaken for this study - factor analysis and regression analysis. In evaluating the appropriateness of the factor-analytic model, three tests were undertaken, namely Bartlett test of sphericity, Kaiser-Meyer-Olkin measure and

anti-image matrices, as detailed in Section 3.5.1. For regression analysis, the choice of regression analysis was specified in Section 3.5.3. The model was further tested for multicollinearity using variance inflation factor.

Care and due diligence regarding the University and Internal Review Board policies were noted and taken. Generally accepted research procedures and policies were used for the collection, reporting and storage of data.

CHAPTER 4

This chapter presents the research findings for this study, following the implementation of the research methodology detailed in Chapter 3. The chapter is organized into five sections, namely introduction, findings for Research Objective 1 (RO1), Research Objective 2A (RO2A) and Research Objective 2B (RO2B), and discussion of research findings, as illustrated in Figure 4.1.

Figure 4.1 - Outline of Chapter 4: Research Findings

Section 4.1 begins with an overview of the chapter on research findings. This section introduces the profiles of the sample population of banks and senior executives that are responsible for the publishing of the annual report and supplementary corporate disclosure (ARS) of their bank. In addition, this section provides the descriptive statistics of the data used in this study. Section 4.2 presents the findings for RO1 on the factors underlying the communication of intellectual capital (IC). These factors were investigated using factor analysis. Section 4.3 reports the results for RO2A on the content (what) and format (how) used in the communication of IC. ANOVA and content analysis were used to analyze the ARS of 200 banks globally. Section 4.4 details findings for RO2B on the relationship between the communication of IC and organizational performance. Regression analysis was undertaken to determine this relationship. The communication of IC was examined from three perspectives, namely Human Capital information, Relational Capital information and Structural Capital

information. Organizational performance was reviewed from the perspectives of business continuity (Net Profit Margin), solvency (Solvency Ratio) and organizational productivity (Return on Assets).

Thereafter, in Section 4.5, a discussion on the findings is reviewed against literature examined in Chapter 2. The chapter concludes in Section 4.6 with a summary of findings and a closing to the chapter of this study.

4.1 INTRODUCTION TO RESEARCH FINDINGS

4.1.1 Profile of Banks and Respondents

There were two sources used in this study. Firstly, senior executives from 200 banks, who were responsible for publishing the ARS, were surveyed. These senior executives were selected based on stratified proportional sampling of 50 banks from four regions, namely the Americas, Asia Pacific, Europe and the Middle East & Africa (MEA), as explained in Section 3.3.2. Secondly, the same banks' ARS were used for content analysis. This study only used ARS that were published in English for the financial year ending 2014, with data extracted on the communication of IC and selected financial figures.

Table 4.1 - Profile of Banks

REGION	Number of Banks	Total Assets			Revenue		
		<i>Min</i> <i>USD'm</i>	<i>Max</i> <i>USD'b</i>	<i>Mean</i> <i>USD'b</i>	<i>Min</i> <i>USD'm</i>	<i>Max</i> <i>USD'b</i>	<i>Mean</i> <i>USD'b</i>
Americas	50	344.15	2573.13	268.41	16.71	94.21	11.53
Asia Pacific	50	406.39	1024.40	77.03	18.67	28.74	2.33
Europe	50	504.70	2634.14	403.05	9.96	63.36	9.07
Middle East & Africa (MEA)	50	848.55	164.31	36.71	101.53	9.09	1.75
TOTAL	200	344.15	2634.14	195.85	9.96	94.21	6.27

As shown in Table 4.1, the variance on the size of banks in this sample was significantly large, a characteristic common in most organizations across industries (Wiseman, 2009). As such, the natural logarithm of total assets was used as a control variable to take into account the size effect and heteroscedasticity of the banks, by dividing all ratio variables with the natural logarithm of total assets (Wiseman, 2009). This control variable is commonly used in the study of banks (Fernando & Ekanayake, 2015; IMF, 2014; Manganaris et al., 2015). As banks in this sample included both listed and private organizations, market capitalization was not used as the control variable. In terms of size, the total assets of the banks ranged from US\$344.15 million to US\$2.63 trillion. Revenue of the banks ranged from US\$9.96m to US\$94.21 billion.

There were 200 respondents interviewed for this study, as listed in Appendix F. These respondents were organized into three broad departments, namely Finance, Investor Relations, and Sustainability and Corporate Social Responsibility, as shown in Table 4.2. Finance included accounts, accounts administration, risk management, treasury, finance, corporate account and audit. Investor Relations included communications, investor relationship, corporate communications, marketing communications and public relations. Sustainability & Corporate Social Responsibility was considered a relatively new department, often spun off from the investor relations or communications departments within the same organization. Table 4.2 shows the breakdown of the 200 respondents, who have participated in this study.

Majority of the respondents came from Finance and Investor Relations departments, as shown in Table 4.2. Increasingly, the responsibility of publishing the ARS is moving from the purview of the CFO to Investor Relations (Arvidsson, 2011). The shift of responsibilities reflected management's balancing act in the communication of IC between accountability and impression management (Bismuth & Yoshiaki, 2008; Highhouse et al., 2009; Ousama et al., 2011b). Other executives responsible for publishing the ARS included senior executives from the Office of the President, and leading figures such as Country Head and the Chairman of the Bank.

Table 4.2 - Profile of Respondents

Departments	Number of Respondents	Examples of Titles
Finance (Includes Accounts, Accounts Administration, Finance and Audit, Finance and Risk Management, Finance and Treasury, Corporate Account, Audit)	94	Chief Financial Officer (CFO) (Senior) Finance Manager Head of Finance, Business Performance & Analytics (Deputy) Finance Director Market Risk Manager, Finance Financial Controller
Investor Relations (Includes Communications, Investor Relationship, Corporate Communications, Public Relations, Marketing and Communications)	91	Investor Relations Director/ Manager/ Specialist Head of Corporate Communications Head of Public Relations Group Head Strategy & Communications Head of Reporting and Investor Relations Head of Strategy and Investor Relations
Sustainability & Corporate Social Responsibility (SCSR)	11	Sustainability Director/ Manager Head of Sustainability Head of Corporate Sustainability Department Head, President's Office Head of CSR Corporate Governance Officer
Others (such as Human Resource and Operations)	4	Country Head Vice President, Operations General Manager, Human Resource Chairman

4.1.2 Descriptive Statistics

Descriptive Statistics for Survey A

Survey A asked a series of 24 opinion statements focused on eight factors underlying the communication of IC, as described in Section 3.4.1 (Table 3.2). These eight factors are namely governance (Gov), image (Image), management ownership (Mgt), leadership (Lead), stakeholders' demand (Stake), herd instinct (Herd), system (Sys) and media exposure (MeEx). Respondents were asked to provide their views using a 5-point Likert scale, which ranged from 1 = "strongly disagree" to 5 = "strongly agree". The details of the descriptive statistics for Survey A are shown in Table 4.3.

Table 4.3 - Description Statistics of Survey A

Factors	Mean	Standard Deviation
Governance	3.94	1.04
Image	3.76	1.01
Management Ownership	3.80	1.04
Leadership	3.60	1.09
Stakeholders' Demand	3.76	1.06
Herd Instinct	3.50	1.04
System	3.66	1.10
Media Exposure	3.50	1.07

Descriptive Statistics for Survey B

Survey B was organized according to the three IC Components under the headers Human Capital information, Relational Capital information and Structural Capital information. Each IC Component was further elaborated through nine opinion sentences, where every three sentences represented a sub-component of the communication of IC, as shown in Section 3.4.1 (Table 3.3). Respondents were asked to provide their views using a 5-point Likert scale, which ranged from 1 = “strongly disagree” to 5 = “strongly agree”. The details of the descriptive statistics for Survey B are shown in Table 4.4.

Table 4.4 - Description Statistics of Survey B

COMMUNICATION OF IC		Mean	Standard Deviation
Human Capital Information	Human resources	3.41	1.17
	Employee retention	3.25	1.19
	Training	3.71	1.01
Relational Capital Information	Clients	3.73	1.06
	Suppliers	3.32	1.17
	Business alliances	3.55	1.06
Structural Capital Information	Intellectual property	3.76	1.08
	Processes	3.90	0.97
	Accreditation	3.93	1.02

Descriptive Statistics from the ARS

There were two sets of data extracted from the ARS, namely data on the content and formats used in the communication of IC, and financial information. The content on the communication of IC was coded from the ARS, using methods described in Section 3.4. Information on the three IC Components was used in this study, namely Human Capital information, Relational Capital information and Structural Capital information, as shown in the top headers of Table 4.5. For each component, a further segmentation of coding by type of format was undertaken. These formats are narratives, pictures, tables, illustrations and graphs. Table 4.5 shows the descriptive statistics collected from the ARS for this study.

Table 4.5 - Description Statistics for Content and Formats used in the Communication of IC

Types Of Format	The Communication of IC			
	Human Capital Information	Relational Capital Information	Structural Capital Information	TOTAL
Narratives	44,774 (7.86%)	41,844 (7.35%)	482,775 (84.79%)	569,393 (100%)
Pictures	6,843 (64.42%)	2,598 (24.46%)	1,181 (11.12%)	10,622 (100%)
Tables	724 (50.84%)	148 (10.39%)	552 (38.76%)	1,424 (100%)
Illustrations	234 (27.18%)	133 (15.45%)	494 (57.38%)	861 (100%)
Graphs	214 (55.01%)	93 (23.91%)	82 (21.08%)	389 (100%)

As for financial information that represented organizational performance, three financial ratios were calculated, namely Net Profit Margin, Solvency Ratio and Return on Assets (ROA) as explained in Section 3.4.1. Table 4.6 shows the descriptive statistics of the organizational performance used in this study.

Table 4.6 - Description Statistics for Organizational Performance

			Min	Max	Mean	Std Dev
<i>Proxies</i>						
Organizational Performance	Business Continuity	Net Profit Margin	-23.09	22.42	6.49	6.25
	Solvency	Solvency Ratio	0	26.64	2.36	2.11
	Productivity	Return on Assets	-1.67	4.09	0.34	0.54

4.2 RO1: DETERMINE THE FACTORS UNDERLYING THE COMMUNICATION OF INTELLECTUAL CAPITAL

4.2.1 Exploratory Factor Analysis

Exploratory factor analysis (EFA) was conducted with 24 items that had been grouped, a priori, into eight categories, namely governance (Gov), image (Image), management ownership (Mgt), leadership (Lead), stakeholders' demand (Stake), herd instinct (Herd), systems (Sys) and media exposure (MeEx), from Survey A. To investigate the underlying structure to assess opinions on the factors underlying the communication of IC, data collected from 200 respondents were subjected to principal axis factoring with varimax rotation (Huang et al., 2007). These 24 items were considered significant and were retained after using Bartlett test of sphericity ($p < 0.05$) and Kaiser-Meyer-Olkin (KMO) test of sampling adequacy was calculated at 0.861 (Coakes et al., 2010), as shown in Table 4.7.

The Anti-image Matrices were used to further examine the suitability of each of the 24 items for factor analysis (Appendix K). The KMO values for each item were all greater than 0.5, which indicated that all items had strong relationship with other items in the matrix, and there was no need to consider dropping any items for this EFA.

Table 4.7 - KMO and Bartlett's Test of Factor Analysis on the Availability of the 24 factor items

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.861
Bartlett's Test of Sphericity	Approx. Chi-Square (χ^2)	1666.538
	df	276
	Sig.	.000

In determining the number of initial factors to be extracted, Kaiser's criterion stated that the components with eigenvalues greater than 1.0 were treated as relevant (Kaiser, 1960, 1974). As a result, four factors were identified as underlying the 24 items (see Table 4.8). In total, these factors accounted for around 38.13% of the variance in the data collected from Survey A. Items with factor loadings greater than 0.30 were considered significant for loading (Allen & Bennett, 2008).

Where there were items with cross loadings, it was necessary to identify which of the four factors they most strongly belonged to. This was achieved in two ways. First, the factor loadings within the structure were examined, where the higher the loadings, the more likely the item belonged to that factor. This approach was taken for cross loadings with factor loadings greater than 0.5 (Matsunaga, 2010). Second, all factors should have more than three items, with item loadings greater than 0.30 to ensure best fit combination (Costello & Osborne, 2005). Items with higher loading were considered more important and had greater influence on the name selected for the factor. Based on the nature of the items, as shown in Table 4.8, the four factors were identified as follows:

Factor 1: Management Responsibility to Stakeholders

Factor 2: Corporate Leadership

Factor 3: Collective Behavior

Factor 4: Compliance

Table 4.8 - Factor Analysis and Results

	Factor 1	Factor 2	Factor 3	Factor 4
FACTORS	<i>Management Responsibility to Stakeholders</i>	<i>Corporate Leadership</i>	<i>Collective Behavior</i>	<i>Compliance</i>
ITEMS				
1. Responsibility to stakeholders (Mgt1)	.655			
2. Management are also owners (Mgt2)	.586			
3. Established reporting framework (Sys1)	.581			
4. Better evaluation for Stakeholders (Stake2)	.522			

	Factor 1	Factor 2	Factor 3	Factor 4
FACTORS	<i>Management Responsibility to Stakeholders</i>	<i>Corporate Leadership</i>	<i>Collective Behavior</i>	<i>Compliance</i>
ITEMS				
5. Stakeholders demand for information (Stake1)	.504			
6. Corporate governance policy (Gov2)	.456			
7. Mandate to communicate IC (Mgt3)	.343			
8. Influence on the industry (Lead3)		.643		
9. Market leadership (Lead1)		.631		
10. Manage stakeholders' impression (Image2)		.560		
11. Keeping stakeholders informed (Stake3)		.541		
12. Leading by example (Lead2)		.531		
13. Maintain vested interest (Image3)		.422		
14. Mandatory communication (Gov1)		.368		
15. Influenced by peers (Herd2)			.601	
16. Common practice (Herd3)			.534	
17. Increasing exposure to media (MeEx2)			.454	
18. High level of media exposure (MeEx1)			.404	
19. Everyone is doing it (Herd1)			.385	
20. Documentation policy (Gov3)				.476
21. Dedicated team responsible (Sys3)				.463
22. Capturing and reporting (Sys2)				.455
23. Communicate branding (Image1)				.405
24. High disclosure practice (MeEx3)				.308
EIGEN VALUES	7.389	1.730	1.542	1.279
PERCENTAGE OF VARIANCE	12.248	11.339	7.670	6.870
CUMULATIVE PERCENTAGE	12.248	23.587	31.257	38.127

The four factors above were then tested for reliability using Cronbach's alpha (α), a measure of internal consistency, and often used to assess the reliability of answers collected from a survey instrument (Field, 2005). The values of Cronbach's α in Table 4.9 were found to be greater than 0.7 for all factors, except for Factor 3, which stood between 0.6 and 0.7. An α value above 0.6 was reported to be the required 'criterion-in-use' (Gliem & Gliem, 2003; Goode & Harris, 2007; Peterson, 1994). Therefore, the figures in Table 4.9 suggested that all factors were well above the 'criterion-in-use' and thus, acceptably reliable.

Table 4.9 - Cronbach's Alpha (α) for the Four Factors

Factors	Cronbach's α	Cronbach's α based on standardized items	Number of Items
1 Management Responsibility to Stakeholders	.800	.800	7
2 Corporate Leadership	.770	.772	7
3 Collective Behavior	.675	.676	5
4 Compliance	.711	.713	5

Factor 1 - "Management Responsibility to Stakeholders"

The first factor explained 12.25% of the variance. In examining the seven items loaded on Factor 1, the items were related to four categories, namely governance (Gov2 - Corporate governance policy), management ownership (Mgt1 - Management's responsibility to stakeholders; Mgt2 - Management are also owners; Mgt3 - Mandate to communicate IC), stakeholders' demand (Stake1 - Stakeholders demand for information; Stake2 - Better evaluation for Stakeholders) and system (Sys1 - Established reporting framework). The loading was largest on management ownership (Mgt1=.655 and Mgt2=.586) and thus labeled Management Responsibility to Stakeholders. The reliability on this factor using Cronbach's α is 0.80, which showed high internal consistency, as shown in Table 4.9.

This study extends prior findings, which covered mainly on economic, environmental and social issues (Del Baldo, 2012). A key factor in motivating the communication of IC, as found in this study, dwells in management values and their orientation towards stakeholders. In addition to management's buy-in, policies, frameworks and systems must be in place to be able to capture, monitor and report IC. Active management is necessary to contribute positively to communication within the industry and its sustainability across the territory (Del Baldo, 2012). A recent study found that while the management's responsibility to stakeholder did influence the disclosure of human capital, the information was focused on the social aspects, that is description of the staff, training and health and safety, and little on the performance of the staff in contributing to the value of the organization (Alvarez, 2015).

Interview results showed that at least 61.5% of the respondents rated the items linked to Management Responsibility to Stakeholders "agree" or "strongly agree". These results enforced management's mandate towards stakeholders by taking initiatives, not only to comply, but also to enable stakeholders, particularly shareholders and investors, to make better decisions and to invest longer term with the organization. Illustrating this point, Respondent 43, the CFO of an MEA bank commented that *"(banks) voluntarily adopted an international framework not only to comply, ... (but also to) raise presence in the international platform for communication...(to) encourage foreign investments and reflect sustainability for business realization"*. A prior study conducted in 26 countries concurred with the findings on management's influence on the communication of IC and highlighted that management could garner stakeholders' support with the intention to disguise earnings management (Prior et al., 2008).

While prior studies concur with the findings, one additional aspect surfaced in this study. Management was obligated to account to stakeholders (as suggested by Stakeholder Theory) and defend their legitimacy (as suggested by Legitimacy Theory). This obligation is necessary but secondary, as it is due to compliance. Management will ultimately make best use of its obligations, by putting forth other agendas in place. These agendas could be in the form of fund raising, reducing the cost of capital, attracting investors, disguising earnings or poor performance, or improve its perception in the market.

Factor 2 - “Corporate Leadership”

The second factor explained 11.34 % of the variance. There were seven items loaded on Factor 2. The items loaded on this factor were related to four categories, namely governance (Gov1 - Mandatory communication), image (Image2 - Manage stakeholders' impression; Image3 - Maintain vested interest), leadership (Lead1 - Market leadership; Lead2 - Leading by example; Lead3 - Influence on the industry) and stakeholder's demand (Stake3 - Keeping stakeholders informed). As the loading was greatest on leadership, in particular influence on industry (Lead3=.643), market leadership (Lead1=.631) and managing stakeholders' impression (Image2=.560), this factor was thus named Corporate Leadership. As shown in Table 4.9, the reliability on this factor using Cronbach's α is 0.77, reflecting good internal consistency.

The findings corroborated with a recent published longitudinal study (1979-2010) on a German company that found leadership could influence the composition and emphasis of IC disclosed (Munz, 2016). Market leadership was also reported to influence the standard and quality of reporting (Ahmed & Courtis, 1999; Ernst & Young, 2014; Robb & Zarzeski, 2001). As such, a change of leadership could lead to a shift in corporate strategy and hence, the emphasis of IC resources within the organization. A recent longitudinal study that reviewed the corporate annual report showed the rise of importance of structural capital and relational capital assets and therefore its disclosure in the change of leadership (Slack & Munz, 2016).

Interview results showed that at least 60.5% of the respondents rated these items linked to Corporate Leadership “agree” or “strongly agree”. These respondents differentiated leadership from management, equating leadership with strategy, and management with structure. As part of Corporate Leadership, banks needed to show *“a clear plan (strategy)...not just regulatory (compliance)...that focus beyond current ability is important...to cope with future”*, an insight shared by Respondent 35, the Head of Sustainability Reporting in one of the largest banks in Europe. Leadership could also be incentivized, through financial rewards, to monitor and ensure the implementation of the strategy developed not only for corporate reporting, but also corporate sustainability (Klettner et al., 2014). Evidence from a prior work on large Australian companies supports the findings found in this study (Klettner et al., 2014).

Having Corporate Leadership, involving both board and senior management, was necessary in promoting and executing the communication of IC in the ARS.

Factor 3 - “Collective Behavior”

The third factor explained 7.67 % of the variance, with five items loaded. These items were related to two categories, namely herd instinct (Herd1 - Everyone is doing it; Herd2 - Influenced by peers; Herd3 - Common practice) and media exposure (MeEx1 - High level of media exposure; MeEx2 - Increasing exposure to media). The loading was largest on influence by peers (Herd2=.601), common practice (Herd3=.534), and increasing exposure to media (MeEx2=.454). As this factor included all items on herd instinct in Survey A, it is named Collective Behavior. The reliability on this factor using Cronbach’s α is 0.68, which showed acceptable reliability for internal consistency, as reflected in Table 4.9.

A ten-year (1985-1994) study found that Collective Behavior existed more than three decades ago (Marino Jr, 1995). Complementing findings on Collective Behavior, another study found that Collective Behavior drove disclosure pressured by the presence of third-party information providers such as analysts, credit rating agencies and media players (Arya & Mittendorf, 2005). While prior works were not published from the context of the communication of IC, this study showed that Collective Behavior is also applicable to the disclosure of IC.

Interview results showed that at least 52.0% of the respondents rated the items linked to Collective Behavior “agree” or “strongly agree”. Most respondents were of the opinion that nobody wanted to be considered outside the pack and generally followed the trend in the communication of IC to remain competitive against their peers. The remaining respondents were less convinced of herd influence and were more driven by governance and management’s responsibility to meet with stakeholders’ demand for information. According to Respondent 44, the Vice President of Investor Relations of an American bank, banks were *“influenced in part due to awareness of the importance or benefit of such disclosure, and also due to peer pressure”*. Respondents also highlighted that market forces could be instrumental in motivating such Collective Behavior. For example, Respondent 10, the Senior Director of Investor Relations

Manager of a leading bank in the Americas commented that the push for sustainability indices by the stock exchanges would result in *“many listed companies definitely wanting to be part of this index...(to attract) investors. As a result, organizations will improve their disclosure to be considered for this index”*.

Factor 4 - “Compliance”

Finally, the fourth factor explained 6.87% of the variance. In examining the five items loaded on Factor 4, the items were related to four categories, namely governance (Gov3 - Documentation policy), image (Image1 - Communicate branding), system (Sys2 - Capturing and reporting; Sys3 - Dedicated team responsible), and media exposure (MeEx3 - High disclosure practice). The loadings were highly represented in documentation policy (Gov3=.476), dedicated team responsible (Sys3=.463) and capturing and reporting (Sys2=.455), and thus labeled Compliance. The reliability on this factor using Cronbach’s α is 0.71, which showed good internal consistency, as reflected in Table 4.9.

A recent study on 428 listed German companies found compliance influenced the organization’s disclosure, in particular, structural capital information (Goebel, 2015). While it is acknowledged that Compliance will continue to drive disclosure, the study finds that this factor will also motivate the communication of IC. Interview results showed that at least 60.0% of the respondents rated these Compliance linked items as “agree” or “strongly agree”. Respondents agreed that there was a need to be compliant, even though the communication of IC was not mandatory. However, there are guidelines set in most jurisdictions interviewed. Respondents that voted “disagree” or “strongly disagree” were mostly from jurisdictions where the communication of IC was mandatory. Respondents from less developed nations believed that an international framework would raise their standard of reporting to international levels. Generally, respondents agreed that *“what is important in the communication of IC...is relevant, quality...and accurate information...delivered timely. You cannot achieve this without a system”*, echoing the sentiment of Respondent 30, the Head of Finance of a bank in the MEA region.

4.3 RO2A: ASCERTAIN AND ANALYZE THE CONTENT AND FORMATS USED IN THE COMMUNICATION OF IC

4.3.1 Content Used in the Communication of IC

One-way repeated measures analysis of variance (ANOVA) was used to evaluate the 200 responses to Survey B on the content used in the communication of IC. The content was reviewed from three perspectives, namely Human Capital information, Relational Capital information and Structural Capital information. Normality was supported as the skewness and kurtosis statistics were all between -1 and +1; Fmax was 1.32 for Human Capital information, 1.14 for Relational Capital information, and 1.44 for Structural Capital information, indicating homogeneity of variances. Mauchly's test (Sig >.05) also indicated that the assumption of sphericity was not violated (Allen & Bennett, 2008).

The ANOVA indicated that there was significant difference in the importance of content in the communication of IC, $F(2,398)=58.69$, $p<0.001$, partial $\eta^2 =.23$. Pairwise comparisons further revealed that Structural Capital information ($M=34.77$, $SD=5.46$) was significantly more important than Relational Capital information ($M=31.80$, $SD=5.77$) and Human Capital information ($M=31.10$, $SD=5.83$). Over 80% of the respondents agreed that Structural Capital information was most important, compared to Human Capital information and Relational Capital information, as it reflected "the foundation and structure of the organization, critical to survival", according to Respondent 1, the Head of Financial Reporting of a bank in the MEA region. This finding suggests that banks have to differentiate themselves from their peers for survival. As such, organizations need to maintain its Corporate Leadership, as identified in the factor analysis, which in turn encourage management to disclose Structural Capital information to reflect the organization's ability to cope with the future.

Most respondents interviewed linked Structural Capital information to transparency, Human Capital information to culture, and Relational Capital information to strength and reliance. For example, on Structural Capital information, Respondent 8, the Head of Finance & Business Performance Analytics of a large European bank said that "investors don't want to see just the financials, but also what the proper controls are ...

the processes in place to derive these numbers”. The communication of Structural Capital information could reflect management’s attempt to be transparent and compliant, as identified in factor analysis, even though it is not mandatory for such information to be reported. On Human Capital information, as commented by Respondent 23, a Vice President of Investor Relations of an Asian bank, “(it) tells a story about the bank ... our culture, diversity and fair employment ... to attract talent ... to showcase our people”. This reflects the bank’s social responsibility to inform its stakeholders of its human capital, underlying Management’s Responsibility to Stakeholder. Illustrating Relational Capital information, Respondent 34, a Head of Finance and Administration with a regional bank in the Asia Pacific said, “we disclose our strengths in relationship to show that we have credible clients and quality suppliers for security and reliance”. The communication of Relational Capital reinforces not only the strength and reliability, but also the Corporate Leadership of the bank against its peers.

Human Capital Information

Drilling for insights into the communication of IC, the ANOVA results showed that the use of Human Capital information in the ARS was significant at $F(2,398)=25.28$, $p<0.001$, partial $\eta^2=.11$. Pairwise comparisons further revealed that information on training ($M=11.12$, $SD=2.33$) was more significant than information on human resources ($M=10.23$, $SD=2.53$) and employee retention ($M=9.75$, $SD=2.68$). Interview results showed 67.2% agreed that training was most important, as banks were dependent on employees to function. Agreeing on the disclosure of training information, Respondent 12, the Head of Sustainability of a bank in the Asia Pacific commented, “*information on training has greater impact on the future growth and sustainability than reporting on diversity and employment numbers*”.

The findings were in line with a recent study that found training information most important in reflecting the development and capabilities of the organization’s workforce (Adelowotan et al., 2013). Findings were also similar to another study, which highlighted that information on training was positively related to corporate image (Alvarez Dominguez, 2011). Though these prior works were from business and

human resource journals respectively, it reflects that this study extends the importance of training and its relevance in the communication of IC.

Relational Capital Information

Likewise for Relational Capital information, ANOVA results were also significant, $F(2,398)=26.80$, $p<0.001$, partial $\eta^2=.12$. Pairwise comparisons further revealed that information on clients ($M=11.20$, $SD=2.32$) was more significant than business alliance ($M=10.64$, $SD=2.30$) and suppliers ($M=9.97$, $SD=2.46$). Information on business alliances was also more significant than information on suppliers. Interview results showed 64.3% agreed that information on clients was important as customers were considered assets to the banks and were not represented in the ARS. Respondents generally agreed that showcasing client relations was *“part of marketing strategy ... to reflect ... (the bank as) reliable and secure”*, in accordance to Respondent 40, an Investor Relations Manager of a bank located in the Asia Pacific.

A previous study found similar benefits in disclosing relational capital information, as it conveyed the competitive advantage and productivity of the organization (Collins & Hitt, 2006). Another past study of 60 organizations in Sweden, Denmark and the United Kingdom also found that information on customers were most often mentioned to reflect reputation, which was important for organizations in promoting their values. Details on alliances were also high, indicating growth and globalization (Cinquini et al., 2012; Vergauwen et al., 2007). These past works support the study's findings to show that Relational Capital information could be used to reflect the reliability of the organization, in addition to good reputation and values, so as to provide assurance and security to stakeholders.

Structural Capital Information

Finally, in the use of Structural Capital information, ANOVA results were significant, $F(2,398)=5.86$, $p<0.001$, partial $\eta^2=.03$. Pairwise comparisons further showed that information on accreditation ($M=11.79$, $SD=2.18$) was more significant than intellectual property ($M=11.28$, $SD=2.47$). Likewise, information on processes ($M=11.70$, $SD=2.06$) was more significant than intellectual property. While

transparency was important, the need to showcase accreditation was stronger in gaining trust and building confidence with stakeholders of the bank. Interview results showed 33.2% respondents “strongly agree” in disclosing accreditation as opposed to 28.8% that “strongly agree” in disclosing processes. Generally, respondents felt the need to provide a sense of assurance and security. Reflecting this general consensus was a quote made by Respondent 3, the CFO in a large regional bank in the Asia Pacific, *“We need to provide assurance to stakeholders as we are holding other people’s money”*.

The findings in this study are in line with previous research. A study on Spanish organizations’ ARS found that information on processes was well covered for Structural Capital information, but highlighted attention needed in areas such as innovation and improvements made (Ordóñez de Pablos, 2003). A similar content analysis of the ARS of universities in New Zealand, Australia and the United Kingdom also found information on processes most prevalent (Low et al., 2015). The high level of information on processes in the ARS reflected the significance for renewal and growth in the organization and the effect of new technologies such as the Internet (Vergauwen et al., 2007). These prior works focused mainly on processes. The findings from this study extended previous works on Structural Capital information, beyond processes, to include accreditation and intellectual property.

4.3.2 Formats Used in the Communication of IC

Reviewing each type of format used in the communication of IC, content analysis on the ARS of the respondents’ banks showed that narratives was most used, particularly on Structural Capital information, with some 569,393 words, as shown in Figure 4.2, on the left margin. This finding corroborated with recent studies that found most IC disclosures was narrative in nature (Li & Mangena, 2014; Low et al., 2015). Pictures formed the second largest, by count, as a format used in the communication of IC at 10,622; followed distantly by Tables (1,424), Illustrations (861) and Graphs (389).

Figure 4.2 - Frequencies of the Format used in the Communication of IC

Narratives

Expounding findings for narratives, this format was used most in the communication of Structural Capital information with some 482,775 words, as shown in Figure 4.2. This was followed distantly by Human Capital information at 44,774 words and Relational Capital information at 41,844 words, comparably less than 10% of the narratives found in Structural Capital information. In terms of numbers, while narrative is the basic format used in the communication of IC, its purpose goes beyond pure descriptive reporting of the organization.

Exploring from the perspective of Human Capital information, narratives were used to deliver the message on the importance of employees in contributing to organizational performance. At the same time, such narratives reflected the commitment made by the organization to improve competencies of their employees to ensure future growth in the organization (see example in Appendix E, Figure E.1).

On Relational Capital information, narratives were often used to describe the strategy of the organization in serving, maintaining and acquiring customers (see example in Appendix E, Figure E.2). While customers are the greatest assets to any organization, their value is not captured in the balance sheet. Narratives were thus used to convey the “value” of customers to the organization and the steps taken to protect, and possibly enhance, customers’ trust and goodwill.

Narratives were most used for the communication of Structural Capital information. These narratives were made to provide assurance on the operational controls and processes within the organization. At the same time, to disclose measures taken to account for specific performances, for example, less exemplary achievements as shown in Appendix E, Figure E.3. For the banking industry, being highly regulated created increased accountability pressures. As such, banks reported significant narrative content on processes involving risk management and governance.

In line with these findings, past studies showed that narratives were traditionally used to offer explanation of management's actions and provide details of emerging organizational strategies (Dumay, 2009a; Llewellyn, 1999; Mouritsen et al., 2002). Narratives in the communication of IC adopted a storytelling approach to complement financial numbers, making the format a viable instrument for persuasion and flexible in addressing sensitive issues. However, it cannot be used for comparability (Liu & Wang, 2012; Yeoh, 2010). Narratives were also reported to provide details of management's further action for improvement and change (Dumay, 2008).

Pictures

Evaluating the other non-text formats, pictures were most widely used in the communication of IC in terms of count. The frequency for pictures exceeded the other non-text formats by over 7.5 times. Pictures were found to be the highest in the communication of Human Capital information (64.42%), and lower in Relational Capital information (24.46%) and Structural Capital information (11.12%), as shown in Figure 4.2.

