

**Monarch Business School
University for Graduate Studies in Management**

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on
Financial Performance: An Empirical Analysis of Publicly Listed Companies
in the United Arab Emirates

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| PROGRAM: | Doctor of Philosophy in Finance |
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QUOTES

“If you can keep your head when all about you
Are losing theirs and blaming it on you,
If you can trust yourself when all men doubt you,
But make allowance for their doubting too;

If you can wait and not be tired by waiting,
Or being lied about, don't deal in lies,
Or being hated, don't give way to hating,
And yet don't look too good, nor talk too wise;

If you can dream - and not make dreams your master;
If you can think - and not make thoughts your aim;
If you can meet with Triumph and Disaster
And treat those two impostors just the same;

If you can bear to hear the truth you've spoken
Twisted by knaves to make a trap for fools,
Or watch the things you gave your life to, broken,
And stoop and build 'em up with worn-out tools;

If you can make one heap of all your winnings
And risk it on one turn of pitch-and-toss,
And lose, and start again at your beginnings

And never breathe a word about your loss;

If you can force your heart and nerve and sinew
To serve your turn long after they are gone,
And so hold on when there is nothing in you
Except the Will which says to them: 'Hold on!'

If you can talk with crowds and keep your virtue,
Or walk with Kings - nor lose the common touch,
If neither foes nor loving friends can hurt you,
If all men count with you, but none too much;

If you can fill the unforgiving minute
With sixty seconds' worth of distance run,
Yours is the Earth and everything that's in it,
And - which is more - you'll be a Man, my son!"

- *IF Poem by Rudyard Kipling*

“Globalization has changed us into a company that searches the world, not just to sell or to source, but to find Intellectual Capital – the world’s best talents and greatest ideas.” – *Jack Welch*

“L’homme se fait en se faisant.” – *Julian de Ajuriaguerra*

DEDICATION

I dedicate this dissertation to my family, especially to my mother Mrs. Soumaya Majdalany and my fiancée and future wife Ms. Joanne Khalil.

Since I was a kid, you instilled in me the belief that I was meant to achieve something great in my life. I was five years old when I came home crying for achieving only the second place in my class; I felt that I disappointed you. Since then, I promised myself to pursue excellence in each and every endeavor, and so it was. Today, the five years old boy still lives inside me, and he still waits for your praises and hugs for every achievement; for all your prayers and for everything that you have taught me, this doctoral dissertation goes to you; I love you.

My fiancée, this dissertation would not be possible without your love, patience, support, and encouragement. During the past few years, you showed unmatched understanding and support for the time and effort needed to complete this dissertation. You were sitting next to me when I was filling the application for the doctoral program. You called me “Doctor”, before even being accepted to the program, and since then, each time my energy drained and pushed me to the edge of quitting, that word gave me the power to keep fighting. For all your love and support, this dissertation goes to you; I love you, and God willing, we will read this paragraph to our kids in the near future.

Finally, for all the blessings that you have bestowed in me, I thank you dear Lord for giving me the wind that helped me sail this ship to safe harbor. I ask you to always help me remember that no matter how many words I write, “The earth and heavens will disappear, but one letter of your words will never perish.”

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Doctor of Philosophy in Finance

The author hereby attests that the work herein provided in fulfillment of the above degree requirements is wholly of his own effort and hand. Further, the author attests that this document constitutes the entire submission of the dissertation component.

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LIST OF ABBREVIATIONS

| | |
|----------------|--|
| ADSM | Abu Dhabi Securities Market |
| ADX | Abu Dubai Securities Exchange |
| CBV | Competence-Based View |
| CEE | Capital Employed Efficiency |
| CIFAR | Center for International Financial Analysis and Research |
| D ² | Mahalanobis Distance |
| DFM | Dubai Financial Market |
| ESCA | Emirates Securities and Commodities Authority |
| EVA™ | Economic Value Added |
| FTC | Federal Trade Commission |
| GAAP | Generally Accepted Accounting Principles |
| GCC | Gulf Cooperation Council |
| GDP | Gross Domestic Product |
| GMMICDFFP® | George Majdalany Model of Intellectual Capital Disclosure and Firm Financial Performance |
| GRI | Global Reporting Initiative |
| IASB | International Accounting Standards Board |
| IC | Intellectual Capital |
| ICE | Intellectual Capital Efficiency |
| IFRS | International Financial Reporting Standards |
| IPO | Initial Public Offering |
| ISE | Istanbul Stock Exchange |
| IT | Information Technology |
| JIC | Journal of Intellectual Capital |
| JKM | Journal of Knowledge Management |
| KBV | Knowledge-Based View |
| KPI | Key Performance Indicator |
| KPM | Knowledge and Process Management |
| LSE | London Stock Exchange |
| MB | Market-to-Book Ratio |
| MENA | Middle East and North Africa |
| MERITIUM | Measuring Intangibles to Understand and Improve Innovation Management |
| MVA | Market Value Added |
| NICI | National Intellectual Capital Index |
| NYSE | New York Stock Exchange |
| PLS | Partial Least Square |
| PR | Public Relations |
| R&D | Research and Development |
| R ² | Coefficient of Determination |
| RBV | Resource-Based View |
| ROA | Return on Assets |

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| | |
|---------|---|
| ROE | Return on Equity |
| SCP | Structure-Conduct-Performance |
| SEC | Security and Exchange Commission |
| SEM | Structural Equation Modeling |
| SJR | SCImago Journal Rank |
| SMEs | Small and Medium Entities |
| SSWG | German Schmalenbach Society Working Group |
| UAE | United Arab Emirates |
| UK | United Kingdom |
| USA | United States of America |
| USD | United States Dollar |
| VAIC™ | Value Added Intellectual Coefficient |
| VCA | Variance Component Analysis |
| VIF | Variance Inflation Factor |
| WTO | World Trade Organization |
| Z-Score | Standard Score |

CHAPTER ONE

INTRODUCTION

CHAPTER ONE – INTRODUCTION

1.0 INTRODUCTION

Financial reporting is an important, crucial task for achieving and sustaining a well-organized, farsighted business (Lev and Zarowin, 1999; Oyelere and Kuruppu, 2010).

The primary importance of financial reporting is for efficient decision-making (Gerpott et al., 2008). According to Lev and Zarowin (1999), investor demand for relevant information and improved quality and timeliness of financial information is increasing in the face of deteriorating usefulness of traditionally reported earnings, cash flows, and equity values.

A 'new economy', characteristically driven by information and knowledge, is emerging quickly in the twenty-first century. This 'new economy' differs drastically from the 'old economy' (Guthrie, 2001), prompting many researchers and authors to adopt the nomenclature '*Knowledge Economy*' when referring to this phenomenon (Joshi and Ubha, 2009). Intellectual Capital scholars use the term 'old economy' to depict economic activities of 'traditional companies' or 'low profile industries' like automotive, electronics and utilities (Gerpott et al., 2008). The 'new economy' on the other hand describes the activities of 'high profile' or 'knowledge-intensive' companies like Information Technology ("IT") firms (Gerpott et al., 2008). Commensurate with this change, it is seen that driven by innovation, changes in firms operations, and economic

conditions, Intellectual Capital is not considered to be adequately reflected by the current financial reporting system (Gerpott et al., 2008) which is historically attuned to “old economy” companies and industries. Consequently, and keeping in mind that The inclusion of Intellectual Capital reporting within the standard accounting statements is believed to help bridge the gaps in traditional financial reporting and it is understood that the burgeoning prominence of Intellectual Capital reporting in accounting practice and research is a major driver and facilitator of the knowledge economy (Guthrie, 2001; Marr, 2004; Chen et al., 2004; Boedker et al., 2005; Phusavat et al., 2011).

The significance of Intellectual Capital as a value driver and Intellectual Capital reporting as a facilitator in the contemporary knowledge economy cannot be disputed (Marr, 2004). Intellectual Capital is connected either directly or indirectly to recent economic, technological, managerial, and sociological developments (Guthrie, 2001). Thus, many accounting industry practitioners, analysts, and researchers now see Intellectual Capital and the accurate reporting of IC as a major determinant of enterprise value and in turn of a nation’s economic performance (Stam, 2009).

1.1 BACKGROUND OF THE PROBLEM

Despite the notable progress in the significance of reporting intellectual related information, the core problems facing research is the lack of common terminology for Intellectual Capital reporting and the impact of Intellectual Capital disclosure on Firm

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Financial Performance (Petty and Guthrie, 2000). Until today, no agreement has been reached by the academic or research community on the classification of the different components of Intellectual Capital or the impact of Intellectual Capital disclosure on Firm Financial Performance (Petty and Guthrie, 2000). Thus, no one can argue that the field is pre-paradigmatic. Furthermore, in addition to the ambiguity surrounding research on Intellectual Capital disclosure and Firm Financial Performance, most research efforts have concentrated their focus on the asset side of the accounting equation and have ignored the liabilities side.

It is argued that if it is accepted as true that Intellectual Assets have become more important than tangible and financial assets then it should also be accepted that Intellectual Liabilities have become more important than tangible and financial liabilities (Cañibano et al., 2000). However, it appears that Intellectual Capital literature does not adequately address the issue of Intellectual Liabilities and the impact of their disclosure on Firm Financial Performance (Cañibano et al., 2000). Although some studies demonstrate the possibility of the existence of Intellectual Liabilities in the constitution of Intellectual Capital, the importance of it still seems to be underestimated or ignored. (Harvey and Lusch, 1999; Caddy, 2000; Garcia-Parra et al., 2009)

1.2 STATEMENT OF THE PROBLEM

According to Murthy and Mouritsen (2011), the possible interaction between the components of Intellectual Capital (Human, Relational, and Structural capital) may be responsible for a firm's performance. In addition, Murthy and Mouritsen (2011) conclude that it is challenging to identify a correlation between Intellectual Capital and financial capital because Intellectual Capital and financial capital may be complementary as well as causal. Other studies have also supported Murthy and Mouritsen's (2011) view (Kamukama et al., 2011; Vafaei et al., 2011).

Research on the connection between disclosure of Intellectual Capital components and Firm Financial Performance is gradually being investigated and accepted (Nazari and Herremans, 2007; Schiuma and Lerro, 2008; Cheng et al., 2010). Generally, Intellectual Capital is composed of many intangible subcomponents within a firm that are not captured in the conventional accounting formulas or computations (Brooking, 1996; Sveiby, 1997; Bontis et al., 1999; Chen et al., 2004). Furthermore, Intellectual Capital underscores the significance and challenge of applying a firm's human-generated capital and resources to competitively develop the firm's products and services (Bontis et al., 1999; Nazari and Herremans, 2007).

Despite repeated research efforts, the studies of the effect that voluntary Intellectual Capital disclosure has on Firm Financial Performance are not unified and are visibly

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scattered, adopting non-uniform methodologies and proxies (Andriessen, 2004; Phusavat et al., 2011). To the best knowledge of the researcher, it is believed that Intellectual Capital research faces a shortage of studies that measure the effect of Intellectual Liabilities disclosure on the Firm Financial Performance.

In the early 1990s, there was a lack of proper understanding of the concept of intellectual language (Petty and Guthrie, 2000). This era was characterized by very few measurement models used to evaluate and measure Intellectual Capital. Towards the late 1990s, and until today, academic research witnessed the creation of several new models; however, there is still a lack of common language which can be used to effectively communicate Intellectual Capital characteristics to others, and as a result, to manage them effectively (Cañibano et al., 2000; Petty and Guthrie, 2000). This has led to low adoption rates of Intellectual Capital models and to mixed and sometimes contradictory results on the correlation between Intellectual Capital disclosure and Firm Financial Performance, with intellectual capital disclosure representing the investment, measurement, disclosure, and management of IC (Lev, 2001; Beattie, 2004; Seetharaman et al., 2004; James et al., 2006). In addition, management models, the results they yield along with the subsequent actions managers choose to take also seem to lack the clarity and logic that they might otherwise have (Seetharaman et al., 2004; James et al., 2006). Interestingly, some firms try to retain as much strictness in the accounting as possible while attempting to measure Intellectual Capital, while others abandon the conventional methods and instead base their management, measurement,

and disclosure on the attributes of Intellectual Capital. There has been a substantial debate on which approach is better in terms of usefulness, accuracy, and ease of auditing and verification (Seetharaman et al., 2004; James et al., 2006).

Understandably, between these debates, many companies experience confusion as to the appropriateness of the measurement and disclosure models to use. These measurement and disclosure models have been intentionally designed to provide managers with the necessary guidelines to assist in the management of the firms, but instead imposed a very heavy burden on personnel responsibility for the measurement function and reporting, and thus resulted in mixed performance results (Cañibano et al., 2000; Petty and Guthrie, 2000; Lev, 2001; Beattie, 2004; Seetharaman et al., 2004; James et al., 2006).

As Table 1.2 indicates, Intellectual Capital is a field with a significant amount of available research. However, once isolating for geographic issues with respect to the Middle East, Arab Culture, and the United Arab Emirates (“UAE”) in specific, few results are available. This supports the assertion that research conducted on Intellectual Capital with respect to UAE and business within Arab culture is lacking and that further research in this domain is important and critical in the further development of the academic field.

TABLE 1.2
GOOGLE SCHOLAR SEARCH RESULTS FOR
INTELLECTUAL CAPITAL RELATED TERMS

| Term | Number of Entries |
|---|-------------------|
| Intellectual Capital | 1,640,000 |
| Human Capital | 2,900,000 |
| Structural Capital | 2,440,000 |
| Relational Capital | 220,000 |
| Intellectual Capital and Europe | 724,000 |
| Intellectual Capital and United States of America | 827,000 |
| Intellectual Capital and Australia | 255,000 |
| Intellectual Capital and Middle East | 382,000 |
| Intellectual Capital and United Arab Emirates | 6,150 |
| Human Capital and Europe | 2,260,000 |
| Human Capital and United States of America | 1,650,000 |
| Human Capital and Australia | 1,180,000 |
| Human Capital and Middle East | 882,000 |
| Human Capital and United Arab Emirates | 26,700 |
| Structural Capital and Europe | 1,610,000 |
| Structural Capital and United States of America | 1,030,000 |
| Structural Capital and Australia | 463,000 |
| Structural Capital and Middle East | 553,000 |
| Structural Capital and United Arab Emirates | 21,200 |
| Relational Capital and Europe | 83,000 |
| Relational Capital and United States of America | 68,700 |
| Relational Capital and Australia | 39,400 |
| Relational Capital and Middle East | 42,300 |
| Relational Capital and United Arab Emirates | 1,670 |
| United Arab Emirates | 83,600 |
| <i>Source: Author, as extracted on 18 February 2013</i> | |

As mentioned and shown in Table 1.2, within the UAE market there has been very little research on Intellectual Capital. Moreover, there is very little evidence on the exact correlation between disclosure of Intellectual Capital components and Firm Financial Performance (Murthy and Mouritsen, 2011; Phusavat et al., 2011). To date, the

discussion of Intellectual Capital has focused primarily on the asset side of the balance sheet in its consideration of Intellectual Capital and the management of these items by organizations (Harvey and Lusch, 1999). In addition, the terms Intellectual Assets and Intellectual Capital often either have been used interchangeably, or are considered to have significant overlap (Reilly and Dandekar, 1997). The interesting point is that if Intellectual Assets do indeed exist, then there should also exist a mirror reflection of these organization artifacts as Intellectual Liabilities (Stam, 2009). Most researchers have overlooked the negative side of Intellectual Capital which is typically referred to as Intellectual Liabilities (Harvey and Lusch, 1999). As per Harvey and Lusch (1999), in order to balance the Intellectual Capital books, organizations must recognize their Intellectual Liabilities. Thus, Intellectual Capital is the net intellectual worth which equals Intellectual Assets minus Intellectual Liabilities (Abeysekera and Guthrie, 2005). Furthermore, to study adequately the impact of Intellectual Capital disclosure on Firm Financial Performance, a holistic view is required for Intellectual Capital disclosure by incorporating disclosure of both Intellectual Assets and Intellectual Liabilities.