From the Human Capital information perspective, most pictures involved human subjects to represent profiles of staff at work, the culture of the bank and the service quality of staff towards customers. In Appendix E, Figure E.4, examples of pictures on staff training were shown to reflect the commitment of the organization in building competencies and teamwork among its employees.

Reviewing from the perspective of Relational Capital information, pictures were used to reflect reliability and dependability of the organization. An example is shown in

Appendix E, Figure E.5. The use of pictures to reflect customer relationship was at least ten times higher than supplier relationship. While information on customers is highly confidential in banks, pictures provided tacit messages to be delivered. In this sample of banks, most pictures reflected alliances that the organization had formed to indicate strength in its network.

Pictures were least used to disclose Structural Capital information. Still, there were some pictures used, particularly to highlight the accreditations received by the organization. Such pictures were featured with the intention of reflecting the achievements and, at the same time, strengthen the credibility of the organization, as shown in Appendix E, Figure E.6.

Pictures were found to be the most frequent non-text format used in the communication of IC, as reported in recent research published. Pictures were particularly popular in representing employees, customers, brands marketing and relationships with various stakeholders (Davidson, 2014; Li & Mangena, 2014; Steenkamp & Hooks, 2011), in agreement with findings analyzed. Past studies also found pictures covering a greater proportion of the ARS than graphs (Beattie et al., 2008; Davidson, 2014).

Tables

Tables were also often used in the communication of Human Capital information (50.84%), followed by Structural Capital information (38.77%) and Relational Capital information (10.39%), as shown in Figure 4.2. The use of tables was common in reflecting segmentation figures, internal statistics compiled and a list of items, such as a list of awards received.

Reviewing tables in the communication of Human Capital information, most of the tables were used to reflect statistics on the human resources of the organization to showcase “strength in numbers” (see examples in Appendix E, Figure E.7). Tabulation of data on training was also common, to reflect the number of hours or the amount spent on training.

Tables were the least applied format in the communication of Relational Capital information. This could be due to confidentiality of client information and high competition within the banking industry. However, where tables were made available, these tables reflected strength in numbers, extensiveness of client outreach, and reliability of suppliers and alliances (see examples in Appendix E, Figure E.8 and Appendix E, Figure E.9).

Tables adopted for the communication of Structural Capital information were statistics of controls and processes improvements, and soft numbers of investments made. For example, the effectiveness of a bank's technology investment and its implementation, as shown in Appendix E, Figure E.10. Often, tables with numbers provide clarity and the attempt to provide tabulated historical trends in statistics (e.g. yearly figures) reflect progression or regression in performance.

There is limited literature that examined format in terms of tables and those available often compared tables to graphs. Previous studies found that tables were efficient in the communication of quantitative (and sometimes qualitative) information that could be difficult to read in one or two sentences (Beattie & Jones, 1992; Kozak & Hartley, 2012). Tables were also seen to be better than graphs in conveying voluminous content that required complex analysis (Courtis, 1997). Prior works provided little insights into the use of tables in the communication of IC. The empirical findings in this study thus contribute to IC literature.

Illustrations

For illustrations, the use of this format was highest in the communication of Structural Capital information (57.37%), and lower with Human Capital information (27.18%) and Relational Capital information (15.45%). Illustrations were often used reflect process flow and control structures within the organization.

Reviewing the use of illustrations for Human Capital information, they summarize the strategies and frameworks used for human resource recruitment, development and talent management, as shown in Appendix E, Figure E.11. On the perspective of Relational Capital information, illustrations were the least used when compared to

Human Capital information and Structural Capital information. Where applicable, these illustrations were mostly used to showcase the size or statistics on customers. An example of this illustration is shown in Appendix E, Figure E.12.

Illustrations were most widely used for Structural Capital information. The range of illustrations included strategy frameworks, business segmentation (example in Appendix E, Figure E.13), organizational network and distribution (example in Appendix E, Figure E.14), operational controls and processes (example in Appendix E, Figure E.15) and accreditation attained. The aim of such illustrations was in compliance with the organization's efforts towards transparency, communicating complex structures and processes into simplified illustrations. At the same time, such illustrations could help build confidence towards management's ability in stewarding the organization.

According to extant literature, the use of illustrations to promote management ideas was prevalent in the business media, including the ARS. For the ARS, the promotion of managerial processes and practice was particularly pervasive to legitimize management's action and strategy (Davison, 2014; Free & Qu, 2011), as seen in the findings of this study. In fact, organizations listed on the stock exchange are obligated to produce illustrations of internal control structures such as the Sarbanes-Oxley Act Section 404, as part of regulatory and accounting standards (Ivancevich & Sawyer, 2004). Research on 100 listed companies in the United Kingdom found the use of illustrations significantly lower compared to narratives, in line with the findings in this study (Li & Mangena, 2014). Illustrations could also be used to demonstrate corporate history to support the communication of corporate culture.

Graphs

Finally, graphs were well presented in Human Capital information (55.01%), Relational Capital information (23.91%) and Structural Capital information (21.08%), as shown in Figure 4.2. Graphs were often used to depict a trend in comparison to previous years, for example, the growth in the number of accounts served and improvements in operational performances. For trend analysis, comparison and

segmentation, graphs and tables were often preferred over the use of narrative text (Davidson & Skerratt, 2007).

Reviewing from the perspective of Human Capital information, most graphs were used to display human resource related statistics in charts to reflect a trend of growth or regression. There were also statistical reports on training and female employees in management and board positions, as shown in Appendix E, Figure E.16. These were efforts made by the organization to showcase talent management and diversity within the organization.

The use of graphs for Relational Capital information was low in the communication of IC. Graphs were mostly used to report historical trends of customer related matters, such as the number of clients within the organization, as shown in Appendix E, Figure E.17. While some information in the graphs may be repeated from tables, the latter could deliver more information than the former.

The use of graphs for Structural Capital information was lower compared to Human Capital information. Graphs were used to depict a trend in the performance of processes and historical accreditation of the organization. For example as seen in Appendix E, Figure E.18, graphs were used to show the historical trend of the bank's market share in Sweden.

Past studies indicated that graph usage was widespread. A study on companies listed on the Istanbul Stock Exchange reported that 75% of companies included graphs in their ARS, where the count of graphs per ARS for non-financial information was 7.83. Graphs were previously reported to be popular in reflecting Structural Capital information such as the production process, market share and capacity usage, as well as Human Capital information, which demonstrated the number of employees disclosed (Uyar, 2009). The findings in this study show that though the use of graphs in the ARS was common, these numbers had diminished, as seen in Figure 4.2. Graphs were the lowest format used in the communication of IC.

Advice on the use of graphs was cautioned as graphs were previously abused to give a more favorable view of the organization than actually warranted (Beattie & Jones,

2008). A study of 77 ARS of companies in the United States found empirical evidence of companies engaged in impression management strategies relative to the use of graphs, even though they were bound by their commitment to be transparent and accountable. Companies were *“far more likely to graph items showing favorable rather than unfavorable trends, and where material distortion in the graphs exists, considerably more often than not, the bias in design presents an image favorable to the firm”* (Cho et al., 2012, p34).

Table 4.10 summarized the findings on the formats used in the communication of IC. With the exception of Tables and Graphs, each format is used for a specific purpose as summarized in Table 4.10.

Table 4.10 – The Use of Formats in the Communication of IC

Format	Usage description
Narratives	<ul style="list-style-type: none"> - To provide details and elaborations necessary for assurance - To address accountability - To convey explicit messages
Pictures	<ul style="list-style-type: none"> - To convey implicit messages linked to relationships and achievement - To reflect staff well-being and corporate culture - To convey value
Tables/ Graphs	<ul style="list-style-type: none"> - To report segmentation, statistics and trends - To reflect progression or regression in performance - To simplify and convey complex voluminous content
Illustration	<ul style="list-style-type: none"> - To reflect processflow and control structures - To convey strategies and frameworks for growth - To simplify the communication of complex structures and processes

4.4 RO2B: ASCERTAIN THE RELATIONSHIP BETWEEN THE COMMUNICATION OF IC AND ORGANIZATIONAL PERFORMANCE

4.4.1 Regression Analysis on the Relationship Between the Communication of IC and Organizational Performance

A regression analysis was conducted to examine the relationship between the communication of IC and organizational performance. The analysis examined whether the communication of IC (outcome) would be affected by organizational performance (predictors), as the organizational performance was usually made known prior to the compilation of the communication of IC in the ARS. The communication of IC was reviewed from the perspectives of Human Capital information, Relational Capital information and Structural Capital information representing the dependent variables, as elaborated in Section 2.2.3. Indicators for organizational performance were Net Profit Margin (business continuity), Solvency Ratio (solvency) and Return on Assets (productivity), depicting the independent variables, as explained in Section 2.5.1. Natural logarithm of total assets was used as a control variable to take into account the size effect and heteroscedasticity of the banks.

In Section 3.5.3, literature showed that the most commonly used count models are Poisson models and Negative Binomial models. As data on the communication of IC is discrete and countable, the Poisson and Negative Binomial models would be appropriate regression analysis used for this study. Negative Binomial Regression was preferred over Poisson Regression to take into account over dispersion (Cameron & Trivedi, 2013). To ensure that no issues were caused by multicollinearity, the variance inflation factor (VIF) score was calculated for each independent variable. The VIF score for Net Profit Margin was 1.869, Solvency was 1.667 and ROA was 2.739. As the highest VIF score obtained from the independent variables used in this study was $2.739 < 10$, multicollinearity was not an issue (Gujarati, 2004).

In the regression analysis, three models were formulated (as shown in Section 3.5.3), where each model represented an IC Component in the communication of IC, namely Human Capital Information, Relational Capital Information and Structural Capital

Information, and the predictors were Net Profit Margin, Solvency Ratio and Return on Assets (ROA), as shown in Table 4.11.

Table 4.11 - Negative Binomial Regression of the Communication of IC and Organizational Performance

	β	Wald (Z)	Sig	Exp (β)
Human Capital Information				
Constant	5.526			
Net Profit Margin	.011	.350	.554	1.011
Solvency Ratio	.024	.230	.632	1.024
Return on Assets (ROA)	-.828	6.031*	.014	.437
Likelihood ratio chi-square (χ^2)	17.48**			
Relational Capital Information				
Constant	5.488			
Net Profit Margin	.094	14.327**	.000	1.098
Solvency Ratio	.030	.135	.714	1.031
Return on Assets (ROA)	-2.979	30.375**	.000	.051
Likelihood ratio chi-square (χ^2)	64.74**			
Structural Capital Information				
Constant	8.293			
Net Profit Margin	-.028	2.591	.168	.973
Solvency Ratio	-.166	8.117**	.004	.847
Return on Assets (ROA)	.097	.215	.643	1.102
Likelihood ratio chi-square (χ^2)	13.25*			

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

The Negative Binomial Regression model predicting the proportion of ROA ($Z=6.031$, $p < .05$) as a function of Human Capital information was statistically significant (likelihood ratio $\chi^2=17.48$, $df=3$, $p < .001$), with a negative relationship ($\text{Exp}(\beta) = 0.437$). The ROA represented not only the productivity of the organization, but also the effectiveness to derive income from the assets. With lower achievement in ROA, attention could be shifted to promote the next most important asset within the organization not captured in the balance sheet, employees. Studies have shown that human capital disclosure gives a positive signal to shareholders (Alvarez Dominguez,

2011; Lin et al., 2012; Soebyakto et al., 2015). Hence, organizations with decreased ROA could have disclosed more information on its human capital, with the hope to impress its shareholders and enhance its worth.

Likewise, the Negative Binomial Regression model was significant in predicting the proportion of Net Profit Margin ($Z=14.327$, $p<.001$) and ROA ($Z=30.375$, $p<.001$) as a function of Relational Capital information (likelihood ratio $\chi^2=64.74$, $df=3$, $p<.001$). Net Profit Margin had a positive relationship with Relational Capital information ($\text{Exp}(\beta) = 1.098$), whereas ROA had a negative relationship with Relational Capital information ($\text{Exp}(\beta) = 0.051$), in the same model. Studies have shown that the disclosure of Relational Capital information can help enhance the perception of the organization's competitive edge and reputation in the market (Collins & Hitt, 2006; Mondal & Ghosh, 2014; Vergauwen et al., 2007). The findings implied that profitable organizations with low ROA would likely boost their disclosure on Relational Capital information to convey their strengths in clients, networks and business alliances.

Negative Binomial Regression model predicting the proportion of Solvency Ratio ($Z=8.117$, $p<.05$) as a function of Structural Capital information was statistically significant (likelihood ratio $\chi^2=13.25$, $df=3$, $p<.05$), with a negative relationship ($\text{Exp}(\beta) = 0.847$). Solvency Ratio reflected the financial competency, and thus the sustainability of the organization. Findings showed that the increase in Structural Capital information is necessary for management to justify efforts made in order to problem solve. Previous studies have highlighted the importance of Structural Capital information to address issues and highlight innovation (Chu et al., 2006; Iazzolino et al., 2013). Findings from this study provided empirical evidence, where previous studies had none.

4.5 DISCUSSION

4.5.1 Stakeholders are not all Equal, Some Stakeholders are More Important

In the discussion of Stakeholder Theory in Section 2.2.1, it was highlighted in the normative branch of this theory that management has a moral obligation to report its performance to the diverse interest of all its stakeholders (a list of stakeholders compiled can be seen in Appendix B). The managerial branch of this theory emphasized that this obligation narrows the focus down to the stakeholder groups that control resources required by the organization. This study extends the managerial branch of Stakeholder Theory to point out that the focused stakeholder group ought to be those behind the factors underlying the communication of IC, in addition to the group controlling required resources.

Four factors underlying the communication of IC were identified in this study, namely Compliance, Management Responsibility to Stakeholders, Corporate Leadership and Collective Behavior. Reviewing the stakeholder groups for each of this factors identified, regulators are responsible for the factor ‘compliance’. Regulators are responsible for setting rules such as specification, policy, standard or law, and enforcement. Past works have shown that compliance is a form of mandatory enforcement driven by regulators that increased the volume and quality of the communication of IC (Criado-Jimenez et al., 2008; Greco, 2012).

The factor ‘Management Responsibility to Stakeholders’ reinforced the relevance of the “1984” Stakeholder Theory, even after three decades. However, there is shift of management’s responsibility towards the social cause in meeting moral obligations, as highlighted in the normative approach to the theory. The obligation to disclose the status of the organization and its performance in the 1984 theory is a given, mandated by regulators. The practice of corporate philanthropy is becoming an integral part of corporate strategy. As a part of this strategy, organizations seek competitive advantage by taking a responsible position towards the community to reflect its core values, build reputation and respond to moral pressures from the public (Abeysekera, 2013; Hess et al., 2002). As such, the community-at-large is behind the factor, Management Responsibility to Stakeholders.

In Corporate Leadership, management has learnt that institutional investors could provide more capital at lower cost. To achieve Corporate Leadership, management needs to attract the relatively small number of institutional investors worldwide (Useem, 1998). According to the managerial branch of Stakeholder Theory, an important resource for organizations is funding, which suggests that the focus of the stakeholder group ought to be investors, stockholders and analysts. Investors and shareholders provide the funding to organizations, whereas analysts presents the buy and sell opinions of the organization's equity to investors and shareholders. In gaining the support from this group of stakeholders, management has to deliver a compelling strategy story for share value growth, which in turn influences the communication of IC.

Finally, on the factor 'Collective Behavior', peer pressure appears to force organizations to conform to the norm of industry practices. Unlike compliance, as discussed earlier, peer pressure is not subject to regulators' oversight and thus, the communication of IC is volunteered. Peer pressure can also force multiple organizations to jointly tackle some of the major challenges in the industry that affect everyone along the value chain, where challenges are difficult for any individual organization to solve on its own. In this regard, Collective Behavior satisfies the normative branch of Stakeholder Theory in meeting with management's moral obligation towards its stakeholders, where stakeholders here refer to the peers of the organization.

The stakeholders behind each factor underlying the communication of IC are summarized in Figure 4.3.

Figure 4.3 - Stakeholders Behind the Factors Underlying the Communication of IC

4.5.2 Combination of Factors has to be Considered to Effect Change

Management must first be convinced that they need to provide disclosure on their IC, beyond financial numbers, to stakeholders (CharteredAccountantsANZ, 2014; Davis & Harrison, 2001; McElyea, 2002). Organizations that have committed to this disclosure are rewarded with reduced information asymmetry, which in turn will reduce their cost of capital (Bukh et al., 2005; Li et al., 2008; Welker, 1995). While management buy-in is necessary, the take-up rate of being convinced is still small. For example, to date, the Global Reporting Initiative's (GRI) database has only 9,095 companies that had adopted its framework, though the organization has been introducing sustainability reporting for almost two decades (GRI, 2016a).

In this study, factor analysis undertaken to examine the factors underlying the communication of IC uncovered four factors derived from overlapping determinants, as shown in Figure 4.5. The presence of overlapping determinants suggests that perhaps not one, but a combination of factors has to be considered together in order to compel the communication of IC. Illustrating this point, in an interview with Respondent 27, the CFO of a leading bank in the Americas, *"a combination of many factors will produce a catalytic effect...on the importance of the communication of*

IC...it is not dependent on one factor but a combination of factors that resulted in a mindset change”.

Though it is not uncommon for a combination of factors to effect change, there is limited literature covered on this topic in relation to the communication of IC. Studies from communication literature found that organizational communication was effective only after consideration was made on several or a combination of factors that shaped the context of the message (Sadowski-Rasters et al., 2006). This study thus extends findings to the context of the communication of IC.

Government and regulatory bodies that are planning to promote the communication of IC would have to consider not only getting management buy-in, but to consider the combination of the four factors identified in this study. Compliance is a form of mandatory enforcement driven by regulators that could result in the increase of volume and quality of the communication of IC. At the same time, such enforcement would also give rise to complex concealment tactics to deprive stakeholders of regulated information (Criado-Jimenez et al., 2008; Greco, 2012). After all, management not only has to be compliant in reporting to stakeholders, but maintain its corporate leadership image and in keeping up with its peers. In promoting the communication of IC, management's mandate towards stakeholders has to go beyond its intention to comply (CharteredAccountantsANZ, 2014; Holland, 2003).

4.5.3 Underlying Messages in the form of Content and Formats are Used in the Communication of IC

Legitimacy Theory informed that organizations report their activities and performance to help maintain and restore their legitimacy, and one way to achieve this is through the medium of corporate reporting in the ARS (Guthrie et al., 2006; Lang & Lundholm, 1993). In extending this theory to the communication of IC, the findings from the investigation on the use of content and formats uncovered underlying objectives suggesting management's activities in support for legitimacy. In achieving these objectives, management engages in the communication of IC that contained tacit messages to stakeholders – Culture and strength for Human Capital information; Strength and reliability for Relational Capital information; and Transparency for

Structural Capital information (refer to Table 4.12). These messages relay the management's efforts in stewarding the organization.

Table 4.12 - Summary of Findings: Content and Formats used in the Communication of IC

Communication of Intellectual Capital	CONTENT	FORMATS	OBJECTIVE
Human Capital information	Focus on training efforts for growth. Reflect commitment, diversity and fair employment.	Focus on Picture, Graphs and Tables	Culture and strength
Relational Capital information	Focus on strength of clients and business alliances.	Focus on Pictures and Graphs	Strength and reliability
Structural Capital Information	Most important content. Focus on accreditation, controls and processes.	Focus on Narratives and Illustrations	Transparency

Pictures (24.46%) and graphs (23.91%) were most commonly employed to depict the strengths of the organization. While Human Capital information reflects the internal strength of the organization, Relational Capital information reflects the strength of the organization's relationships. While Relational Capital information had the lowest content, due to client confidentiality, some banks did subtly profile their customers in the ARS to reflect reliability and to boost their reputation (Vergauwen et al., 2007). Clients and business alliances were the two most significant content in the communication of Relational Capital information, as reported in Section 4.3.1. Studies have shown that visuals, in the form of pictures and graphs, are better than narratives and tables in expressing tacit messages as such visuals can bring attention the intended message for corporate reporting (Davidson, 2014).

Transparency is the new "buzzword" for all organizations and accounting professionals. A significant volume of information disclosed on Structural Capital

information was made as part of efforts to show that the organization was compliant in its transparency practices. Structural Capital information, in particular risk management processes, strategies, operational controls and hierarchy within the organization (57.37%) were most commonly used to express accountability. Analysis from this study highlighted that showcasing accreditation was more significant than providing information on processes to convey assurance and security. Narratives were the most prevalent format used in the communication of Structural Capital information, followed by illustrations, as shown in Section 4.3.2. The preference for these formats over others could be most likely due to the need to have detailed descriptions of the organization's operations and process controls. While transparency may seem like the intended objective to legitimize management's action, it may also be an indicator of the opposite intention to improve its image (Arya & Mittendorf, 2005; Farooq, 2016; Free & Qu, 2011).

4.5.4 Structural Capital information Leads in the Communication of IC

The study found that Structural Capital information was opined to be the most important content in the communication of IC in the ARS, where ANOVA indicated significant difference, $F(2,398)=58.69$, $p<0.001$, partial $\eta^2=.23$. Pairwise comparisons further revealed that Structural Capital information ($M=34.77$, $SD=5.46$) was significantly more important than Relational Capital information ($M=31.80$, $SD=5.77$) and Human Capital information ($M=31.10$, $SD=5.83$). Content analysis of the ARS corroborated with this statistical analysis, to show that narrative content on Structural Capital information was highest at 84.79% as compared to Human Capital information at 7.86% and Relational Capital information at 7.35%, as shown in Figure 4.2. Organizations should focus content on accreditation, controls and processes to reflect transparency. At the same time, formats such as narratives and illustrations could be used to provide further assurance and accountability (Davidson, 2014; Dumay, 2009b; Kateb, 2012), summarized in Table 4.12.

Comparing the findings with recent studies, mixed results were found. Studies completed in China (Liao et al., 2013a) and Nigeria (Ahmed & Mubaraq, 2012) showed that Structural Capital information dominated the communication of IC in the ARS. However, the findings were inconsistent with a study completed on Turkish

banks (Yildiz et al., 2014), which found that Relational Capital information was more prevalent. Another study completed on European-headquartered banks (Mention, 2011) also found that the communication of Relational Capital information was the highest, followed by Human Capital information and Structural Capital information. While studies reflected differences, these studies generally agree that there is an upward trend observed for the disclosure of Structural Capital information (Ahmed & Mubaraq, 2012; Mention, 2011).

4.5.5 The Need to Influence Impression Applies in Poor Performance

Stakeholder Theory and Legitimacy Theory inform the need for organizations to take responsibility for performance, and report to stakeholders for accountability (Donaldson & Preston, 1995; Kent & Zunker, 2010). Impression Management Theory highlights that organizations may attempt to influence the desired perceptions of themselves when organizations report to stakeholders. This influence of perception is made to enhance their image and perceived value (Abhayawansa & Guthrie, 2012; Highhouse et al., 2009). In investigating the relationship between the communication of IC and organizational performance, this study found that Impression Management Theory is particularly true for organizations that are either in distress or lagging in its performance. The need to influence the impression of the organization thus becomes necessary in light of poor performance. Discussions are further made, in the following paragraphs, on the findings from the perspective of Human Capital information, Relational Capital information and Structural Capital information. A summary is listed in Table 4.13.

From the perspective of Human Capital information, this study found that Return on Assets (ROA) as a function of Human Capital information was statistically significant (likelihood ratio $\chi^2=17.48$, $df=3$, $p<.001$), using Negative Binomial Regression modeling. The ratio, ROA, is often used gauge how effectively the organization is managed, as it measures the ability of the organization to utilize its assets efficiently to generate income (Fathi et al., 2013; Stice & Stice, 2013). From the regression model, it showed that every unit decrease in ROA resulted in an increase of Human Capital information by 56.3%. Past studies have shown that there is a positive impact on the disclosure of Human Capital information on corporate image (Abhayawansa &

Guthrie, 2012; Alvarez Dominguez, 2011). Therefore in compensating for a lackluster performance, as reflected in the ROA, organizations could increase the communication of Human Capital information so as to boost its public image, as suggested by Impression Management Theory.

On Relational Capital information, customers, suppliers and business alliances are deemed assets to the organization. However, these relationships are neither accounted for nor disclosed in the balance sheet. Information on these relationships is often kept under wraps due to competition. This study found the proportion of Net Profit Margin and ROA as a function of Relational Capital information is significant (likelihood ratio $\chi^2=64.74$, $df=3$, $p<.001$), using Negative Binomial Regression modeling. This means that profitable organizations, with undermanaged assets compared to its peers, are likely to disclose more Relational Capital information. There were numerous past studies that highlighted the importance of relational capital, which were evaluated for potential future performance (Clercq & Sapienza, 2006; Kohtamaki et al., 2013; Ordóñez de Pablos, 2004). Organizations that are perceived to have strong relational capital are thus expected to improve in its performance in the future (Clercq & Sapienza, 2006; Kohtamaki et al., 2013; Ordóñez de Pablos, 2004). Reviewing the findings obtained from this study, and in referencing findings to these past works, profitable organizations with low ROA are likely to increase their communication of Relational Capital information to highlight strengths in their organization and to raise the perception of their potential future earnings.

Finally on Structural Capital information, this study found a reverse relationship between Solvency Ratio and Structural Capital information. Poor solvency companies are organizations that are not able meet its long-term financial obligations and therefore, will face difficulty in achieving growth and expansion (Stice & Stice, 2013). The Negative Binomial Regression model was significant in predicting the proportion of Solvency Ratio as a function of Structural Capital information (likelihood ratio $\chi^2=13.25$, $df=3$, $p<.05$), where every unit decrease in the Solvency Ratio increased Structural Capital information by 15.3%. A study conducted in 2012 found that Structural Capital information was necessary to improve the transparency of the organization and enhance its legitimacy (Kateb, 2012). According to Stakeholder Theory, it is the responsibility of management to volunteer information on the

organization's activities and performance (Guthrie et al., 2004). As such, poor solvency companies would be further obligated to volunteer and justify their activities and poor performance to stakeholders. Thus increasing the communication of Structural Capital information.

Table 4.13 provides a summary of the discussion on the use of the communication of IC to influence impression.

Table 4.13 - Summary on the Use of the Communication of IC to Influence Impression

Organizational Performance	The Communication of IC	Influence Impression
<i>Return on Assets (Negative)</i>	Increase communication of Human Capital information	To boost public image
<i>Net Profit Margin (Positive)</i>	Increase communication of	To improve perception of
<i>Return on Assets (Negative)</i>	Relational Capital information	potential future performance and earnings
<i>Solvency Ratio (Negative)</i>	Increase communication of Structural Capital information	To improve transparency and enhance legitimacy

CHAPTER 5

5.1 INTRODUCTION

This final chapter concludes the research carried out in this study. The chapter is organized into three sections. In Section 5.1, as part of the introduction, a recapitulation of chapters is made to provide a summary of the study. This is followed by discussion highlights, where the findings and discussions are presented for each of the three research objectives. In Section 5.2, the contributions from this research are reviewed from three perspectives, namely theoretical, methodological and practical contributions. Finally, in Section 5.3, delimitation, limitations and further research to this study are discussed.

5.1.1 Recapitulation of Chapters

Chapter 1 serves as an introduction to the research topic, outlining the motivations, research questions and research objectives that have guided the scope of this thesis. The main work of this research stems from three fundamental questions - Why, What and How - on the communication of intellectual capital (IC) that have not been addressed sufficiently in literature. Chapter 1 argues that Stakeholder Theory has inspired the 'Why', where the understanding of the factors underlying the communication of IC is insufficient, given the myriad of stakeholders that management is obligated to report its performance. Legitimacy Theory has inspired the 'What' and 'How', to highlight the inadequate insights into the communication of IC for corporate reporting, as management seeks acknowledgement from shareholders. Impression Management Theory adds a different perspective to legitimacy, to suggest possible attempts to obfuscate poor performance. Thus highlighting the need to investigate the relationship between the communication of IC and organizational performance, a relationship that has not been established. The focus of this study is framed in the form of three research questions (RQ) and the corresponding research objectives (RO), as follows:

RQ1: Why do organizations include the communication of IC in their annual report and supplementary corporate disclosure (ARS)?

RO1: Determine the factors underlying the communication of IC

RQ2A: What (content) and how (format) do organizations disclose the communication of IC in their ARS?

RO2A: Ascertain and analyze the content and formats used in the communication of IC

RQ2B: What relationships exist between the communication of IC and the performance of the organization?

RO2B: Ascertain the relationship between the communication of IC and organizational performance

In Chapter 2, a review of the literature was conducted in the areas of intellectual capital (IC), the communication of IC and the topics of the three research objectives - factors underlying the communication of IC, content cum formats used in the communication of IC, and the relationship between the communication of IC and organizational performance. This chapter has three purposes. First, the review and evaluation of theories as well as concepts associated with IC and the communication of IC. Second, theories are examined from the context of the communication of IC to reveal gaps in literature, which include the lack of empirical support for the three research objectives. Finally, literature is reviewed from the perspectives of the three research objectives to establish the timeliness and the significance of this research to practice and theory.

Chapter 3 presents the research methodology to introduce the research design. The chapter also justifies the relevance and validity of the empirical data that supported the study. Mixed methods are adopted for this study because such methods can improve the understanding of inconsistencies and statistical differences for this study, as existing works are dominated by quantitative methods. Three research instruments have been used, namely surveys (Survey A and Survey B), 1-to-1 interviews and codification of content and formats on the communication of IC in the annual report and supplementary corporate disclosure (ARS). These instruments are used to collect

data from two sources - 200 senior executives responsible for publishing their respective bank's ARS, and the ARS of the same banks for the financial year ending 2014. Justifications are also made on the choice of analytical methods, specifically factor analysis, content analysis and regression analysis, used in this study.

Chapter 4 presents the research findings, where the analyses of the empirical data are presented and discussed. The chapter begins with the introduction of the banks and respondent profiles, as well as the descriptive statistics of the sample used for study. Discussions on the study with respect to the three research objectives are summarized in Section 5.1.2.

5.1.2 Discussion Highlights

This section presents the main findings derived from the study of the communication of IC. The three research objectives posed in Chapter 1 are revisited in this section to demonstrate the extent of work done in addressing the points raised.

RO1: Determine the factors underlying the communication of IC

There were four factors found underlying the communication of IC, namely Management Responsibility to Stakeholders, Collective Behavior, Corporate Leadership and Compliance. The study found empirical evidence to show that the factors identified from accounting, business and ethical reporting literature were also applicable in the context of the communication of IC. The findings on each factor are summarized below.

For Management Responsibility to Stakeholders, management's mandate towards stakeholders in the communication of IC not only complied with regulatory requirements, but also garnered support for longer termed investments. On the factor Collective Behavior, herd influence drove the communication of IC, as nobody wanted to be considered outside the pack. Competition, market forces and third parties could also be instrumental in forcing such behavior. As for Corporate Leadership, findings were consistent with past studies that reflected the influence of leadership on strategy, which in turn could affect the emphasis of resources required by the organization and therefore, the disclosure for corporate reporting. Finally on Compliance, legal and

regulatory measures were drivers in the communication of IC. Approximately 60% of the respondents agreed that the need to be compliant was high, even though the communication of IC was not mandatory.

Given the myriad of stakeholders that organizations are obliged to report performance, the managerial branch of Stakeholder Theory emphasized that this obligation should be narrowed to a smaller group of stakeholders that controlled resources required by the organization. Findings from this study extended the managerial branch of Stakeholder Theory by pointing out that in addition to stakeholders that controlled resources, management should also focus on the stakeholders behind the factors underlying the communication of IC. The study found four factors underlying the communication of IC and the discussion highlighted the group of stakeholders behind each factor – Compliance was linked to regulators; Management Responsibility to Stakeholders was linked to the community-at-large, in view of management's moral obligation; Corporate Leadership was linked to investors, stockholders and analysts; and Collective Behavior was linked to peers within the industry. Moreover, the study identified that the way to drive the communication of IC was not only through management buy-in, but also by considering a combination of factors together with supporting management mindset and policies.