1.3 PURPOSE STATEMENT

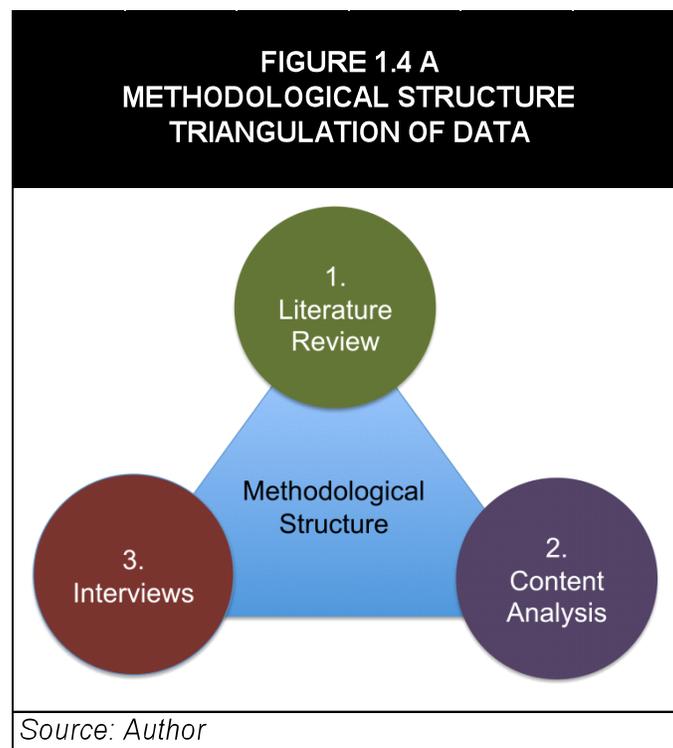
The primary purpose of the present research is:

To determine, using quantitative and qualitative research methods, the characteristics of a new conceptual model that assists in explaining the relationships between Intellectual Capital disclosure and Firm Financial Performance for companies listed on the UAE stock exchanges.

1.4 RESEARCH METHODOLOGY

The present research is designed as an empirical study of the relationships between Intellectual Capital disclosure and Firm Financial Performance for publicly listed companies in the UAE. As Figure 1.4 A shows, the aim of the present research is to respond to the main research question (discussed in Section 1.5 below) by way of a triangulation of research data within a mixed-method research paradigm that integrates both quantitative and qualitative methodology, being:

- Literature review of existing seminal material (desk research);
- Content analysis of existing corporate data (desk research), and;
- Interviews with primary stakeholders in industry (field research).



Research Step One: Desk Research – In-Depth Literature Review Part 1

An in-depth review of the seminal authors within the domain of Intellectual Capital is the first step completed with the research process. Part One of the In-Depth Literature Review will provide a solid foundation on which the Content Analysis of Step Two may be considered and placed into an overall scientific context both from the academic as well as professional knowledge perspectives.

Research Step Two: Desk Research - Content Analysis

Based on the foundational readings of the Literature Research – Part 1 mentioned above, a quantitative analysis considering a series of null hypotheses based on data obtained from annual reports, supporting commercial documents, and other data sources is considered in order to develop an empirical understanding of the relationship of Intellectual Capital disclosure to Firm Financial Performance, i.e.: independent versus dependent variables.

Research Step Three: Field Research - Semi-Structured Interviews

With the benefit of the Literature Research completed in Step One and the results of the content analysis from Step Two the field research takes the form of a qualitative semi-structured interview process with key strategic stakeholders within the industry.

Research Step Three B – Field Research – Follow-Up Interviews

A more specific and narrow view informed by the first round of interviews, content analysis, and literature review to date is concluded with a smaller sub-set of five respondents from the First Round sample.

Research Step Four – Desk Research – In-Depth Literature Review – Part 2

Once the second round of interviews have been completed and a more granular appreciation of the issues faced by the sample participants is uncovered through the statistical analysis of both the quantitative (SPSS) and qualitative data (NVIVO), a return to the Literature Research is completed to further refine the scope and consideration of the existing knowledge within the academic field.

Research Step Five & Six – Triangulation of the Data & Gap Analysis

With the benefit of the both the desk and field research being completed in the form of content analysis, two-stage participant interviews, and exhaustive literature research, a triangulation of the data is considered and analyzed in order to determine whether or not the existing academic knowledge is congruent with the practical application of the field on a day-to-day commercial basis.

Step 7: Development of New Model

Building on the Gap Analysis in Step Six and determination of whether agreement is shown between the practical application and the theoretical analysis of the seminal

literature, a thorough analysis of the existing frameworks within the academic domain is made. This final step in the research is considered to be the contribution of original knowledge taking the form of the development of a new framework or model.

1.5 RESEARCH QUESTION

Review of the literature of Intellectual Capital has led to the development of several pertinent questions; these questions revolve around the different correlation schemes that link Intellectual Capital disclosure, Intellectual Assets and Intellectual Liabilities, to Firm Financial Performance. Also examined are questions of how Intellectual Capital components are disclosed in the annual reports of publicly listed companies within the UAE, and how they link to Firm Financial Performance. Thus, keeping in mind the above, the research question has been developed as:

Main Research Question:

“What are the characteristics of a new conceptual model that assists in explaining the relationships between Intellectual Capital disclosure and Firm Financial Performance for companies listed on the UAE stock exchanges?”

1.6 HYPOTHESES

In order to adequately respond to the main research question, the following null hypotheses have been developed to provide quantitative benchmarks and data points for further consideration within the qualitative analysis of the subject matter:

| TABLE 1.6 NULL HYPOTHESES | |
|--------------------------------------|--|
| H1 ₀ | There is no statistically significant relationship between Intellectual Capital Disclosure and Firm Financial Performance for publicly listed companies in the UAE. |
| H2 ₀ | There is no statistically significant relationship between Human Assets Disclosure and Firm Financial Performance for publicly listed companies in the UAE |
| H3 ₀ | There is no statistically significant relationship between Relational Assets Disclosure and Firm Financial Performance for publicly listed companies in the UAE |
| H4 ₀ | There is no statistically significant relationship between Structural Assets Disclosure and Firm Financial Performance for publicly listed companies in the UAE |
| H5 ₀ | There is no statistically significant relationship between Human Liabilities Disclosure and Firm Financial Performance for publicly listed companies in the UAE |
| H6 ₀ | There is no statistically significant relationship between Relational Liabilities Disclosure and Firm Financial Performance for publicly listed companies in the UAE |
| H7 ₀ | There is no statistically significant relationship between Structural Liabilities Disclosure and Firm Financial Performance for publicly listed companies in the UAE |
| <i>Source: Author</i> | |

1.7 SIGNIFICANCE OF THE STUDY

Empirical evidence of the domain does not consistently support measurement and disclosure theory and the results found appear to be contradictory (Andriessen, 2004; Phusavat et al., 2011). To the best knowledge of the author, it is believed that detailed research focused on testing the interactive effects of the disclosure of Intellectual Capital elements on Firm Financial Performance in publicly listed companies in the UAE has yet to be completed. Moreover, the primary aim of the research is to develop a new conceptual framework that addresses the underlying relationships between Intellectual Capital disclosure and Firm Financial Performance thus filling in the existing gap of knowledge and providing further illumination of the study domain.

Moreover, by incorporating Intellectual Liabilities in the framework, this research brings a more refined, theoretically and empirically based conceptualization of Intellectual Capital than has been previously been provided, aiding in the development of a more robust theory of Intellectual Capital disclosure and its correlation with Firm Financial Performance.

According to Marr et al. (2004), it is now generally believed by Intellectual Capital research bodies that an academic and practitioner focus on Intellectual Capital is important and that the measurement and disclosure of a company's intangibles provides real business benefits. However, it is essential for researchers in the field of Intellectual

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Capital to be able to justify these newly formed theoretical assumptions through rigorous empirical testing (Marr et al., 2004). It can be argued that in order to improve the financial performance of publicly listed companies in the UAE, managers should endeavor to find a viable Intellectual Capital mix or blend which once invested, measured, and disclosed, can add value to the firm and improve its performance. The present research provides the framework for this relationship. In addition, the existing body of knowledge in this field which shows conflicting opinions concerning the correlation between Intellectual Capital disclosure and Firm Financial Performance, is enriched as a result of the new research that strives to develop an original framework within a new marketplace and geography thereby bringing increased intellectual attention to the critical issues defining the subject matter.

In addition to the scarcity of Intellectual Capital research in the UAE, it is believed that most research efforts have concentrated on the asset category and ignored the liabilities category of Intellectual Capital. Thus, the significance of the present research is to determine the following objectives:

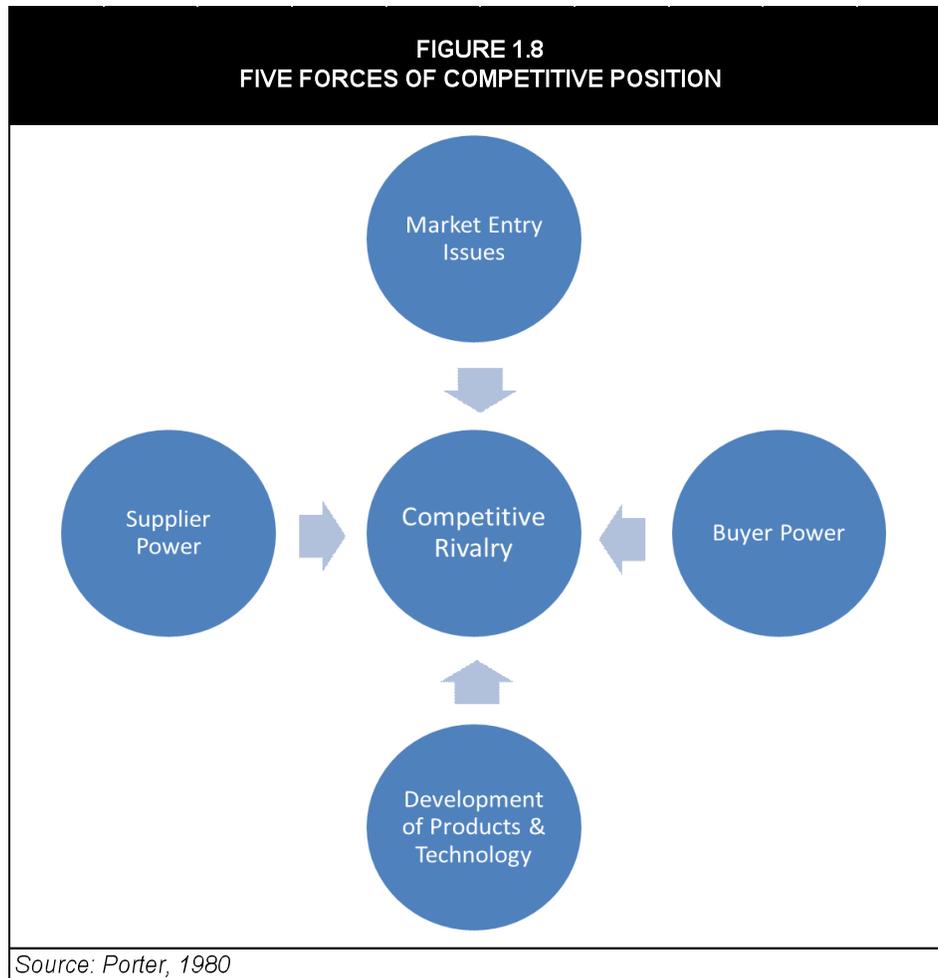
1. To examine the field of Intellectual Capital research in publicly listed companies in the UAE;
2. To examine the field of Intellectual Liabilities research;
3. To compare the findings of the present research to the existing academic literature to determine whether or not the characteristics of Intellectual Capital disclosure are universal and applied in practice; and

4. To generate a conceptual model that assists in understanding the relationship between Intellectual Capital disclosure, Intellectual Assets and Intellectual Liabilities, and Firm Financial Performance for publicly listed companies in the UAE.

1.8 THEORETICAL FRAMEWORK

Organizational performance is one of the central themes of strategic management focus (Galbreath and Galvin, 2008). This focus has undergone a series of evolutions which have either caused or have been affected by the evolution of the economy (Galbreath, 2005; Galbreath and Galvin, 2008). This focus has evolved from an industry-specific into a firm-specific focus (Galbreath, 2005). These two focuses constitute the dominant theories within the field of strategic management today (Grant, 1996; Galbreath, 2005).

The industry-specific theory, which was developed within the industrial economy paradigm, states that the determinants of organizational performance are a direct effect of the structural differences of the economy to which the organization belongs (Galbreath and Galvin, 2008). This theory has best been represented by Porter's (1980) five forces model, as shown in Figure 1.8:



The industry-specific theory evolved into firm-specific factors of organizational performance which views the organization as a bundle of tangible and intangible resources (Galbreath and Galvin, 2008). The value, scarcity, uniqueness, and sustainability of these resources can generate organizational competitive advantage, and as such, they are the drivers of the differentials in the organization's performance (Barney, 1991; Peteraf 1993; Galbreath, 2005). This theory has been best represented by the Resource-Based View ("RBV") of Wernerfelt (1984). A further study by Amit and

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Schoemaker (1993) suggests that only intangible resources are the real drivers of competitive advantage due to peculiarity, high scale returns, and difficult barriers to duplication.