RO2A: Ascertain and analyze the content and formats used in the communication of IC

In ascertaining the content used in the communication of IC, findings showed that ANOVA indicated significant difference in the content used in the communication of IC, $F(2,398)=58.69$, $p<0.001$, partial $\eta^2 = .23$. Pairwise comparisons further revealed that Structural Capital information ($M=34.77$, $SD=5.46$), in particular accreditation and processes, was significantly more important than Relational Capital information ($M=31.80$, $SD=5.77$) and Human Capital information ($M=31.10$, $SD=5.83$). Information on clients was most significant for Relational Capital information, and training was most important for Human Capital information. Structural Capital information was found to be most important in the communication of IC. This finding could be peculiar to the banking sector, as banks needed to be transparent to provide assurance on its security and reliability. Structural Capital information was linked to

transparency, Human Capital information to culture and strength, and Relational Capital information to strength and reliance. The findings on the content used in the communication of IC were in line with previous works and contributed empirically. Previous works had limited statistical support, with the exception of Human Capital information.

In terms of format, narratives dominated the formats used in the communication of IC as it was the basis for reporting. Narratives were mostly found in Structural Capital information (84.79%) to provide assurance on operational controls, processes and measures for less exemplary achievements. Pictures were most used in Human Capital information (64.42%) to reflect employees and organizational culture. Pictures also depicted relationships with customers and business alliances, to reflect reliability of the organization. Illustrations were most commonly found to showcase Structural Capital information (57.37%), in particular strategy and risk management processes, which could be characteristics of the banking sector. Human Capital information (27.18%) was also depicted in Illustrations to reflect human resource strategies to attract talent. Graphs and tables mostly reflected Human Capital information (Graphs 55.01%, Tables 50.84%), which often represented comparative, segmented and trending figures to reflect strengths. Findings on formats used in the communication of IC lend empirical support as well as contribute to IC literature, as prior works in this area were thin (Ahmed & Hussainey, 2010; April et al., 2003; Bontis, 2003; Brennan, 2001; Ordóñez de Pablos, 2002). Most studies available on formats were published in non-IC literature, and a number of these studies were centered on graphs and pictures.

As mentioned in Chapter 1, Legitimacy Theory inspired the study of the ‘What’ and ‘How’ in the communication of IC, as management is obligated to report their activities and performance to maintain and restore legitimacy. Using this theory as a lens to study the content and formats used in the communication of IC, the findings from RO2A identified underlying motives in the use of content and formats in the communication of IC to account for legitimacy. A summary of these findings can also be found in Section 4.5.3 (Table 4.13). The communication of IC contained tacit messages to relay management’s efforts in stewarding the organization to stakeholders. A secondary point of discussion raised significant presence of Structural Capital information, which could be peculiar to the banking sector. While prior works

reflected differences, the observed disclosure on Structural Capital information was reportedly increasing.

RO2B: Ascertain the relationship between the communication of IC and organizational performance

For RO2B, Negative Binomial Regression analysis was undertaken to ascertain the relationship between the communication of IC and organizational performance. The communication of IC was examined from the perspectives of Human Capital information, Relational Capital information and Structural Capital information. Organizational performance was indicated by Net Profit Margin (to reflect business continuity), Solvency Ratio (to reflect the solvency of the organization) and Return on Assets (to reflect organizational productivity).

The findings showed that the proportion of Return on Assets ($Z=6.031$, $p<.05$) as a function of Human Capital information was statistically significant (likelihood ratio $\chi^2=17.48$, $df=3$, $p<.001$), with a negative relationship. Relational Capital information (likelihood ratio $\chi^2=64.74$, $df=3$, $p<.001$) was also significant with Net Profit Margin ($Z=14.327$, $p<.001$) and Return on Assets ($Z=30.375$, $p<.001$), where the relationship was positive with Net Profit Margin and negative with Return on Assets. The model for predicting the proportion of Solvency Ratio ($Z=8.117$, $p<.05$) as a function of Structural Capital information was also significant (likelihood ratio $\chi^2=13.25$, $df=3$, $p<.05$), with a negative relationship.

The results from investigating these relationships reflected an improvement to previous studies, which were not able to show a definitive model on the relationship between the communication of IC and organizational performance. Prior studies suggested a correlation between organizational performance and Human Capital information, but offered scanty empirical evidence. This study takes a step a further to show empirical support for the relationship between the communication of each IC Component with the different perspectives of organizational performance, namely business continuity, solvency and productivity.

Impression Management Theory informed that organizations might attempt to influence the desired perceptions of themselves to enhance image and value.

Reviewing the findings from this study under the lens of Impression Management Theory, this study found that Impression Management Theory was applicable particularly for organizations that were either in distress or lagging in its performance. This extended the application of the theory to the context of the communication of IC, and thus would contribute to existing literature. A summary of the research findings and discussion is shown in Figure 5.1.

*RO=Research Objective; HCI=Human Capital information; RC=Relational Capital information; SC=Structural Capital information; ROA=Return on Assets; NPM=Net Profit Margin; Solvency=Solvency Ratio.

Figure 5.1 - Summary of Research Findings and Discussions

5.2 Contributions of the Research

5.2.1 Theoretical Contributions

There are three theoretical contributions from this study, where each contribution detailed below highlights improvements to empirical evidence, contribution to literature and the application of theory in the context of the communication of IC.

Firstly, the exploratory study has found statistical support to show four factors underlying the communication of IC, namely Compliance, Management Responsibilities to Stakeholders, Corporate Leadership and Collective Behavior (as shown in Section 4.2), providing a foundation for further research. Some of these factors were derived from determinants identified from literature outside the field of IC, namely accounting, business strategy, and ethical and environmental reporting (please see Table 2.3). The findings extend the applicability of these factors to the context of the communication of IC, thus contributing to IC literature. Reviewing these factors under the lens of the managerial branch of Stakeholder Theory found that in addition to stakeholders that control resources of the organization (Oliveira et al., 2013; Post et al., 2002), stakeholders behind factors identified in the study should also be focused. These groups of stakeholders involve regulators (Compliance), the community-at-large (Management Responsibility to Stakeholders), investors, stockholders and analysts (Corporate Leadership) and peers (Collective Behavior). In addition, the study is possibly the first paper that investigates the factors of the communication of IC for reporting, where IC is an important asset to organizations.

Secondly, findings on the content and formats used in the communication of IC update literature with current practices and contributed empirically, as previous works in this area were thin and had limited statistical support (discussed in Section 4.3). The study also found that both content and formats contained underlying messages to suggest a means for management to enhance their legitimacy in the organization, as suggested by Legitimacy Theory discussed Section 4.5.3. Human Capital information disclosure with pictures, graphs and tables conveys culture and strength of the organization. Communication of Relational Capital information with pictures and graphs reflects strength and reliability. Structural Capital information in the form of narratives and illustrations expresses transparency. This study also updates literature with insights

into the prevalence of IC and what was communicated. In addition, most studies available on formats were published in non-IC literature. This study thus contributes to IC literature, not only on the use of formats in the communication of IC, but also extends literature with analysis on tables, illustrations and pictures.

Finally, the results from the investigation on the relationship between the communication of IC and organizational performance reflected improvements to show a definitive model, as prior works offered scanty empirical evidence (Madininos et al., 2011). This study provided statistical evidence on the relationship between the communication of each IC Component and different perspectives of organizational performance. Human Capital information was found to have a negative relationship with productivity (Return on Assets); Relational Capital information was positively related to business continuity (Net Profit Margin) but negatively with productivity (Return on Assets); and Structural Capital information was found to have a negative relationship with risk management (Solvency). In addition, the study highlights the applicability of Impression Management Theory to the communication of IC, particularly with organizations that were either in distress or lagging in its performance. The need to influence the impression of the organization became necessary in light of poor performance. These findings thus contribute to IC literature.

5.2.2 Practical Contributions

Practical contributions from this study are organized according to four target audiences, namely regulators, management, auditors and investors.

For regulators, this research offers three practical contributions. Firstly, this study has helped to identify four factors that motivate organizations in the communication of IC. With the global push for greater transparency in corporate reporting by organizations such as IIRC, GRI, WICI and SASB, regulators are increasingly pressured to develop policies and guidelines on the communication of IC (Gan et al., 2013; SASB, 2014). The knowledge of these factors will sharpen regulators' go-to-market messages to promote the adoption of the communication of IC as part of sustainability reporting. For example, regulators could highlight that other than compliance, the communication of IC could be directed at the community-at-large to reflect the

organization's social responsibility and contribution to society (Management's responsibility to stakeholders), or to raise the quality of reporting within the industry to improve standards (Collective Behavior). Secondly, regulators are updated with management thinking and priorities on the content used in the communication of IC. This insight will assist regulators improve existing frameworks for organizations to use as examples and guidelines in reporting IC. For instance, regulators could promote the disclosure of Relational Capital information to showcase strengths and enhance credibility. Finally, the study has brought to attention the potential influence of impression management to the communication of IC, particularly for organizations with lackluster performance. Findings from this study have shown that even in a highly regulated industry such as banking, impression management in the communication of IC can exist. This finding thus highlights some potential risk management issues for regulators to address. In this case, regulators could suggest measures with appropriate guideline in the use of content and format in corporate reporting to monitor practices of impression management, particularly for companies with poor performance. For example, illustrations can be used to reflect processes and operational controls within the organization.

For management of organizations, particularly the senior executives responsible for publishing the ARS, this study also offers three practical contributions. Firstly, the study has helped address management's stay-awake question on which stakeholders to focus on for reporting, given the myriad of stakeholders faced by an organization. There are four groups of stakeholders identified from the factors underlying the communication of IC, namely (1) regulators, (2) community-at-large, (3) peers, and finally, (4) investors, stockholders and analysts, as discussed in Section 4.5.1. Secondly, management can benefit from the empirical evidence found on the relationship between the communication of IC and organizational performance, to help position the organization in better light. For example, organizations with a lackluster ROA may want to boost the communication of Human Capital information and Relational Capital information to enhance their image and impress on their strengths. Organizations with weaker solvency ratios should enhance the communication of their Structural Capital information to reflect process controls and improvements, so as to provide assurance to stakeholders. Finally, the study provides management with a practice guideline on the content and formats used in the communication of IC (as

shown in Table 5.1), which could reduce the arduous process of determining what and how to present its IC.

Table 5.1 - Practice Guideline for Management on the Content and Formats

CONTENT	Human Capital Information	Relational Capital Information	Structural Capital Information
Linked to	Culture and Strength	Strength and Reliability	Transparency
Focus on	#1 Training (To attract and showcase talent for growth)	#1 Clients (To reflect value and trust from customers)	#1 Accreditation (To gain trust and build confidence)
	#2 Human resource (To reflect diversity and fair employment)	#2 Business Alliances	#2 Processes (To reflect process controls and provide assurance)
FORMATS			
<i>Narratives</i>			X
<i>Pictures</i>	X	X	
<i>Tables</i>	X		
<i>Illustrations</i>			X
<i>Graphs</i>	X	X	

For the auditors, two practical contributions are identified. First, this study provides insights into the important IC assets to report. This will serve as a useful reference for practice when advising their clients. In addition, it will also encourage auditors to review information currently not captured in the financial reporting system. Second, this study has highlighted the potential implications of impression management on the communication of IC to defray poor performance. Auditors should thus be cautious when reviewing the content and formats used in the communication of IC before signing off on the ARS.

For the investors, there are also two practical contributions arising from this study. First, this study is deemed essential for investors to better comprehend and identify the various IC that are reported in the ARS. This is important, as IC has been shown to positively contribute to the performance of the organization. Secondly, the study can help to enhance investors' knowledge on how the communication of IC is associated with organizational performance to make informed investment decisions. The study raises the awareness on the usefulness of having a report on the communication of IC

and therefore, investors' demand for such a report. This in turn will inspire further adoption of the communication of IC in the organization's ARS.

5.3 Delimitation, Limitations and Future Research

In terms of delimitation, this study was limited to one industry, namely banks. The study did not include banks that were not active, wound up due to insolvency or under restructuring, as these banks lacked financial information necessary for the study. The focus on one industry could narrow analysis and be unrepresentative of the organizations operating in different industries. However, in Section 3.3.1, it was explained that this study had chosen the banking sector for three reasons: (1) banks were knowledge dependent on its IC to remain competitive and drive performance (Demirguc-Kunt et al., 2013; Gigante & Previati, 2013; Goh, 2005); (2) banks were required to produce annual reports of their performance to regulators and stakeholders, lending themselves available for analysis; and (3) banks had service universality, supporting all organizations across industries, which made them ideal as a test bed for this study. In addition, limiting to one industry had the advantage of omitting potential effects to this study. Future studies could include a longitudinal investigation of banks prior to the financial downfall to ascertain if such performance would influence the communication of IC. A further extension could be made across industries to evaluate the communication of IC in different service or manufacturing sectors.

There were also three other delimitations to this study. First, English language annual report and supplementary corporate disclosure (ARS) of banks were utilized for this study. This removed publications in other mediums such as Japanese, Chinese, Malay and several European languages due to insufficient ability to translate or comprehend the language concerned. Efforts to identify a translator were not conducive during the course of this research. Second, the results only reflected the communication of IC available in ARS and did not include publications in other public domains such as websites, newspaper reports, newsletters, initial public offers, analysts' reports and interim financial reports. This study was centered on the ARS, as it was considered the most important source and medium of communication to all stakeholders for organizations (Bozzolan et al., 2006), as highlighted in Section 3.2.2. Finally, the

study only targeted one financial year of the ARS, that is the financial year ending 2014 (FYE2014). As highlighted in Section 3.2.2, the FYE2014 was chosen as opposed to 2015 because it was the latest financial year available for all banks covered at the point of study. A longitudinal study could be conducted as an extension of this study.

There are several limitations to this study. Firstly, while content analysis was an appropriate technique for investigating the communication of IC in annual reports (Ivoni, 2010; Ousama et al., 2011a; Vafaei et al., 2011), it could also be fraught with subjectivity (Guthrie et al., 2004). This subjectivity could be due to content analysis not employing empirical techniques, and its coders drawing inferences from a body of text and images specific to its context (Krippendorff, 2004). In examining the different formats in the communication of IC, there were limitations in physically counting each format on its own in a number of banks. Such frequency count did not provide sufficient context on the categories of the communication of IC, with the exception of narratives. For example, it was difficult to categorize pictures, as in some cases, narratives were necessary to provide context.

Secondly, in terms of qualitative studies, there were also limitations in the interviews conducted, in particular, the 1-to-1 interviews. This study only conducted 44 of such interviews, as it was dependent on the availability and willingness of the respondents to participate in a longer discussion. Moreover, it was difficult to obtain the participation of senior executives. Although these executives were knowledgeable, their time available to participate in such a study was limited and prioritized low in their perspective. However, while the numbers were few, the insights provided by these respondents were important, and had added value to the overall findings of this study.

Thirdly, while exploratory factor analysis (EFA) was used to identify the factors underlying the communication of IC, this analysis has two limitations. First, EFA could not ensure statistical groupings derived from empirical data are conceptually sound. Confirmatory factor analysis (CFA) is necessary to achieve this. However, there are limitations to extend the sample size in this study. Given that EFA and CFA require a minimum sample size of 200 each, only one method, EFA, was selected for

reasons specified in Section 3.5.1. Secondly, EFA could not demonstrate that the study has included all the relevant variables. Care has been undertaken to identify and include as many variables through literature review. In addition, queries were further made with respondents to ascertain if there were any other variables possible (shown in Section 3.4.1, Table 3.5), to support content validity. There is also limitation in the consideration of factor loadings below 0.4 in EFA, reflected in Section 4.2.1. While it has been recommended that factor loadings should be at least 0.4 (Ferguson & Cox, 1993), the factor loadings greater than 0.30 is still considered acceptable and significant for loading (Allen & Bennett, 2008; Kline, 2014).

There is also limitation in the examination of formats used in the communication of IC. While content analysis was used to examine these formats from the ARS of banks, there were no interviews conducted with respondents to ascertain why certain formats were used over others. There were two reasons for not conducting these interviews. Firstly, there was insufficient empirical evidence available on this topic and limited literature to suggest any form of usage or trend in the use of one format over the other. Secondly, initial groundwork prior to forming the research questions in this study did not provide any substantial feedback on the use of one format over the other. Content analysis on the formats used in the communication of IC was thus necessary to be explored first, to provide context and a basis for exploration, which in turn can create an opportunity for further investigation. This limitation, as well as those discussed in the earlier paragraphs, offered opportunities to expand the coverage of the study across industries globally to improve overall research methodology and to include various medium of communication such as the investor relations website of the organization, investor relations presentations and the initial public offering document, amongst others.

Further research is also recommended in two areas, namely gathering insights from both managers' and users' perspectives, and extending the study of Impression Management Theory on the communication of IC by investigating organizational behavior. Firstly in gathering insights from two perspectives, a review of past studies showed that most of these works were undertaken from the users' perspective (Abhayawansa, 2011; Corcoles et al., 2011; Cuganesan et al., 2006; Khan & Ali, 2010) than from the preparers' (Ahmed & Hussainey, 2010; Christensen & Mohr, 2003;

Huang & Salleh, 2010; Ivoni, 2010). There were even fewer studies undertaken on both perspectives (Ousama et al., 2011b; Rimmel, 2003). Further research in gathering insights from both the preparers' and users' points of view on the communication of IC is important for three reasons. First, it facilitates management and regulators in determining which information on IC should be considered more important to users. Second, it provides greater understanding of demands for the communication of IC and the significance of such information. Finally, the investigation from two perspectives would highlight difference of opinions and gaps in the communication of IC, which in turn would generate greater depth of knowledge in this field. Further comparative analysis could highlight cultural nuances across different geographies, and reporting frameworks catered specifically to different sectors. In addition, future research should increase the number of variables considered, include a longitudinal study to explore the time element of adjustment in a different industry, and provide confirmatory factor analysis or structural equation modeling to confirm the findings from the exploratory factor analysis.

Secondly in extending the study of Impression Management Theory, a review of literature showed that there were few organizational behavior studies undertaken in the communication of IC. Existing studies include the evaluation of the communication of IC and the valuation behavior of analysts (Alwert et al., 2009), the examination of the ambivalent behavior of capital market actors to information on IC (Johanson, 2003), and the assessment of the quality of the communication of IC used in managing public perception of corporate behavior (Melloni, 2015). Scholars have noted the need to further existing understanding of organizational reporting behavior, in particular, how the communication of IC is interpreted and used in decision-making (Goebel, 2015; Husin et al., 2012; Zaini et al., 2015). Impression Management Theory, as covered in Section 2.2.1, highlighted how organizations used the ARS to influence the desired perceptions of themselves in gaining respectability and impressiveness. This study has shown that even banks, which are highly regulated, are also subject to Impression Management Theory. Further investigation on the influence of Impression Management Theory in the communication IC from the organizational behavior perspective is recommended. Such investigations would also allow exploration of the existence of unique trends or characteristics, specific to an industry or across multi-sectors, in the communication of IC, and thus its impact on organizational

performance. In addition, content analysis, which is mostly applied in the quantitative investigation, could be further expanded to analyze the quality of the communication of IC (Beattie & Thomson, 2007; Husin et al., 2012).

REFERENCES

- Abdel-Aziz, A., Shawqi, N., & Bontis, N. (2010). Intellectual capital and business performance in the pharmaceutical sector of Jordan. *Management Decision*, 48(1), 105-131.
- Abdifatah, A., & Nazli, A. (2012). Intellectual capital disclosure trends: Some Malaysian evidence. *Journal of Intellectual Capital*, 13(3), 377-397.
- Abdullah, D., & Sofian, S. (2012). The relationship between intellectual capital and corporate performance. *Procedia-Social and Behavioral Sciences*, 40, 537-541.
- Abernethy, M., & Wyatt, A. (2003). Intangible Assets - An overview. *Study on the measurement of intangible assets and associated reporting practices* (pp. 15-52). Prepared for the Commission of the European Communities Enterprise Directorate General.
- Abeysekera, I. (2006). The project of intellectual capital disclosure: Researching the research. *Journal of Intellectual Capital*, 7(1), 61-77.
- Abeysekera, I. (2007). Intellectual capital reporting between a developing and developed nation. *Journal of Intellectual Capital*, 8(2), 329-329.
- Abeysekera, I. (2008). Motivations behind human capital disclosure in annual reports. *Accounting Forum*, 32(1), 16-29.
- Abeysekera, I. (2010). The influence of board size on intellectual capital disclosure by Kenyan listed firms. *Journal of Intellectual Capital*, 11(4), 504-518.
- Abeysekera, I. (2011). The relation of intellectual capital disclosure strategies and market value in two political settings. *Journal of Intellectual Capital*, 12(2), 319-338.
- Abeysekera, I. (2013). A template for integrated reporting. *Journal of Intellectual Capital*, 14(2), 227-245.
- Abeysekera, I., & Guthrie, J. (2002). An updated review of literature on intellectual capital reporting. *Proceedings of the 16th Australian and New Zealand Academy of Management (ANZAM) Conference*. Beechworth, Australia: ANZAM.
- Abeysekera, I., & Guthrie, J. (2005). An empirical investigation of annual reporting trends of intellectual capital in Sri Lanka. *Critical Perspectives on Accounting*, 16(3), 151-163.
- Abhayawansa, S. (2011). A methodology for investigating intellectual capital information in analyst reports. *Journal of Intellectual Capital*, 12(3), 446-476.
- Abhayawansa, S. (2014a). Milestones in the development of intellectual capital reporting. *International Journal of Business and Management*, 9(2), 114-123.
- Abhayawansa, S. (2014b). A review of guidelines and frameworks on external reporting of intellectual capital. *Journal of Intellectual Capital*, 15(1), 100-141.
- Abhayawansa, S., & Abeysekera, I. (2009). Intellectual capital disclosure from sell-side analyst perspective. *Journal of Intellectual Capital*, 10(2), 294-306.
- Abhayawansa, S., & Guthrie, J. (2010). Intellectual capital and the capital market: a review and synthesis. *Journal of Human Resource Costing & Accounting*, 14(3), 196-226.

- Abhayawansa, S., & Guthrie, J. (2012). Intellectual capital information and stock recommendations: Impression Management? *Journal of Intellectual Capital*, 13(3), 398-415.
- Abodiy, D., Barth, M., & Kasznik, R. (2004). SFAS No. 123 stock-based compensation expense and equity market values. *Accounting Review*, 79(2), 251-275.
- Abraham, J., Morin, L., Renaud, S., Saulquin, J., & Soparnot, R. (2014). What do experts expect from human resource practices. *Global Journal of Business Research*, 7(5), 121-132.
- ACCA. (2008). *Narrative reporting: Analysts' perception of its value and relevance*. London: The Association of Chartered Certified Accountants.
- Adams, C., & McNicholas, P. (2007). Making a difference: Sustainability reporting, accountability and organizational change. *Accounting, Auditing & Accountability Journal*, 20(3), 382-402.
- Adams, S., & Simnett, R. (2011). Integrated reporting: An opportunity for Australia's not-for-profit sector. *Australian Accounting Review*, 21(3), 292-301.
- Adelowotan, M., Cronje, C., & Wingard, C. (2013). The significance of human capital disclosures in corporate annual reports of top South African listed companies: Evidence from the financial directors and managers. *African Journal of Business Management*, 7(34), 3248-3258.
- Agostinelli, A., Specchia, M. L., Liguori, G., Parlato, A., Siliquini, R., Nante, N., Thiene, D., Ricciardi, W., Boccia, A., & La Torre, G. (2012). Data display format and hospital ward reports: effects of different presentations on data interpretation. *The European Journal of Public Health*, ckr205, 1-4.
- Ahangar, R., (2011). The relationship between intellectual capital and financial performance: An empirical investigation in an Iranian company. *African Journal of Business Management*, 5(1), 88-95.
- Ahmed Haji, A. & Hossain, D. (2016). Exploring the implications of integrated reporting on organisational reporting practice. *Qualitative Research in Accounting & Management*, 13(4). 415–444.
- Ahmed Haji, A., & Mohd Ghazali, N. (2012). Intellectual capital disclosure trends: Some Malaysian evidence. *Journal of Intellectual Capital*, 13(3), 377-397.
- Ahmed Haji, A., & Mubaraq, S. (2012). The trends of intellectual capital disclosures: Evidence from the Nigerian banking sector. *Journal of Human Resource Costing & Accounting*, 16(3), 184-209.
- Ahmed Haji, A., & Nazli, A. (2013). A longitudinal examination of intellectual capital disclosures and corporate governance attributes in Malaysia. *Asian Review of Accounting*, 21(1), 27-52.
- Ahmed, A., & Hussainey, K. (2010). Managers' and auditors' perceptions of intellectual capital reporting. *Managerial Auditing Journal*, 25(9), 844-860.
- Ahmed, A., & Mubaraq, S. (2012). The trends of intellectual capital disclosures: Evidence from the Nigerian banking sector. *Journal of Human Resource Costing & Accounting*, 16(3), 184-209.

- Ahmed, K., & Courtis, J. (1999). Associations between corporate characteristics and disclosure levels in annual reports: A meta analysis. *British Accounting Review*, 31(1), 35-61.
- Al Bawaba. (2010, January 18). The first and last line of organizational defense. *Al Bawaba*. Retrieved from <http://www.albawaba.com/news/first-and-last-line-organizational-defense>.
- Al-Ali, N. (2003). *Comprehensive intellectual capital management*. Hoboken, NJ: Wiley.
- Alexander Jr, J., Heck, C., & McElreath, R. (2001). A guide to building a university trading room. *Financial Services Review*, 10(1-4), 209-220.
- Allen, P., & Bennett, K. (2008). *SPSS for the health & behavioral sciences*. Victoria, Australia: Thomson.
- Alvarez, A. (2015). Corporate response to human resource disclosure recommendations. *Social Responsibility Journal*, 11(2), 306-323.
- Alvarez Dominguez, A. (2011). The impact of human resource disclosure on corporate image. *Journal of Human Resource Costing & Accounting*, 15(4), 279-298.
- Alwert, K., Bornemann, M., & Will, M. (2009). Does intellectual capital reporting matter to financial analysts? *Journal of Intellectual Capital*, 10(3), 354-368.
- Ambler, T., & Neely, A. (2008). Narrative reporting in company reports (Working Paper). London: London Business School.
- An, Y., Davey, H., & Eggleton, I. (2011). Towards a comprehensive theoretical framework for voluntary IC disclosure. *Journal of Intellectual Capital*, 12(4), 571-585.
- Anand, N., Gardner, H., & Morris, T. (2007). Knowledge-based innovation: Emergence and embedding of new practice areas in management consulting firms. *Academy of Management Journal*, 50(2), 406-428.
- Anderson, J. (1980). *Cognitive psychology and its implications*. San Francisco: Freeman.
- Anderson, J., & Frankle, A. (1980). Voluntary social reporting: An iso-beta portfolio analysis. *The Accounting Review*, 55(3), 467-467.
- Andriessen, D. (2004). IC valuation and measurement: Classifying the state of the art. *Journal of Intellectual Capital*, 5(2), 230-242.
- April, K., Bosma, P., & Deglon, D. (2003). IC measurement and reporting: Establishing a practice in SA mining. *Journal of Intellectual Capital*, 4(2), 165-180.
- Arvidsson, S. (2011). Disclosure of non-financial information in the annual report. *Journal of Intellectual Capital*, 12(2), 277-300.
- Arya, A., & Mittendorf, B. (2005). Using disclosure to influence herd behavior and alter competition. *Journal of Accounting and Economics*, 40(1-3), 231-246.
- Aubry, M., & Hobbs, B. (2010). A fresh look at the contribution of project management to organizational performance. *Project Management Journal*, 42(1), 3-16.

- Back, K., Lee, C., & Stinchfield, R. (2011). Gambling motivation and passion: A comparison study of recreational and pathological gamblers. *Journal of Gambling Studies*, 27(3), 355-370.
- Bader, E. (2005). Sustainable hotel business practices. *Journal of Retail & Leisure Property*, 5(1), 70-77.
- Banks, E. (2005). *Catastrophic risk: Analysis and management*. West Sussex, UK: John Wiley & Sons Ltd.
- Barney, J. (2007). *Gaining and sustaining a competitive advantage (3rd ed.)*. Upper Saddle River, NJ: Prentice Hall.
- Barth, M., Kasznik, R., & McNichols, M. (2001). Analyst coverage and intangible assets. *Journal of Accounting Research*, 39(1), 1-34.
- Beattie, V. (1999). *Business reporting: The inevitable change*. Edinburgh: Institute of Chartered Accountants of Scotland.
- Beattie, V., & Jones, M. (1992). The use and abuse of graphs in annual reports: A theoretical framework and an empirical study. *Accounting and Business Research*, 22(88), 291-303.
- Beattie, V., & Jones, M. (2002). Measurement distortion of graphs in corporate reports: An experimental study. *Accounting, Auditing & Accountability Journal*, 15(4), 546-564.
- Beattie, V., & Jones, M. (2008). Corporate reporting using graphs: A review and synthesis. *Journal of Accounting Literature*, 27(1), 71-110.
- Beattie, V., & Pratt, K. (2001). *Business reporting: Harnessing the power of the internet for users*. Edinburgh: Institute of Chartered Accountants of Scotland.
- Beattie, V., & Smith, S. (2013). Value creation and business models: Refocusing the intellectual capital debate. *The British Accounting Review*, 45(4), 243-254.
- Beattie, V., & Thomson, S. (2007). Lifting the lid on the use of content analysis to investigate intellectual capital disclosures. *Accounting Forum*, 31(2), 129-163.
- Beattie, V., Dhanani, A., & Jones, M. (2008). Investigating presentational change in UK annual reports: A longitudinal perspective. *Journal of Business Communication*, 45(2), 181-222.
- Beattie, V., McInnes, B., & Fearnley, S. (2002). *Through the eyes of management: A study of narrative disclosures*. London: The Institute of Chartered Accountants in England & Wales.
- Beattie, V., McInnes, B., & Fearnley, S. (2004). A methodology for analysing and evaluating narratives in annual reports: A comprehensive descriptive profile and metrics for disclosure quality attributes. *Accounting Forum*, 28(3), 205-236.
- Beaulieu, P., Williams, S., & Wright, M. (2002). Intellectual capital disclosures in Swedish annual reports. *Proceedings of the World Congress on Intellectual Capital Reading* (pp. 135-156). Woburn, MA, USA: Butterworth-Heinemann.
- Becker, G. (1964). *Human capital*. Chicago: University of Chicago Press.
- Becker, G. (1993). *Human capital: A theoretical and empirical analysis with special references to education (3rd ed.)*. Chicago: University of Chicago Press.

- Becker, G. (2011). *The Oxford handbook of human capital*. Oxford: Oxford University Press.
- Bellora, L., & Buenther, T. (2013). Drivers of innovation capital disclosure in intellectual capital statements: Evidence from Europe. *The British Accounting Review*, 45(4), 255-270.
- Bellringer, A., Ball, A., & Craig, R. (2011). Reasons for sustainability reporting by New Zealand local governments. *Sustainability Accounting, Management and Policy Journal*, 2(1), 126-138.
- Ben-Simchon, J., & Andriessen, D. (2006). *Reporting intellectual capital to augment research, development and innovation in SMEs*. Haag, Netherlands: Universities of Applied Sciences.
- Berger, A., Molyneux, P., & Wilson, J. (2014). *The Oxford handbook of banking*. New York: Oxford University Press.
- Bernadi, R., Bean, D., & Weippert, K. (2005). Minority membership on board of directors: The case for requiring pictures of boards in annual reports. *Critical Perspectives on Accounting*, 16(8), 1019-1033.
- Bernard, H. (2002). *Research methods in Anthropology: Qualitative and quantitative methods (3rd ed.)*. Walnut Creek, CA: AltaMira Press.
- Bernstein, A., & Beeferman, L. (2015). Investor perspectives on human capital management. *Employment Relations Today*, 42(3), 1-7.
- Bezhan, I. (2010). Intellectual capital reporting at UK universities. *Journal of Intellectual Capital*, 11(2), 179-207.
- Bhasin, M. (2011). Disclosure of intellectual capital in annual reports: An empirical study of the Indian IT corporations. *Modern Economy*, 2(1), 455-467.
- Bismuth, A., & Yoshiaki, T. (2008). Creating value from intellectual assets. *Journal of Intellectual Capital*, 9(2), 228-245.
- Blair, M. (2003). Shareholder value, corporate governance, and corporate performance. In P. Cornelius & B. Kogut (Eds.), *Corporate governance and capital flows in a global economy*. Oxford: Oxford University Press.
- Blair, M., & Wallman, S. (2001). *Unseen Wealth*. Washington DC: Brookings Institution.
- Bloomberg. (2015). Bloomberg - History and Facts. Retrieved May 27, 2015, from http://www.bloomberg.com/company/bloomberg-facts/?utm_source=bloomberg-menu
- Boedker, C., Guthrie, J., & Cuganesan, S. (2004). The strategic significance of human capital information in annual reporting. *Journal of Human Resource Costing & Accounting*, 8(2), 7-22.
- Boedker, C., Guthrie, J., & Cuganesan, S. (2005). An integrated framework for visualizing intellectual capital. *Journal of Intellectual Capital, Special Edition: Management Consulting Practices on Intellectual Capital*, 6(4), 25-45.
- Bogdan, R., & Biklen, S. (2003). *Qualitative research for education: An introduction to theory and methods*. Boston, MA: Allyn & Bacon.