The RBV was integrated with the Competence-Based View (“CBV”), according to which, competitive advantage can be achieved by the competence in managing the unique resources and by the Knowledge-Based View (“KBV”), according to which, knowledge is the source of strategic competitive advantage (Conner and Prahalad, 1996; Teece et al., 1997). The KBV is developed in the knowledge-based economy which is quite different from the industrial economy (Sudarsanam et al., 2003; Tseng and Goo, 2005). According to this view, competitive advantage depends on the ability of an organization to expand, manage, measure, and control the flow of knowledge (Sudarsanam et al., 2003; Galbreath, 2005). The KBV was then advanced into the Intellectual-Based View (IBV), according to which competitive advantage and firm performance are a function of the movement of the organization’s knowledge stocks (Sudarsanam et al., 2003; Carlucci et al., 2004; Tseng and Goo, 2005). Therefore, in a knowledge economy, the sources of economic value depend on Intellectual Capital management, measurement, and disclosure (Guthrie et al., 2004). However, the conventional financial accounting reporting methods are inadequate in reflecting the value of Intellectual Capital (Roos et al., 1998; Hayton, 2005)

1.9 NATURE OF THE STUDY

Quality research employs a sound research design to deal with important problems. Original research must add to the existing literature body by contributing to theory, knowledge, methodology, and/or practice (Wellington et al., 2009). The research goals should be clearly linked to the theoretical and physical context of the research and to its intended contribution (Wellington et al., 2009). Intellectual Capital research has been met with complexity, mixed results, and lack of proper understanding of conceptual and practical frameworks (Lev, 2001; Beattie, 2004; Seetharaman et al., 2004; James et al., 2006). The nature of the present research is to contribute specifically to the understanding of the constituents of Intellectual Capital disclosure and their correlation with Firm Financial Performance from a theoretical and practical perspective.

Within the RBV context, the present research is aimed at investigating the effect of Intellectual Assets and Intellectual Liabilities disclosure on Firm Financial Performance of publicly listed companies in the UAE by using mixed-method research: quantitative and qualitative methods. A quantitative research approach, using statistical analysis of content analysis findings, is applied to examine the relationships between the disclosure of Intellectual Capital components and Firm Financial Performance for publicly listed companies in the UAE. In addition, a qualitative approach, using semi-structured interviews and follow-up interviews of industry knowledge workers, is applied to examine Intellectual Capital measurement and disclosure, and the effect of disclosure

on Firm Financial Performance. Adopting a mixed-method research approach allows the research to carry out evidence triangulation and complementation. Therefore, the employed mixed-method research generates a valid addition to the body of literature on the integration of the RBV theory and the importance of Intellectual Capital components.

The mixed-method research paradigm integrates both quantitative and qualitative methodologies (Tashakkori and Teddlie, 1998; Creswell, 1999; Johnson and Onwuegbuzie, 2004; Creswell, 2003; Creswell, 2006). Essentially, the employed mixed-method research paradigm in the present research is comprised of reviewing existing seminal literature (desk research); content analysis of existing corporate data (desk research); and semi-structured interviews and follow-up interviews with primary stakeholders in the industry (field research).

The following section lists the essential terms that will be used in the present research along with their definitions to provide uniformity of meaning throughout the manuscript.

1.10 DEFINITIONS

Definitions of the key terms used throughout the document are provided in Table 1.10 to ensure a general framework for clarification.

Table 1.10
Definitions

| | |
|----------------------------|---|
| Intellectual Capital | Refers to the net intellectual worth of the firm and the difference between its market value of equity and book value of equity (Cañibano et al., 2000, Abeysekera, 2003). Intellectual Capital consists of Intellectual Assets minus Intellectual Liabilities (Stam, 2009) |
| Intellectual Assets | Refers to the summation of Human Assets, Relational Assets, and Structural Assets (Bontis, 2002; Stam, 2009) |
| Human Assets | Includes knowledge, skills and technical abilities, personal traits such as intelligence, energy, attitude, reliability and commitment, ability to learn, including aptitude, imagination and creativity, desire to share information, participate in a team, and focus on the goals of the firm (Fitz-enz, 2000) |
| Relational Assets | Refer to market relationships, cooperation, and power relationships established between the firm and its stakeholders. Stakeholders include customers, suppliers, government bodies, tax authorities, banks, environmental constituents, society groups, and others (Capello and Faggian, 2005) |
| Structural Assets | All of a firm's non-human storehouses of knowledge, including but not limited to the databases, process manuals, organizational charts, strategies, routines, and other components whose value to the firm is regarded as higher than its material value (Bontis et al., 2000) |
| Intellectual Liabilities | Refer to the summation of Human Liabilities, Relational Liabilities, and Structural Liabilities (Bontis, 2002; Stam, 2009) |
| Human Liabilities | Causes of deterioration arising from the personnel within the firm, employees' tacit knowledge, employees' skills, employees' experience, and employees' attitude (Harvey and Lusch, 1999; Stam, 2009) |
| Relational Liabilities | Causes of deterioration arising from relationships between the firm and its customers, suppliers, or other external stakeholders (Stam, 2009) |
| Structural Liabilities | Causes of deterioration arising from the non-human resources within the firm (Stam, 2009). In other words, they refer to value creation or deterioration sources that persist, after the employees have quit the firm (Stam, 2009) |
| Firm Financial Performance | Is a measure of how well firms can use their capital to generate revenues and profits over a given period of time (Chen et al., 2005) |

1.11 LIMITATIONS AND DELIMITATIONS OF THE STUDY

Similar to all empirical studies, the present research is subject to a number of limitations and delimitations. It is essential to identify the limitations and delimitations of the present research in order to highlight the characteristics of assumptions, designs, or methodologies that affect or influence the application or interpretation of the results.

These limitations and delimitations are constraints on the generalizability of the findings that are the result of the ways in which the research is designed and the methods used to establish internal and external validity. The following paragraphs will discuss the limitations and delimitations of the present research on Intellectual Capital disclosure and Firm Financial Performance.

Limitations: one of the limitations is the use of the content analysis method.

Analyzing the annual reports of firms based on the specified list of Intellectual Capital related terms may not provide the whole picture nor adequately describe Intellectual Capital disclosure practices; firms may use certain words to communicate their Intellectual Capital related activities to investors, prospective investors, creditors, and analysts; however, these words may be different to some degree from the terms used by the academic community. Moreover, the use of annual reports to measure Intellectual Capital disclosure presents a further limitation. Firms might use other modern information sources to reveal Intellectual Capital information, such as web sites or conference calls. Further, there's an additional limitation related to the proxies terms used to count the frequency of Intellectual Assets and Intellectual Liabilities disclosure. Due to the absence of a common set of terms to test the disclosure of Intellectual Capital, the research utilizes a validated combination of terms from the different frameworks of a sub-set of the Intellectual Capital studies to maximize full representation of the Intellectual Capital indicators.

Delimitations: The results of the semi-structured and follow-up interviews may have been influenced by the personal bias of participants. Furthermore, senior managers at executive levels in their respective organizations uniformly accounted for the interview sample which due to its limited breadth may have left a gap in the quest for full understanding of the issues at hand. Choosing to include middle level managers, in addition to the senior managers, in the interview process may allow for a deeper understanding of the topic at least at an operational level. However, the effect on the limitation of the research in this regard is considered marginal as senior managers are the key players responsible for the formulation and implementation of Intellectual Capital systems: thus it is not guaranteed that interviewing middle level managers would provide a deeper understanding of the topic. Moreover, as the research is limited to the geography of UAE and to a specific timeframe, the results of the research may not be easily generalizable beyond this scope. Furthermore, all the interviewees were males which can be explained by the dominance of the male gender on senior positions in finance functions in the UAE; this may have also influenced the responses of the participants in some unforeseen way. Lastly, the dominance of the “culture of privacy” in the Middle East in general may have influenced the participants’ responses.

1.12 ASSUMPTIONS

Four assumptions or principles support and shape the conduct of the present research:

Intellectual Capital Strategic Implementation View: the present research assumes a strategy implementation approach which means that it is assumed that firms have already formulated strategies in clear and explicit terms, so Intellectual Capital management, measurement, and disclosure form part of this strategic formula, aiming on successful strategy implementation of intellectual items in a systematic and continuous way.

Intellectual Capital Components: despite the different terminologies used by various researchers, the present studies builds on the assumption that Intellectual Capital can be broken down into Human Assets, Relational Assets, and Structural Assets; furthermore, the findings of Intellectual Liabilities research are integrated into this breakdown; thus, expanding it to include Human Liabilities, Relational Liabilities, and Structural Liabilities.

Intellectual Capital Management Stream: The present research focuses on the recognition and progress of significant Intellectual Capital indices within a company. Within the field of Intellectual Capital, the management research

stream focuses on Intellectual Capital management and disclosure components from the perspective of adding value to the firm (Ordóñez de Pablos, 2004).

Intellectual Capital and Competitiveness of Firms: The present research is based on the assumption that Intellectual Capital is critical, in a positive or negative sense, to the firm's competitiveness, as suggested by the IBV.

1.13 SUMMARY OF CHAPTER ONE

The purpose of this research is to analyze the impact of the various components of Intellectual Capital disclosure on Firm Financial Performance in publicly listed companies in the UAE. Based on comprehensive review and investigation of the literature, it is believed that the scope of the present research does not appear to have been completed elsewhere which provides opportunity to contribute original knowledge to the domain of Intellectual Capital research.

The present research attempts to achieve the above through an empirical study by way of a triangulation of research data within a mixed-method research paradigm that integrates both quantitative and qualitative methodology, being: literature review of existing seminal material, content analysis of corporate data, and semi-structured interviewed and follow-up interviews with primary stakeholders in the industry.

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The research develops a new theoretical model or framework based on a comprehensive review of Intellectual Capital research.

CHAPTER TWO

LITERATURE REVIEW

CHAPTER TWO – LITERATURE REVIEW

2.0 OVERVIEW

Financial reporting is an important, crucial task for achieving and sustaining a well-organized, farsighted business (Lev and Zarowin, 1999; Oyelere and Kuruppu, 2010). According to Lev and Zarowin (1999), the primary importance of financial reporting is for efficient decision-making. Moreover, according to Lev and Zarowin (1999), investor demand for relevant information and improved quality and timeliness of financial information is increasing in the face of deteriorating usefulness of traditionally reported earnings, cash flows, and equity values.

A 'new economy,' characteristically driven by information and knowledge, is emerging quickly in the twenty-first century; this 'new economy' differs drastically from the 'old economy' (Guthrie, 2001), prompting many researchers and authors to adopt the taxonomy of "*knowledge economy*" when referring to this phenomenon (Joshi and Ubha, 2009). Intellectual Capital scholars use the term 'old economy' to depict economic activities of 'traditional companies' like automotive, electronics, and utilities. The 'new economy' on the other hand describes the activities of 'high profile' or 'knowledge-intensive' companies like IT firms (Gerpott et al., 2008). Consequently, and as Intellectual Capital is believed to bridge the gaps in traditional financial reporting, it is understood that the burgeoning prominence of Intellectual Capital in accounting practice

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and research is the major driver of the knowledge economy (Guthrie, 2001; Marr, 2004; Chen et al., 2004; Boedker et al., 2005; Phusavat et al., 2011).

The significance of Intellectual Capital, as a leading value driver in the contemporary knowledge economy, cannot be disputed (Marr, 2004). In fact, Intellectual Capital is connected either directly or indirectly to recent economic, technological, managerial, and sociological developments (Guthrie, 2001). Thus, many accounting practitioners, analysts, and researchers now see Intellectual Capital as a major determinant of enterprise value and a nation's economic performance (Stam, 2009). As the principal value determinant of knowledge economy firms, Intellectual Capital must be accounted for through a new level of financial reporting (Sonnier et al., 2007).

Evidenced by the shift from industrial to knowledge economy, there is an increasing focus on the knowledge sector across the globe (Oliveras et al., 2008). As a result, attention has shifted from capital, land, and equipment (as future drivers) to Intellectual Capital (Oliveras et al., 2008). Although, the newly discovered future driver (i.e., Intellectual Capital) can be determined and measured, its measurement is often inaccurate since Intellectual Capital movement is still in its growing stage (Chen et al., 2004; Joshi and Ubha, 2009; Bhasin, 2011). Furthermore, firms now focus on employees and the knowledge they possess as the core of value creation, thus making the need for a new financial reporting paradigm a necessity (Wallman, 1995; Fahy, 2000; Wang, 2008; Bhasin, 2011; Rashid, 2010). With this context in mind, existing

literature on Intellectual Capital recognizes the need for developing appropriate methods for measuring and reporting Intellectual Capital (Rashid, 2010).

Several research studies have been conducted on issues relating to the impact, nature, and value of managing and reporting Intellectual Capital (Nerdrum and Erikson, 2001; Brammar and Pavelin, 2008; El-Bannany, 2008). Furthermore, prior efforts have been made to identify the meaning of Intellectual Capital and to appraise the prevalent recording and reporting practices of Intellectual Capital (Carroll and Tansey, 2000; Joshi and Ubha, 2009). The present research will thoroughly review some of the most notable Intellectual Capital research, together with its developed path and the aspects of Intellectual Capital that the extant literature has not considered, if applicable.

Intellectual Capital research studies look for value rather than traditional physical assets or intangibles (Pike et al., 2005). As the present research will discuss later, a number of methods have been proposed for measuring and reporting Intellectual Capital over the last two decades (Sveiby, 2001; Sveiby, 2010). It seems that firms must have cogent reasons for undertaking the task of measuring and reporting Intellectual Capital because the process is extremely difficult and expensive (Boedker et al., 2005; Sveiby, 2010). Furthermore, according to Sveiby (2001) and Sveiby (2010), Intellectual Capital measurement systems have a serious problem with quantifying social phenomena scientifically and accurately. Furthermore, Sveiby (2010) claims that mainstream accounting, including other forms of measurements, usually depend on proxies (i.e.,

dollars, pounds, euro, and other denominations) and pointers that are practically detached from the actual occasion or action that created the economic transaction or the phenomenon. As a result, this detachment triggers a basic discrepancy between what managers expect, the assurances given by method developers, and the Intellectual Capital system's achievement capacity (Sveiby, 2010). Consequently, this invariably causes system fragility and encourages manipulative tendencies in the system, as users may manipulate the system to suit their motives (Sveiby, 2001; Sveiby, 2010). Because of such consequences, Sveiby (2010) warns that firms, which are considering Intellectual Capital measurement, must ask themselves, "What is the purpose of the firm's measurement initiative?"

Although management control is the most common identified reason for measuring and reporting Intellectual Capital, Sveiby (2001) and Sveiby (2010) indicate that internal performance improvement and management control are the wrong reasons to initiate Intellectual Capital measurement and reporting. Considering that most firms identify management control as the primary reason for initiating Intellectual Capital measurement indicates a failure to explicitly state the intended purposes (Sveiby, 2001; Sveiby, 2010). Therefore, when Intellectual Capital measurement and reporting are done for management purposes only, employees tend to frustrate any measurement effort, subjecting it to serious manipulations (Sveiby, 2001; Sveiby, 2010). In addition, Sveiby (2010) states that measuring Intellectual Capital for management purposes is frustrated by the employees being 'measured' because people do not conjure being

measured; therefore, they will obstruct any measurement efforts, ultimately causing inaccurate reporting and serious manipulations.