- Bontis, N. (1998). Intellectual capital: an exploratory study that develops measures and models. *Management Decision*, 36(2), 63-76.
- Bontis, N. (1999). Managing organizational knowledge by diagnosing intellectual capital: Framing and advancing the state of the field. *International Journal of Technology Management*, 18(5), 433-462.
- Bontis, N. (2001). Assessing knowledge assets: A review of the models used to measure intellectual capital. *International Journal of Management Reviews*, 3(1), 41-60.
- Bontis, N. (2002). Managing organizational knowledge by diagnosing intellectual capital: Framing and advancing the state of the field. In N. Bontis (Ed.), *World Congress on Intellectual Capital Readings (pp. 13-56)*. Woburn, MA, USA: Butterworth-Heinemann.
- Bontis, N. (2003). Intellectual capital disclosure in Canadian corporations. *Journal of Human Resource Costing and Accounting*, 7(1-2), 9-20.
- Bontis, N. (2004). National intellectual capital index: A United Nations initiative for the Arab region. *Journal of Intellectual Capital*, 5(1), 13-39.
- Bontis, N., & Fitz-Enz, J. (2002). Intellectual capital ROI: A causal map of human capital antecedents and consequents. *Journal of Intellectual Capital*, 3(3), 223-247.
- Bontis, N., & Serenko, A. (2009). A follow-up ranking of academic journals. *Journal of Knowledge Management*, 13(1), 16-26.
- Bontis, N., Dragonetti, N., Jacobsen, K., & Roos, G. (1999). The knowledge toolbox: A review of the tools available to measure and manage intangible resources. *European Management Journal*, 17(4), 391-402.
- Botosan, C., & Harris, M. (2000). Motivations for a change in disclosure frequency and its consequences: An examination of voluntary quarterly segment disclosures. *Journal of Accounting Research*, 38(2), 329-353.
- Boyne, G. (2003). What is public service improvement? *Public Administration*, 81(2), 211-227.
- Bozzolan, S., O'Regan, P., & Ricceri, F. (2006). Intellectual capital disclosure (ICD): A comparison of Italy and the UK. *Journal of Human Resource Costing & Accounting*, 10(2), 92-113.
- Brammer, S., & Pavelin, S. (2004). Voluntary social disclosures by large UK companies. *Business Ethics: A European Review*, 13(2/3), 86-99.
- Brammer, S., & Pavelin, S. (2008). Factors influencing the quality of corporate environmental disclosure. *Business Strategy and the Environment*, 17(2), 120-136.
- Brennan, N. (2001). Reporting intellectual capital in annual reports: Evidence from Ireland. *Accounting, Auditing & Accountability Journal*, 14(4), 423-436.
- Brennan, N., & Connell, B. (2000). Intellectual capital: Current issues and policy implications. *Journal of Intellectual Capital*, 1(3), 206-40.
- Brennan, N., Pierce, A., & Guillamon-Saorin, E. (2009). Impression management: Developing and illustrating a scheme of analysis for narrative disclosures - a

- methodological note. *Accounting, Auditing & Accountability Journal*, 22(5), 789-932.
- Brooking, A. (1996). *Intellectual Capital: Core assets for the third millennium enterprise*. London: Thomson Business Press.
- Brown, N., Gordon, L., & Wermers, R. (2006). Herd behavior in voluntary disclosure decisions: An examination of capital expenditure forecasts. *Paper presented at the AAA 2006 Financial Accounting and Reporting Section (FARS) Meeting*. Retrieved from <http://dx.doi.org/10.2139/ssrn.649823>.
- Bukh, P. (2003). The relevance of intellectual capital disclosure: A paradox? *Accounting, Auditing & Accountability Journal*, 16(1), 49-56.
- Bukh, P., Nielsen, C., Gormsen, P., & Mouritsen, J. (2005). Disclosure of information on intellectual capital in Danish IPO prospectuses. *Accounting, Auditing & Accountability Journal*, 18(6), 713-732.
- Bukh, P., Gormsen, P., & Mouritsen, J. (2001). Intellectual capital reports on their way to the stock exchange? (Working Paper). Aarhus, Denmark: Aarhus School of Business.
- Burke, L., & Miller, M. (2001). Phone interviewing as a means of data collection: Lessons learned and practical recommendations. In *Forum Qualitative Sozialforschung/Forum: Qualitative Social Research (Vol. 2, No. 2, Art. 7)*.
- Camelo-Ordaz, C., Martín-Alcázar, F., & Valle-Cabrera, R. (2003). Intangible resources and strategic orientation of companies: An analysis in the Spanish context. *Journal of Business Research*, 56(2), 95-103.
- Cameron, A., & Trivedi, P. (2013). *Regression analysis of count data (2nd ed.)*. New York: Cambridge University Press.
- Campbell, D., McPhail, K., & Slack, R. (2009). Face work in annual reports: A study of the management of encounter through annual reports, informed by Levinas and Bauman. *Accounting, Auditing & Accountability Journal*, 22(6), 907-932.
- Campbell, J. (2000). Asset pricing at the millennium. *Journal of Finance*, 55(4), 1515-1567.
- Carnaghan, C. (1999). Factors influencing managerial decisions about intangible asset disclosures: The role of accountability theory and impression management. University of Alberta, Canada.
- Cañibano, L., Garcia-Ayuso, M., & Sanchez, P. (2000). Accounting for intangibles: A literature review. *Journal of Accounting Literature*, 19, 102-130.
- Carton, R., & Hofer, C. (2007). *Measuring organisational performance: Metrics for entrepreneurship and strategic management research*. Northampton, MA: Edgar Elgar Publishing.
- Castro, G., & Delgado-Verde, M. (2012). Assessing knowledge assets in technology-intensive firms: Proposing a model of intellectual capital. *Journal of Centrum Cathedra*, 5(1), 43-59.
- Cerbioni, F., & Parbonetti, A. (2007). Exploring the effects of corporate governance on intellectual capital disclosure: An analysis of European biotechnology companies. *European Accounting Review*, 16(4), 791-826.

- Chahal, H., & Bakshi, P. (2015). Examining intellectual capital and competitive advantage relationship: Role of innovation and organizational learning. *International Journal of Bank Marketing*, 33(3), 376-399.
- Chan, K. (2009). Impact of intellectual capital on organisational performance: An empirical study of companies in the Hang Seng Index. *The Learning Organization*, 16(1), 4-21.
- Chan, R. (2012, April 13). Making the shift: From corporate social responsibility to corporate sustainability. *Voices in Asia*. Retrieved from <http://www.fungglobalinstitute.org/voices-in-asia/making-the-shift-from-corporate-social-responsibility-to-corporate-sustainability-283.html>. Hong Kong: Fung Global Institute.
- CharteredAccountantsANZ. (2014). *Integrated reporting - A guide for audit committees in Australia and New Zealand*. NSW, Australia: Chartered Accountants Australia and New Zealand.
- Chen, C., Chang, M., & Tseng, C. (2012). Human factors of knowledge-sharing intention among Taiwanese enterprises: A model of hypotheses. *Human Factors and Ergonomics in Manufacturing & Service Industries*, 22(4), 362-371.
- Chen, D., & Dahlman., C. (2005). *The Knowledge Economy, KAM Methodology and World Bank Operations*, Washington: *The World Bank*. Retrieved November 28, 2016, from http://siteresources.worldbank.org/KFDLP/Resources/KAM_Paper_WP.pdf.
- Chen, M., Cheng, S., & Hwang, Y. (2005). An empirical investigation of the relationship between intellectual capital and firms' market value and financial performance. *Journal of Intellectual Capital*, 6(2), 159-176.
- Cheng, E., & Courtenay, S. (2006). Board composition, regulatory regime and voluntary disclosure. *The International Journal of Accounting*, 41(3), 262-289.
- Chimi, C., & Russell, D. (2009). The Likert scale: A proposal for improvement using Quasi-continuous variables. *Proceedings for the Information Systems Education Conference (pp. 1-10)*. Washington DC, USA: Foundation for Information Technology Education.
- Chin, W. (1998). Issues and opinion on structural equation modeling. *MIS Quarterly*, 22(1), 7-16.
- Ching, C., Luther, R., Tayles, M., & Haniffa, R. (2013). Human capital disclosures in developing countries: figureheads and value creators. *Journal of Applied Accounting Research*, 14(2), 180-196.
- Cho, C., Michelon, G., & Patten, D. (2012). Impression management in sustainability reports: An empirical investigation of the use of graphs. *Accounting and the Public Interest*, 12(1), 16-37.
- Cho, C., Roberts, R., & Patten, D. (2010). The language of US corporate environmental disclosure. *Accounting, Organizations and Society*, 35(4), 431-443.
- Chouinard, Y., Ellison, J., & Ridgeway, R. (2011). The sustainable economy. *Harvard Business Review*. Retrieved August 17, 2015, from <https://hbr.org/2011/10/the-sustainable-economy>.

- Christensen, A., & Mohr, R. (2003). Not-for-profit annual reports: What do museum managers communicate? *Financial Accountability & Management*, 19(2), 139-158.
- Chu, P., Lin, Y., Hsiung, H., & Liu, T. (2006). Intellectual capital: An empirical study of ITRI. *Technological Forecasting & Social Change*, 73(1), 886-902.
- Cinquini, L., Passetti, E., Tenucci, A., & Frey, M. (2012). Analyzing intellectual capital information in sustainability reports: Some empirical evidence. *Journal of Intellectual Capital*, 13(4), 531-561.
- Clatworthy, M., & Jones, M. (2001). The effect of thematic structure on the variability of annual report readability. *Accounting, Auditing & Accountability Journal*, 14(3), 311-326.
- Clercq, D., & Sapienza, H. (2006). Effects of relational capital and commitment on venture capitalists' perception of portfolio company performance. *Journal of Business Venturing*, 21(3), 326-347.
- Coakes, S., Steed, L., & Ong, C. (2010). *SPSS - Analysis without anguish (17th ed.)*. Milton, Australia: Wiley.
- Cohen, J. (1960). A coefficient of agreement for nominal scales. *Educational and Psychological Measurement*, 20(1), 37-46.
- Cohen, W., & Levinthal, D. (1990). Absorptive capacity: a new perspective on learning and innovation. *Administrative Science Quarterly*, 35(1), 128-152.
- Coldwell, D., Joosub, T., & Papageorgiou, R. (2012). Responsible leadership in organizational crises: An analysis of the effects of public perceptions of selected SA business organizations' reputations. *Journal of Business Ethics*, 109(2), 133-144.
- Collett, N. (2002). Reactions of the international stock exchange to company employment announcements: Redundancies and new jobs. *Journal of Business Finance & Accounting*, 29(9-10), 1181-1208.
- Collins, J., & Hitt, M. (2006). Leveraging tacit knowledge in alliances: The importance of using relational capabilities to build and leverage relational capital. *Journal of Engineering and Technology Management*, 23(3), 147-167.
- Collis, J., Holt, A., & Hussey, R. (2012). *Business Accounting - An introduction to financial and management accounting (2nd ed.)*. Hampshire, UK: Palgrave Macmillan.
- Connelly, B., Certo, S., Ireland, R., & Reutzel, C. (2011). Signaling theory: A review and assessment. *Journal of Management*, 37(1), 39-67.
- Cooke, T. (1989). Voluntary corporate disclosure by Swedish companies. *Journal of International Financial Management and Accounting*, 1(2), 171-195.
- Corcoles, Y., Santos Penalver, J., & Ponce, A. (2011). Intellectual capital in Spanish public universities: Stakeholders' information needs. *Journal of Intellectual Capital*, 12(3), 356-376.
- Cormier, D., & Magnan, M. (2004). The impact of the web on information and communication modes: The case of corporate environmental disclosure. *International Journal of Technology Management*, 27(4), 393-416.

- Costello, A., & Osborne, J. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical Assessment, Research & Evaluation*, 10(7), 1-9.
- Courtis, J. (1997). Corporate annual report graphical communication in Hong Kong: Effective or misleading? *Journal of Business Communication*, 34(3), 269 - 284.
- Courtis, J. (2004). Colour as visual rhetoric in financial reporting. *Accounting Forum*, 28(3), 265-281.
- Craft, J. (1981). Information disclosure and the role of the accountant in collective bargaining. *Accounting, Organizations and Society*, 6(1), 97-107.
- Creswell, J. (2009). Mapping the field of mixed methods research. *Journal of Mixed Methods Research*, 3(2), 95-108.
- Creswell, J., & Plano Clark, V. (2011). *Designing and conducting mixed methods research (2nd ed.)*. Thousand Oaks, CA: Sage Publications.
- Criado-Jimenez, I., Fernandez-Chulian, M., Larrinaga-Gonzalez, C., & Husillos-Carques, F. (2008). Compliance with mandatory environmental reporting in financial statements: The case of Spain (2001-2003). *Journal of Business Ethics*, 79(3), 245-262.
- Cuganesan, S., Petty, R., & Finch, N. (2006). Intellectual capital reporting: A user perspective. *Proceedings for the Academy of Accounting and Financial Studies Spring International Conference*. New Orleans, USA: Allied Academies.
- Curado, C., Guedes, M., & Bontis, N. (2014). The financial crisis of banks (Before, During and After): An intellectual capital perspective. *Knowledge and Process Management*, 21(2), 103-111.
- Dammak, S., Boujelbene, Y., & Triki, M. (2010). Towards a measurement scale for the voluntary disclosure of the intellectual capital. *Journal of Advanced Research in Management (JARM)*, 1(I), 30-44.
- Davidson, J. (2010). [In]visible [in]tangibles: Visual portraits of the business élite. *Accounting, Organizations and Society*, 35(2), 165-183.
- Davidson, J. (2014). Visual rhetoric and the case of intellectual capital. *Accounting, Organizations and Society*, 39(1), 20-37.
- Davidson, J., & Skerratt, L. (2007). *Words, pictures and intangibles in the corporate report*. Edinburgh: Institute of Chartered Accountants of Scotland.
- Davis, J., & Harrison, S. (2001). *Edison in the boardroom: How leading companies realize value from their intellectual assets*. New York, NY: John Wiley & Sons.
- Davison, J. (2014). Visual rhetoric and the case of intellectual capital. *Accounting, Organizations and Society*, 39(1), 20-37.
- Dean, A., & Kretschmer, M. (2007). Can ideas be capital? Factors of production in the postindustrial economy: A review and critique. *Academy of Management Review*, 32(2), 573-594.
- Deegan, C., & Gordon, B. (1996). A study of the environmental disclosure practices of Australian corporations. *Accounting and Business Research*, 26(3), 187-199.

- Deegan, C., Kent, P., & Lyons, J. (1995). The production of special purpose employee reports: a discussion of Australian evidence and future research possibilities. *International Journal of Business Studies*, 3(1), 31-40.
- Del Baldo, M. (2012). Corporate social responsibility and corporate governance in Italian SMEs: The experience of some "spirited businesses". *Journal of Management & Governance*, 16(1), 1-36.
- Deloitte. (2009). *United Kingdom: Telling performance - Surveying narrative reporting in annual reports in 2009*. London: Deloitte Audit Group.
- Deloitte. (2016). International Integrated Reporting Council (IIRC). *IASPlus*. Retrieved May 3, 2016, from <http://www.iasplus.com/en/resources/sustainability/iirc>.
- Demartini, P., & Pailoni, P. (2013). Implementing an intellectual capital framework in practice. *Journal of Intellectual Capital*, 14(1), 69-83.
- Demirag, I., Sudarsanam, S., & Wright, M. (2000). Corporate governance: Overview and research agenda. *British Accounting Review*, 32(4), 341-354.
- Demirguc-Kunt, A., Detragiache, E., & Merrouche, O. (2013). Bank capital: Lessons from the financial crisis. *Journal of Money, Credit and Banking*, 45(6), 1147-1164.
- Dess, G., & Robinson, R. (1984). Measuring organizational performance in the absence of objective measures: The case of the privately-held firm and conglomerate business unit. *Strategic Management Journal*, 5(3), 265-273.
- Dessi, C., & Floris, M. (2010). When management and customers see eye-to-eye: the agreement factor and performance. *Journal of Small Business and Enterprise Development*, 17(1), 102-122.
- Diaz, A. (2013, January 28). How the usually dry annual report has become brands' secret marketing weapon. *AdvertisingAge (Vol 84, Iss 4)*. Retrieved from <http://adage.com/article/agency-news/annual-report-brands-secret-marketing-weapon/239433/>.
- Dilla, W., & Janvrin, D. (2010). Voluntary disclosure in annual reports: The association between magnitude and direction of change in corporate financial performance and graph use. *Accounting Horizons*, 24(2), 257-278.
- Ditlevsen, M. (2012). Revealing corporate identities in annual reports. *Corporate Communications: An International Journal*, 17(3), 397-403.
- Donaldson, T., & Preston, L. (1995). The stakeholder theory of the corporation: Concepts, evidence, and implications. *Academy of Management Review*, 20(1), 65-91.
- Driessnack, M., Sousa, V., & Mendes, I. (2007). An overview of research designs relevant to nursing: Part 3 - Mixed and multiple methods. *Revista Latino-Americana de Enfermagem*, 15(5), 1046-1049.
- Drucker, P. (1994, November). The age of social transformation. *The Atlantic Monthly (Vol. 274, Iss 5, pp. 53-80)*. Retrieved from <http://www.theatlantic.com/past/docs/issues/95dec/chilearn/drucker.htm>.

- Dulipovici, A., & Baskerville, R. (2007). Conflicts between privacy and property: The discourse in personal and organizational knowledge. *The Journal of Strategic Information Systems*, 16(2), 187-213.
- Dumay, J. (2008). Narrative disclosure of intellectual capital: A "structural" analysis. *Management Research News*, 31(7), 518-537.
- Dumay, J. (2009a). Intellectual capital measurement: A critical approach. *Journal of Intellectual Capital*, 10(2), 190-210.
- Dumay, J. (2009b). Reflective discourse about intellectual capital: Research and practice. *Journal of Intellectual Capital*, 10(4), 489-503.
- Dumay, J. (2015). A critical reflection on the future of intellectual capital: From reporting to disclosure. *Journal of Intellectual Capital*, 17(1), 1-17.
- Dumay, J., & Cai, L. (2015). Using content analysis as a research methodology for investigating intellectual capital disclosure. *Journal of Intellectual Capital*, 16(1), 121-155.
- Dumay, J., & Garanina, T. (2013). Intellectual capital research: A critical examination of the third stage. *Journal of Intellectual Capital*, 14(1), 10-25.
- Dumay, J., Frost, G., & Beck, C. (2015). Material legitimacy: Blending organisational and stakeholder concerns through non-financial information disclosures. *Journal of Accounting and Organizational Change*, 11(1), 2-23.
- Dzinkowski, R. (2000). The measurement and management of intellectual capital: An introduction. *Financial Management*, 78(2), 32-36.
- Eccles, R., Herz, R., Keegan, E., & Philips, D. (2001). *The value reporting revolution*. New York: PricewaterhouseCoopers.
- Edvinsson, L. (1997). Developing intellectual capital at Skandia. *Long Range Planning*, 30(3), 366-373.
- Edvinsson, L. (2013). IC 21: reflections from 21 years of IC practice and theory. *Journal of Intellectual Capital*, 14(1), 163-172.
- Edvinsson, L., & Malone, M. (1997). *Intellectual capital: Realizing your company's true value by findings its hidden brainpower*. New York: Harper Business.
- Edvinsson, L., & Sullivan, P. (1996). Developing a model for managing intellectual capital. *European Management Journal*, 14(4), 356-364.
- Effiok, S., Tapang, A., & Eton, O. (2012). The impact of human capital cost on gross domestic product in Nigeria. *International Journal of Financial Research*, 3(4), 116-126.
- Eisenhardt, K., & Martin, J. (2000). Dynamic capabilities: What are they? *Strategic Management Journal*, Special Issue 21(10-11), 1105-1121.
- Elliott, D., Swartz, E., & Herbane, B. (2010). *Business continuity management: A crisis management approach*. New York: Routledge.
- Ernst & Young. (2014). *Disclosure effectiveness - What investors, company executives and other stakeholders are saying*. New York, US: Ernst & Young LLP.
- European Commission. (2013). *Disclosure of non-financial and diversity information by certain large companies and groups (proposal to amend Accounting*

- Directives). *European Commission*. Retrieved July 10, 2013, from http://europa.eu/rapid/press-release_MEMO-13-336_en.htm.
- Eurosif. (2011). Consultation on non-financial reporting by companies (2011). *European Sustainable Investment Forum*. Retrieved March 9, 2011, from <http://www.eurosif.org/policy/lobbying-activities/corporate-transparency>.
- Fabrigar, L., Wegener, D., MacCallum, R., & Strahan, E. (1999). Evaluating the use of exploratory factor analysis in psychological research. *Psychological Methods*, 4(3), 272-299.
- FASB NN (2001). Getting a grip on intangible assets - What they are, why they matter, and who should be managing them in your organization. *Harvard Management Update*, 6(2), 6-8.
- Farooq, O. (2016). Information content of analyst recommendations: Evidence from the Danish biotechnology sector. *Journal of Applied Business Research*, 32(2), 379-386.
- Falschlunger, L., Eisl, C., Losbichler, H., & Greil, A. (2015). Impression management in annual reports of the largest European companies: A longitudinal study on graphical representations. *Journal of Applied Accounting Research*, 16(3), 383-399.
- Fathi, S., Farahmand, S., & Khorasani, M. (2013). Impact of intellectual capital on financial performance. *International Journal of Academic Research in Economics and Management Sciences*, 2(1), 6-17.
- FD Staff. (2016). Hard to grasp: How finance departments are getting to grips with non-financial reporting. *Financial Director*. Retrieved May 10, 2016, from <http://www.financialdirector.co.uk/2016/05/09/hard-to-grasp-how-finance-departments-are-getting-to-grips-with-non-financial-reporting/>.
- Ferguson, E., & Cox, T. (1993). Exploratory factor analysis: A users' guide. *International Journal of Selection and Assessment*, 1(2), 84-94.
- Fernando, W., & Ekanayake, E. (2015). Do commercial banks use loan loss provisions to smooth their income? Empirical evidence from Sri Lankan commercial banks. *Journal of Finance*, 3(1), 167-179.
- Fernandez, E., Mertins, K., Sequeira, C., & Will, M. (2012). Intellectual Capital Statements in Brazilian SME: Lessons Learned From the First Pilot-Implementations. In *ECKM 2012-Proceedings of the 13th European Conference on Knowledge Management: ECKM*. Cartagena, Spain: Academic Conferences Limited.
- Field, A. (2005). *Discovering statistics using SPSS (2nd edition)*. London: SAGE Publication.
- Fincham, R., & Roslender, R. (2003). Intellectual capital accounting as management fashion: A review and critique. *European Accounting Review*, 12(4), 781-795.
- Firer, S., & Williams, S. (2003). Intellectual capital and traditional measures of corporate performance. *Journal of Intellectual Capital*, 4(3), 348-360.
- Fisher, I. (1906). *The nature of capital and income*. New York: Augustus M. Kelley.
- Fitzgerald, L., & Storbeck, J. (2003). Pluralistic views of performance. *Management Decision*, 41(8), 741-750.

- Fong, P., & Lee, H. (2009). Acquisition, reuse and sharing of knowledge in property management firms. *Facilities*, 27(7/8), 291-314.
- Fornell, C., & Larcker, D. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39-50.
- Fox, G., & Royle, M. (2014). Human capital in service innovation strategy. *International Journal of Management and Marketing Research*, 7(1), 29-47.
- Free, C., & Qu, S. (2011). The use of graphics in promoting management ideas: An analysis of the balanced scorecard 1992-2010. *Journal of Accounting & Organizational Change*, 7(2), 158-189.
- Freeman, E., Harrison, J., Wicks, A., Parmar, B., & Colles, S. (2010). *The problems that stakeholder theory tries to solve Stakeholder Theory (1 ed., pp. 3-29)*. Cambridge: Cambridge University Press.
- Freeman, R. (1984). *Strategic management: A stakeholder approach*. Boston: Pitman.
- Freeman, R. (1999). Divergent stakeholder theory. *Academy of Management Review*, 24(2), 233-236.
- Frink, D., & Ferris, G. (1998). Accountability, impression management, and goal setting in the performance evaluation process. *Human relations*, 51(10), 1259-1283.
- Gan, K., Saleh, Z., Abessi, M., & Huang, C. (2013). Intellectual capital disclosure in the context of corporate governance. *International Journal of Learning and Intellectual Capital*, 10(1), 52-70.
- Garcia-meca, E., Parra, I., Larran, M., & Martinez, I. (2005). The explanatory factors of intellectual capital disclosure to financial analysts. *European Accounting Review*, 14(1), 63-104.
- Gardner, W., & Martinko, M. (1988). Impression management in organizations. *Journal of Management*, 14(2), 321-338.
- Gates, S., & Langevin, P. (2010). Human capital measures, strategy and performance: HR managers' perceptions. *Accounting, Auditing & Accountability Journal*, 23(1), 111-132.
- Gatterbauer, W., Bohunsky, P., Herzog, M., Krupl, B., & Pollak, D. (2007). Towards domain-independent information extraction from web tables. *Proceedings for the 16th International Conference on World Wide Web*. Banff, Alberta, Canada: ACM New York.
- Gelo, O., Braakmann, D., & Benetka, G. (2008). Quantitative and qualitative research: Beyond the debate. *Integrative Psychological and Behavioral Science*, 42(3), 266-290.
- Ghosh, S., & Manji, S. (2014). The impact of intellectual capital on bank risk: Evidence from Indian banking sector IUP *Journal of Financial Risk Management*, 11(3), 18-38.
- Gibbins, M., Richardson, A., & Waterhouse, J. (1990). The management of corporate financial disclosure: Opportunism, ritualism, policies and processes. *Journal of Accounting Research*, 28(1), 121-143.

- Gigante, G., & Previati, D. (2013). Intellectual capital and bank performance: Key issues related to intellectual capital disclosure (Chapter 13). In A. Caretta & G. Mattarocci (Eds.), *Financial systems in troubled waters: Information, strategies and governance to enhance performance in risky times*. Abingdon, UK: Taylor & Francis.
- Gillham, B. (2005). *Research interviewing: The range of techniques, a practical guide*. Berkshire, UK: McGraw-Hill Education.
- Giovanni, P. (2009). The knowledge managers role and tasks for supply chain management success. *Journal of Knowledge Management Practice*, 10(1), 1-15.
- Giuliani, M. (2009). Intellectual capital under the temporal lens. *Journal of Intellectual Capital*, 10(2), 246-259.
- Gliem, J., & Gliem, R. (2003). Calculating, interpreting and reporting Cronbach's Alpha reliability coefficient for likert-type scales. *Proceedings for the Midwest Research to Practice Conference*. Columbus, Ohio: Adult, Continuing and Community Education.
- Goddard, W., & Melville, S. (2001). *Research methodology: An introduction (2nd ed.)*. Lansdowne: Juta & Co Ltd.
- Goebel, V. (2015). Intellectual capital reporting in a mandatory management report: The case of Germany. *Journal of Intellectual Capital*, 16(4), 702-720.
- Goh, P. (2005). Intellectual capital performance of commercial banks in Malaysia. *Journal of Intellectual Capital*, 6(3), 385-396.
- Goh, P., & Lim, K. (2004). Disclosing intellectual capital in company annual reports. *Journal of Intellectual Capital*, 5(3), 500-510.
- Goode, M., & Harris, L. (2007). Online behavioural intentions: An empirical investigation of antecedents and moderators. *European Journal of Marketing*, 41(5/6), 512-536.
- Goodman, P., & Harris, D. (1995). *Productivity in organizations*. In R. S. Nickerson (Ed.), *Emerging needs and opportunities for human factors research*. Washington, DC: The National Academies Press.
- Graham, J., & Smart, S. (2012). *Introduction to Corporate Finance (3rd ed.)*. Mason, OH: South-Western Cengage Learning.
- Granstrand, O. (1999). *The Economics and the Management of Intellectual Property*. Cheltenham: Edward Elgar Publishing.
- Gray, R., Kouhy, R., & Lavers, S. (1995a). Constructing a research database of social and environmental reporting by UK companies: A methodological note. *Accounting, Auditing & Accountability Journal*, 8(2), 78-101.
- Gray, R., Kouhy, R., & Lavers, S. (1995b). Corporate social and environmental reporting: A review of the literature and a longitudinal study of UK disclosure. *Accounting, Auditing & Accountability Journal*, 8(2), 47-77.
- Greco, G. (2012). The management's reaction to new mandatory risk disclosure: A longitudinal study on Italian listed companies. *Corporate Communications: An International Journal*, 17(2), 113-137.

- Green, A. (2006). Knowledge valuation: Building blocks to a knowledge valuation system. *Journal of Information and Knowledge Management Systems*, 36(2), 146-154.
- GRI. (2013). G3.1 Sustainability reporting guidelines. Retrieved July 10, 2016, from <https://www.globalreporting.org/resourcelibrary/G3.1-Sustainability-Reporting-Guidelines.pdf>.
- GRI. (2016a). About GRI. Retrieved January 26, 2016, from <https://www.globalreporting.org/information/about-gri/Pages/default.aspx>.
- GRI. (2016b). Sustainability disclosure database. Retrieved May 10, 2016, from <http://database.globalreporting.org>.
- Groenewald, T. (2008). Memos and memoing. In L. Given (Ed.), *The SAGE encyclopedia of qualitative research methods* (pp. 505-506). Thousand Oaks, CA: Sage.
- Guillaume, M. (2014). Current trends in annual reporting. *ReportWatch from Annual Report on Annual Reports 2014*. Retrieved May 26, 2016, <http://www.reportwatch.net/annual-report-on-annual-reports-2014/current-trends-in-annual-reporting/>.
- Gujarati, D. (2004). *Basic Econometric*. Boston, MA: McGraw-Hill.
- Guthrie, J. (2001). The management, measurement and the reporting of intellectual capital. *Journal of Intellectual Capital*, 2(1), 27-41.
- Guthrie, J., & Abeysekera, I. (2006). Content analysis of social, environmental reporting: What is new? *Journal of Human Resource Costing & Accounting*, 10(2), 114-126.
- Guthrie, J., & Parker, L. (1989). Corporate social reporting: A rebuttal of legitimacy theory. *Accounting and Business Research*, 19(76), 343-352.
- Guthrie, J., & Parker, L. (1990). Corporate social disclosure practice: A comparative international analysis. *Advances in Public Interest Accounting*, 3(1), 159-175.
- Guthrie, J., & Petty, R. (2000). Intellectual capital: Australian annual reporting practices. *Journal of Intellectual Capital*, 1(3), 241-251.
- Guthrie, J., Petty, R., & Ricceri, F. (2005). The voluntary reporting of intellectual capital. *Journal of Intellectual Capital*, 7(2), 254-271.
- Guthrie, J., Petty, R., & Ricceri, F. (2006). The voluntary reporting of intellectual capital: comparing evidence from Hong Kong and Australia. *Journal of Intellectual Capital*, 7(2), 282-293.
- Guthrie, J., Petty, R., Yongvanich, K., & Ricceri, F. (2004). Using content analysis as a research method to inquire into intellectual capital reporting. *Journal of Intellectual Capital*, 5(2), 282-291.
- Guthrie, J., Ricceri, F., & Dumay, J. (2012). Reflections and projections: A decade of intellectual accounting research. *The British Accounting Review*, 44(2), 68-82.
- Guthrie, J., Steane, P., & Farneti, F. (2009). IC reporting in the Australian Red Cross blood service. *Journal of Intellectual Capital*, 10(4), 504-519.
- Gynther, R. (1969). Some conceptualizing on goodwill. *Accounting Review*, April, 247-255.