Sveiby (2010) identifies Public Relations (“PR”) as one of the major reasons for firms to undertake Intellectual Capital measurement and reporting. This is specifically true in industries which develop environmental impact reporting, such as oil and gas, paints, tobaccos, and others. Besides, Sveiby (2010) observes that using Intellectual Capital measurement and reporting for PR reasons resulted in triple-bottom line reporting, stakeholder reporting, and the Intellectual Capital scorecard established by Skandia Company, Celemi Company, and others. On the other hand, Sveiby (2010) opines that although Enron certainly had more sinister motives, this should not cast suspicion on other firms whose primary purpose for reporting Intellectual Capital is PR. However, readers of Intellectual Capital reports must be prepared to pose questions that are relevant to judging the validity of the reported figures (Sveiby, 2010).

Sveiby (2001) and Sveiby (2010) indicate that another important reason for measuring and reporting Intellectual Capital is to motivate learning which executives and accounting researchers have not even begun to explore. Therefore, according to Sveiby (2001) and Sveiby (2010), when firms measure Intellectual Capital, it can be applied to reveal costs or assess value creation prospects which are otherwise buried in the mainstream accounts. Sveiby (2010) asserts that using Intellectual Capital measurement for the learning motive provides the most important long-term benefits,

such as the understanding of the pattern of staff turnover cost, the value of the learning that occurs when employees interrelate with customers, and the value creation prospect lost as a result of inadequate processes. The benefits stated by Sveiby (2010) include the following:

- Intellectual Capital reporting minimizes manipulation issues because employees and managers may relax if they know that the purpose is for control or rewards. However, it is unlikely that employees will relax if they are aware that the purpose of measurement and reporting is to learn; and
- More creativity is encouraged in metrics design, an approach that is less top-down and more bottom-up process-orientation.

Several researchers opine that learning will automatically enhance organizational performance which is one of the reasons why companies embark on Intellectual Capital reporting (Cheng et al., 2010; Phusavat et al., 2011). Besides, research findings have demonstrated a positive correlation between a firm's Intellectual Capital reporting and the Firm's Financial Performance (Hitt et al., 2001; Konar and Cohen, 2001; Andriessen, 2004; Cheng et al., 2010). According to Moeller (2009), this correlation between Intellectual Capital and Financial Performance is generally influenced by strategic germaneness and participation. As a result, scholars in the Intellectual Capital reporting field often make a fundamental assumption that Intellectual Capital measurement enhances organizational understanding and a firm's ability to communicate and allocate resources more efficiently (Moeller, 2009).

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It has been observed that concepts of Intellectual Capital measurement (Edvinsson and Malone, 1997; Sveiby, 1997; Roos and Roos, 1997; Bontis, 1998; Bontis, 2001; Serenko and Bontis, 2004) and the management of a Firm's Financial Performance (Kaplan and Norton, 1992; F-Jardón and Martos, 2009) are generally gaining wide acceptance among scholars (Moeller, 2009). Therefore, in the present economy, the process of measurement not only reflects a process or state of an object at a particular point in time, but it can also be an intervention that makes a meaningful contribution to the improvement of organizational performance (Moeller, 2009). Besides, Intellectual Capital measurement allows direct handling of organizational performance which seems to allow for some communication and interpretation that assist with organizational learning (Moeller, 2009).

The present research follows a consolidative approach in the review of scholarly literature of seminal writers of various disciplines in Intellectual Capital in order to accomplish the research objectives and answer the main research question. Therefore, this consolidative approach will be divided into six parts:

- Intellectual Capital Origins, Definitions, Categorizations, and Research Streams;
- Intellectual Capital from Industrial Paradigms to Intellectual Based Views;
- Intellectual Capital from the Perspectives of International Financial Reporting Standards ("IFRS") and Generally Accepted Accounting Principles ("GAAP");
- Determinants of Voluntary Intellectual Capital Disclosure;
- Intellectual Capital Disclosure and Firm Financial Performance; and
- Intellectual Liabilities.

A more detailed outline of the present chapter has been provided below:

A. Part One - Intellectual Capital Origins, Definitions, Categorizations, and

Research Streams: This section forms the opening chapter of the literature review part of the dissertation. It aims to define Intellectual Capital, introduce the importance and significance of Intellectual Capital in the current “*Knowledge Economy*”, discuss the origins of Intellectual Capital, the main research streams in Intellectual Capital, and finally, discuss the various categorizations of Intellectual Capital (Human Capital, Organizational Capital, Structural Capital, and others) as cited by various studies.

B. Part Two - Intellectual Capital from Industrial Paradigms to Intellectual-Based

Views: This section will discuss the evolution from the Industrial Paradigm (industry specific view) to the Intellectual-Based View (firm specific view), and the ways in which these theories can explain the importance of Intellectual Capital as a strategic resource, Intellectual Capital disclosure, and the impact of this disclosure on Firm Financial Performance.

C. Part Three - Intellectual Capital from the Perspectives of IFRS and GAAP: This

section will discuss IFRS and GAAP and their roles and historical views as related to Intellectual Capital. This section will also discuss and explore Intellectual Capital disclosure from the legal framework perspective, specifically

through IFRS and GAAP. Differences between the standards in relation to the reporting of Intellectual and intangible assets will be explored. This section will also provide a detailed analysis of the failure of current accounting standards to fully report the real value and intellectual wealth of organizations. With the understanding that a lack of regulatory framework for Intellectual Capital reporting has forced organizations into voluntary reporting, the current accounting regulations progress as a response to changing market needs regarding the reporting of intangibles and intellectuals.

D. Part Four - Determinants of Voluntary Intellectual Capital Disclosure: This section will focus on the emergence of voluntary Intellectual Capital disclosure resulting from the lack of regulatory framework, the need for standardized Intellectual Capital reporting, and the future of accounting vis-à-vis Intellectual Capital. In addition, this section will discuss the advantages of voluntary disclosure, such as reduced information asymmetry, reduced gap between stakeholders and managers, better transparency, improved confidence in companies, better employee morale, better performance, and others. The disadvantages of voluntary disclosures are also considered as resulting from information leaks that can cause loss of competitive advantage, loss of trade secrets, Human Capital leak, and others. The determinants of voluntary Intellectual Capital disclosure (like firm size, industry type, firm performance, ownership structure, auditors, etc.) and the proxies used to measure will be discussed in this section as well.

Additionally, main studies on determinant of Intellectual Capital disclosure, their limitations, outcomes, and future improvement will be explored.

E. Part Five - Intellectual Capital Disclosure and Firm Financial Performance: This section will attempt to explore the characteristics of a new conceptual model that assists in explaining the relationships between Intellectual Capital disclosure and Firm Financial Performance. Consequently, possible reasons include reduced information asymmetry, reduced agency problems, reduced gap between stakeholders and managers, increased transparency, increased confidence in the company, improved employee morale, better performance, capital accumulation, better tension management, faster payback, improved predictive abilities, better market value, and others. The effect that Intellectual Capital disclosure has on Firm Financial Performance and the various proxies used to measure Firm Financial Performance together with their limitations will be explored in this section. The present research analyzes various components of Intellectual Capital disclosure (i.e., Human Capital, Relational Capital, and Structural Capital) and their relative influence on Firm Financial Performance. An important part is the discussion of studies that measure the effect of Intellectual Liabilities disclosure (or bad news disclosure) on Firm Financial Performance. Thus, this section will explore companies' disclosure decision regarding Intellectual Liabilities or bad news as a means to manage stakeholder expectations, justifying lower than expected earnings reporting. Finally, the

relationships between Intellectual Capital disclosure and Firm Financial Performance, between developed and developing nations are examined.

F. Part Six: Intellectual Liabilities: This section will underscore the fact that the majority of contemporary research ignores Intellectual Liabilities, equating Intellectual Capital with Intellectual Assets. A major discussion will be made on the major deficiency in Intellectual Capital research field, specifically the complete omission of Intellectual Liabilities. The justifications that researchers use to disregard the existence of Intellectual Liabilities in their studies on Intellectual Capital and the definitions and categorizations of Intellectual Liabilities will be also discussed in this chapter. This section will also discuss various studies regarding proposed methods for handling Intellectual Liabilities from a legal framework perspective and the current standard for recognizing the existence of Intellectual Liabilities. Finally, this section will also discuss the failure of the current standards to recognize the existence and reporting of Intellectual Liabilities, lack of regulatory framework for Intellectual Liabilities reporting, need for a regulatory framework for reporting of Intellectual Liabilities, and studies that have been conducted on Intellectual Liabilities.

PART ONE

**INTELLECTUAL CAPITAL ORIGINS,
CATEGORIZATIONS, AND RESEARCH
STREAMS**

2.1 INTELLECTUAL CAPITAL ORIGINS, CATEGORIZATIONS, AND RESEARCH STREAMS

Despite the notable progress in the significance of reporting intangibles related information, one of the core problems facing research is the lack of common terminology (Petty and Guthrie, 2000). Until today, no agreement has been reached by the academic or research community on the classification of the different components of Intellectual Capital (Petty and Guthrie, 2000). Thus, no one can argue that the field is pre-paradigmatic. In order to fully understand the terminology and different components of Intellectual Capital, the present chapter discusses Intellectual Capital from the following perspectives:

- A. Origins of Intellectual Capital;
- B. Definitions of Intellectual Capital;
- C. Importance of Intellectual Capital; and
- D. Research Streams in Intellectual Capital.

2.1.1 Origins of Intellectual Capital

According to Sullivan (2000), the Intellectual Capital management movement is a discipline that has a traceable pattern, albeit the original designers were unable to assert a discernible pattern. Sullivan (2000) identifies three markedly different origins of events that birthed the Intellectual Capital movement:

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- Hiroyuki Itami's (1987) trailblazing work in Japan that focused on how invisible assets affected the management of Japanese firms;
- The work of a group of disagreeing economists (Penrose, Rumelt, and Wemerfelt) who sought different theories or views of a business. David Teece, a researcher at UC Berkeley, merged the disparate views of this group of economists in his technology commercialization article in 1986; and
- Finally, Karl-Erik Sveiby's work in Sweden originally published in Swedish, capturing the Human Capital aspect of Intellectual Capital. Sveiby (1997) ultimately provided an ironic and enticing view of the prospect of enterprise valuation based on the employees' capabilities and knowledge.

Resource efficiency gradually replaced the customary competitive forces between the period of 1959-1997, when a diverse group of academics and economists developed a completely new opinion on business strategy (Sullivan, 2000). An interesting aspect of the resource-based perspective is that it takes into cognizance the possibility of firms having segregated or distinctive resources, know-how, and legacies (Sullivan, 2000). Additionally, the resource legacies in question are neither straightforwardly added, nor easily discarded; Sullivan (2000) calls them sticky. In the short run, at least, firms will have no choice but to operate within the confines of what is available to them (Sullivan, 2000). The resource-based perspective concentrates on those strategies intended to exploit obtainable firm-specific assets (Sullivan, 2000). As certain parts of a firm's assets are intellectual, it means that issues relating to acquisition of skills, learning, and Knowledge Management become important strategic subjects (Moeller, 2009). Regarding these strategic subjects, Sullivan (2000) believes strongly that Itami's (1987) and Sveiby's (1997) works which tackle Human Capital or invisible assets may have a

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huge potential for designing or improving a business strategy. An increasing number of studies with an increased degree of specificity have been recorded with regard to the field of Intellectual Capital since its inception (Tan, et al., 2008). Table 2.1.1 A, sourced from Sullivan's (2000) research, indicates the diversity of those who have contributed to the field and their effect on each other while Table 2.1.1 B and Figure 2.1.1 show some relevant data and charts regarding Intellectual Capital research trends from the year 1999 until the year 2011 based on articles published in the Journal of Intellectual Capital ("JIC").

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TABLE 2.1.1 A
THE DIVERSITY OF THOSE WHO HAVE CONTRIBUTED AND THEIR EFFECT ON EACH OTHER

| | |
|------|--|
| 1980 | Itami publishes (in Japanese) "Mobilizing Invisible Assets" |
| 1981 | Hall starts a firm to commercialize human values related research |
| 1986 | Sveiby's "The Know-How Company" towards handling intangible assets is published |
| 1986 | Teece's pivotal paper on mining value from innovation is published |
| 1988 | Sveiby's "The New Annual Report" is published to introduce "knowledge capital" |
| 1989 | Sveiby's work, "The Invisible Balance Sheet," is published |
| 1989 | Sullivan's research on "commercializing innovation" begins |
| 1990 | Sveiby's "Knowledge Management" is published |
| 1990 | "Intellectual Capital" becomes an accepted terminology crafted in Stewart's presence |
| 1991 | Stewart's article, "Brainpower," becomes first of its kind in Fortune |
| 1991 | Skandia's first corporate Intellectual Capital function is organized, names Edvinsson VP |
| 1992 | Stewart's article, "Brainpower," is published in Fortune for the second time |
| 1993 | St. Onge creates model of Customer Capital |
| 1994 | Mill Valley Group's first meeting holds |
| 1994 | Stewart's "Intellectual Capital" article appears as Fortune's cover article |
| 1994 | Sullivan, Petrash, and Edvinsson host a meeting of managers of Intellectual Capital |
| 1995 | Mill Valley Group's second meeting holds |
| 1995 | Skandia's Intellectual Capital report gets to the public for the first time |
| 1996 | SEC symposium on intellectual/intangible assets measurement |
| 1996 | Sullivan's and Parr's "Licensing Strategies" book is published |
| 1996 | Lev's Intangibles Research is established at New York University |
| 1997 | Sveiby authors "The New Organizational Wealth" |
| 1997 | Edvinsson's and Malone's "Intellectual Capital" book is published |
| 1997 | Stewart's "Intellectual Capital" book is published |
| 1997 | Hoover Institution's Intellectual Capital measurement conference takes place |
| 1998 | Sullivan's "Profiting from Intellectual Capital" book is published |

Source: Sullivan, 2000

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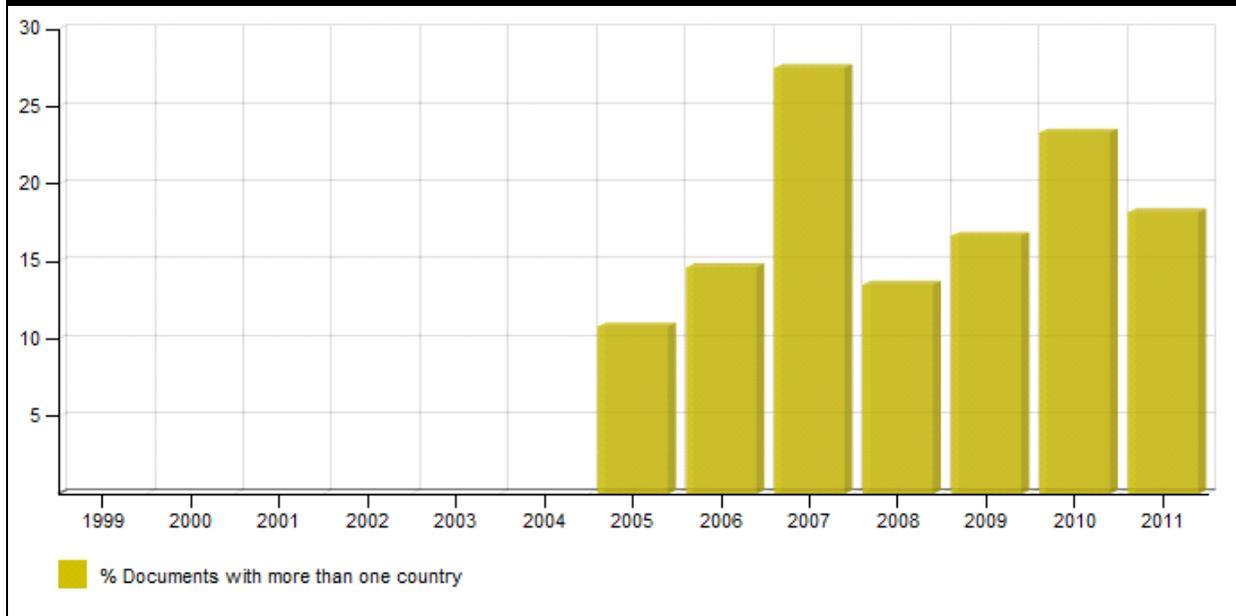
TABLE 2.1.1 B
SJR INDICATOR

| Indicators | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|-------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| SJR | 0,000 | 0,000 | 0,000 | 0,000 | 0,000 | 0,000 | 0,000 | 0,033 | 0,033 | 0,034 | 0,031 | 0,035 | 0,035 |
| Total Documents | 0 | 0 | 0 | 0 | 0 | 0 | 37 | 41 | 40 | 37 | 36 | 30 | 22 |
| Total Docs. (3years) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 37 | 78 | 118 | 118 | 113 | 103 |
| Total References | 0 | 0 | 0 | 0 | 0 | 0 | 1.246 | 1.311 | 1.621 | 1.544 | 1.455 | 1.868 | 1.350 |
| Total Cites (3years) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 79 | 162 | 148 | 215 | 135 |
| Self Cites (3years) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 21 | 43 | 52 | 80 | 43 |
| Citable Docs. (3years) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 37 | 70 | 110 | 110 | 113 | 103 |
| Cites / Doc. (4years) | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,46 | 1,13 | 1,47 | 1,56 | 2,05 | 1,24 |
| Cites / Doc. (3years) | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,46 | 1,13 | 1,47 | 1,35 | 1,90 | 1,31 |
| Cites / Doc. (2years) | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,46 | 1,13 | 1,01 | 0,96 | 1,63 | 1,17 |
| References / Doc. | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 33,68 | 31,98 | 40,53 | 41,73 | 40,42 | 62,27 | 61,36 |
| Cited Docs. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 45 | 64 | 68 | 78 | 62 |
| Uncited Docs. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26 | 33 | 54 | 50 | 35 | 41 |
| % International Collaboration | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 10,81 | 14,63 | 27,50 | 13,51 | 16,67 | 23,33 | 18,18 |

Source: SCImago, 2012

The SCImago Journal Rank (“SJR”) indicator attempts to quantify the scientific impact of the average article in a particular journal (SCImago, 2012). SJR indicator is a measure of scientific influence of scholarly journals that accounts for both the number of citations received by a journal and the importance or prestige of the journals where such citations come from (SCImago, 2012). SJR indicator above has articulated how essential to the global scientific discussion an average article in the JIC is. The scientific impact of the average article that has been published in the JIC is measured by cites per document which is calculated by applying the exact formula as Thomson Reuters’ Journal Impact Factor™ (SCImago, 2012).

FIGURE 2.1.1
INTELLECTUAL CAPITAL RESEARCHERS' INTERNATIONAL COLLABORATION



Source: SCImago, 2012

International collaboration indicates the volume of articles that has been published in the JIC by researchers from various countries (SCImago, 2012). In other words, Figure 2.1.1 presents the ratio of JIC's documents signed by researchers/authors from more than one country (SCImago, 2012).

In their research, Serenko and Bontis (2004) portray an accurate analysis of the prominent Intellectual Capital research experts, with their primary objective being to complete a meta-review inquiry into a body of literature on Intellectual Capital and Knowledge Management. The investigation of Serenko and Bontis (2004) focuses on research productivity and a citation analysis of names of individuals, groups of

individuals, institutions, and countries of origin. Moreover, the analysis of Serenko and Bontis' (2004) includes three leading peer-reviewed journals in the field of Intellectual Capital; the journals are JIC, Journal of Knowledge Management ("JKM"), and Knowledge and Process Management ("KPM"). The results of their study reveal that research productivity is rapidly increasing, with many authors leading the way and several groundwork publications being cited on a regular basis. However, as opined by Bhasin (2011), a careful examination of the history of Intellectual Capital clearly indicates that there is still a long way to go in this field.

2.1.2 Intellectual Capital Definitions

A firm's financial statements have always included intangible assets as part of its total assets (FASB, 2001). According to Kristandl and Bontis (2007), the earliest documented mentioning of intangibles dates as far back as to the works of Lawrence R. Dicksee in 1896. The first documented citation of the term Intellectual Capital is credited to Kenneth Galbraith in 1969 (Bontis, 1998; Kristandl and Bontis, 2007).

The field of Intellectual Capital has become very popular over the past twenty years (Serenko and Bontis, 2004). Notable progress has also been seen in significance of reporting of information related to intangibles (Bontis, 2003; Kristandl and Bontis, 2007). However, one core problem facing studies related to intangibles is the lack of common terminology (Bontis, 2001; Kristandl and Bontis, 2007). Therefore, the concepts applied are all branded differently with each researcher or expert who comes up with a new

definition attempting to launch his own terminology (Bontis, 2001; Kristandl and Bontis, 2007). This non-uniformity of terminology is an academic oversight, and a major reason for the lack of an agreed definition (Bontis et al., 1999; Sveiby, 2001; Andriessen, 2004; Kristandl and Bontis, 2007; Sveiby, 2010). The purpose of Kristandl and Bontis' (2007) work is to construct and suggest a cohesive definition for intangibles which is to be the derivative of the firm's RBV. Their primary intention was to develop this definition for application in academic research studies and real-world applications (Kristandl and Bontis, 2007).

Bhasin (2011) states that it is possible to develop and put forward a uniform definition for intangibles since the vast majority of definitions in the existing literature explicitly aligns with the RBV. Furthermore, intangibles can be considered from a process perspective when resources and activities are being discussed, from a legal perspective property when rights are being discussed, from a standard setting perspective when recognition criteria are of critical importance, and finally, from a managerial perspective when strategic investments are the focus of discussion (Bharadwaj, 2000; Martin-de-Castro et al., 2006; Bhasin, 2011). Within the context of RBV, each of the stated conditions can easily be added to the framework (Bhasin, 2011).

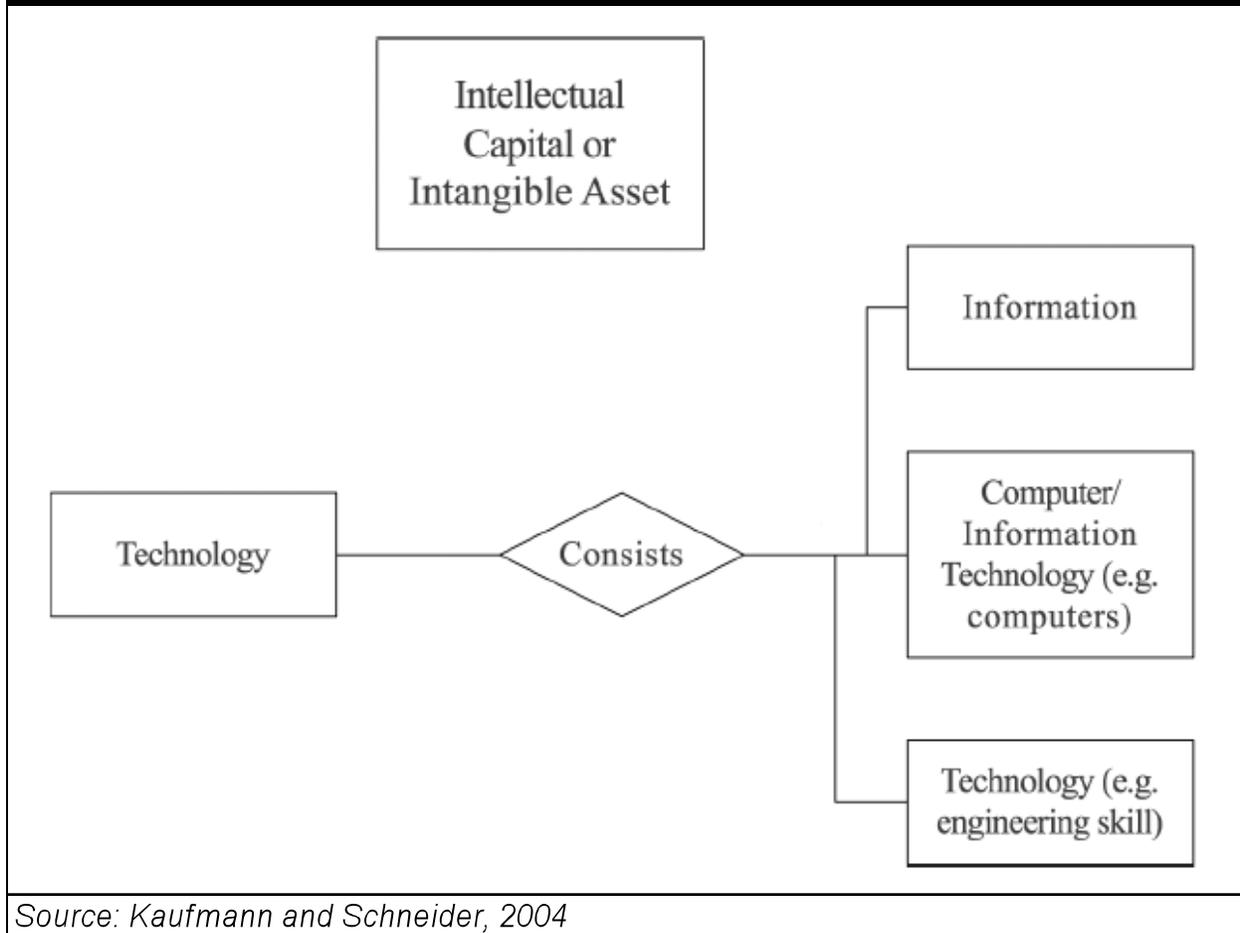
One of the observations of the present research is that research on Intellectual Capital is often incorrectly named as intangible assets research. For example, Choong (2008) considers Intellectual Capital and Intellectual Assets as almost the same thing. In

addition, Choong (2008) states that the kickoff when defining Intellectual Capital or Intellectual Assets should be from the definition of assets, and nothing else. Intellectual Capital is regarded as the most important resource of present-day business (Choong, 2008). However, it appears that most firms are unable to clearly state exactly what comprises their Intellectual Capital resources (Choong, 2008). A review of various bodies of literature across different disciplines indicates that there is an array of definitions, using different terminologies to describe Intellectual Capital or intangible assets (Choong, 2008). In other words, Intellectual Capital literature contains a number of terms, each attempting to define the same or different information. For example, researchers who are not in the accounting field define Intellectual Capital as the difference between the market value and book value of a firm's equity (Edvinsson and Malone, 1997; Sveiby, 1997; Bontis, 2001; Mouritsen et al., 2001b; Leliaert et al., 2003). On the other hand, researchers in the accounting field interpret this difference between the market value of the equity and the book value of equity as "goodwill" (Edvinsson and Malone, 1997; Sveiby, 1997; Bontis, 2001; Mouritsen et al., 2001b; Leliaert et al., 2003). Interestingly, some authors also refer to "intangible assets" as "goodwill" (Choong, 2008). However, an important thing to note here is that the difference between the market value of a firm and the firm's book value of entity is not fully clarified (Choong, 2008). Therefore, determining the items that constitute the difference between the firm's market value and its book value will be difficult, if not impossible (Choong, 2008). External or internal generation of goodwill is possible according to Choong (2008). However, as stated by accounting principles in most countries, reporting is limited only

to external or purchased goodwill, with its value being amortized over its useful life as provided by IFRS 3 Business Combinations and IAS 36 Impairment of Assets (IASB, 2004; Choong, 2008). The most recent IFRS 3 states that goodwill no longer qualifies for amortization and should be recognized as an asset with an indefinite life (IASB, 2004). Goodwill is now reported under IAS 38 Intangible Assets equivalents (Vafaei, et al., 2011).