- Haas, M., & Hansen, M. (2007). Different knowledge, different benefits: Toward a productivity perspective on knowledge sharing in organizations. *Strategic Management Journal*, 28(11), 1133-1153.
- Hackston, D., & Milne, M. (1996). Some determinants of social and environmental disclosures in New Zealand companies. *Accounting, Auditing & Accountability Journal*, 9(1), 77-108.
- Hair, J., Anderson, R., Tatham, R., & Black, W. (1998). *Multivariate data analysis*. Upper Saddle River, NJ: Prentice Hall.
- Hair, J., Black, B., Anderson, R., & Tatham, R. (2005). *Multivariate data analysis*. Upper Saddle River, NJ: Pearson Education.
- Hall, R. (1992). The strategic analysis of intangible resources. *Strategic Management Journal*, 13(2), 135-44.
- Hambrick, D. (2007). Upper echelons theory: An update. *Academy of Management Review*, 32(2), 334-343.
- Harris, L. (2000). A theory of intellectual capital. *Advances in Developing Human Resources*, 2(1), 22-37.
- Harrison, S., & Sullivan, P. (2000). Profiting from intellectual capital: Learning from leading companies. *Journal of Intellectual Capital*, 1(1), 33-46.
- Hassan, M. (2014). Risk narrative disclosure strategies to enhance organizational legitimacy: Evidence from UAE financial institutions. *International Journal of disclosure and Governance*, 11(1), 1-17.
- Heath, R. (2013). *Encyclopedia of public relations (2nd ed.)*. Thousand Oaks, CA: Sage Publications Inc.
- Heitzman, S., Wasley, C., & Zimmerman, J. (2010). The joint effects of materiality thresholds and voluntary disclosure incentives on firms disclosure decisions. *Journal of Accounting and Economics*, 49(1/2), 109-132.
- Heisig, P., Vorbeck, J., & Niebubr, J. (2001). Intellectual capital. In K. Mertins, P. Heisig, & J. Vorbeck, (Eds.), *Knowledge Management - Best Practices in Europe* (pp. 57-73). Berlin: Springer.
- Henson, R., & Roberts, J. (2006). Use of exploratory factor analysis in published research. Common errors and some comment on improved practice. *Educational and Psychological Measurement*, 66(1), 393-416.
- Herziq, C., & Schaltegger, S. (2006). Corporate sustainability reporting: An overview. In S. Schaltegger, M. Bennett & R. Burritt (Eds.), *Sustainability accounting and reporting (Vol. III, pp. 301-324)*. Netherlands: Springer.
- Hess, D., Rogovsky, N., & Dunfee, T. (2002). The next wave of corporate community involvement: Corporate social initiatives. *California Management Review*, 44(2), 110-125.
- Hidalgo, R., Garcia-Meca, E., & Martinez, I. (2010). Corporate governance and intellectual capital disclosure. *Journal of Business Ethics*, 100(3), 483-495.
- Highhouse, S., Brooks, M., & Gregarus, G. (2009). An organizational impression management perspective on the formation of corporate reputations. *Journal of Management*, 35(6), 1481-1493.

- Hiles, A. (2010). *The definitive handbook of business continuity management*. West Sussex, UK: Wiley.
- Hill, N., Roche, G., & Allen, R. (2007). *Customer satisfaction: The customer experience through the customer's eyes*. London: Cogent Publishing Ltd.
- Hillman, A., & Keim, G. (2001). Shareholder value, stakeholder management, and social issues. What's the bottom line? *Strategic Management Journal*, 22(2), 125-139.
- Ho, H., Kin, C., & Cheung, P. (2012). Intellectual capital disclosure and initial public offerings: Evidence from Hong Kong. *Journal of Applied Economics & Business Research*, 2(2), 56-68.
- Holder-Webb, L., Cohen, D., Nath, L., & Wood, D. (2009). The supply of corporate social responsibility disclosures among US firms. *Journal of Business Ethics*, 84(4), 497-527.
- Holland, J. (1997). *Corporate communication with institutional shareholders: Private disclosures and financial reporting*. Edinburgh: Institute of Chartered Accountants of Scotland.
- Holland, J. (2003). Intellectual capital and the capital market - Organisation and competence. *Accounting, Auditing & Accountability Journal*, 16(1), 39-48.
- Holland, J. (2006). *A model of corporate financial communications*. Edinburgh: Institute of Chartered Accountants of Scotland.
- Hossain, M., Tan, M., & Adams, C. (1994). Voluntary disclosure in an emerging capital market: Some empirical evidence from companies listed on the Kuala Lumpur stock exchange. *International Journal of Accounting*, 29(4), 334-351.
- Huang, C., & Salleh, K. (2010). The importance of intellectual capital information to SMEs in Malaysia. *Proceedings for the 2010 International Conference on Science and Social Research (CSSR) (pp. 1171-1176)*. Kuala Lumpur, Malaysia: IEEE.
- Huang, C., Luther, R., & Tayles, M. (2007). An evidence-based taxonomy of intellectual capital. *Journal of Intellectual Capital*, 8(3), 386-408.
- Hubbard, G. (2006). Sustainable organisation performance: Towards a practical measurement system. *Monash Business Review*, 2(3), 25-29.
- Huggins, R., & Weir, M. (2007). Managing intellectual assets in SMEs: Evaluating the scope for policy intervention. *International Journal of Learning and Intellectual Capital*, 4(4), 412-429.
- Hughen, L., & Lulseged, A. (2014). Improving stakeholder value through sustainability and integrated reporting. *The CPA Journal*, 84(3), 57-61.
- Humphrey, C., O'Dwyer, B., & Unerman, J. (2014). The rise of integrated reporting: Understanding to institutionalize a new reporting framework. *Proceedings of a seminar at the University of Bergamo*. Bergamo, Italy: Centre for Social & Environmental Accounting Research (CSEAR). Retrieved from http://www00.unibg.it/dati/corsi/90010/67195-PROF_UNERMAN_SEMINAR_%20INTEGRATED%20REPORTING.pdf
- Husin, N., Hooper, K., & Olesen, K. (2012). Analysis of intellectual capital disclosure - An illustrative example. *Journal of Intellectual Capital* 13(2), 196-220.

- IASB. (2004). *Intangible assets International Accounting Standard (IAS) No. 38*. London: International Accounting Standards Board.
- Iazzolino, G., Migloano, G., & Gregorace, E. (2013). Evaluating intellectual capital for supporting credit risk assessment: An empirical study. *Investment Management and Financial Innovations*, 10(2), 44-54.
- ICAEW. (2007). *UK reporting of intellectual capital*. London: Centre for Business Performance, Institute of Chartered Accountants in England and Wales. Retrieved from <https://www.icaew.com/~media/corporate/files/products/financial%20reporting/uk%20reporting%20of%20intellectual%20capital.ashx>.
- IMF. (2014). Bank size and systemic risk. In L. Laeven, L. Ratnovski, H. Tong (Eds,) *IMF Staff Discussion Note May 2014*. Washington DC: International Monetary Fund. Retrieved from <https://www.imf.org/external/pubs/ft/sdn/2014/sdn1404.pdf>.
- Inyang, B. (2010). Strategic Human Resource Management (SHRM): A paradigm shift for achieving sustained competitive advantage in organization. *International Bulletin of Business Administration*, 1451-243X(7), 23-36.
- Itami, H. (1991). *Mobilizing Invisible Assets*. Cambridge, MA: Harvard University Press.
- Ivancevich, D., & Sawyer, R. (2004). Flowcharting basics for internal auditors. *Internal Auditing*, 19(5), 26-31.
- Ivoni, B. (2010). Intellectual capital reporting at UK universities. *Journal of Intellectual Capital*, 11(2), 179-207.
- Jensen, M., & Meckling, W. (1976). Theory of the firm: Managerial behaviour, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305-360.
- Iyer, V., & Lulseged, A. (2013). Does family status impact US firms' sustainability reporting? *Sustainability Accounting, Management and Policy Journal*, 4(2), 163-189.
- Jiang, B., & Qureshi, A. (2006). Research on outsourcing results: Current literature and future opportunities. *Management Decision*, 44(1), 44-55.
- Jiang, H., Habib, A., & Hu, B. (2011). Ownership concentration, voluntary disclosures and information asymmetry in New Zealand. *The British Accounting Review*, 43(1), 39-53.
- Jindal, S., & Kumar, M. (2012). The determinants of HC disclosures of Indian firms. *Journal of Intellectual Capital*, 13(2), 221-247.
- Johansen, U., Martensson, M., & Skoog, M. (2001). Mobilizing change through the management control of intangibles. *Accounting, Organizations and Society*, 26(7-8), 715-733.
- Johansson, P. (2008). Implementing stakeholder management: A case study at a micro-enterprise. *Measuring Business Excellence*, 12(3), 33-41.
- Judd, C., Smith, E., & Kidder, L. (1991). *Research methods in social relations (6th ed.)*. Fort Worth, Texas: Holt, Rinehard and Winston, Inc.

- Justesen, L., & Mouritsen, I. (2009). The triple visual - translation between photograph, 3D visualizations and calculations. *Accounting, Auditing & Accountability Journal*, 22(6), 973-990.
- Kaiser, H. (1960). The application of electronic computers to factor analysis. *Educational and Psychological Measurement*, 20, 141-151.
- Kaiser, H. (1974). An index of factorial simplicity. *Psychometrika*, 39(1), 31-36.
- Kamath, B. (2008). Intellectual capital disclosure in India: content analysis of "TecK" firms. *Journal of Human Resource Costing & Accounting*, 12(3), 213-224.
- Kamath, G. (2007). The intellectual capital performance of the Indian banking sector. *Journal of Intellectual Capital*, 8(1), 96-123.
- Kannan, G., & Aulbur, W. (2004). Intellectual capital: Measurement effectiveness. *Journal of Intellectual Capital*, 5(3), 389-413.
- Kaplan, R., & Norton, D. (2005). The Balanced Scorecard: Measures that drives performance. *Harvard Business Review*, 83(7/8), 172-183.
- Kaplan, R., & Norton, D. (2007). Using the balanced scorecard as a strategic management system. *Harvard Business Review*, 85(7/8), 150-161.
- Karasz, A. (2011). Chapter 9 - Qualitative and mixed methods research in cross-cultural psychology. In F. van de Vijver, A. Chasiotis & S. Breugelmans (Eds.), *Fundamental questions in cross-cultural psychology*. Cambridge: Cambridge University Press.
- Kateb, I. (2012). An analysis of the determinants of voluntary structural capital disclosure by listed French companies. *International Journal of Business and Management*, 7(11), 95-110.
- Kateb, I. (2015). Voluntary human capital disclosure in French annual reports. *International Journal of Learning and Intellectual Capital*, 12(4), 323-341.
- Kaufmann, L., & Schneider, Y. (2004). Intangibles: A synthesis of current research. *Journal of Intellectual Capital*, 5(3), 366-388.
- Kay, J. (2012). *The Kay review of UK equity markets and long term decision making*. London: Crown.
- Kemp, S. (2004). *Future face, image, identity, innovation*. London: Profile Books.
- Kenny, G. (2014). Five questions to identify key stakeholders. *Harvard Business Review*. Retrieved July 12, 2016, from <https://hbr.org/2014/03/five-questions-to-identify-key-stakeholders/>.
- Kent, P., & Chan, C. (2009). Application of Stakeholder Theory to corporate environmental disclosures. *Corporate Ownership and Control*, 7(1), 399-414.
- Kent, P., & Zunker, T. (2010). Determinants of the voluntary disclosure of employee information in annual reports: An application of Legitimacy Theory. *Proceedings of the 33rd Annual Congress of the European Accounting Association*. Istanbul: European Accounting Association.
- Kent, P., & Zunker, T. (2013). Attaining legitimacy by employee information in annual reports. *Accounting, Auditing & Accountability Journal*, 26(7), 1072-1106.

- Kerwin, R. (2013). Start with Why: How Great Leaders Inspire Everyone to Take Action. *Army Law*, 1(1), 28-47.
- Khan, H., & Ali, M. (2010). An empirical investigation and users' perceptions on intellectual capital reporting in banks: Evidence from Bangladesh. *Journal of Human Resource Costing & Accounting*, 14(1), 48-69.
- Kijek, T., & Angowski, M. (2014). Enabling knowledge creation: Does employees' training stimulate R&D activities? *Proceedings of the European Conference on Knowledge Management (pp.556-562)*. Kidmore End: Academic Conferences International Limited.
- Kirby, J. (2005). Toward a theory of high performance. *Harvard Business Review*, (7/8), 30-39.
- Kirkpatrick, G. (2009). The corporate governance lessons from the financial crisis. *OECD Journal: Financial Market Trends*, (1), 61-87.
- Klettner, A., Clarke, T., & Boersma, M. (2014). The governance of corporate sustainability: Empirical insights into the development, leadership and implementation of responsible business strategy. *Journal of Business Ethics*, 122(1), 145-165.
- Klimontowicz, M. (2010). How intangibles affect the Polish consumers' decisions on the banking market. In S. Rodrigues (Ed.), *Proceedings of the 2nd European Conference on Intellectual Capital (pp.337-345)*. Portugal: Academic Publishing Limited.
- Kline, P. (2014). *An easy guide to factor analysis*. Routledge
- Kohtamaki, M., Partanen, J., & Moller, K. (2013). Making a profit with R&D services - The critical role of relational capital. *Industrial Marketing Management*, 42(1), 71-81.
- Komnienic, B., & Pokrajcic, D. (2012). Intellectual capital and corporate performance of MNCs in Serbia. *Journal of Intellectual Capital*, 13(1), 106-119.
- Kong, E., & Ramia, G. (2010). A qualitative analysis of intellectual capital in social service nonprofit organizations: A theory-practice divide. *Journal of Management and Organization*, 16(5), 23-29.
- Kovtunen, K., & Shatskova, L. (2013). Features of the intellectual capital resources structure in forming intellectual capital. *Business Management Marketing Logistics*, 1(6), 76-81.
- Kozak, M., & Hartley, J. (2012). Presenting numerical values within sentences and text tables. *Journal of American Society for Information Science and Technology*, 63(1), 108-113.
- KPMG. (2009). *Focus on transparency - Trends in the presentation of financial statements and disclosure of information by European banks*. Norway: KPMG LLP. Retrieved on from http://www.kpmg.no/arch/_img/9500301.pdf
- KPMG. (2011). *Integrated reporting - Performance Insight through better business reporting*. UK: KPMG LLC.
- Kress, G., & van Leeuwen, T. (2006). *Reading images - The grammar of visual design*. Oxford: Routledge.

- Krippendorff, K. (2004). *Content analysis: An introduction to its methodology (2nd ed.)*. Thousand Oaks, CA: Sage.
- Kristandl, G., & Bontis, N. (2007). Constructing a definition for intangibles using the resource based view of the firm. *Management Decision*, 45(9), 1510-1524.
- Kwee, K. (2008). Intellectual capital: Definitions, categorization and reporting models. *Journal of Intellectual Capital*, 9(4), 609-638.
- Lacy, S., & Riffe, D. (1996). Sampling error and selecting intercoder reliability samples for nominal content categories: Sins of omission and commission in mass communication quantitative research. *Journalism & Mass Communication Quarterly*, 73(4), 969-973.
- Laerhoven, H., Zaag-Loonen, H., & Derkx, B. (2004). A comparison of Likert scale and visual analogue scales as response options in children's questionnaires. *Acta Paediatrica*, 93(6), 830-835.
- Lajili, K., & Zeghal, D. (2005). Labor cost voluntary disclosures and firm equity values: Is human capital information value-relevant? *Journal of International Accounting, Auditing & Taxation*, 14(2), 121-138.
- Lang, M., & Lundholm, R. (1993). Cross sectional determinants of analysts ratings of corporate disclosures. *Journal of Accounting Research*, 31(2), 245-271.
- Lara, J., Osma, B., & Noguer, B. (2006). Effects of database choice on international accounting research. *Abacus*, 42(3-4), 426-454.
- Leaniz, P., & Bosque, I. (2013). Intellectual capital and relational capital: The role of sustainability in developing corporate reputation. *Intangible Capital*, 9(1), 262-280.
- Lee, T. (1994). The changing form of the corporate annual report. *The Accounting Historians Journal*, 21(1), 215-232.
- Lee, Y., Whiting, R., & Wynn-Williams, K. (2011). Technology, Intellectual Capital Disclosure and Cost of Capital. *GSTF Business Review (GBR)*, 1(1), 51.
- Leech, T., & Leech, L. (2011). Preventing the next wave of unreliable financial reporting: Why US Congress should amend Section 404 of the Sarbanes-Oxley Act. *International Journal of Disclosure and Governance*, 8(4), 295-322.
- Leiponen, A. (2000). Competencies, innovation and profitability of firms. *Economics of Innovation and New Technology*, 9(1), 1-24.
- Leitner, K. (2011). The effect of intellectual capital on product innovativeness in SMEs. *International Journal of Technology Management*, 53(1), 1-18.
- Leitner, K., & Warden, C. (2004). Managing and reporting knowledge-based resources and processes in research organisations: Specifics, lessons learned and perspectives. *Management Accounting Research*, 15(1), 33-51.
- Lengnick-Hall, C., Beck, T., & Lengnick-Hall, M. (2011). Developing a capacity for organizational resilience through strategic human resource management. *Human Resource Management Review*, 21(3), 243-255.
- Leung, S., & Horwitz, B. (2004). Director ownership and voluntary segment disclosure: Hong Kong evidence. *Journal of International Financial Management and Accounting*, 15(3), 235-260.

- Leung, S., Parker, L., & Courtis, J. (2015). Impression management through minimal narrative disclosure in annual reports. *The British Accounting Review*, 47(3), 275-289.
- Lev, B. (2001). *Intangibles: Management, measurement and reporting*. Washington DC: The Brookings Institution.
- Lev, B., & Zambon, S. (2003). Intangibles and intellectual capital: An introduction to a special issue. *European Accounting Review*, 12(4), 597-603.
- Lewis, N., Parker, L., & Sutcliffe, P. (1984). Financial reporting to employees towards a research framework. *Accounting and Business Research*, 14(55), 229-239.
- Li, F. (2008). Annual report readability, current earnings and earnings persistence. *Journal of Accounting and Economics*, 45(2-3), 221-247.
- Li, J., & Mangena, M. (2014). Capital market pressures and the format of intellectual capital disclosure in intellectual capital intensive firms. *Journal of Applied Accounting Research*, 15(3), 339-354.
- Li, J., Mangena, M., & Pike, R. (2012). The effect of audit committee characteristics on intellectual capital disclosure. *The British Accounting Review*, 44(2), 98-110.
- Li, J., Pike, R., & Haniffa, R. (2008). Intellectual capital disclosure and corporate governance structure in UK firms. *Accounting and Business Research*, 38(2), 137-159.
- Liao, L., Low, M., & Davey, H. (2013a). Chinese and English language versions: Intellectual capital disclosure. *Journal of Intellectual Capital*, 14(4), 661-686.
- Liao, P., Chan, A., & Seng, J. (2013b). Intellectual capital disclosure and accounting standards. *Industrial Management & Data Systems*, 113(8), 1189-1205.
- Lin, C., & Edvinsson, L. (2011). *National intellectual capital: A comparison of 40 countries*. New York: Springer Science+ Business Media.
- Lin, L., Huang, I., Du, P., & Lin, T. (2012). Human capital disclosure and organizational performance. *Management Decision*, 50(10), 1790-1799.
- Lindblom, C. (1994). The implications of organizational legitimacy for corporate social performance and disclosure. *Proceedings of the Critical Perspective on Accounting Conference (Vol. 120)*. New York.
- Lipunga, A. (2013). Visualization of intellectual capital disclosures in annual reports of commercial banks of Malawi. *Interdisciplinary Journal of Contemporary Research In Business*, 5(3), 155-169.
- Liu, G., & Wang, E. (2012). Intellectual capital accounting: An alignment between the motive and the accounting approach. *Journal of Human Resource Costing & Accounting*, 16(1), 37-49.
- Liu, X., & Anbumozhi, Y. (2009). Determinant factors of corporate environmental information disclosure: An empirical study of Chinese listed companies. *Journal of Cleaner Production*, 17(6), 593-600.
- Llewellyn, S. (1999). Narratives in accounting and management research. *Accounting, Auditing & Accountability Journal*, 12(2), 220-237.

- Low, M., Samkin, G., & Li, Y. (2015). Voluntary reporting of intellectual capital: Comparing the quality of disclosures from New Zealand, Australian and United Kingdom universities. *Journal of Intellectual Capital*, 16(4), 779-808.
- Lu, W., & Hung, S. (2011). Exploring the operating efficiency of Technology Development Programs by an intellectual capital perspective - A case study of Taiwan. *Technovation*, 31(8), 374-383.
- Lund Research Ltd. (2015). Research strategy: Stratified random sampling. *Laerd dissertation*. Retrieved June 30, 2015, from <http://dissertation.laerd.com/stratified-random-sampling.php-step6>.
- Maak, T., & Pless, N. (2006). Responsible leadership in a stakeholder society: A relational perspective. *Journal of Business Ethics*, 66(1), 99-115.
- Maaloul, A., & Zeghal, D. (2015). Financial statement informativeness and intellectual capital disclosure: An empirical analysis. *Journal of Financial Reporting and Accounting*, 13(1), 66-90.
- MacCallum, R., Widaman, K., Zhang, S., & Hong, S. (1999). Sample size in factor analysis. *Psychological Methods*, 4(1), 84-99.
- Macve, R., & Chen, X. (2010). The "Equator Principles": A success for voluntary codes? *Accounting, Auditing & Accountability Journal*, 23(7), 890-919.
- Madhani, P. (2016). Corporate Governance and Disclosure Practices of Firms: The Impact of Nature and Types of Intellectual Capital. *IUP Journal of Corporate Governance*, 15(3), 7-35
- Maditinos, D., Chatzoudes, D., Tsairidis, C., & Theriou, G. (2011). The impact of intellectual capital on firms' market value and financial performance. *Journal of Intellectual Capital*, 12(1), 132-151.
- Mahoney, J., & Pandian, J. (1992). The resource-based view within the conversation of strategic management. *Strategic Management Journal*, 13(2), 363-383.
- Malik, T. (2012). Disparate association between alliance social capital and the global pharmaceutical firm's performance. *International Business Review*, 21(6), 1017-1028.
- Malina, M., Norreklit, H., & Selto, F. (2011). Lessons learned: Advantages and disadvantages of mixed method research. *Qualitative Research in Accounting & Management*, 8(1), 59-71.
- Manganaris, P., Spathis, C., & Dasilas, A. (2015). The effects of mandatory IFRS adoption and conditional conservatism on European banks. *Journal of Accounting, Auditing and Taxation*, 24, 72-81.
- Mangena, M., Pike, R., & Li, J. (2010). *Intellectual capital disclosure practices and effects on the cost of equity capital: UK evidence*. Edinburgh: The Institute of Chartered Accountants of Scotland.
- March, J., & Sutton, R. (1997). Crossroads - Organizational performance as a dependent variable. *Organizational Science*, 8(6), 698-706.
- María, J., & Marti, V. (2007). In search of in intellectual capital general theory. *Electronic Journal of Knowledge Management*, 5(2), 245-256.

- Marino Jr, A. (1995). Separating your annual report from the herd. *Public Relations Quarterly*, 40(2), 44-48.
- Mariano, S., & Walter, C. (2015). The construct of absorptive capacity in knowledge management and intellectual capital research: Content and text analyses. *Journal of Knowledge Management*, 19(2), 372-400.
- Marr, B., & Chatzkel, J. (2004). Intellectual capital at the crossroads: Managing, measuring and reporting of IC. *Journal of Intellectual Capital*, 5(2), 224-229.
- Marsh. (2012). *Asia Directors' Series*. Singapore: Marsh & McLennan.
- Martini, S., Corvino, A., Doni, F., & Rigolini, A. (2016). Relational capital disclosure, corporate reporting and company performance: Evidence from Europe. *Journal of Intellectual Capital*, 17(2), 186-217.
- Masera, M., & Fovino, I. (2006). Modelling information assets for security risk assessment in industrial settings. *Proceedings of the 15th EICAR Annual Conference*. Hamburg, Germany: European Institute for Computer Antivirus Research.
- Matsunaga, M. (2010). How to factor analyse your data right: Dos, don'ts and how tos. *International Journal of Psychological Research*, 3(1), 97-110.
- Mavrinac, S., & Boyle, T. (1996). Sell-side analysis, non-financial performance evaluation and the accuracy of short-term earnings forecast (Working Paper). Boston, MA: Ernst & Young LLP.
- Maxwell, J. (2011). *A realist approach for qualitative research*. Thousand Oaks, CA: Sage.
- Maxwell, J. (2013). *Qualitative Research Design: An interactive approach (Vol. 41)*. Thousand Oaks, CA: Sage.
- Maxwell, J., & Miller, B. (2008). Categorizing and connecting as components of qualitative data analysis. In S. Hesse-Biber & P. Leavy (Eds.), *Handbook of emergent methods* (pp. 461-477). New York, NY: Guilford Press.
- McElyea, B. (2002). Knowledge management, intellectual capital and learning organizations: A triad of future management integration. *Futurics*, 1(2), 59-65.
- McHugh, M. (2012). Interrater reliability: The Kappa statistics. *Biochemia Medica*, 22(3), 276-282.
- McKinstry, S. (1996). Designing the annual reports of Burton plc from 1930 to 1994. *Accounting, Organizations and Society*, 21(1), 89-111.
- Melloni, G. (2015). Intellectual capital disclosure in integrated reporting: An impression management analysis. *Journal of intellectual Capital*, 16(3), 661-680.
- Menor, L., Kristal, M., & Rosenzweig, E. (2007). Examining the influence of operational intellectual capital on capabilities and performance. *Manufacturing & Service Operations Management*, 9(4), 559-578.
- Mention, A. (2011). Exploring voluntary reporting of intellectual capital in the banking sector. *Journal of Management Control*, 22(3), 279-309.
- Merges, R. (2004). A New Dynamism in the Public Domain. *The University of Chicago Law Review*, 71(1), 183-203.

- Meriam-Webster. (2016). Merriam-Webster Dictionary. Retrieved May 27, 2016, from <http://www.merriam-webster.com/dictionary/graph>.
- Meritum. (2002). Guidelines for managing and reporting on intangibles (Intellectual Capital Report). Brussels: European Committee. Retrieved from http://cordis.europa.eu/docs/publications/7078/70781341-6_en.pdf
- Miller, J., & Whiting, R. (2005). Voluntary disclosure of intellectual capital and the 'hidden value'. *Proceedings of the AFAANZ Conference* (pp. 3-5). Melbourne: Accounting and Finance Association of Australia and New Zealand.
- Milne, M., & Adler, R. (1999). Exploring the reliability of social and environmental disclosure content analysis. *Accounting, Auditing & Accountability Journal*, 12(2), 237-256.
- Mondal, A., & Ghosh, S. (2014). Determinants of intellectual capital disclosure practices of Indian companies. *Journal of Commerce and Accounting Research*, 3(3), 25-36.
- Morgan, D. (1998). Practical strategies for combining qualitative and quantitative methods: Applications to health research. *Qualitative Health Research*, 8(3), 362-376.
- Morris, J., & Baddache, F. (2012). *Back to basics: How to make stakeholder engagement meaningful for your company*. Copenhagen, Denmark: BSR.
- Mouritsen, J., Bukh, P., Johansen, M., Larsen, H., Neilson, C., Haisler, J., & Stakemann, B. (2003). Analysing intellectual capital statements. Copenhagen: Danish Ministry of Science, Technology and Innovation.
- Mouritsen, J., Bukh, P., Larsen, H., & Johansen, M. (2002). Developing and managing knowledge through intellectual capital statements. *Journal of Intellectual Capital*, 3(1), 10-29.
- Mouritsen, J., Bukh, P., & Marr, B. (2004). Reporting on intellectual capital: Why, what and how? *Measuring Business Excellence*, 8(1), 46-54.
- Mouritsen, J., Bukh, P., & Marr, B. (2005). A reporting perspective on intellectual capital. In B. Marr (Ed.), *Perspectives on intellectual capital - Multidisciplinary insights into management, measurement and reporting*. Oxford: Elsevier Butterworth-Heinemann.
- Mouritsen, J., Larsen, H., & Bukh, P. (2001). Intellectual capital and the 'capable firm': narrating, visualising and numbering for managing knowledge. *Accounting, Organisations and Society*, 26(7), 735-762.
- Mubaraq, S., & Abdifatah, A. (2014). The impact of corporate governance attributes on intellectual capital disclosure: A longitudinal investigation of Nigerian banking sector. *Journal of Banking Regulation*, 15(2), 144-163.
- Mundfrom, D., Shaw, S., & Tian, L. (2005). Minimum sample size recommendations for conducting factor analyses. *International Journal of Testing*, 5(2), 159-168.
- Muñiz, J., García-Cueto, E., & Lozano, L. (2005). Item format and the psychometric properties of the Eysenck Personality Questionnaire. *Personality and individual differences*, 38(1), 61-69.
- Munz, M. (2016). Intellectual capital reporting, leadership and strategic change. *Journal of Applied Accounting Research*, 17(1), 61-83.

- Murali, D. (2012, May 12). Herd behaviour. Chennai: The Hindu Businessline. Retrieved from <http://www.thehindubusinessline.com/portfolio/macro-view/herd-behaviour/article3412556.ece>.
- Nahapiet, J., & Ghoshal, S. (1998). Social capital, intellectual capital, and the organizational advantage. *Academy of management review*, 23(2), 242-266.
- Nara, Y. (2009). Risk experience, information, and chance discovery: Focusing on earthquakes in China. *International Journal of Advanced Intelligence Paradigms*, 2(2-3), 159-179.
- Nelson, R., & Winter, S. (1982). *An evolutionary theory of economic change*. Cambridge, MA: Harvard University Press.
- Nerdrum, L., & Erikson, T. (2001). Intellectual capital: A human capital perspective. *Journal of Intellectual Capital*, 2(2), 127-135.
- Neu, D., Warsame, H., & Pedwell, K. (1998). Managing public impressions: Environmental disclosures in annual reports. *Accounting, Organizations and Society*, 23(3), 265-282.
- Newbert, S. (2007). Empirical research on the resource-based view of the firm: An assessment and suggestions for future research. *Strategic Management Journal*, 28(2), 121-146.
- Ng, A. (2006). Reporting intellectual capital flow in technology-based companies: Case studies of Canadian wireless technology companies. *Journal of Intellectual Capital*, 7(4), 492-510.
- Ngah, R., & Ibrahim, A. (2009). The relationship of intellectual capital, innovation and organizational performance: A preliminary study in Malaysian SMEs. *International Journal of Management Innovation Systems*, 1(1), 1-13.
- Nielsen, C., Nikolaj, B., Mouritsen, J., Rosenkrands, M., & Gormsen, P. (2006). Intellectual capital statements on their way to the stock exchange: Analyzing new reporting systems. *Journal of Intellectual Capital*, 7(2), 221-240.
- Nurunnabi, M., Hossain, M., & Hossain, M. (2011). Intellectual capital reporting in South Asian country: Evidence from Bangladesh. *Journal of Human Resource Costing & Accounting*, 15(3), 196-233.
- O'Sullivan, N. (2000). The impact of board composition and ownership on audit quality: Evidence from large UK companies. *British Accounting Review*, 32(4), 397-414.
- OECD. (1992). *The growth and management of intangible investment Technology and the Economy: The Key Relationships*. Paris: OECD.
- OECD. (1999). *Measuring and reporting intellectual capital: Experience, issues and prospects*. Amsterdam: OECD.
- OECD. (2014). *The evolution of corporate reporting for integrated performance*. Paris.
- Ogden, J., & Lo, J. (2012). How meaningful are data from Likert scales? An evaluation of how ratings are made and the role of the response shift in the socially disadvantaged. *Journal of Health Psychology*, 17(3), 350-361.
- Ohlhorst, F. (2012). *Big data analytics: Turning big data into big money*. Hoboken, NJ: John Wiley & Sons.