In Choong's (2008) opinion, "goodwill" is Intellectual Capital or intangible assets, though Choong (2008) claims further that Intellectual Capital or intangible assets cannot be represented by goodwill. This is because the term "goodwill" is too wide-ranging and its meaning has not been fully clarified through existing relevant literature (Choong, 2008). In addition, some definitions and terms that describe various categories of Intellectual Capital and/or intangible assets that can be applied in the business context have been provided by Kaufmann and Schneider (2004) as mapped in Figure 2.1.2 A:

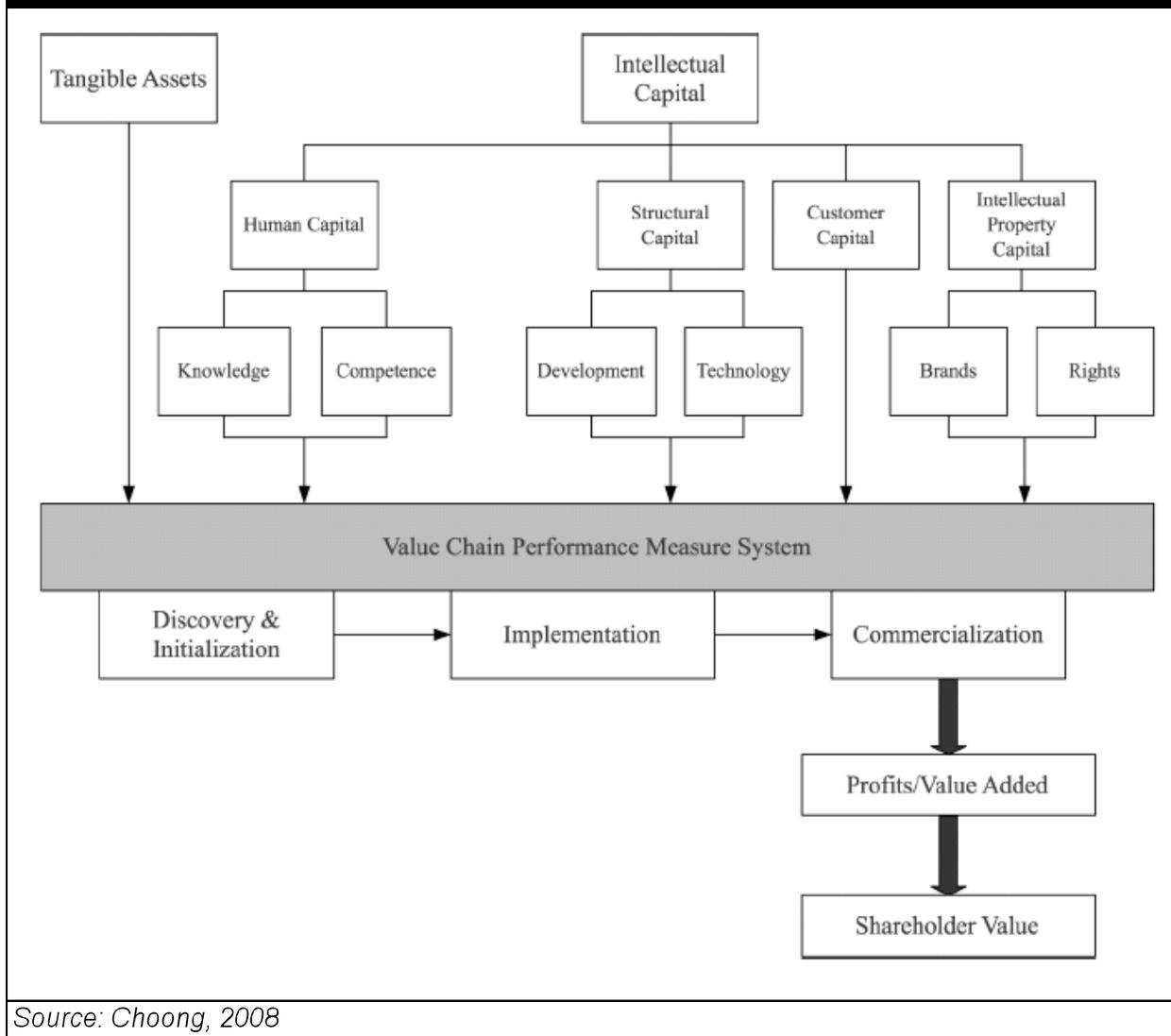
FIGURE 2.1.2 A
CLASSIFYING INTELLECTUAL CAPITAL USING ENTITY-RELATIONSHIP



Some of the advantages of the model of Kaufmann and Schneider (2004) are clarity of descriptions, less overlap of groups, and provided examples. However, after a review of major relevant literature spanning a period of six years from 1997 to 2003, Kaufmann and Schneider (2004) discovered that a solid theoretical foundation is still lacking in most publications. Although some publications do have theoretical foundation, Kaufmann and Schneider (2004) maintain that the foundation is too abstract. In

addition, according to Kaufmann and Schneider (2004), another shortcoming of the existing literature is that it has too many theories which contextually broaden the subject of Intellectual Capital without addressing the relationship of Intellectual Capital to what is practically obtainable in a firm. To date, no research has made a serious systematic attempt at defining and identifying all intangible resources (Choong, 2008), though Abeysekera (2006) made some well-documented efforts to define Intellectual Capital. The proposed Intellectual Capital reporting system by Choong (2008) is mapped in Figure 2.1.2 B:

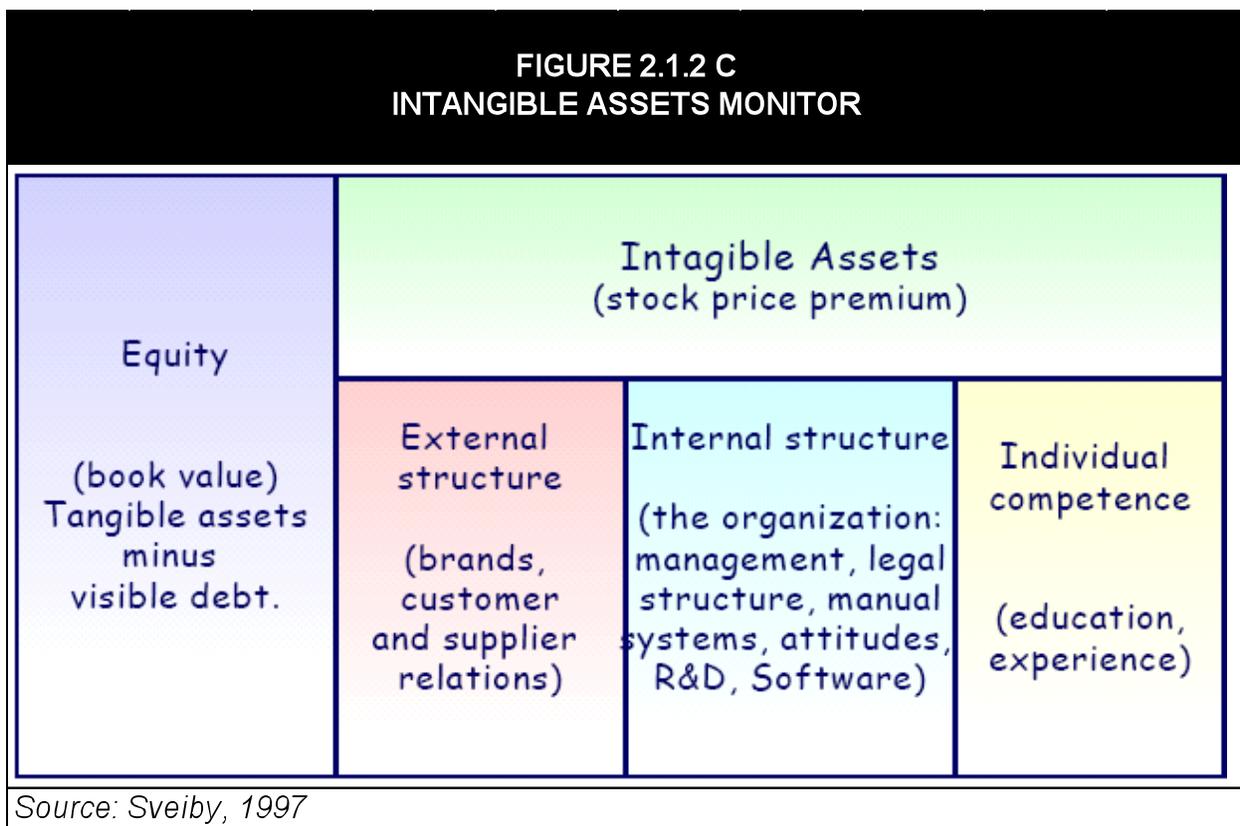
FIGURE 2.1.2 B
PROPOSED INTELLECTUAL CAPITAL REPORTING SYSTEM BY CHOONG (2008)



The observation offered by (Choong, 2008) above will probably clear the confusion over the difficulty often encountered when defining Intellectual Capital. Choong's (2008) work offers definition by dividing Intellectual Capital into different categories, implying that categorization tackles each definition as appropriate. With categorization, it is possible

to order the systematic arrangement of a scale of possibilities into a specific group that has a number of coherent items (Choong, 2008).

Many accounting professionals, researchers, and scholars have attempted to categorize Intellectual Capital and/or intangibles. The following sections contain some of the attempts to categorize Intellectual Capital. From the non-accounting context, Sveiby (1997) has the first record of proposing that Intellectual Capital be classified into Employee (Individual) Competence, Internal Structure, and External Structure, as depicted in Figure 2.1.2 C:



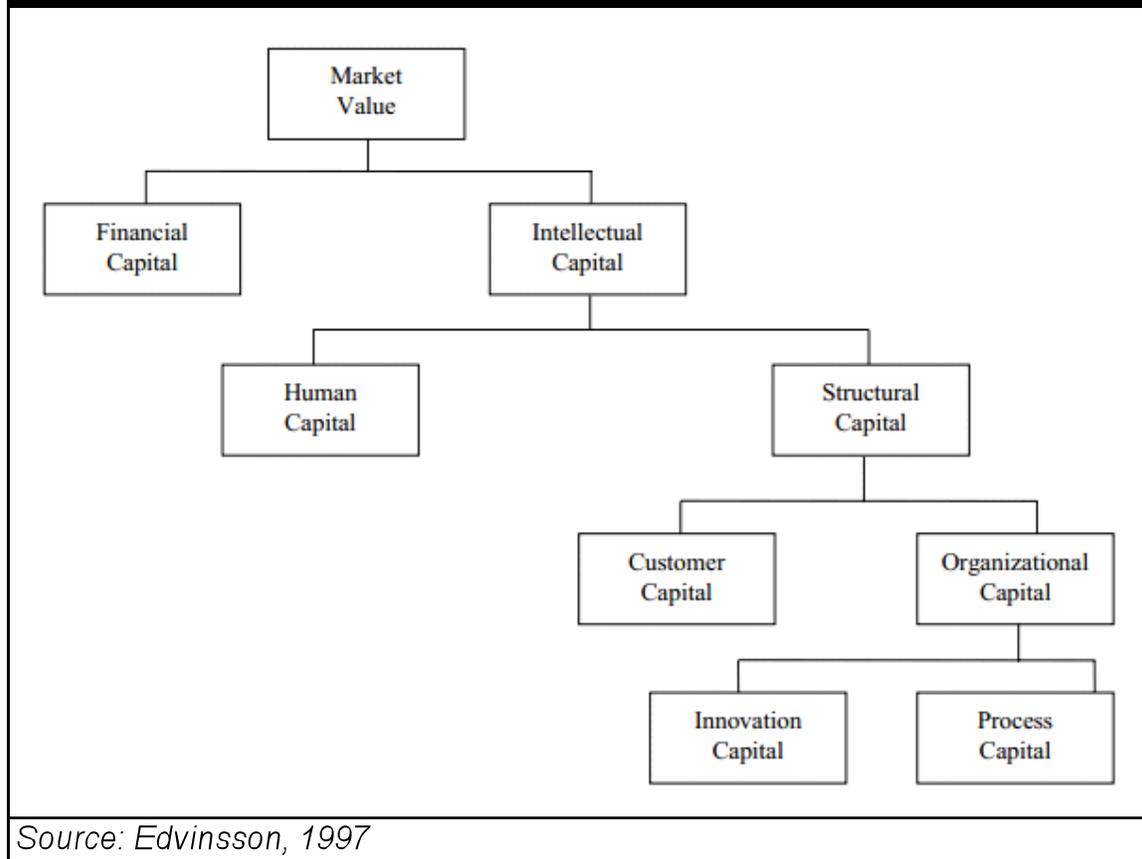
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With one additional category to Sveiby's (1997) proposition, Brooking (1997) provided his own classification below:

- Employee (Individual) Competence
- Internal Structure
- External Structure
- Intellectual Property Assets

In the study conducted by Edvinsson (1997), Sveiby's model is adopted, but respectively renamed the Skandia NavigatorTM as depicted in Figure 2.1.2 D:

FIGURE 2.1.2 D
SKANDIA'A VALUE SCHEME



Skandia's value scheme contains both financial and non-financial building blocks that combine to estimate the company's market value (Edvinsson, 1997). This conceptualization achieved a balance for Skandia in trying to represent both financial and non-financial reporting, uncovering and visualizing its intellectual capital, tying its strategic vision to the company's core competencies reflecting knowledge-sharing technology and knowledge assets beyond intellectual property, and reflecting better its market value (Edvinsson, 1997). As he develops his argument further, Edvinsson

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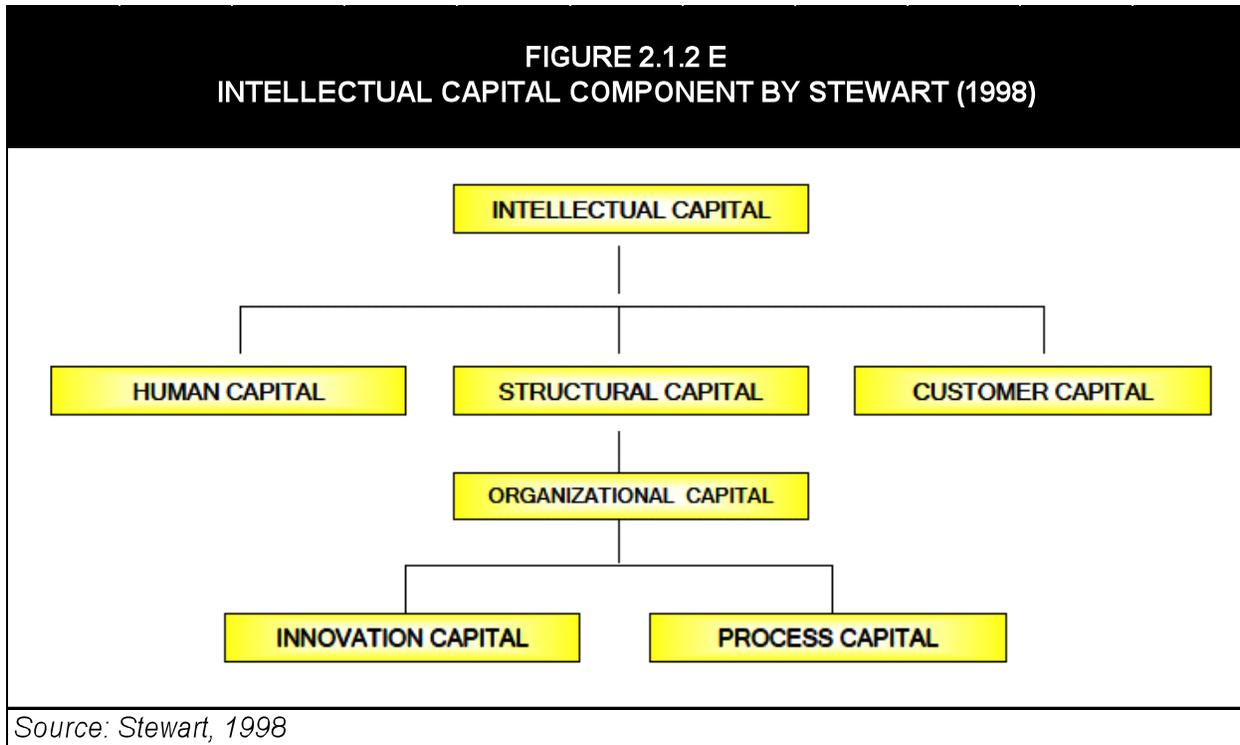
(1997) states that Intellectual Capital is a component of an organizational asset, the non-reporting of which establishes those items that are veiled in orthodox financial statements. Besides, Sveiby's (1997) three grouping model has been adopted by other researchers like Edvinsson and Malone (1997), Bontis (1998), and Sullivan (2000). These authors have adopted Sveiby's (1997) three grouping model and renamed the model as follows:

- Human Capital
- Organizational Capital
- Customer Capital

Stewart (1998) also embraced Sveiby's (1997) model, and respectively renamed the components as:

- Human Capital
- Structural Capital
- Customer Capital

Stewart's (1998) model is represented in Figure 2.1.2 E:



Sullivan (2000) also based his work on Sveiby's (1997) model and proposed three categories of Intellectual Capital, though with an indication that Intellectual Capital will ultimately lead to Intellectual Assets after undertaking various processes. On the other hand, Petty and Guthrie (2000) also developed a model based on two out of Sveiby's (1997) three categories of Intellectual Capital, as presented in Table 2.1.2:

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**TABLE 2.1.2
MODIFIED INTANGIBLE ASSETS MONITOR**

| Internal: Organizational (Structural) Capital | | External: Customer (Relational) Capital | Employee Competence: Human Capital |
|---|------------------------------|---|--|
| Intellectual Property | Infrastructure Assets | Brands | Know-How |
| Patents | Management Philosophy | Customers | Education |
| Copyrights | Corporate Culture | Customers Loyalty | Vocational Qualification |
| Trademarks | Management Processes | Company Names | Work-Related Knowledge |
| | Information Systems | Distribution Channels | Work-Related Competencies |
| | Networking Systems | Business Collaborations | Entrepreneurial Spirit |
| | Financial Relations | Licensing Agreements | Innovativeness, Proactive and Reactive Abilities |
| | | Franchising Agreements | Changeability |

Source: Guthrie and Petty, 2000

Sveiby's (1997) three categories of Intellectual Capital are also applied in the studies done by Mouritsen et al. (2002) and Ordóñez de Pablos (2003), but Ordóñez de Pablos (2003) changed "Customer Capital" to "Relational Capital." In some studies, such as the work done by Lev (2001), Intellectual Assets are also categorized based on the three-model categorization of Sveiby (1997). Below is Lev's (2001) categorization:

- Innovation (Discovery or Knowledge)
- Human Resources
- Organizational Practices (Capital)

According to Choong (2008), the above categories can be divided further into subcategories. First category has to do with Intellectual Properties which are treated as separate distinguishable Intellectual Assets; and second category is connected with

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non-separately distinguishable Intellectual Properties. Sveiby's (1997) grouping can also be expanded into five groups that focus on issues relating to measurement and the ways by which intangibles can affect the capital market together with those who invest in the capital market (Choong, 2008):

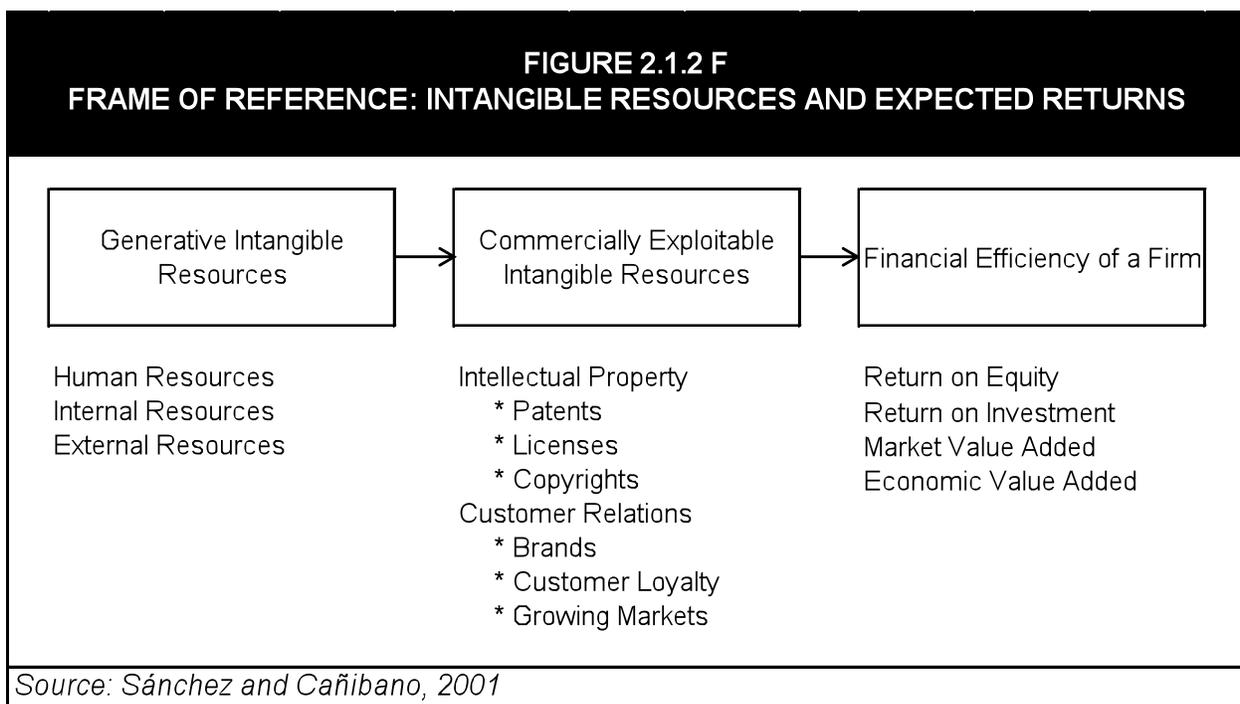
- Research and Development ("R&D")
- Advertising
- Capital Expenditures
- Information Systems
- Technology Acquisition

Kaufmann and Schneider (2004) find faults with the five groups proposed by Choong (2008). These five groups appear thought-provoking, seeming to address a number of issues such as creation of value, economic value-chain, measurement, and others, but too many arbitrary assumptions are interwoven with the grouping (Kaufmann and Schneider, 2004).

As for the work of Bukh et al. (2001), after analyzing a number of Intellectual Capital groupings, results show that different Intellectual Capital groupings are quite similar to Sveiby's (1997) categories, and have at least three common denominators:

- Employee Related Activities
- Tasks, Processes and Structures
- Services and Customers Related Valued-Added Activities

Even Sánchez and Cañibano’s (2001) work, titled *Measuring Intangibles to Understand and Improve Innovation Management* (“MERITUM”), which measures intangibles within the enterprise, adopts the Intellectual Capital model of Sveiby (1997). In fact, Sánchez and Cañibano (2001) directly apply Sveiby’s classification of Intellectual Capital into human resources, structural resources, and relational resources, as depicted in Figure 2.1.2 F:



Sánchez and Cañibano (2001) observe that the definition of intangibles and the issues of classification have not been sufficiently covered in extant literature. Furthermore, according to Sánchez and Cañibano (2001), it appears that from a real-world

perspective, however, firms prefer grouping intangibles into Human Capital, Structural Capital and Relational Capital. Sánchez and Cañibano (2001) also define intangibles in passive and active terms, differentiating between intangible activities and intangible resources. Besides, Sánchez and Cañibano's (2001) general accounting guidelines imply that Intellectual Capital reports can be arranged in many ways with the aid of various styles of communication, including usual texts, indicators, figures, and other forms, to present intangible assets and firm performance fairly.

By analyzing the classifications of Intellectual Capital, there are indications that researchers have mainly used Sveiby's (1997) three categories which are Human Capital, Structural Capital, and Customer Capital. Choong (2008) believes that accepting this three-categorization model indicates that Intellectual Capital categorization is consistent. On the other hand, Kaufmann and Schneider (2004) criticize the categorization of Intellectual Capital by those authors claiming that it is not clear and too extensive. Sharing the same view with Kaufmann and Schneider (2004) regarding the non-clarity and breadth of Intellectual Capital categorization, Choong (2008) cites some instances. First, he points out that there is a disparity between the works of two sets of researchers: those who treat patents as Customer Capital, and those who treat patents as Knowledge Capital. Second, in his review of the general accounting standard perspectives, Choong (2008) finds that identical guidelines are presented by only two prominent groups of Intellectual Assets researchers. These two

groups are the FASB and the German Schmalenbach Society Working Group (“SSWG”) on “Intangible Assets in Accounting.”

2.1.3 Importance of Intellectual Capital

Several studies have claimed that Intellectual Capital can provide a very good source for increasing a firm’s competitive advantage (Martin-de-Castro et al., 2006; Mertins et al., 2007; Kamukama et al., 2011). It has also been argued that Intellectual Capital stimulates innovation which can ultimately generate wealth for the firm (Zerenler et al., 2008; González-Loureiro and Dorrego, 2010). Thus far, more than 20 well-documented international research studies have shown the exploratory landscape of the Intellectual Capital disclosure work (Martin-de-Castro et al., 2006; Mertins et al., 2007; Kamukama et al., 2011). From nearly all the prior studies, the point that many countries are still in their early stages of Intellectual Capital investigation is of particular importance (Boedker et al., 2005). However, it must be noted that research has been conducted in developing countries including India (Joshi and Ubha, 2009; Bhasin, 2011) and Sri Lanka (Abeysekera, 2007), as well as industrialized countries including Australia (Bruggen et al., 2009), Canada (Bontis, 2003), and European Union countries (Vuontisjarvi, 2006; Abhayawansa and Abeysekera, 2009). The findings of these research studies show that Intellectual Capital reporting practice is lagging globally, even with its observed significance by firm managers.

According to Burgman and Roos (2007), eight forces form the foundation for reporting Intellectual Capital related information:

- Analysts roles i.e., buy-side and sell-side analysts;
- Changing landscape of stock exchanges;
- Developing business models apart from the value chain, particularly the advent of network businesses;
- Developing corporate governance regime and financial reporting;
- To bring about various investment fund types such as, mutual, pension and hedge funds;
- Index development both at the level of global and European investments;
- Rating agency activity effect; and
- Time-honored worldwide power and growth of the United States of America's ("USA") economy.

Today, the importance of Intellectual Capital is quickly gaining wide acceptance across the board, from research settings to industry settings (Choong, 2008). There is a unanimous agreement among researchers and practitioners that mainstream financial statements do not portray corporate value adequately, because mainstream financial statements cannot capture the value of Intellectual Assets (Arvidsson, 2011).

2.1.4 Research Streams in Intellectual Capital

Intellectual Capital acknowledges the existence of a capital that is different from monetary and physical capital (Abeysekera, 2006). As discussed before, the field of Intellectual Capital originated as a result of discovering pronounced differences between

a firm's book value and market value (eBRC, 2006). This led to the postulation that there is a valuable entity that is not traceable by mainstream bookkeeping methods (eBRC, 2006). Intellectual Capital is comprised of crucial off-the-balance sheet assets such as the firm's abilities, relationships, and processes (Abeysekera, 2006; eBRC, 2006). These crucial off-balance-sheet assets are particularly essential for firms that have knowledge workers, or in firms that depend on employees' corporate know-how for their success. The Intellectual Capital field of research is divided into three streams (eBRC, 2006):

- Accounting Stream: is focused on the disclosure of Intellectual Capital in the official financial statements of firms. This stream considers current and potential valuation techniques while allowing for the prudence principle. Intellectual Capital accounting literature is gradually being developed by a wide range of experts, including popular, practitioners, and academics (Fincham and Roslender, 2003). However, this development is occurring within the general grouping of accountancy disciplines (Fincham and Roslender, 2003; eBRC, 2006). The accounting research stream attempts to add to the ongoing debate on the measurement and recognition of Intellectual Capital, Intellectual Assets, and Intellectual Liabilities in financial statements (Abeysekera, 2003). In the accounting research stream, the conceptual approach is often proposed so that Intellectual Capital, Intellectual Assets, and Intellectual Liabilities will be recognized in financial statements (Abeysekera, 2003). The conceptual approach proposed by Abeysekera (2003) applies market value as a point of reference with the acknowledgment that it is impossible to embark on accurate measurement and individual recognition of Intellectual Assets and Intellectual Liabilities items. The common denominator between the financial accounting and management of Intellectual Assets and Intellectual Liabilities is used to construct the conceptual

approach proposed by Abeysekera (2003). Intellectual Assets and Intellectual Liabilities are generally not adequately taken care of in the mainstream accounting standards, and this unavoidably affects the accuracy of the information presented in financial statements (Abeysekera, 2003). It is understood that utilizing financial statements for decision making may not be the optimal methodology as any decision made without considering a firm's future economic benefits and disadvantages (i.e., Intellectual Assets and Intellectual Liabilities) may not be accurate (Abeysekera, 2003). The accounting research stream of Intellectual Capital is an attempt to fill this gap of missing information (Abeysekera, 2003; Abeysekera, 2006).

- Measurement Stream: targets the investigation return on Intellectual Capital investments regarding performance measurement. The measurement stream of Intellectual Capital research takes the current treatment of Intellectual Capital from superficial level, as observed by Caddy (2000), to a level that is more descriptive and representative, as demonstrated by Marr (2004). In literature, the terms Intellectual Assets and intangible assets are generally being applied interchangeably, whereas the two terms are actually not the same (Caddy, 2000). In addition to the increasing attention on Intellectual Capital and Intellectual Assets, there is an implicit equivalence between Intellectual Capital and Intellectual Assets (Garcia-Parra et al., 2009; Stam, 2009). Caddy (2000), Abeysekera (2006), and Stam (2009) argue that within the equation of Intellectual Capital, there is another factor that needs to be considered to accurately measure Intellectual Capital; this factor is Intellectual Liabilities. A strong argument proposed by the measurement stream of Intellectual Capital has to do with the application of the double entry accounting system which means that every debit (i.e., in the context of a building up) must also be accorded the chance of a corresponding credit (i.e., in the context of a reducing down) (Harvey and Lusch, 1999). Therefore, the measurement stream considers Intellectual Capital as being estimated as a net figure (through the difference between Intellectual Assets and Intellectual Liabilities) rather than an ordinary addition of

the firm's identified Intellectual Assets (Harvey and Lusch, 1999; Caddy, 2000; Garcia-Parra et al., 2009; Stam, 2009). However, it is still not clear whether or not the actual absolute values of Intellectual Capital and Intellectual Assets can be derived (Caddy, 2000).