- Oliveira, L., & Russell, C. (2010). Intellectual capital reporting in sustainability reports. *Journal of Intellectual Capital*, 11(4), 575-594.
- Oliveira, L., Rodrigues, L., & Craig, R. (2013). Stakeholder Theory and the voluntary disclosure of intellectual capital information. *Caspian Journal of Applied Sciences Research*, 2(3), 75-93.
- Oliveras, E., Gowthorpe, C., Kasperskaya, Y., & Perramon, J. (2008). Reporting intellectual capital in Spain. *Corporate Communications: An International Journal*, 13(2), 168-181.
- Ordóñez de Pablos, P. (2002). Evidence of intellectual capital measurement from Asia, Europe, and the Middle East. *Journal of Intellectual Capital*, 3(3), 287-302.
- Ordóñez de Pablos, P. (2003). Intellectual capital reporting in Spain: A comparative view. *Journal of Intellectual Capital*, 4(1), 61-81.
- Ordóñez de Pablos, P. (2004). The importance of relational capital in service industry: The case of the Spanish banking sector. *International Journal of Learning and Intellectual Capital*, 1(4), 431-440.
- Ordóñez de Pablos, P. (2005). Intellectual capital reports in India: Lessons from a case study. *Journal of Intellectual Capital*, 6(1), 141-149.
- Orens, R., Aerts, W., & Lybaert, N. (2009). Intellectual capital disclosure, cost of finance and firm value. *Management Decision*, 47(10), 1536-1554.
- Osiris. (2015). Osiris - Information on listed and major unlisted companies across around the world. Retrieved May 27, 2015, from <http://www.bvdinfo.com/Products/Company-Information/International/OSIRIS.aspx>.
- Osma, B., & Guillamon-Saorin, E. (2011). Corporate governance and impression management in annual results press releases. *Accounting, Organizations and Society*, 36(1), 187-208.
- Ousama, A., Abdul Hamid, F., & Abdul Rashid Hafiz, M. (2011a). Effects of intellectual capital information disclosed in annual reports on market capitalization. *Journal of Human Resource Costing & Accounting*, 15(2), 85-101.
- Ousama, A., Fatima, A., & Majdi, A. (2011b). Usefulness of intellectual capital information: preparers' and users' views. *Journal of Intellectual Capital*, 12(3), 430-445.
- Pablos, P. (2003). Knowledge management projects: State of the art in the Spanish manufacturing industry International. *Journal of Manufacturing Technology and Management*, 14(4), 297-310.
- Park, S. (2012). *Contagion of bank failures - the relation to deposit insurance and information*. Oxon: Routledge.
- Parker, L. (2006). Photo-elicitation: An ethno-historical accounting and management research prospect. *Accounting, Auditing & Accountability Journal*, 22(7), 1111-1129.
- Pazarskis, M., Alexandrakis, A., Notopoulos, P., & Kydros, D. (2011). IFRS adoption effects in Greece: Evidence from the IT sector. *MIBES Transactions-International Journal*, 5(2), 101-111.

- Pedrini, M. (2007). Human capital convergences in intellectual capital and sustainability reports. *Journal of Intellectual Capital*, 8(2), 346-346.
- Penrose, E. (1959). *The theory of the growth of the firm*. New York: Wiley.
- Penrose, J. (2008). Annual report graphic use: A review of the literature. *Journal of Business Communication*, 45(2), 158-180.
- Perrini, F., & Tencati, A. (2006). Sustainability and stakeholder management: The need for new corporate performance evaluation and reporting systems. *Business Strategy and the Environment*, 15(5), 296-308.
- Peterson, R. (1994). A meta-analysis of Cronbach's coefficient alpha. *Journal of Consumer Research*, 21(2), 381-391.
- Petty, R., & Cuganesan, S. (2005). Voluntary disclosure of intellectual capital by Hong Kong companies: Examining size, industry and growth effects over time. *Australian Accounting Review*, 15(36), 40-50.
- Petty, R., & Guthrie, J. (2000). Intellectual capital literature review: Measurement, reporting and management. *Journal of Intellectual Capital*, 1(2), 155-176.
- Pezzuto, I. (2016). *Predictable and Avoidable: Repairing Economic Dislocation and Preventing the Recurrence of Crisis*. New York: Routledge.
- Pike, S., Fernstrom, L., & Roos, G. (2005). Intellectual capital: Management approach in ICS Ltd. *Journal of Intellectual Capital*, 6(4), 489-509.
- Platts, K., & Tan, K. (2004). Strategy visualisation: Knowing, understanding, and formulating. *Management Decision*, 42(5), 667-676.
- Podsakoff, P., MacKenzie, S., Lee, J., & Podsakoff, N. (2003). Common method biases in behaviour research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 897-903.
- Pollard, D. (2000). Becoming knowledge-powered: Planning the transformation. *Information Resources Management Journal*, 13(1), 55-56.
- Porter, M. (1985). *Competitive Advantage*. New York: Free Press.
- Post, J., Preston, L., & Sachs, S. (2002). Managing the extended enterprise: The new stakeholder view. *California Management Review*, 45(1), 6-28.
- Prajogo, D., Power, D., & Sohal, A. (2004). The role of trading partner relationships in determining innovation performance: an empirical examination. *European Journal of Innovation Management*, 7(3), 178-186.
- PricewaterhouseCoopers. (2014). *Towards more relevant reporting Singapore*. Singapore: PricewaterhouseCoopers LLP.
- Prior, D., Surroca, J., & Tribo, J. (2008). Are socially responsible managers really ethical? Exploring the relationship between earnings management and corporate social responsibility. *Corporate Governance: An international Review*, 16(3), 160-177.
- Pritchard, R. (1990). *Measuring and improving organizational productivity: A practical guide*. New York: Greenwood Publishing Group, Inc.
- Pritchard, R. (1995). *Productivity measurement and improvement: Organizational case studies*. New York: Greenwood Publishing Group, Inc.

- Prusak, L. (1997). *Knowledge in organizations*. Newton, MA: Butterworth-Heinemann.
- Pulic, A. (1998). Measuring the performance of intellectual potential in knowledge economy. *Proceedings of the 2nd McMaster World Congress on Measuring and Managing Intellectual Capital by the Austrian Team for Intellectual Potential*. Ontario, Canada: DeGroote School of Business, McMaster University
- Rastogi, P. (2003). The nature and role of IC - Rethinking the process of value creation and sustained enterprise growth. *Journal of Intellectual Capital*, 4(2), 227-48.
- Ratiu, R., & Tiron Tudor, A. (2012). The definition of goodwill - A chronological overview. *Proceedings of the Romanian economy in the globalization conjecture on crisis background (pp. 54-59)*. Bucharest, Romania: "Artifex" University of Bucharest.
- Reverte, C. (2009). Determinants of corporate social responsibility disclosure ratings by Spanish listed firms. *Journal of Business Ethics*, 88(2), 351-366.
- Richard, P., Devinney, T., Yip, G., & Johnson, G. (2009). Measuring organizational performance: Towards methodological best practice. *Journal of Management*, 35(3), 718-804.
- Rimmel, G. (2003). Human Resource Disclosures – A Comparison of Information, Providers and Users in Two Corporations. *Proceedings of the 17th Nordic Conference on Business Studies (pp. 1-34)*. Reykjavik, Iceland: Scandinavian Academy of Management.
- Robb, S., & Zarzeski, M. (2001). Nonfinancial disclosures across Anglo-American countries. *Journal of International Accounting, Auditing & Taxation*, 10(1), 71-83.
- Rodov, I., & Leliaert, P. (2002). FiMIAM: Financial method of intangible assets measurement. *Journal of Intellectual Capital*, 3(3), 323-336.
- Roos, G., Plke, S., & Fernstrom, L. (2007). *Managing intellectual capital in practice*. Oxford: Butterworth-Heinemann.
- Roos, J., Roos, G., Dranonetti, N., & Edvinsson, L. (1997). *Intellectual capital: Navigating in the new business landscape*. London: Macmillan.
- Rose, J., & Bliemer, M. (2013). Sample size requirements for stated choice experiments. *Transportation*, 40(5), 1021-1041.
- Ross, G., & Ross, J. (1997). Measuring your company's intellectual performance. *Long Range Planning*, 30(3), 413-426.
- Rudrajeep, P., Torstensson, H., & Mattila, H. (2011). Organisational resilience and health of business systems. *International Journal of Business Continuity and Risks Management*, 2(4), 372-398.
- Rylander, A., & Peppard, J. (2003). From implementing strategy to embodying strategy: Linking strategy, identity and intellectual capital. *Journal of Intellectual Capital*, 4(3), 316-331.
- Saad, S., & Hassan, M. (2013). The nature and motivation of Human Capital Reporting (HCR): a preliminary study. *Malaysian Accounting Review*, 12(2), 19-46.

- Sadowski-Rasters, G., Duysters, G., & Sadowski, B. (2006). *Communication and cooperation in the virtual workplace*. Cheltenham, UK: Edward Elgar Publishing Inc.
- Saenz, J. (2005). Human capital indicators, business performance and market-to-book ratio. *Journal of Intellectual Capital*, 6(3), 374-384.
- Saint-Onge, H. (1996). Tacit knowledge the key to the strategic alignment of intellectual capital. *Planning Review*, 24(2), 10-16
- Saleh, N., Hassan, M., Jaffar, R., & Shukor, Z. (2010). Intellectual capital disclosure quality: Lessons from selected Scandinavian countries. *IUP Journal of Knowledge Management*, 8(4), 39-60.
- Salleh, K., & Clivon, N. (2015). Intellectual capital reporting practices by knowledge intensive companies and traditional product based companies: Empirical evidence. *Proceedings of the International Conference on Intellectual Capital and Knowledge Management and Organisational Learning (pp.213-221)*. Bangkok: Academic Conferences International Limited
- Samkin, G., & Schneider, A. (2010). Accountability, narrative reporting and legitimation: the case of a New Zealand public benefit entity. *Accounting, Auditing & Accountability Journal*, 23(2), 256-289.
- Sanchez, M., & Elena, S. (2006). Intellectual capital in universities: Improving transparency and internal management. *Journal of Intellectual Capital*, 7(4), 529-548.
- Sasikala, C. (2010). Knowledge management & collaboration in steel industry: A case study. In S. Chu, W. Ritter & S. Hawamdeh (Eds.), *Managing Knowledge for Global and Collaborative Innovations (Vol. 8, pp. 81-91)*. Singapore: World Scientific.
- Savoie, A., & Morin, E. (2002). Representations of the organizational effectiveness: Recent developments. In R. Jacob, A. Rondeau & D. Luc (Eds.), *Transforming the organization: The strategic management of change*. Montreal, Quebec: Revue Gestion.
- Schlenker, B. (1980). *Impression management: The self-concept, social identity, and interpersonal relations*. Belmont, CA: Brooks-Cole.
- Schneider, A., & Samkin, G. (2008). Intellectual capital reporting by the New Zealand local government sector. *Journal of Intellectual Capital*, 9(3), 456-486.
- Schneider, D. (1981). Tactical self-presentations: Towards a broader perception. In J. T. Tedeschi (Ed.), *Impression management theory and social psychological research (pp. 23-40)*. New York: Academic Press.
- Schultz, T. (1961). Investment in human capital. *American Economic Review*, (51), 1-17.
- Schultz, T. (1963). *The economic value of education*. New York: Columbia University Press.
- Schuster, P., & O'Connell, V. (2006). The trend toward voluntary corporate disclosures. *Management Accounting Quarterly*, Winter, 7(2), 1-9.

- Serena Chiucchi, M. (2013). Measuring and reporting intellectual capital: Lessons learnt from some interventionist research projects. *Journal of Intellectual Capital*, 14(3), 395-413.
- Serenko, A., & Bontis, N. (2009). Global ranking of knowledge management and intellectual capital academic journals. *Journal of Knowledge Management*, 13(1), 4-15.
- Serenko, A., & Bontis, N. (2013). Global ranking of knowledge management and intellectual capital academic journals: 2013 update. *Journal of Knowledge Management*, 17(2), 307-326.
- Serenko, A., Bontis, N., Booker, L., Sadeddin, K., & Hardie, T. (2010). A scientometric analysis of knowledge management and intellectual capital academic literature (1994-2008). *Journal of Knowledge Management*, 14(1), 3-23.
- Setia, N., Abhayawansa, S., Joshi, M., & Huynh, A. (2015). Integrated reporting in South Africa: Some initial evidence. *Sustainability Accounting, Management and Policy Journal*, 6(3), 397-424.
- Shah, S., & Corley, K. (2006). Building better theory by bridging the quantitative-qualitative divide. *Journal of Management Studies*, 43(8), 1821-1835.
- Shapiro, B. (1997). Objectivity, relativism, and truth in external financial reporting: What's really at stake in the disputes? *Accounting, Organizations and Society*, 22(2), 165-185.
- Sharabati, A., Jawad, S., & Bontis, N. (2010). Intellectual capital and business performance in the pharmaceutical sector of Jordan. *Management Decision*, 48(1), 105-131.
- Shiller, R. (2012). *The subprime solution: how today's global financial crisis happened, and what to do about it*. New Jersey: Princeton University Press.
- Sills, S., & Song, C. (2002). Innovations in survey research an application of web-based surveys. *Social Science Computer Review*, 20(1), 22-30.
- Silverman, D. (2006). *Interpreting qualitative data: Methods for analysing talk, text and interaction (3rd ed.)*. London: Sage.
- Sinek, S. (2009). *Start with why: How great leaders inspire everyone to take action*. Penguin.
- Singapore Exchange. (2015). Guide to sustainability reporting for listed companies. Retrieved March 11, 2016, from <http://www.sgx.com/wps/wcm/connect/594c9a8043bbec2a90a0b78792afe0f7/Guide+to+Sustainability+Reporting+for+Listed+Companies.pdf?MOD=AJPERES>
- Slack, R., & Munz, M. (2016). Intellectual capital reporting, leadership and strategic change. *Journal of Applied Accounting Research*, 17(1), 61-83.
- Smith, M., & Taffler, R. (2000). The chairman's statement: A content analysis of discretionary narrative disclosures. *Accounting, Auditing & Accountability Journal*, 13(5), 624-647.
- Smith, G. (1994). *The New Role of Intellectual Property in Commercial Transactions.*, New York: Wiley.

- Smith, S. (2014). Integrated reporting, corporate governance, and the future of the accounting function. *International Journal of Business and Social Science*, 5(10), 58-63.
- Soebiyakto, B., Agustina, M., & Mukhtaruddin. (2015). Analysis of intellectual capital disclosure practices: Empirical study on services companies listed on Indonesia Stock Exchange. *GSTF Business Review*, 4(1), 80-96.
- Sonnier, B. (2008). Intellectual capital disclosure: High-tech versus traditional sector companies. *Journal of Intellectual Capital*, 9(4), 705-722.
- Spear, S., & Roper, S. (2013). Using corporate stories to build the corporate brand: an impression management perspective. *Journal of Product & Brand Management*, 22(7), 491-501.
- Spoehr, K., & Lehmkuhle, S. (1982). *Visual information processing*. San Francisco: Freeman.
- Sroufe, R., & Ramos, D. (2015). The Un-balanced Sheet: A call for integrated bottom line reporting. In L. O'Riordan, P. Zmuda & S. Heinemann (Eds.), *New Perspectives on Corporate Social Responsibility* (pp. 249-273). Fachmedien Wiesbaden: Springer.
- Stanton, P., & Stanton, J. (2002). Corporate annual reports: research perspectives used. *Accounting, Auditing & Accountability Journal*, 15(4), 478-500.
- Steenkamp, N., & Hooks, J. (2011). Does including pictorial disclosure of intellectual capital resources make a difference? *Pacific Accounting Review*, 23(1), 52-68.
- Stewart, T. (1991, June 3). Brainpower: How intellectual capital is becoming America's most valuable asset. *Fortune*, June, 44-60.
- Stewart, T. (1994, October 3). Your company's most valuable asset. *Fortune*, October, 68-74.
- Stewart, T. (1997). *Intellectual capital: The new wealth of organisations*. New York: Doubleday/Currency.
- Stice, E., & Stice, J. (2013). *Intermediate accounting*. Mason, OH: Cengage Learning.
- Stiglitz, J. (2008). The fruit of hypocrisy: Dishonesty in the finance sector dragged us here, and Washington looks ill-equipped to guide us out. United Kingdom: The Guardian. Retrieved on 28 November 2016 from: <https://www.theguardian.com/commentisfree/2008/sep/16/economics.wallstreet>.
- Striukova, L., Unerman, J., & Guthrie, J. (2008). Corporate reporting of intellectual capital: Evidence from UK companies. *The British Accounting Review*, 40(4), 297-313.
- Stubbs, W., & Higgins, C. (2014). Integrated reporting and internal mechanisms of change. *Accounting, Auditing & Accountability Journal*, 27(7), 1068-1089.
- Subramaniam, M., & Youndt, M. (2005). The influence of intellectual capital on the types of innovative capabilities. *Academy of Management Journal*, 48(3), 450-463.
- Sullivan, P. (2000). *Value-driven intellectual capital: How to convert intangible corporate assets into market value*. New York: John Wiley & Sons Inc.

- Sveiby, K. (1989). Invisible balance sheet. Retrieved May 15, 2013, from <http://www.sveiby.com/books/DenOsynligaEng.pdf>.
- Sveiby, K. (1997). *The new organizational wealth: Managing and measuring knowledge-based assets*. San Francisco, CA: Berrett-Kohler Publishers.
- Sveiby, K. (2001a). *The "Invisible" balance sheet*. Stockholm: Affarfgarblen.
- Sveiby, K. (2001b). A knowledge-based theory of the firm guide in strategy formulation. *Journal of Intellectual Capital*, 2(4), 344-358.
- Sveiby, K. (2007). Methods for measuring intangible assets. Retrieved 2011 March 10, 2007, from <http://www.sveiby.com/articles/IntangibleMethods.htm>.
- Swieringa, R., & Weick, K. (1987). Management accounting and action. *Accounting, Organizations and Society*, 12(3), 293-308.
- Sydler, R., Haeffliger, S., & Pruksa, R. (2014). Measuring intellectual capital with financial figures: Can we predict firm profitability? *European Management Journal*, 32(2), 244-259.
- Tan, H., Plowman, D., & Hancock, P. (2008). The evolving research on intellectual capital. *Journal of Intellectual Capital*, 9(4), 585-608.
- Tao, J., Daniele, J., Hummel, E., Goldheim, D., & Slowinski, G. (2005). Developing an effective strategy for managing intellectual assets. *Research-Technology Management*, 48(1), 50-58.
- Tartari, V., Perkmann, M., & Salter, A. (2014). In good company: The influence of peers on industry engagement by academic scientists. *Research Policy*, 43(7), 1189-1203.
- Tee, J., Dumay, J., & Kokubu, K. (2015). A critical examination of implementing government sponsored intellectual capital management and reporting programs for small and medium enterprises: Hong Kong and Japan. *VINE*, 45(2), 214-238.
- Teece, D., & Pisano, G. (1994). The dynamic capabilities of firms: An introduction. *Industrial and Corporate Change*, 3(3), 537-556.
- Teece, D., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7), 509-533.
- Thanassoulis, E. (1993). A comparison of regression analysis and data envelopment approaches as alternative methods of performance assessment. *Journal of Operational Research Society*, 44(11), 1129-1144.
- Thomas, D. (2006). A general inductive approach for analyzing qualitative evaluation data. *American Journal of Evaluation*, 27(2), 237-246.
- Tohidi, H. (2011). Teamwork productivity & effectiveness in an organization base on rewards, leadership, training, goals, wage, size, motivation, measurement and information technology. *Procedia Computer Science*, 3, 1137-1146.
- Too, S., & Wan Yusoff, W. (2015). Exploring intellectual capital disclosure as a mediator for the relationship between IPO firm-specific characteristics and underpricing. *Journal of Intellectual Capital*, 16(3), 639-660.
- Tsai, W., & Ghoshal, S. (1998). Social capital and value creation: The role of intrafirm networks. *Academy of Management Journal*, 41(4), 464-476.

- Tse, S., & Tucker, J. (2010). Within-industry timing of earnings warnings: Do managers herd? *Review of Accounting Studies*, 15(4), 879-914.
- Tsui, E., Wang, W., Cai, L., Cheung, C., & Lee, W. (2014). Knowledge-based extraction of intellectual capital-related information from unstructured data. *Expert Systems With Applications*, 41(4), 1315-1325.
- Ulrich, D. (1999). Measuring human resources: An overview of practice and a prescription for results. In R. Schuler & S. Jackson (Eds.), *Strategic Human Resource Management* (pp. 462-482). Oxford: Blackwell Business.
- Useem, M. (1998). Corporate leadership in a globalizing equity market. *Academy of Management* 12(4), 43-59.
- Uyar, A. (2009). An analysis of graphic disclosure in annual reports: The case of Turkey. *Managerial Auditing Journal*, 24(5), 423-444.
- Vafaei, A., Taylor, D., & Ahmed, K. (2011). The value relevance of intellectual capital disclosures. *Journal of Intellectual Capital*, 12(3), 407-429.
- Van Gelder, M., Bretveld, R., & Roeleveld, N. (2010). Web-based questionnaires: The future in epidemiology? *American Journal of Epidemiology*, 182(4), 1-7.
- Vandemaele, S., Vergauwen, P., & Smits, A. (2005). Intellectual capital disclosure in the Netherlands, Sweden and the UK. *Journal of intellectual Capital*, 6(3), 417-426.
- Vecchi, V., Farr-Wharton, B., Farr-Wharton, R., & Brusoni, M. (2015). *Managerial flow*. New York: Routledge.
- Veltri, S. (2014). Do stakeholders expectations shape organizational intellectual capital reports? *Knowledge and Process Management*, 21(3), 177-186.
- Veltri, S., & Nardo, M. (2013). Integrating corporate social responsibility and intellectual capital report: A small sample research. *International Journal of Knowledge-based Development*, 4(1), 5-18.
- Vergauwen, P., Bollen, L., & Oirbans, E. (2007). Intellectual capital disclosure and intangible value drivers: An empirical study. *Management Decision*, 45(7), 1163-1180.
- Vuontisjärvi, T. (2006). The European context for corporate social responsibility and human resource management: An analysis of the largest Finnish companies. *Business Ethics: A European Review*, 15(3), 271-291.
- Wagiciengo, M., & Aatur, R. (2012). Intellectual capital disclosures by South African companies: A longitudinal investigation. *Advances in Accounting*, 28(1), 111-119.
- Wagner, M. (2005). How to reconcile environmental and economic performance to improve corporate sustainability: Corporate environmental strategies in the European paper industry. *Journal of Environmental Management*, 76(2), 105-118.
- Wagner Mainardes, E., Alves, H., & Raposo, M. (2011). Stakeholder theory: issues to resolve. *Management Decision*, 49(2), 226-252.
- Wang, E., Chiu, C., & Chen, E. (2015). Impact of IT Intellectual Capital on IT Explorative-Exploitative Innovation Strategy and Performance. In *System*

- Sciences (HICSS), 2015 48th Hawaii International Conference on (pp. 4266-4275). Hawaii: IEEE.*
- Wang, J., Song, L., & Yao, S. (2013). The determinants of corporate social responsibility disclosure: Evidence from China. *Journal of Applied Business Research*, 29(6), 1833-1848.
- Weiss, R. (1994). *Learning from strangers: The art and method of qualitative interviewing*. New York: Free Press.
- Welker, M. (1995). Disclosure policy, information asymmetry and liquidity in equity markets. *Contemporary Accounting Research*, 11(2), 801-828.
- Welsch, H., & Maltarich, M. (2004). Emerging patterns of entrepreneurship: Distinguishing attributes of an evolving discipline. In H. Welsh (Ed.), *Entrepreneurship: The way ahead (pp. 55-70)*. New York, NY: Routledge.
- Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic Management Journal*, 5(2), 171-180.
- Wernerfelt, B. (1995). The resource-based view of the firm: Ten years after. *Strategic Management Journal*, 16(3), 171-174.
- Whiting, R., & Miller, J. (2008). Voluntary disclosure of intellectual capital in New Zealand annual reports and the "hidden value". *Journal of Human Resource Costing & Accounting*, 12(1), 26-50.
- Williamson, J. (2002). *Decoding advertisements*. London: Marion Boyars Publishers.
- Wilmshurst, T., & Frost, G. (2000). Corporate environmental performance. A test of Legitimacy Theory. *Accounting, Auditing & Accountability Journal*, 13(1), 10-26.
- Wilson, R., & Stenson, J. (2008). Valuation of information assets on the balance sheet: The recognition and approaches to the valuation of intangible assets. *Business Information Review*, 25(3), 167-182.
- Wiseman, R. (2009). On the use and misuse of ratios in strategic management research. *Research Methodology in Strategy and Management*, 5, 75-110.
- Wu, L., & Hu, Y. (2012). Examining knowledge management enabled performance for hospital professionals: A dynamic capability view and the mediating role of process capability. *Journal of the Association for Information Systems*, 13(12), 976-999.
- Xiao, H. (2008). Corporate reporting of intellectual capital: Evidence from China. *The Business Review (Cambridge)*, 11(1), 124-129.
- Xu, B., & Zeng, T. (2016). Profitability, state ownership, tax reporting and corporate social responsibility: Evidence from Chinese listed firms. *Social Responsibility Journal*, 12(1), 23-31.
- Yeoh, P. (2010). Narrative reporting: The UK experience. *International Journal of Law and Management*, 52(3), 211-231.
- Yi, A., & Davey, H. (2010). Intellectual capital disclosure in Chinese (Mainland) companies. *Journal of Intellectual Capital*, 11(3), 326-347.

- Yildiz, S., Meydan, C., & Guner, M. (2014). Measurement of intellectual capital components through activity reports of companies. *Procedia - Social and Behavioural Sciences*, 109, 614-621.
- Yongvanich, K., & Guthrie, J. (2006). An extended performance reporting framework for social and environmental accounting. *Business Strategy and the Environment*, 15(5), 309-321.
- Youndt, M., Subramaniam, M., & Snell, S. (2004). Intellectual capital profiles: An examination of investments and returns. *Journal of Management Studies*, 41(2), 335-361.
- Zaini, S., Sharma, U., & Samkin, G. (2015). Voluntary disclosure and it's external influences: A reflection of the empirical literature in emerging countries. *In C. Ingley & J. Lockhart (Eds.), Proceedings of the 3rd International Conference on Management, Leadership & Governance (pp.200-206)*. Auckland, New Zealand: Academic Conferences and Publishing Limited.
- Zambon, S. (2013). Research forum on "Intangibles". *Financial Reporting*, 2(3-4), 13-17.
- Zambon, S. (2016). Ten years after: The past, the present and the future of scholarly investigations on intangibles and intellectual capital (IC). *Journal of Intellectual Capital*, 17(1).
- Zardini, A., Ricciardi, F., & Rossignoli, C. (2015). The relational capital of the IT department: Measuring a key resource for creating strategic value. *Journal of Intellectual Capital*, 16(4), 835-859.
- Zéghal, D., & Maaloul, A. (2010). Analysing value added as an indicator of intellectual capital and its consequences on company performance. *Journal of Intellectual Capital*, 11(1), 39-60.
- Zeghal, D., Mouelhi, R., & Louati, H. (2007). An analysis of the determinants of research & development voluntary disclosure by Canadian firms. *Irish Accounting Review*, 14(2), 61-89.

APPENDICES

APPENDIX A: List of terminologies used to discuss intellectual capital

Table adapted and modified from Kwee (2008, Table I)* and Kaufmann & Schneider (2004, Table II)+

TERM	DISCIPLINE	DEFINITION	AUTHOR
Information assets	Technology	“Information stored and handled in a system, decisions are taken about its management and operation; information flows within the system and through the connections with remote systems, link the different components and enable the command and observation of the system states; and both the discovery of vulnerabilities and the protection against threats heavily depend on the previous points”	Masera and Fovino (2006, p2)
Information assets	Information Science/ Accounting	“Information assets comprise resources that are or should be documented and which promise future economic benefits”	Wilson and Stenson (2008, p173)
Immaterial values	Knowledge Management	IC has three dimensions (employee competence, internal structure and external structure)	Sveiby (1997, p. 10) +
Intangible asset	Management	“Intangible assets are value drivers that transform productive resources into value-added assets”	Hall (1992, p. 136) *
Intangible assets	Management	“Intangible assets are non current, nonfinancial claims to future benefits that lacks a physical or financial term”	FASB NN (2001, p. 6) +
Intangible assets	Accounting	An identifiable IA as a “non-monetary asset without physical substance held for use in the production or supply of goods or services, for rental to others, or for administrative purposes”	IASB (2004, p. 2) *
Intangible assets	Accounting	“An intangible asset is a claim to future benefit that does not have a physical or financial (a stock or a bond) embodiment”	Lev (2001, p. 5) +

TERM	DISCIPLINE	DEFINITION	AUTHOR
Intangible resources	Business	<p>“ASSETS: Protected by law: Intellectual property rights, Patents, Copyrights, Commercial secrets; Not protected by law: Reputation, Data bases.</p> <p>CAPACITIES: Dependent on individual employees: Employee knowledge, Employee experience, Level of employee training, Knowledge held by agents directly associated with the company (e.g., employees of suppliers, distributors, etc.); Residing in the organization as a whole: Management abilities and style, Adaptability, ability to manage change, ability to innovate, Organizational culture, Teamwork.”</p>	Camelo-Ordaz et al (2003, p97)
Intangible resources	Accounting	<p>“Inputs (resources) for the knowledge-production process, which, in turn, is manifested in different kinds of projects or processes carried out by the organisation. In the case of research organisations, the processes are clearly different kinds of research activities, such as basic research, applied research and contract research projects, but also services and teaching”</p>	Leitner and Warden (2004, p38)
Intellectual assets	Accounting	<p>"In balance sheet terms, intellectual assets are those knowledge-based items, which the company owns which will produce a future stream of benefits for the company"</p>	Dzinkowski (2000, p33)
Intellectual assets	Intellectual Capital	<p>“Intellectual assets (IA) are those knowledge-based items an organisation owns which have the capacity to produce a future stream of benefits for the organisation.”</p>	Huggins and Weir (2007, p708)

TERM	DISCIPLINE	DEFINITION	AUTHOR
Intellectual assets	Technology	“Intellectual assets (IA) are intangible and fundamentally different from tangible assets such as capital equipment, buildings and financial resources. IA consists of patents, copyrights, trademarks, domain names, and trade secrets, as well as know-how and the related processes and protocols associated with production and delivery of goods and services. IA falls into two broad categories: the legally protected assets, such as patents, and the assets like know-how that are closely held in the minds of individuals and groups. When knowhow-based assets are codified or reduced to paper, they can be legally protected (trade secrets), but most knowhow resides in the special knowledge of individuals. While IA are some of a firm's most valuable assets, their creation, management, husbanding, and use are often not well understood by the many people who rely on them to create value.”	Tao et al (2005, p50)
Intellectual capital	Management	IC as “market assets, human-centered assets, intellectual property assets, and infrastructure assets”	Brooking (1997, p. 13) *
Intellectual capital	Human Resource	Intellectual capital = competence x commitment	Ulrich (1999)
Intellectual capital	Management	IAs as “knowledge and knowing capability of a social collectivity, such as an organization, intellectual community or professional practice”	Nahapiet and Ghoshal (1998, p. 245) *
Intellectual capital	Management/ Knowledge Management	IC is intellectual material – knowledge, information, intellectual property, experience – that can be put to use to	Stewart (1997, p. XI) +

TERM	DISCIPLINE	DEFINITION	AUTHOR
		create wealth – collective brainpower	
Intellectual capital	Intellectual Capital	“Knowledge-based equity of a company”	Brennan and Connell (2000, p. 1) +
Intellectual capital	Accounting	IC is “value creating resources”, where “Value is no longer measured solely on the basis of financial outcomes; rather the value of activities that develop knowledge resources must also be considered.”	Guthrie et al. (2012, p.1)
Intellectual capital	Intellectual Capital	“Knowledge that can be converted into profit”	Harrison and Sullivan (2000, p. 34) +
Intellectual capital	Management	“IC is knowledge that can be converted into profit”	Sullivan (2000, p. 228) +
Intellectual capital	Knowledge Management	“IC is valuable, yet invisible”	Heisig et al. (2001, p. 60) +
Intellectual capital	Intellectual Capital	IC are indicative of the economic value of two categories (organization and human capital) of IA of a company ^a	Petty and Guthrie (2000, p. 158) +
Intellectual capital	Management	“A broad definition of intellectual capital states that it is the difference between the company’s market value and its book value. Knowledge based resources that contribute to the sustained competitive advantage of the firm from intellectual capital”	Pablos (2003, p. 63) +
Intellectual capital	Intellectual Capital	“IC may properly be viewed as the holistic or meta-level capability of an enterprise to co-ordinate, orchestrate, and deploy its knowledge resources towards creating value in pursuit of its future vision”	Rastogi (2003, p. 230) +
Intellectual capital	Business	IC mobilises ‘things’ such as employees, customers, IT, managerial work and knowledge. IC cannot stand by itself as it is merely provides a mechanism that allows the various assets to be bonded together in the productive process of the	Mouritsen et al. (2004, p. 48) *

TERM	DISCIPLINE	DEFINITION	AUTHOR
		firm	
Intellectual capital and intangible assets	Management	“Intangible assets are those that have no physical existence but are still of value to the company”	Edvinsson and Malone (1997, p. 22) *
Intellectual property	Law	“Intangible assets are all the elements of a business enterprise that exist in addition to working capital and tangible assets. They are the elements, after working capital and tangible assets that make the business work and are often the primary contributors to the earning power of the enterprise. Their existence is dependent on the presence, or expectation, of earnings”	Smith (1994) *
Intellectual property	Economics	“IP is property directly related to the creativity, knowledge and the identity of an individual”	Granstrand (1999) *
Intellectual resources	Intellectual Capital	“Formalized, captured and leveraged (resources) to create assets of higher value”	Kannan and Albur (2004, p389)
Intellectual resources	Economics	“The combination of economic resources, that consists of: human resources, market assets, infrastructure assets, intellectual property, organizational knowledge, besides its own special combination of intellectual resources is inherent to every enterprise. Such division of intellectual resources with respect of components is due to its role in providing the enterprise competitiveness.”	Kovtunenkov and Shatskova (2013, p77)
Invisible assets	Economics	“Intangible assets are invisible assets that include a wide range of activities such as technology, consumer trust, brand image, corporate culture, and management skills”	Itami (1991) *

TERM	DISCIPLINE	DEFINITION	AUTHOR
Knowledge assets (knowledge-based assets)	Business	“Knowledge asset are key organizational factors responsible for gaining a sustained competitive advantage in the new knowledge economy characterized by high degrees of environmental turbulence, complexity, and dynamism.”	Castro and Delgado-Verde (2012, p43)
Knowledge assets (knowledge-based assets)	Knowledge Management	“Knowledge assets are the building blocks of organisations' capabilities that affect the success of an organisation in the economic and competitive environment.”	Giovanni (2009, p 290)
Knowledge assets (knowledge-based assets)	Technology	“Knowledge assets refer to valuable intellectual assets as inputs to an organization's value-creation process, which allow the organization to create and refresh its competencies, over time.”	Wu and Hu (2012, p977)
Knowledge capital (knowledge-based capital)	Facilities Management	“Knowledge assets are the knowledge that an organization owns or needs to own to achieve its goals...(it refers to) large amount of knowledge and experience generated and accumulated from past projects or consulting assignments”	Fong and Lee (2009, p292 and p314)

APPENDIX B: Compiled list of stakeholders

Consolidated from Morris & Baddache (2012), Kenny (2014) and GRI (2013)

Groups of Stakeholders	Examples
Owners	Investors, shareholders
Customers	Direct customers, indirect customers
Employees	Current employees, potential employees, former employees, retirees
Suppliers	Raw materials, contractors (hardware, software), advisors (legal, financial), insurers, financiers
Competitors	Local competitors, foreign competitors,
Community	Residents near company facilities, resident associations, schools, community organizations, special interest groups
Regulators	Government agencies, standards board, public authorities, local policymakers, opinion leaders
Environmental groups	Nature, nonhuman species, future generations, scientists, ecologists, spiritual communities, advocates, NGOs
Trade bodies	Industry association, industry opinion leaders, chambers of commerce, labor unions
Business Alliances	Agents, representatives, distributors
Others	Analysts, ratings agencies, media, public, information users

APPENDIX C: The Communication of IC in the GRI Framework

GRI Disclosure	Description	Human Capital	Relational Capital	Structural Capital
STRATEGY AND ANALYSIS	G4-1 Statement from the most senior decision-maker of the organization			X
	G4-3 Report the name of the organization			X
ORGANIZATIONAL PROFILE	G4-4 Primary brands, products and services			X
	G4-5 Report the location of the organization's headquarters			X
	G4-6 Counties of major operation			X
	G4-7 Report the nature of ownership and legal form.		X	
	G4-8 Market served			X
	G4-9 Scale of the organization			X
	G4-10 Total number of employees	X		
	G4-11 Percentage of total employees covered by collective bargaining agreements	X		
	G4-12 Organization's supply chain		X	X
	G4-13 Report any significant changes during the reporting period regarding the organization's size, structure, ownership or its supply chain, including:			
	• Changes in the location of, or changes in, operations, including facility openings, closings and expansions.			
	• Changes in the share capital structure and other capital formation, maintenance and alteration operations (for private sector organizations).		X	X
	• Changes in the location of suppliers, the structure of the supply chain, or in relationships with suppliers, including selection and termination.			
	G4-14 Implementation of the precautionary approach			X
	G4-16 Membership in national/international associations		X	
IDENTIFIED MATERIAL ASPECTS AND BOUNDARIES	G4-17 Entities included in the organization's consolidated Financial Statements		X	

GRI Disclosure	Description	Human Capital	Relational Capital	Structural Capital
STAKEHOLDER ENGAGEMENT	G4-24 Stakeholder groups engaged by the organization G4-25 Basis for identification of stakeholders G4-26 Approach to stakeholder engagement G4-27 Key topics and concerns raised by stakeholders		X	
GOVERNANCE	G4-34 Organization's governance structure			X
ETHICS AND INTEGRITY	G4-56 Organization's codes of conduct and codes of ethics			X
ECONOMIC	G4-EC1 Direct economic value generated and distributed G4-EC3 Coverage of the organization's defined benefit plan obligations EC8: Development and impact of infrastructure investments and services provided primarily for public benefit EC9: Understanding and describing significant indirect economic impacts			X
SOCIAL - LABOR PRACTICES AND DECENT WORK	LA1: Total workforce by employment type, employment contract, and region LA2: Total number and rate of employee turnover by age group, gender, and region LA3: Benefits provided to full-time employees that are not provided to temporary or part-time employees, by major operations LA10: Average hours of training per year per employee by gender, and by employee category. LA13: Diversity and equal opportunity	X		
ANTI-CORRUPTION	SO3: Total number and percentage of operations assessed for risks related to corruption and the significant risks identified.			X
	SO4: Communication and training on anti-corruption policies and procedures.		X	
SOCIAL - PRODUCT RESPONSIBILITY	PR5: Practices related to customer satisfaction, including results of surveys measuring customer satisfaction PR8: Total number of substantiated complaints		X	

GRI Disclosure	Description	Human Capital	Relational Capital	Structural Capital
	regarding breaches of customer privacy and losses of customer data			

APPENDIX D: Examples of Content on the Communication of IC

Adapted and consolidated from Beattie & Thomson (2007, p134-135), Li et al (2008, p155-159) and Dumay & Cai (2015, p127)

HUMAN CAPITAL INFORMATION	RELATIONAL CAPITAL INFORMATION	STRUCTURAL CAPITAL INFORMATION
INFORMATION ON ...		
Absence	Alliances	Accreditation
Adaptability	Basic marketing capability	Achieving mechanism culture
Attitudes & behavior	Business agreements	Administrative processes
Capability/abilities	Business associates	Brands
Career planning/development	Business collaborations	Capacity utilization
Commitment	Client profile	Certifications
Communicative abilities	Collaboration	Communication systems
Competence	Commercial power	Company names
Computer literacy	Competitive intelligence	Competitive and market channels
Creativity	Competitors	Copyrights
Development	Connectivity	Corporate/organizational culture
Education	Customer acquisition	Cultural diversity
Employee demographics	Customer involvement	Culture
Employee equality	Customer knowledge	Databases
Employee expertise	Customer loyalty	Distribution centres
Employee flexibility	Customer names	Documentation services
Employee knowledge	Customer relationships	Image
Employee performance	Customer retention	Infrastructure
Employee productivity	Customer reputation	Innovation
Employee relationship	Customer support	Intellectual property
Employee satisfaction	Customer satisfaction	Intellectual resources
Employee value	Customer training and education	Knowledge center
Employees	Customers	Knowledge-based infrastructure
Entrepreneurial spirit	Diffusion and networking	Laboratories
Equality	Distribution channels/agents	Licensing agreements
Expert networks	Favorable contracts	Management philosophy
Expert teams	Financial contracts	Management processes
Friendliness	Franchising agreement	Networking infrastructures
Further Personal/professional training	Intensity	Operation process
Human assets	Key accounts/large clients	Organizational flexibility
Human resources (diversity)	Knowledge/acquaintance with community	Organizational routines

HUMAN CAPITAL INFORMATION	RELATIONAL CAPITAL INFORMATION	STRUCTURAL CAPITAL INFORMATION
INFORMATION ON ...		
Human value	Knowledge/acquaintance with	Organizational structure
Identification	government	Patents
Innovation	Knowledge/acquaintance with	Procedures
Innovative capacity	suppliers	Process
Juristic competence	Market intensity	Process capability
Know-how (employees)	Market leadership	Quality improvements
Learning capacity	Market presence	Quality management
Loyalty to organization	Marketing	Research & Development
Motivation	Negotiation with financial	Reputation
Perceptions	entities	Research projects
Personal/professional	Networking	Specialized software/IT
experience	New strategic customers	Systems
Personal ability	Partners network	(information/network/processes)
Personnel	Relationship with stakeholders	Technology
Recruitment and retention	Reputation	Trademarks
Reflect experiences (previous)	Research collaboration	
Sensitivity	Stakeholders	
Skill (employees)	Supplier knowledge	
Social competence	Supplier relationship	
Staff (employee) numbers		
Staff (employee) profile		
Staff turnover		
Structural knowledge		
Taking responsibility		
Teamwork capacity		
Tolerance for ambiguity		
Up-to-date competence		
Vocational qualifications		
Work-related competencies		
Work-related knowledge		

APPENDIX E: Examples of the Content and Formats Used in the Communication of Intellectual Capital

NARRATIVES

Employees who develop create customer value

We create employee value and set the stage for strong performance through stimulating tasks, development opportunities, gender equality and diversity, and a market-rate remuneration structure. Engaged employees who develop and take responsibility for our customers' financial situation generate more, and more satisfied, customers.

Figure E.1 – Narratives for Human Capital Information
(Extracted from the ARS of Swedbank AB FYE2014, page 22)

Focus on Customers

We use several channels to make the customer experience mutually beneficial and to identify areas of improvement. In 2014, we improved the management of our customer feedback through GIFT (Get Involved and Follow Through). GIFT was a response to customer feedback on gaps in handling and resolving complaints. The implementation of GIFT demonstrates that we are listening and prepared to implement quick reforms based on feedback.

In Malaysia, the GIFT strategy enhances quality resolution by providing sufficient training to front-liners and exercising problem resolution empowerment at branches and our Premier Wealth Centre/Lounge. GIFT Etiqa consolidated the complaint management process and enhanced quality resolution through the establishment of a systematic complaint handling model that covers every dimension of the complaint process.

Our Customer Feedback and Resolution Team (CFRM) acts as a single point of contact for customer complaints. It aims to deliver a top notch customer experience in complaint management. The team is focused on turning a customer's unpleasant service experience into a positive one.

What is the Customer Satisfaction Index (CSI)?

The Customer Satisfaction Index (CSI) is a measuring tool that helps industries to enhance their service experience and customer satisfaction in the areas of customer expectations, perceived quality, customer satisfaction, customer complaints, and customer loyalty. The CSI is conducted via face-to-face interviews by using a structured questionnaire. In 2013, 250 customers rated nine participating banks and this is what we found out:

**There was a reduction
in volume of
complaints by
7%** compared to 2012
according to the Malaysia
Productivity Corporation
(MPC).

The number of customers happy and
satisfied with the improvements made to
addressing complaints
**increased to
48% in 2013**
from 47% in 2012.

**None of our customers
felt that their complaints
were poorly handled.**

This is an improvement from 2012 where 11%
of customers categorised their complaints as
poorly-handled.

We will keep on improving customer service to generate goodwill and trust amongst our customers - CFRM will focus on improving turnaround time, efficiency, and effective resolution.

Figure E.2 – Narratives for Relational Capital Information
(Extracted from the ARS of Malayan Banking Berhad FYE2014, page 121-122)

The segment that is most affected by the economic slowdown and stiffer competition is the mass market segment. The Bank's DSP loans only showed a very slight increase from Rp69.8 trillion last year to Rp70 trillion. Another business which showed moderate growth is Adira Finance, whose portfolio consists of loans to the automotive industry. In 2014, its outstanding loans increased 3% to Rp49.6 trillion and improved its market share in the industry. To improve this segment's productivity, Danamon has introduced several significant changes in its operational and marketing strategies. Among them is the consolidation of their physical network, modifying and centralizing its operating model, adding service channels and expanding to the upper end of the market.

Figure E.3 – Narratives for Structural Capital Information
(Extracted from the ARS of Bank Danamon FYE2014, page 56)

PICTURES

Figure E.4 – Pictures for Human Capital Information
(Extracted from the ARS of Bank Danamon FYE2014, page 306, 308)

Figure E.5 – Pictures for Relational Capital Information
 (Extracted from the ARS of Bank Danamon FYE2014, page 126,129)

Figure E.6 – Pictures for Structural Capital Information
 (Extracted from the ARS of Karnataka Bank Ltd FYE2014, page 81)

TABLES

Employee Composition Based on Education (Consolidated)

Education	2010	2011	2012	2013	2014
Post Graduate	575	579	577	573	542
Bachelor	34,487	40,256	41,162	42,361	37,834
Diploma	11,155	13,297	13,678	14,007	11,982
Senior High School	7,003	7,986	9,789	10,671	10,161
Junior High School/ Elementary School	182	148	132	115	99
Total	53,402	62,266	65,338	67,727	60,618

Employee Composition Based on Age (Consolidated)

Age	2010	2011	2012	2013	2014
<25 years	6,850	9,676	9,364	9,066	6,343
25-34 years	34,444	39,484	40,960	41,983	36,584
35-44 years	10,630	11,297	12,764	13,966	14,520
>45 years	1,478	1,809	2,250	2,712	3,171
Total	53,402	62,266	65,338	67,727	60,618

Employee Composition Based on Employment Period (Consolidated)

Year of Service	2010	2011	2012	2013	2014
0-3 years	31,297	38,040	39,385	36,053	25,128
3-5 years	5,963	7,661	8,066	11,676	14,555
5-10 years	8,799	9,259	10,311	11,479	10,896
10-20 years	6,510	6,344	6,534	7,354	8,774
>20 years	833	962	1,042	1,165	1,265
Total	53,402	62,266	65,338	67,727	60,618

Employee Composition Based on Position (Consolidated)

Grade	2010	2011	2012	2013	2014
Top Management & Technical Advisor	46	38	45	49	39
Senior Manager	325	336	362	407	422
Manager	2,410	2,586	2,909	3,495	4,045
Officer	12,117	13,903	15,618	16,894	16,818
Staff	38,504	45,403	46,404	46,882	39,294
Total	53,402	62,266	65,338	67,727	60,618

Figure E.7 – Tables for Human Capital Information
(Extracted from the ARS of Bank Danamon FYE2014, page 96-97)

Group customers	2014	2013	Δ %
Private customers (million)	8.1	8.0	+1
Corporate customers (thousand)	639	624	+2
Internet banking customers (million) ¹	7.5	7.2	+4
Telephone banking customers (million) ¹	4.2	4.2	0
Mobile banking customers (million) ¹	2.8	2.2	+27

1) Including savings banks and partly owned banks.

Share of corporate customers by country, %	2014	2013
Sweden	77	77
Estonia	5	6
Latvia	3	3
Lithuania	4	4
Norway	7	7
Finland	2	2
Other	2	1

Share of corporate customers by sector, %	2014	2013
Agriculture, forestry and fishing	15	15
Manufacturing	9	9
Public sector and utilities	4	5
Construction	3	3
Retail	6	7
Transportation	2	3
Shipping	6	6
Hotel and restaurant	1	1
Information and communications	1	1
Finance and insurance	2	4
Property management	41	37
Corporate services	3	4
Other corporate lending	5	5

Figure E.8 – Tables for Relational Capital Information
(Extracted from the ARS of Swedbank AB FYE2014, page 182-183)

Supplier audits	2014	2013
No. of reported purchases over EUR 50 000 ¹	172	-
Number that have undergone sustainability analysis	151	-
Share of reported purchases that have undergone sustainability analysis (%)	86	-
Supplier visits conducted, (no.)	19	15

1) This figure is based on data from the internal purchasing system.

Figure E.9 – Tables for Relational Capital Information
(Extracted from the ARS of Swedbank AB FYE2014, page 190)

Year	2012	2013	2014
No. of M2U registered online users (million users)	6.5	6.9	7.8
No. of M2U registered mobile users (million users)	0.9	1.3	1.5
No. of small businesses using M2U	88,752	112,755	142,007

Social Media
Penetration	Over 1.2 million likes	Over 31,000 followers	Over 94,000 followers

Note: All data reported are as at December 2014

Figure E.10 – Tables for Structural Capital Information
(Extracted from the ARS of Malayan Banking Berhad FYE2014, page 126,128)

ILLUSTRATIONS/FLOWCHARTS

Figure E.11 – Illustration for Human Capital Information
(Extracted from the ARS of Malayan Banking Berhad FYE2014, page 72)

Figure E.12 – Illustration for Human Capital Information
(Extracted from the ARS of Nedbank FYE2014, page 63)

Line of Business and Customer Segmentation

Figure E.13 – Illustration for Structural and Relational Capital Information
(Extracted from the ARS of Bank Danamon FYE2014, page 125)

Figure E.14 – Illustration for Structural Capital Information
(Extracted from the ARS of Malayan Banking Berhad FYE2014, page 18-19)

Figure E.15 – Illustration for Structural Capital Information
(Extracted from the ARS of mBank Group FYE2014, page 47-48)

GRAPHS

Figure E.16 – Graphs for Human Capital Information
(Extracted from the ARS of Access Bank Plc FYE2014, page 36-37)

Figure E.17 – Graphs for Relational Capital Information
(Extracted from the ARS of Nedbank FYE2014, page 29)

Figure E.18 – Graphs for Structural Capital Information
(Extracted from the ARS of Swedbank FYE2014, page 201)

APPENDIX F: List of Banks

Numbering	NAME OF ORGANIZATION	COUNTRY	FUNCTION /DEPARTMENT
1	ABC ISLAMIC BANK (ARAB BANKING CORPORATION	BAHRAIN	RISK MANAGEMENT /FINANCE
2	ABSA BANK LTD	SOUTH AFRICA	FINANCE
3	ABU DHABI COMMERCIAL BANK	UAE	AUDIT
4	ACCESS BANK PLC	NIGERIA	FINANCIAL REPORTING
5	AKBANK T.A.S.	TURKEY	AUDIT
6	AL-SALAM BANK-BAHRAIN	BAHRAIN	CORPORATE COMMUNICATIONS & INVESTOR RELATIONS
7	ALBARAKA BANKING GROUP	BAHRAIN	FINANCE
8	ALIOR BANK SPOLKA AKCYJNA	POLAND	INVESTOR RELATIONS
9	ALLAHABAD BANK	INDIA	INVESTOR RELATIONS
10	ALLIANCE BANK	MALAYSIA	FINANCE
11	ALPHA BANK	GREECE	CSR
12	AMINVESTMENT BANK	MALAYSIA	FINANCE
13	ANDHRA BANK	INDIA	RISK MANAGEMENT / FINANCE
14	ARAB BANK PLC	JORDAN	FINANCE
15	ARAB NATIONAL BANK	SAUDI ARABIA	MARKET RISK
16	ASYA KATILIM BANKASI AS - BANK ASYA	TURKEY	INVESTOR RELATIONS
17	ATTICA BANK SA - BANK OF ATTICA SA	GREECE	INVESTOR RELATIONS
18	BANCO ABC BRAZIL SA	BRAZIL	PUBLIC RELATIONSHIP
19	BANCO BMG SA	BRAZIL	FINANCIAL/ INVESTOR
20	BANCO BRADESCO SA	BRAZIL	AUDIT
21	BANCO DE SABADELL SA	SPAIN	INVESTOR RELATIONS
22	BANCO DO BRASIL S.A.	BRAZIL	FINANCE
23	BANCO DO ESTADO DO RIO GRANDE DO SUL S.A. BANRISUL	BRAZIL	INVESTOR RELATIONSHIP
24	BANCO INDUSVAL SA	BRAZIL	INVESTOR RELATIONS
25	BANCO ITAU BBA S.A.	BRAZIL	INVESTOR RELATIONS
26	BANCO JP MORGAN BRASIL (JP MORGAN CHASE BRAZIL)	BRAZIL	RELATIONSHIP
27	BANCO PAN S.A.	BRAZIL	INVESTOR RELATIONSHIP
28	BANCO PINE SA	BRAZIL	INVESTOR RELATIONS
29	BANCO SANTANDER (BRASIL) S.A.	BRAZIL	SUSTAINABILITY
30	BANCOLOMBIA S.A.	COLOMBIA	INVESTOR RELATIONS
31	BANGKOK BANK	THAILAND	INVESTOR

			RELATIONS
32	BANK AL HABIB	PAKISTAN	FINANCE
33	BANK BPH SA	POLAND	INVESTOR RELATIONS
34	BANK DANAMON INDONESIA TBK	INDONESIA	AUDIT
35	BANK HANDLOWY W WARSZAWIE S.A.	POLAND	INVESTOR RELATIONS
36	BANK ISLAM	MALAYSIA	CORPORATE COMMUNICATIONS
37	BANK MELLAT	ISLAMIC REPUBLIC OF IRAN	RISK MANAGEMENT / FINANCE
38	BANK MILLENNIUM	POLAND	INVESTOR RELATIONS
39	BANK MUSCAT SAOG	OMAN	INVESTOR RELATIONS
40	BANK OF AMERICA MERRILL LYNCH	BRAZIL	FINANCE
41	BANK OF COMMUNICATIONS CO. LTD	CHINA	CORPORATION ACCOUNT MANAGER
42	BANK OF EAST ASIA LTD	HONGKONG	INVESTOR RELATIONS
43	BANK OF INDIA	FRANCE	FINANCE
44	BANK OF IRELAND - GOVERNOR AND COMPANY OF THE BANK OF IRELAND	IRELAND	INVESTOR RELATIONS
45	BANK OF JORDAN	JORDAN	RISK MANAGEMENT / FINANCE
46	BANK OF MONTREAL - BANQUE DE MONTREAL	CANADA	SUSTAINABILITY
47	BANK OF NOVA SCOTIA (THE) - SCOTIABANK	CANADA	INVESTOR RELATIONS
48	BANQUE POUR LE COMMERCE EXTERIEUR LAO - BCEL	LAOS	FINANCE AND ADMINISTRATION
49	BARCLAYS BANK PLC	FRANCE	FINANCE
50	BB&T CORPORATION	UNITED STATES OF AMERICA	INVESTOR RELATIONS
51	BELFIUS	BELGIUM	FINANCE
52	BERKSHIRE BANCORP, INC	UNITED STATES OF AMERICA	INVESTOR RELATIONS
53	BULGARIAN-AMERICAN CREDIT BANK	BULGARIA	INVESTOR RELATIONS
54	BURGAN BANK	KUWAIT	FINANCE
55	CAIXABANK SA	SPAIN	INVESTOR RELATIONS
56	CAL BANK LIMITED	GHANA	CORPORATE & INVESTOR RELATIONS
57	CANADIAN IMPERIAL BANK OF COMMERCE CIBC	CANADA	INVESTOR RELATIONS
58	CANADIAN WESTERN BANK	CANADA	FINANCE
59	CANARA BANK	CHINA	OPERATIONS & FINANCE
60	CAPITEC BANK HOLDINGS LIMITED	SOUTH AFRICA	FINANCE & ACCOUNTS
61	CATHAY UNITED BANK CO	CHINA	RISK MANGEMENT

	LTD		
62	CBZ BANK	ZIMBABWE	FINANCE
63	CIMB	MALAYSIA	SUSTAINABILITY
64	CIT GROUP, INC	BRAZIL	FINANCIAL
65	CITY UNION BANK LTD	INDIA	INVESTOR RELATIONS
66	COMERICA INCORPORATED	USA	INVESTOR RELATIONS
67	COMMERCIAL BANK OF CEYLON PLC	SRI LANKA	FINANCIAL PLANNING
68	COMMERZBANK AG	GERMANY	FINANCE
69	CUSTOMERS BANK	USA	INVESTOR RELATIONS
70	DANSKE BANK AS	DENMARK	CORPORATE RESPONSIBILITY
71	DELTA LLOYD BANK NV	NETHERLANDS	INVESTOR RELATIONS
72	DENA BANK	INDIA	RISK DEPARTMENT
73	DEUTSCHE PFANDBRIEFBANK AG	GERMANY	FINANCE
74	DEUTSCHE POSTBANK AG	GERMANY	FINANCE
75	DEXIA SA	FRANCE	FINANCE
76	DHANLAXMI BANK LTD	INDIA	RISK MANAGMENT
77	DNB ASA	NORWAY	VP OF INVESTOR RELATIONS
78	DOHA BANK	QATAR	RISK MANAGEMENT / FINANCE
79	DVB BANK SE	GERMANY	INVESTOR RELATIONS
80	ECOBANK	ZIMBABWE	FINANCE
81	ERSTE GROUP BANK AG	AUSTRIA	INVESTOR RELATIONS
82	FBC HOLDINGS LIMITED	ZIMBABWE	ACCOUNT
83	FEDERAL BANK LTD.	INDIA	RISK MANAGEMENT / FINANCE
84	FIDELITY BANK GHANA LIMITED	GHANA	FINANCE
85	FINANSBANK A.S.	TURKEY	AUDIT
86	FIRST MIDWEST BANCORP, INC	USA	INVESTOR RELATIONS
87	FIRST NATIONAL BANK OF BOTSWANA LTD	BOTSWANA	SENIOR FINANCE MANAGER
88	FIRST NIAGARA FINANCIAL GROUP INC	USA	INVESTOR RELATIONS
89	FNB CORPORATION	USA	INVESTOR RELATIONS
90	GETIN HOLDING SA	POLAND	FINANCE
91	GLACIER BANCORP, INC	USA	FINANCE
92	GRUPO AVAL ACCIONES Y VALORES S.A.	COLOMBIA	INVESTOR RELATIONS
93	GRUPO FINANCIERO BANORTE	MEXICO	INVESTOR RELATIONS
94	GRUPO FINANCIERO BBVA BANCOMER	MEXICO	FINANCE
95	HATTON NATIONAL BANK	SRILANKA	CENTRAL ACCOUNTS
96	HEARTLAND FINANCIAL	USA	FINANCE
97	HONG LEONG BANK	MALAYSIA	CSR

98	HOUSING BANK FOR TRADE & FINANCE	JORDAN	RISK MANAGEMENT / FINANCE
99	HSBC HOLDING	UK	INVESTOR RELATIONS
100	HSH NORDBANK AG	GERMANY	INVESTOR RELATIONS
101	HUA NAN FINANCIAL HOLDINGS CO LTD	TAIWAN	FINANCE
102	HUNTINGTON BANCSHARES INC	UNITED STATES OF AMERICA	INVESTOR RELATIONS
103	IKB DEUTSCHE INDUSTRIEBANK AG	GERMANY	FINANCE
104	INDIAN OVERSEAS BANK	INDIA	HUMAN RESOURCE
105	ING BANK SLASKI	POLAND	INVESTOR RELATIONS
106	INTERNATIONAL BANCSHARES CORPORATION	USA	FINANCE
107	INTESA SANPAOLO	ITALY	INVESTOR RELATIONS
108	ISRAEL DISCOUNT BANK LTD	ISRAEL	INVESTOR RELATIONS
109	ITAU UNIBANCO SA	BRAZIL	ASSETS MANAGEMENT
110	JYSKE BANK A/S	DENMARK	FINANCE
111	KARAFARIN BANK	ISLAMIC REPUBLIC OF IRAN	RISK MANAGEMENT / FINANCE
112	KARNATAKA BANK LIMITED (THE)	INDIA	RISK MANAGEMENT / FINANCE
113	KARUR VYSYA BANK LIMITED (THE)	INDIA	FINANCE
114	KB FINANCIAL GROUP, INC	SOUTH KOREA	INVESTOR RELATIONS
115	KBC GROEP NV/ KBC GROUPE SA - KBC GROUP	BELGIUM	INVESTOR RELATIONS
116	KENYA COMMERCIAL BANK LTD	KENYA	SUSTAINABILITY
117	KEYCORP	USA	RISK MANAGEMENT / FINANCE
118	KIATNAKIN	THAILAND	CORPORATE COMMUNICATIONS
119	KING'S TOWN BANK	TAIWAN	TREASURY
120	KOMERCNI BANKA	CZECH REPUBLIC	INVESTOR RELATIONS
121	KRUNG THAI BANK PUBLIC COMPANY LIMITED	CAMBODIA	FINANCE
122	KRUNGSRI (BANK OF AYUDHYA)	THAILAND	INVESTOR RELATIONS
123	KUWAIT FINANCE HOUSE	KUWAIT	FINANCE
124	LAKSHMI VILAS BANK LTD.	INDIA	MARKETING AND SERVICES
125	LANDSBANKI ISLANDS - NATIONAL BANK OF ICELAND LTD	ICELAND	FINANCE
126	LAURENTIAN BANK OF CANADA	CANADA	INVESTOR RELATIONS
127	LIECHTENSTEINISCHE LANDESBANK'S	LIECHTENSTEIN	CORPORATE COMMUNICATIONS
128	LLOYDS BANKING GROUP PLC	UK	INVESTOR

			RELATIONS
129	MALAYAN BANKING BERHAD - MAYBANK	MALAYSIA	INVESTOR RELATIONS
130	MAURITIUS COMMERCIAL BANK LTD	MAURITIUS	STRATEGY RESEARCH AND DEVELOPMENT
131	MBANK SA	POLAND	INVESTOR RELATIONS
132	MEEZAN BANK LIMITED	PAKISTAN	FINANCE
133	MEGA INTERNATIONAL COMMERCIAL BANK CO LTD	TAIWAN	INVESTOR RELATIONS
134	MERCHANTS BANCSHARES INC	USA	FINANCE
135	METRO BANK (METROPOLITAN BANK & TRUST)	PHILIPPINES	INVESTOR RELATIONS
136	MONARCH BANK HOLDINGS	UNITED STATES OF AMERICA	FINANCE
137	NABIL BANK LIMITED	NEPAL	BOARD OF DIRECTORS
138	NATIONAL BANK OF ABU DHABI	ABU DHABI	RISK MANAGEMENT / FINANCE
139	NATIONAL BANK OF CANADA - BANQUE NATIONALE DU CANADA	CANADA	RISK MANAGEMENT / FINANCE
140	NATIONAL BANK OF KENYA LTD	KENYA	FINANCE
141	NATIONAL BANK OF KUWAIT S.A.K.	KUWAIT	INVESTOR RELATIONS
142	NATIONAL BANK OF PAKISTAN	PAKISTAN	INVESTOR RELATIONS
143	NATIONAL COMMERCIAL BANK	SAUDI ARABIA	FINANCE
144	NEDBANK GROUP LIMITED	SOUTH AFRICA	INVESTOR RELATIONS
145	NORDEA BANK AB (PUBL)	SWEDEN	INVESTOR RELATIONS
146	NORDNET AB (PUBL)	SWEDEN	PUBLIC RELATIONS
147	OCBC	SINGAPORE	FINANCE & MIS
148	PACIFIC & WESTERN BANK OF CANADA	CANADA	INVESTOR RELATIONS
149	PARANA BANCO SA	BRAZIL	INVESTOR RELATIONS
150	PIRAEUS BANK SA	GREECE	INVESTOR RELATIONS
151	POWSZECHNA KASA OSZCZEDNOSCI BANK	POLAND	COMMUNICATION
152	PUBLIC BANK OF BERHAD	CFO	FINANCE
153	RAIFFEISEN BANK INTERNATIONAL AG	AUSTRIA	PUBLIC RELATION
154	RASHID HUSSAIN BERHAD	LAOS	FINANCE AND ADMINISTRATION
155	REGIONS FINANCIAL CORPORATION	USA	ACCOUNT
156	REPUBLIC BANK LIMITED	TRINIDAD AND TOBAGO	FINANCE
157	ROYAL BANK OF CANADA	CANADA	INVESTOR RELATIONS
158	ROYAL BANK OF SCOTLAND GROUP PLC	UK	FINANCE

159	SANTANDER GBM	SPAIN	SUSTAINABILITY
160	SANTANDER HOLDINGS USA, INC	USA	RISK MANAGEMENT / FINANCE
161	SAUDI INVESTMENT BANK	SAUDI ARABIA	FINANCE
162	SCOTIABANK TRINIDAD & TOBAGO LIMITED	TRINIDAD AND TOBAGO	FINANCE
163	SEKERBANK T.A.S.	TURKEY	INVESTOR RELATIONS
164	SEYLAN BANK PLC	SRI LANKA	FINANCE
165	SIDDHARTHA BANK LIMITED	NEPAL	FINANCE AND TREASURY
166	SILKBANK LIMITED	PAKISTAN	FINANCE
167	SKANDINAVISKA ENSKILDA BANKEN AB	SWEDEN	SUSTAINABILITY
168	SOCIETE GENERALE SA	FRANCE	FINANCE
169	SOUTH INDIAN BANK LIMITED	INDIA	FINANCE
170	STANBIC BANK	NIGERIA	FINANCE
171	STANDARD BANK LIMITED	AFRICA	INVESTOR RELATIONS
172	STANDARD CHARTERED BANK	INDIA	INVESTOR RELATIONS
173	STATE BANK OF INDIA	INDIA	CORPORATE COMMUNICATION
174	STATE BANK OF TRAVANCORE	INDIA	RISK DEPARTMENT
175	STERLING BANK PLC	NIGERIA	COMMUNICATIONS
176	SUNTRUST BANKS, INC.	USA	INVESTOR RELATIONS
177	SVENSKA HANDELSBANKEN AB	SWEDEN	INVESTOR RELATIONS
178	SWEDBANK AB	SWEDEN	INVESTOR RELATIONS
179	TAISHIN FINANCIAL HOLDING CO., LTD	TAIWAN	INVESTOR RELATIONS
180	TAIWAN COOPERATIVE FINANCIAL HOLDING CO LTD	TAIWAN	DEPARTMENT OF TREASURY/FINANCE
181	TORONTO DOMINION BANK	CANADA	FINANCE
182	TRUXTON TRUST	USA	CFO
183	TSB BANKING GROUP PLC	UK	INVESTOR RELATIONS
184	TURKIYE GARANTI BANKASI A.S.	TURKEY	SUSTAINABILITY
185	TURKIYE IS BANKASI A.S. - ISBANK	TURKEY	RISK MANAGEMENT / FINANCE
186	TURKIYE SINAI KALKINMA BANKASI A.S. (INDUSTRIAL DEVELOPMENT BANK OF TURKEY)	TURKEY	FINANCE
187	TURKIYE VAKIFLAR BANKASI TAO	TURKEY	INVESTOR RELATIONS
188	UNICREDIT BANK AG	GERMANY	FINANCE
189	UNION BANK OF ISRAEL LTD	ISRAEL	RISK MANAGEMENT / FINANCE
190	UNITED BANK FOR AFRICA	NIGERIA	INVESTOR RELATIONS
191	US BANCORP	USA	INVESTOR RELATIONS
192	VIRGIN MONEY HOLDINGS	UK	INVESTOR

	(UK) PLC		RELATIONS
193	VORARLBERGER LANDES-UND HYPOTHEKENBANK AG	AUSTRIA	INVESTOR RELATIONS
194	WELLS FARGO & COMPANY	USA	INVESTOR RELATIONS
195	WEMA BANK PLC	NIGERIA	FINANCE AND STRATEGY
196	WESTERN ALLIANCE BANCORPORATION	UNITED STATES OF AMERICA	INVESTOR RELATIONS
197	YAPI KREDİ	TURKEY	INVESTOR RELATIONS
198	YES BANK LIMITED	INDIA	FINANCIAL MANAGEMENT
199	ZAMBIA NATIONAL COMMERCIAL BANK PLC	AFRICA	INVESTOR RELATIONS
200	ZIONS BANCORPORATION	USA	AUDIT

Respondents that have completed the 1-to-1 interviews

RESPONDENT	TITLE	COUNTRY	REGION	FUNCTION /DEPARTMENT
1	HEAD OF FINANCIAL REPORTING	NIGERIA	MIDDLE EAST & AFRICA	FINANCIAL REPORTING
2	SR. INVESTOR RELATIONS MANAGER	INDIA	ASIA PACIFIC	INVESTOR RELATIONS
3	CFO	MALAYSIA	ASIA PACIFIC	FINANCE
4	ASSISTANT GENERAL MANAGER	INDIA	ASIA PACIFIC	RISK MANAGEMENT / FINANCE
5	HEAD OF INVESTOR RELATIONS	BRAZIL	AMERICAS	INVESTOR RELATIONSHIP
6	OFFICE OF THE PRESIDENT DEPARTMENT AND INVESTOR RELATIONS	THAILAND	ASIA PACIFIC	INVESTOR RELATIONS
7	MARKET RISK MANAGER	BRAZIL	AMERICAS	FINANCE
8	HEAD OF FINANCE & BUSINESS PERFORMANCE ANALYTICS	FRANCE	EUROPE	FINANCE
9	EVP - INVESTOR RELATIONS	UNITED STATES OF AMERICA	AMERICAS	INVESTOR RELATIONS
10	SR. DIRECTOR OF INVESTOR RELATIONS	CANADA	AMERICAS	INVESTOR RELATIONS
11	HEAD OF RISKS MANAGEMENT & FINANCE	CHINA	ASIA PACIFIC	RISK MANGEMENT
12	HEAD OF SUSTAINABILITY REPORTING	MALAYSIA	ASIA PACIFIC	SUSTAINABILITY
13	INVESTOR RELATION MANAGER	INDIA	ASIA PACIFIC	INVESTOR RELATIONS
14	INVESTOR RELATIONS	USA	AMERICAS	INVESTOR

RESPONDENT	TITLE	COUNTRY	REGION	FUNCTION /DEPARTMENT
	MANAGER			RELATIONS
15	EXECUTIVE VP & CFO	USA	AMERICAS	FINANCE
16	HEAD OF INVESTOR RELATIONS	MALAYSIA	ASIA PACIFIC	CSR
17	SENIOR MANAGER, INVESTOR RELATIONS	UK	EUROPE	INVESTOR RELATIONS
18	GM HR	INDIA	ASIA PACIFIC	HUMAN RESOURCE
19	CHIEF RISK MANAGER	INDIA	ASIA PACIFIC	RISK MANAGEMENT / FINANCE
20	INVESTOR RELATIONS OFFICER	SOUTH KOREA	ASIA PACIFIC	INVESTOR RELATIONS
21	OFFICE OF THE PRESIDENT	THAILAND	ASIA PACIFIC	CORPORATE COMMUNICATIONS
22	HEAD OF CSR	CAMBODIA	ASIA PACIFIC	FINANCE
23	VICE PRESIDENT, INVESTOR RELATIONS	THAILAND	ASIA PACIFIC	INVESTOR RELATIONS
24	HEAD OF FINANCE OPERATIONS	KUWAIT	MIDDLE EAST & AFRICA	FINANCE
25	DIRECTOR, RISK MANAGEMENT & OPERATIONS	MALAYSIA	ASIA PACIFIC	INVESTOR RELATIONS
26	INVESTOR RELATIONS OFFICER	PHILIPPINES	ASIA PACIFIC	INVESTOR RELATIONS
27	CFO	UNITED STATES OF AMERICA	AMERICAS	FINANCE
28	SR. INVESTOR RELATIONS OFFICER, HEAD OF RATINGS	ABU DHABI	MIDDLE EAST & AFRICA	RISK MANAGEMENT / FINANCE
29	SR. MANAGER, ENTERPRISE-WIDE RISK MANAGEMENT	CANADA	AMERICAS	RISK MANAGEMENT / FINANCE
30	HEAD OF FINANCE OPERATIONS	KENYA	MIDDLE EAST & AFRICA	FINANCE
31	RELATIONSHIP MANAGER	PAKISTAN	ASIA PACIFIC	INVESTOR RELATIONS
32	GENERAL MANAGER	SINGAPORE	ASIA PACIFIC	FINANCE & MIS
33	CFO	MALAYSIA	ASIA PACIFIC	FINANCE
34	HEAD, FINANCE AND ADMINISTRATION	LAOS	ASIA PACIFIC	FINANCE AND ADMINISTRATION
35	HEAD OF FINANCE & SUSTAINABILITY	SPAIN	EUROPE	SUSTAINABILITY
36	SUSTAINABILITY MANAGER	SRI LANKA	ASIA PACIFIC	FINANCE
37	HEAD FINANCE & TREASURY	NEPAL	ASIA PACIFIC	FINANCE AND TREASURY
38	FINNANCE CONTROLLER	PAKISTAN	ASIA PACIFIC	FINANCE

RESPONDENT	TITLE	COUNTRY	REGION	FUNCTION /DEPARTMENT
39	GENERAL MANAGER - CORPORATE FINANCE MANAGEMENT	INDIA	ASIA PACIFIC	FINANCE
40	INVESTOR RELATIONS MANAGER	INDIA	ASIA PACIFIC	INVESTOR RELATIONS
41	GM – BUSINESS STRATEGY & RURAL BANKING (RISK MANAGEMENT & CRO)	INDIA	ASIA PACIFIC	RISK DEPARTMENT
42	INVESTOR RELATIONS DIRECTOR	UK	EUROPE	INVESTOR RELATIONS
43	CFO	NIGERIA	MIDDLE EAST & AFRICA	FINANCE AND STRATEGY
44	VP OF INVESTOR RELATIONS	UNITED STATES OF AMERICA	AMERICAS	INVESTOR RELATIONS

APPENDIX G: Email sent for Survey Invitation

Dear Sir/Madam,

- If you are responsible for the annual corporate reporting of your bank, and
- If you are responsible for corporate governance or investor relations.

Can we invite you to spend 15 minutes to help us with this online survey about your organization, please? All information gathered will be kept strictly confidential for non-commercial, academic purpose only.

We believe your participation and opinions will greatly help our collective efforts to advance the understanding and effectiveness of non-financial information reporting for organizations (in particular, banks) and create a holistic environment for them to develop in this social media era. In participating in this survey, we will deliver an executive summary of our findings on completion for your reference.

In clicking on the weblink to start the survey below indicates your consent to participate in this study.

Thank you for participation in advance! Please click on this link <Weblink>.

Sincerely,

Principal Investigator
A/P Alton Chua
Wee Kim Wee School of Communication and Information
Nanyang Technological University
altonchua@ntu.edu.sg

Corresponding Principal Investigator
Ms Janet Wee
PhD Research Student
Wee Kim Wee School of Communication and Information
Nanyang Technological University
Email: cwee003@e.ntu.edu.sg HP: +65 8157 2139

This study is approved by the NTU-Institutional Review Board (IRB). If you have any questions about the study or your rights as a participant, feel free to contact the above research investigators or IRB at irb@ntu.edu.sg, or at +65 65922495.

APPENDIX H: List of banks that are used for testing (initial sample of 47 banks)
(Not duplicated from the final sample listing)

Region	Country	Name of Organization
APAC	China	Agricultural Bank of China Limited
Middle East & Africa	Saudi Arabia	Alinma Bank
Americas (North & South)	USA	Associated Banc-Corp.
Europe	Serbia	Banca Intesa Ad Beograd
Europe	Italy	Banca Popolare Dell'Emilia Romagna
Middle East & Africa	Brazil	Banco Daycoval SA
Americas (North & South)	Peru	Banco De Credito Del Peru
Americas (North & South)	Brazil	Banco Do Nordeste Do Brazil S.A.
Europe	Spain	Banco Popular Espanol SA
Americas (North & South)	Chile	Banco Santander Chile
Middle East & Africa	Jordan	Bank Al Etihad
Middle East & Africa	Egypt	Bank Audi SAE
Middle East & Africa	Israel	Bank Hapoalim Bm
Middle East & Africa	Israel	Bank Leumi Le Israel Bm
APAC	India	Bank Of Baroda
Middle East & Africa	Syria	Bank Of Jordan-Syria
APAC	Indonesia	Bank Rakyat Indonesia (Persero) Tbk
Middle East & Africa	Saudi Arabia	Banque Saudi Fransi
Americas (North & South)	Mexico	Banregio Grupo Financiero Sa De Cv
Americas (North & South)	USA	BTC Bank
APAC	China	China Merchants Bank Co Ltd
Americas (North & South)	Chile	Corpbanca
Europe	France	Credit Agricole S.A.

Region	Country	Name of Organization
APAC	India	DCB Bank Limited
Middle East & Africa	Turkey	Denizbank A.S.
APAC	Taiwan	E. Sun Financial Holding Co Ltd
APAC	Taiwan	Far Eastern International Bank
Middle East & Africa	Nigeria	First City Monument Bank Plc
Americas (North & South)	USA	First Federal
APAC	Taiwan	First Financial Holding Company Limited
Middle East & Africa	UAE	First Gulf Bank
Americas (North & South)	USA	First National Community Bankcorp
APAC	India	HDFC Bank Ltd
APAC	China	Industrial & Commercial Bank Of China (The) - Icbc
Middle East & Africa	Jordan	Jordan Ahli Bank Plc
Middle East & Africa	Oman	National Bank Of Oman (Saog)
APAC	Vietnam	National Citizen Commercial Joint Stock Bank
Middle East & Africa	Tanzania	National Microfinance Bank Plc
APAC	Sri Lanka	Nations Trust Bank Plc
Europe	France	Natixis SA
APAC	India	Punjab National Bank
Americas (North & South)	Barbados	Republic Bank (Barbados) Limited
Americas (North & South)	Brazil	Shearman & Sterling LLP/ Citibank
APAC	India	State Bank Of Mysore
Americas (North & South)	USA	The American National Bank
APAC	Sri Lanka	Union Bank Of Colombo Plc
APAC	Australia	Union Bank Of India

APPENDIX I: SURVEY QUESTIONNAIRE

Survey B (Content)

1. BACKGROUND OF ORGANIZATION

Name of Organization	<To be typed in>
Country	<To be typed in/Select a pull down list>
Function/Department	<Finance/Communications/Strategy/etc>
Estimated number of employees	<Number of Employees>
Frequency of corporate reporting	Annually/Semi-Annual/Four times a year

2. The Communication of Non-Financial Information - TYPE OF CONTENT

To what extent do you disagree or agree with the following statements in view of your organization's annual reporting disclosure of **non-financial information** to stakeholders.

Information on PEOPLE

<i>It is important that ...</i>	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
we report the number of employees by seniority	☐	☐	☐	☐	☐
we provide figures of our staff by country/region	☐	☐	☐	☐	☐
we report gender numbers (men/women employees)	☐	☐	☐	☐	☐
we report the numbers of new hires (and departures) in our organization	☐	☐	☐	☐	☐
we disclose the number of staff promoted	☐	☐	☐	☐	☐
we report staff retention numbers in our organization	☐	☐	☐	☐	☐
we showcase our talent development	☐	☐	☐	☐	☐
we report on our investment in training employees	☐	☐	☐	☐	☐
we provide indicators that reflect training investments (eg. training hours per employee per year)	☐	☐	☐	☐	☐

Information on PROCESSES and STRUCTURES

<i>It is important that ...</i>	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
we report the strategy implemented to enhance business performance	☐	☐	☐	☐	☐
we disclose our efforts to improve our operating procedure	☐	☐	☐	☐	☐
we describe activities that enhance our product/service standards	☐	☐	☐	☐	☐
we report technology developments within our organization	☐	☐	☐	☐	☐
we disclose investments made to improve business processes	☐	☐	☐	☐	☐
we showcase new technology implemented	☐	☐	☐	☐	☐
we communicate our brand value	☐	☐	☐	☐	☐
we provide details of our networks within the country and worldwide	☐	☐	☐	☐	☐
we showcase the awards and other service recognition received	☐	☐	☐	☐	☐

Information on INTERNAL and EXTERNAL RELATIONSHIPS

<i>It is important that ...</i>	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
we report statistics of customers satisfaction surveys	☐	☐	☐	☐	☐
we showcase our strength in client numbers	☐	☐	☐	☐	☐
we profile our satisfied customers	☐	☐	☐	☐	☐
we document our commitment to quality while dealing with suppliers	☐	☐	☐	☐	☐
we disclose our relationship with major suppliers and contractors	☐	☐	☐	☐	☐
we report collaboration with suppliers	☐	☐	☐	☐	☐
we profile our business alliances	☐	☐	☐	☐	☐
we highlight our collaboration with third parties partners	☐	☐	☐	☐	☐
we report our strength in marketing channels relationships	☐	☐	☐	☐	☐

Survey A (Factors)

3. Factors Driving the Communication of Non-Financial Information

These are the factors that **drive organizations to communicate non-financial information**. To what extent do you agree with the following statements?

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. It is mandatory to communicate non-financial information annually	☐	☐	☐	☐	☐
2. We communicate non-financial information as it is part of our organization's corporate governance policy	☐	☐	☐	☐	☐
3. Communication of non-financial information is an important aspect of documentation used to connect with and manage stakeholders' expectations	☐	☐	☐	☐	☐
4. We communicate the organization's non-financial information as part of our branding and image	☐	☐	☐	☐	☐
5. We report non-financial information to manage stakeholders' impression of our company	☐	☐	☐	☐	☐
6. We regularly report non-financial information to maintain vested interest in our organization	☐	☐	☐	☐	☐
7. Management has decided that it is important for us to report non-financial information as it is our responsibility to stakeholders	☐	☐	☐	☐	☐
8. We need to communicate non-financial information to our management, who are also the key owners of the organization	☐	☐	☐	☐	☐
9. We have a hands-on management that insists on the reporting of non-financial information	☐	☐	☐	☐	☐
10. As the market leader in our industry, we lead in the communication of non-financial information	☐	☐	☐	☐	☐
11. We believe in leading by example, including the communication of non-financial information	☐	☐	☐	☐	☐
12. We have influence over industry reporting of non-financial information	☐	☐	☐	☐	☐
13. Our stakeholders demand that we provide non-financial information on a regular basis	☐	☐	☐	☐	☐
14. We believe that communicating non-financial information can help our stakeholders better evaluate our company	☐	☐	☐	☐	☐
15. Stakeholders need to be informed how resources are managed and used for decision-making.	☐	☐	☐	☐	☐
16. We communicate non-financial information as everyone in our industry is doing it	☐	☐	☐	☐	☐
17. We are influenced by our peers in communicating non-financial information	☐	☐	☐	☐	☐

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
18. We report non-financial information as it is a common practice	☐	☐	☐	☐	☐
19. We have an established reporting framework to communicate non-financial information on a regular basis to our management	☐	☐	☐	☐	☐
20. Our current management system supports the capturing and reporting of non-financial information	☐	☐	☐	☐	☐
21. We have a dedicated team responsible for communicating non-financial information on a regular basis	☐	☐	☐	☐	☐
22. We report non-financial information as we have a high level of media exposure.	☐	☐	☐	☐	☐
23. We disclose non-financial information as it will increase our exposure to media	☐	☐	☐	☐	☐
24. We communicate non-financial information as we have a high disclosure practice	☐	☐	☐	☐	☐
What other factors drive your organization to communicate non-financial information?	<To insert comments here>				

4. Further Interviews

Can we contact you further on any of the comments you have made above for clarification?

<YES/NO Buttons>

Would you be interested to participate in the second phase of this research that involves either a focus group or 1-to-1 interviews?

FOCUS GROUP <YES/NO Buttons>

1-TO-1 INTERVIEW <YES/NO Buttons>

**THANK YOU FOR PARTICIPATING IN THIS
SURVEY.**

APPENDIX J: Consent Form

CONSENT FORM

Title of Project : Factors and Correlation of the Communication of Intellectual Capital
with Organizational Performance

Name of Researcher : Wee Chui Neo Janet (G1103087J)

1. Objective of this Project

The study is aimed at advancing the understanding of factors that affect the organization's communication of intellectual capital (IC), to better understand the rationale behind organization thinking in dealing with the communication of IC, in particular, its use as part of non-financial information to supplement the traditional annual reports. Two research objectives (RO) are formulated, as follows:

RO1: To investigate the factors affecting the communication of intellectual capital

RO2: To investigate rationale of factors and the methodologies used in the communication intellectual capital

2. Procedures

We appreciate your willingness to participate. This involves responding to a 6-page questionnaire comprising open and closed-ended questions.

3. Duration

The response to the questionnaire is expected to take no more than 45 minutes.

4. Risks

There is no conceivable risk directly related to this project given that it is conducted in a safe, indoor environment. The anticipated risks, if any, include tiredness and boredom during the research. No physical or emotionally-charged activities are expected from you. Any form of injury arising from this project is unlikely. There is therefore no provision for compensation for injury.

5. Benefits

This project provides insights and rich context to the distinctiveness of intellectual capital communication adoption and application in banks. As a practitioner, your participation in this project will enable you to have a better understanding of how the communication of intellectual capital can be capitalized to stay competitive and in meeting its goals and objectives.

6. Confidentiality

The information you provide will be kept strictly confidential. Also, you can be fully assured that no identifying details on the questionnaire are traceable to you. Furthermore, there will be no video or audio taping of the entire procedure.

7. Compensation

You will not be compensated in any way through your involvement in this project.

8. Rights to refuse or withdraw

Your participation is purely voluntary and that you are free to refuse participation or withdraw at any time without giving any reason. No penalty will be meted.

9. Contact Details

Janet CN Wee
31 Nanyang Link, WKWSCI Building Singapore 637718
Tel: +65 6790 4460
cwee003@e.ntu.edu.sg

A/P Alton Chua
31 Nanyang Link, WKWSCI Building Singapore 637718
Tel: 6790-5810
altonchua@ntu.edu.sg

If you have any concerns about this study or your experience as a participant, you may contact the Institutional Review Board (IRB) at NTU at 65-65922495 (collect calls will be accepted if you state you are a study participant); email: irb@ntu.edu.sg.

10. Participant's Permission

I have read the Consent Form and conditions of this project. I have had all my questions answered. I hereby acknowledge the above and give my voluntary consent:

Signature/Name of Participant (optional)

Date

APPENDIX K – Anti-image Matrices

Anti-image Matrices																									
	Governance1	Governance2	Governance3	Image1	Image2	Image3	MgtOwn1	MgtOwn2	MgtOwn3	Leadership1	Leadership2	Leadership3	StakeDD1	StakeDD2	StakeDD3	Herd1	Herd2	Herd3	System1	System2	System3	MediaEx1	MediaEx2	MediaEx3	
Anti-image Covariance	Governance1	.584	-.070	.117	-.055	-.065	-.012	-.046	-.114	.033	-.063	-.009	-.056	.003	-.064	.043	-.008	-.072	.012	-.114	.004	.031	-.058	.077	.000
	Governance2	-.070	.562	-.070	.103	-.078	.011	-.058	.037	-.150	.024	-.048	-.129	-.048	.009	-.090	-.026	-.015	.035	-.034	.110	.045	-.049	-.002	-.051
	Governance3	.117	-.070	.520	-.073	-.043	.028	-.077	-.027	.005	-.070	.024	.050	-.046	-.135	.054	-.050	.035	-.112	.031	-.051	-.029	-.079	.016	-.034
	Image1	-.055	.103	-.073	.598	-.105	.048	-.008	.005	-.098	-.044	-.067	.043	-.052	.006	-.100	-.054	.017	-.010	.076	-.063	-.045	.041	-.050	-.056
	Image2	-.065	-.078	-.043	-.105	.553	-.101	.067	-.033	.027	-.042	-.091	.039	.050	.003	-.076	.030	-.086	-.089	.024	-.045	-.048	.029	.025	.012
	Image3	-.012	.011	.028	.048	-.101	.619	-.055	.080	-.107	-.076	-.020	-.030	-.080	.004	-.103	-.090	.050	-.042	-.004	-.021	.145	-.011	-.078	-.031
	MgtOwn1	-.046	-.058	-.077	-.008	.067	-.055	.453	-.117	.046	-.014	-.011	.035	-.020	-.045	-.056	-.078	-.041	.000	-.081	-.026	-.005	-.018	.097	-.069
	MgtOwn2	-.114	.037	-.027	.005	-.033	.080	-.117	.604	-.125	.080	.059	-.072	-.046	-.060	.019	-.093	.023	.008	-.008	.042	.027	.000	-.087	-.081
	MgtOwn3	.033	-.150	.005	-.098	.027	-.107	.046	-.125	.692	.000	.052	.083	-.054	-.022	.089	-.042	-.067	-.031	-.010	-.077	-.070	.010	.071	-.022
	Leadership1	-.063	.024	-.070	-.044	-.042	-.076	-.014	.080	.000	.495	-.146	-.071	.008	.038	-.068	-.008	-.117	.084	.031	-.046	-.070	.027	-.077	-.034
	Leadership2	-.009	-.048	.024	-.067	-.091	-.020	-.011	.059	.052	-.146	.537	-.044	.039	-.097	.105	-.082	.034	-.016	-.047	-.003	.003	-.062	.041	-.094
	Leadership3	-.056	-.129	.050	.043	.039	-.030	.035	-.072	.083	-.071	-.044	.582	-.080	.084	.048	.000	-.021	-.127	.072	-.140	-.096	-.035	.014	-.062
	StakeDD1	.003	-.048	-.046	-.052	.050	-.080	-.020	-.046	-.054	.008	.039	-.080	.516	-.089	.074	.128	-.038	-.071	-.067	-.008	-.064	-.082	.040	-.071
	StakeDD2	-.064	.009	-.135	.006	.003	.004	-.045	-.060	-.022	.038	-.097	.084	-.089	.499	-.167	.064	-.014	.077	-.037	-.052	.037	.093	-.135	.014
	StakeDD3	.043	-.090	.054	-.100	-.076	-.103	-.056	.019	.089	-.068	.105	.048	.074	-.167	.518	-.068	.055	-.012	-.049	.013	-.089	-.133	.132	.024
	Herd1	-.008	-.026	-.050	-.054	.030	-.090	-.078	-.093	-.042	-.008	-.082	.000	.128	.064	-.068	.578	-.135	.002	-.017	.012	-.088	-.008	-.059	.104
	Herd2	-.072	-.015	.035	.017	-.086	.050	-.041	.023	-.067	-.117	.034	-.021	-.038	-.014	.055	-.135	.621	-.145	.054	.062	.099	-.048	-.075	.048
	Herd3	.012	.035	-.112	-.010	-.089	-.042	.000	.008	-.031	.084	-.016	-.127	-.071	.077	-.012	.002	-.145	.565	-.082	.019	-.035	-.021	-.084	.025
	System1	-.114	-.034	.031	.076	.024	-.004	-.081	-.008	-.010	.031	-.047	.072	-.067	-.037	-.049	-.017	.054	-.082	.464	-.150	-.088	.065	-.078	-.069
	System2	.004	.110	-.051	-.063	-.045	-.021	-.026	.042	-.077	-.046	-.003	-.140	-.008	-.052	.013	.012	.062	.019	-.150	.615	-.037	-.021	.091	.033
	System3	.031	.045	-.029	-.045	-.048	.145	-.005	.027	-.070	-.070	.003	-.096	-.064	.037	-.089	-.088	.099	-.035	-.088	-.037	.607	-.020	-.048	-.029
	MediaEx1	-.058	-.049	-.079	.041	.029	-.011	-.018	.000	.010	.027	-.062	-.035	-.082	.093	-.133	-.008	-.048	-.021	.065	-.021	-.020	.702	-.183	.039
	MediaEx2	.077	-.002	.016	-.050	.025	-.078	.097	-.087	.071	-.077	.041	.014	.040	-.135	.132	-.059	-.075	-.084	-.078	.091	-.048	-.183	.695	-.029
	MediaEx3	.000	-.051	-.034	-.056	.012	-.031	-.069	-.081	-.022	-.034	-.094	-.062	-.071	.014	.024	.104	.048	.025	-.069	.033	-.029	.039	-.029	.589
Anti-image Correlation	Governance1	.888 ^a	-.122	.212	-.094	-.114	-.020	-.090	-.192	.052	-.117	-.016	-.096	.005	-.118	.078	-.013	-.119	.021	-.219	.007	.052	-.091	.121	.000
	Governance2	-.122	.871 ^a	-.130	.178	-.140	.018	-.116	.063	-.240	.046	-.088	-.225	-.090	.018	-.167	-.046	-.025	.062	-.066	.187	.077	-.078	-.002	-.089
	Governance3	.212	-.130	.885 ^a	-.132	-.080	.050	-.159	-.048	.008	-.139	.045	.091	-.089	-.265	.104	-.091	.061	-.206	.063	-.091	-.052	-.130	.027	-.062
	Image1	-.094	.178	-.132	.884 ^a	-.183	.079	-.015	.008	-.152	-.081	-.119	.074	-.093	.011	-.180	-.092	.029	-.017	.145	-.104	-.074	.063	-.078	-.095
	Image2	-.114	-.140	-.080	-.183	.895 ^a	-.173	.135	-.056	.044	-.080	-.167	.068	.093	.006	-.141	.054	-.147	-.160	.047	-.077	-.082	.046	.040	.021
	Image3	-.020	.018	.050	.079	-.173	.871 ^a	-.104	.132	-.164	-.137	-.035	-.051	-.141	.007	-.181	-.151	.080	-.071	-.008	-.034	.237	-.017	-.119	-.051
	MgtOwn1	-.090	-.116	-.159	-.015	.135	-.104	.916 ^a	-.224	.083	-.029	-.023	.069	-.041	-.095	-.115	-.152	-.077	.001	-.176	-.049	-.009	-.033	.173	-.134
	MgtOwn2	-.192	.063	-.048	.008	-.056	.132	-.224	.847 ^a	-.193	.146	.103	-.121	-.083	-.109	.034	-.157	.038	.014	-.015	.068	.045	.000	-.135	-.136
	MgtOwn3	.052	-.240	.008	-.152	.044	-.164	.083	-.193	.830 ^a	.000	.085	.130	-.090	-.037	.148	-.066	-.102	-.049	-.018	-.118	-.108	.014	.102	-.034
	Leadership1	-.117	.046	-.139	-.081	-.080	-.137	-.029	.146	.000	.881 ^a	-.282	-.133	.015	.077	-.134	-.015	-.211	.158	.064	-.084	-.127	.046	-.132	-.063
	Leadership2	-.016	-.088	.045	-.119	-.167	-.035	-.023	.103	.085	-.282	.881 ^a	-.078	.075	-.187	.198	-.148	.059	-.029	-.094	-.005	.006	-.101	.067	-.167
	Leadership3	-.096	-.225	.091	.074	.068	-.051	.069	-.121	.130	-.133	-.078	.804 ^a	-.147	.155	.087	.000	-.034	-.221	.139	-.234	-.161	-.055	.022	-.105
	StakeDD1	.005	-.090	-.089	-.093	.093	-.141	-.041	-.083	-.090	.015	.075	-.147	.886 ^a	-.175	.142	.234	-.067	-.132	-.137	-.014	-.114	-.136	.067	-.130
	StakeDD2	-.118	.018	-.265	.011	.006	.007	-.095	-.109	-.037	.077	-.187	.155	-.175	.826 ^a	-.328	.119	-.026	.145	-.078	-.094	.067	.156	-.229	.025
	StakeDD3	.078	-.167	.104	-.180	-.141	-.181	-.115	.034	.148	-.134	.198	.087	.142	-.328	.766 ^a	-.124	.098	-.022	-.100	.022	-.160	-.221	.220	.044
	Herd1	-.013	-.046	-.091	-.092	.054	-.151	-.152	-.157	-.066	-.015	-.148	.000	.234	.119	-.124	.844 ^a	-.225	.003	-.032	.020	-.148	-.013	-.094	.178
	Herd2	-.119	-.025	.061	.029	-.147	.080	-.077	.038	-.102	-.211	.059	-.034	-.067	-.026	.098	-.225	.788 ^a	-.245	.100	.101	.162	-.073	-.115	.080
	Herd3	.021	.062	-.206	-.017	-.160	-.071	.001	.014	-.049	.158	-.029	-.221	-.132	.145	-.022	.003	-.245	.866 ^a	-.160	.032	-.059	-.034	-.134	.043
	System1	-.219	-.066	.063	.145	.047	-.008	-.176	-.015	-.018	.064	-.094	.139	-.137	-.078	-.100	-.032	.100	-.160	.878 ^a	-.282	-.166	.113	-.137	-.132
	System2	.007	.187	-.091	-.104	-.077	-.034	-.049	.068	-.118	-.084	-.005	-.234	-.014	-.094	.022	.020	.101	.032	-.282	.860 ^a	-.060	-.031	.139	.056
	System3	.052	.077	-.052	-.074	-.082	.237	-.009	.045	-.108	-.046	.006	-.161	-.114	.067	-.160	-.148	.162	-.059	-.166	-.060	.871 ^a	-.031	-.074	-.048
	MediaEx1	-.091	-.078	-.130	.063	.046	-.017	-.033	.000	.014	.046	-.101	-.055	-.136	.156	-.221	-.013	-.073	-.034	.113	-.031	-.031	.841 ^a	-.261	.060
	MediaEx2	.121	-.002	.027	-.078	.040	-.119	.173	-.135	.102	-.132	.067	.022	.067	-.229	.220	-.094	-.115	-.134	-.137	.139	-.074	-.261	.664 ^a	-.046
	MediaEx3	.000	-.089	-.062	-.095	.021	-.051	-.134	-.136	-.034	-.063	-.167	-.105	-.130	.025	.044	-.178	.080	.043	-.132	.056	-.048	.060	-.046	.915 ^a
a. Measures of Sampling Adequacy(MSA)																									