- Management Stream: focuses on the recognition and progress of significant Intellectual Capital indices within a company (Ordóñez de Pablos, 2004; Pike et al., 2005; eBRC, 2006). As companies' awareness increases in the present-day business environment, they are gradually acknowledging knowledge as their most strategic and valuable resource (Ordóñez de Pablos, 2004). Regarding organizational resources that are knowledge-based, business managers desiring to be competitive are now increasing their awareness for the need to properly manage the learning process while measuring its outcomes (Ordóñez de Pablos, 2004). However, many companies neither have models for Knowledge Management, nor have the necessary measurement tools to assist them with learning management outcomes for knowledge, skills, expertise, and competences (Ordóñez de Pablos, 2004). Therefore, it is crucial that firm managers understand the intricacies of the emerging international pioneer learning organizations i.e., how they have managed and measured their organizational knowledge (Ordóñez de Pablos, 2004). Within the field of Intellectual Capital, the management research stream focuses on Intellectual Capital management components from the perspective of adding value to the firm (Ordóñez de Pablos, 2004).

2.1.5 Conclusion of Part One

There are many important observations resulting from the present research review of Intellectual Capital related literature and research studies. Despite the copious amounts of research conducted on Intellectual Capital, many ambiguities still abound; there is still a substantial amount of work to be completed to bring the field of Intellectual Capital into

proper light. Although Intellectual Capital research is expanding at a rapid rate (Kaufmann and Schneider, 2004; Steenkamp and Northcott, 2007), the field of Intellectual Capital is still very young (Serenko and Bontis, 2004; Bhasin, 2011) and a unanimous understanding has yet to emerge (eBRC, 2006; Zerenler et al., 2008). It has been reported by some studies (Serenko and Bontis, 2004) that some people in the accounting profession prefer to limit Intellectual Capital accounting within the framework that is being offered by orthodox reporting, while others tend to focus more on quite extensive internal managerial issues (Serenko and Bontis, 2004). According to the observations of Serenko and Bontis (2004), another noteworthy finding about the existing Intellectual Capital literature is the minimal amount of studies completed by well recognized bodies, such as universities, international unions, professional organizations, and global organizations, such as banks, and IT companies (Serenko and Bontis, 2004). The bulk of the existing literature is single-authored indicating a serious need for collaborative research between concerned bodies (Serenko and Bontis, 2004). Furthermore, international collaboration (see Figure 2.1.1) on Intellectual Capital research has been on the decline after it peaked in 2007 (SCImago, 2012).

Part one introduced the subject of Intellectual Capital by discussing the merits of financial reporting which basically include efficient decision-making and potential improved firm value. The journey into knowledge-based economies has inevitably attracted new levels of reporting, showing the importance of Intellectual Capital, as a valuable item to report, and a strategic indicator in today's business and research world.

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Intellectual Capital studies are striving to develop a listing of valuable items to report, in addition to traditional physical and intangible assets. This trend emerged with the advent of the Intellectual Capital movement (Roos et al., 1997; Mouritsen 1998). Furthermore, the development of Intellectual Capital into the current field of study has been discussed alongside a general timeline of major Intellectual Capital practice and research milestones. Definition, different contextual meanings, different categories, various research streams of Intellectual Capital, and future research directions have also been discussed.

PART TWO

**INTELLECTUAL CAPITAL FROM INDUSTRIAL
PARADIGMS TO INTELLECTUAL-BASED VIEWS**

2.2 INTELLECTUAL CAPITAL FROM INDUSTRIAL PARADIGMS TO INTELLECTUAL-BASED VIEWS

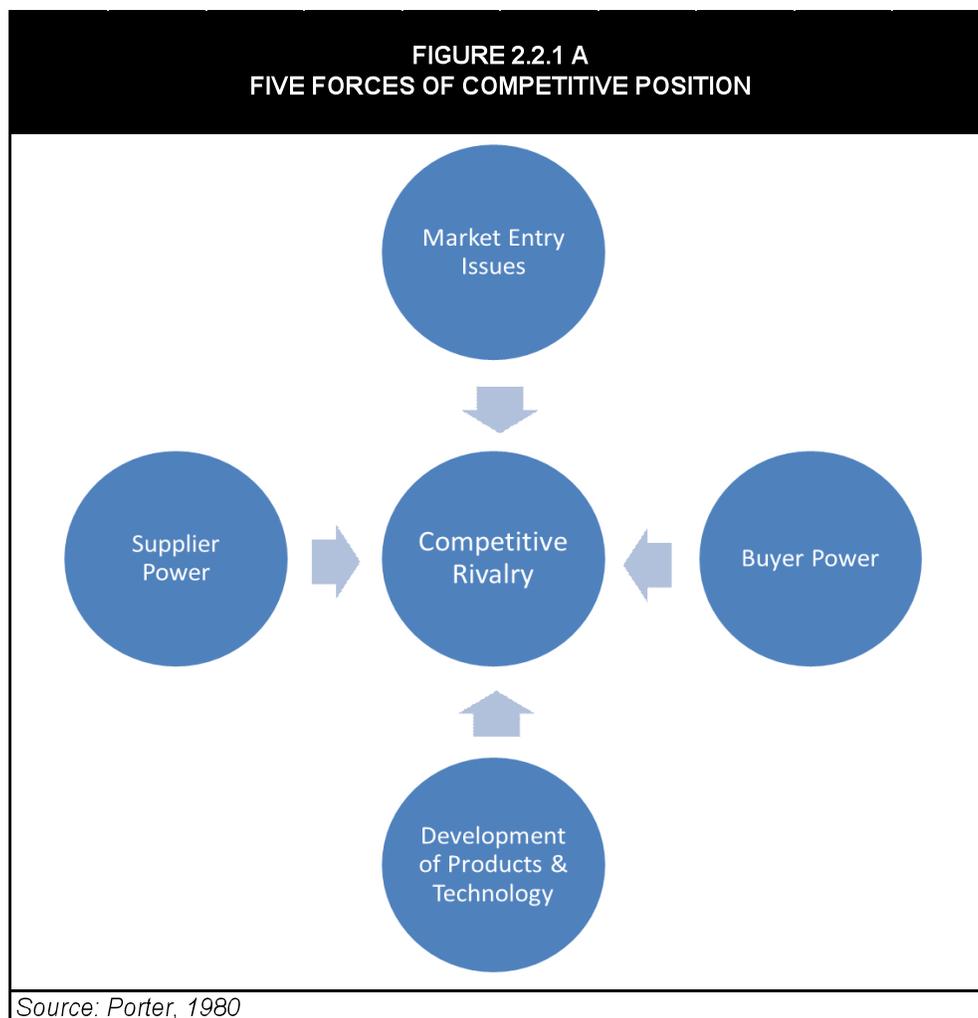
One of the aims of this research is to synchronize the theoretical and empirical findings of the previous studies into a conclusive argument, resulting in a meaningful addition to the existing literature on Intellectual Capital. Therefore, part two of the literature review studies the theoretical development of Intellectual Capital. Discussion will concentrate on the current theories which evolved from the Industrial Paradigm (industry specific view) to the Intellectual-Based View (firm specific view). Further discussion will include how these theories can explain the importance of Intellectual Capital Disclosure and the value of Intellectual Capital as a strategic resource. Additionally, the impact that Intellectual Disclosure has on Firm's Financial Performance will be discussed.

2.2.1 From Industrial Paradigms to Intellectual-Based Views

Organizational performance is one of the central themes of strategic management focus (Galbreath and Galvin, 2008). This focus has undergone a series of evolutions which either have caused or were affected by the evolution of the economy (Galbreath, 2005; Galbreath and Galvin, 2008). It has evolved from an industry-specific into a firm-specific focus (Galbreath, 2005). Presently, the industry-specific and firm-specific theories dominate the paradigms in the field of strategic management (Grant, 1996; Galbreath, 2005).

The industry-specific theory, which was developed within the industrial economy paradigm, states that the determinants of organizational performance are a direct effect of the structural differences of the economy to which the organization belongs (Galbreath and Galvin, 2008). This theory is best represented by the Five Forces of Competitive Position presented in Porter's (1980) work which is depicted in Figure 2.2.1

A:

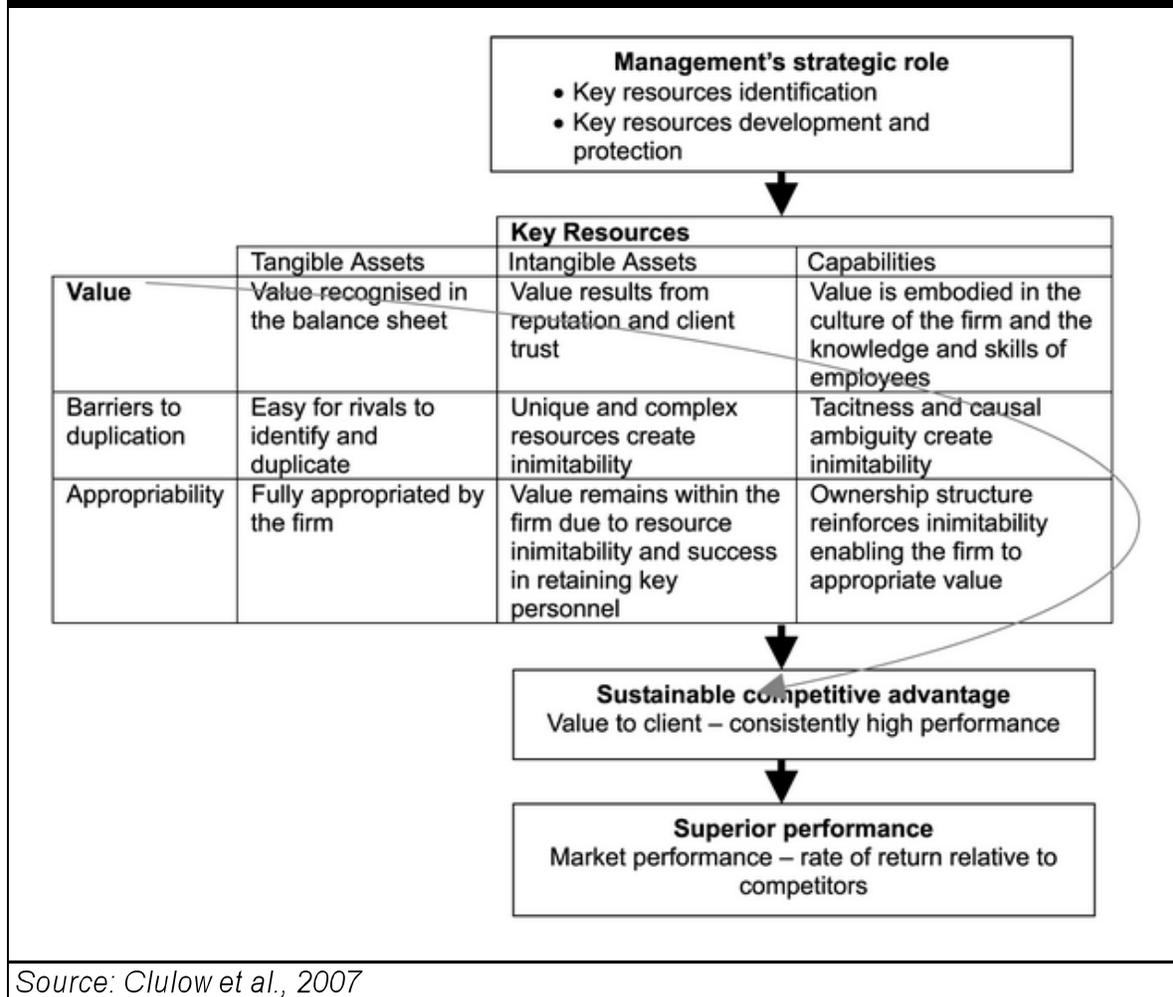


Porter's (1980) model offers a simple perspective for assessing and analyzing a firm's competitive strength and position (Porter, 1980; Barney, 1991; Galbreath and Galvin, 2008). As illustrated in Figure 2.2.1, Porter's (1980) five-forces model includes the following:

- New Market Entry related issues: including barriers/entry easements, geographical factors, resistance by incumbents, new competitor strategy, and routes to market;
- Buyer Power: including buyer choice, buyers size/number, change cost/frequency, product/service importance, volumes, and just-in-time scheduling;
- Development of Products and Technology: includes alternative price/quality, market distribution changes, fashion and trends, and legislative effects;
- Supplier Power: includes geographical coverage, brand reputation, quality of product/service level, customer relationships, and bidding processes/capabilities; and
- Competitive Rivalry: including differentiation, strategy, fixed and variable cost bases, industry size and trends, number and size of firms, and product/service ranges.

The industry-specific theory evolved into firm-specific factors of organizational performance, viewing the organization as a bundle of tangible and intangible resources (Galbreath and Galvin, 2008). The value, scarcity, uniqueness, and sustainability of these resources can generate organizational competitive advantage, as depicted in Figure 2.2.1 B:

FIGURE 2.2.1 B
THE RESOURCE-BASED VIEW AND VALUE



As such, these unique resources are the drivers of the organization's differentials in performance (Barney, 1991; Conner and Prahalad, 1996; Colombo and Grilli, 2005; Galbreath, 2005; Galbreath and Galvin, 2008). This theory is best represented by Wernerfelt's (1984) RBV. In addition, research suggests that intangible resources are the real drivers of competitive advantage associated with peculiarity, high scale returns,

and difficult barriers to duplication (Conner and Prahalad, 1996; Grant, 1996; Sudarsanam et al., 2003).

The RBV was integrated with the CBV which states that a competitive advantage can be achieved through competent managing of unique resources (Conner and Prahalad, 1996; Teece et al., 1997) and by the KBV which is the source of strategic competitive advantage (Conner and Prahalad, 1996). The KBV is developed in the knowledge-based economy which is quite different from the industrial economy (Sudarsanam et al., 2003; Tseng and Goo, 2005). Furthermore, the competitive advantage depends on an organization's ability to expand, manage, measure, and control the flow of knowledge (Sudarsanam et al., 2003; Galbreath, 2005). The KBV was then advanced to the Intellectual-Based View (IBV) (Tseng and Goo, 2005). According to the IBV, competitive advantage and firm performance are a function of how the organization moves its knowledge stocks (Carlucci et al., 2004; Sudarsanam et al., 2003; Tseng and Goo, 2005). Therefore, in a knowledge economy, the sources of economic value depend on Intellectual Capital management (Guthrie et al., 2004). However, conventional reporting methods are inadequate for reflecting the actual value of Intellectual Capital (Roos et al., 1998; Hayton, 2005). Researchers and practitioners attempted stimulating several models for measuring Intellectual Capital. These models include the Value Added Intellectual Coefficient ("VAICTM") (Kujansivu and Lonqvist, 2007; Pulic, 2004; Zhang et al., 2006; Firer and Stainback, 2003; Najibullah, 2005; Appuhami, 2007; Tan et al., 2008; Shiu, 2006; Chen et al., 2005; Chan, 2009a), Intellectual Capital Efficiency ("ICE")

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(Kujansivu and Lonnqvist, 2007), Market Value Added (“MVA”) (Juma and Payne, 2004), Economic Value Added (“EVATM”) (Juma and Payne, 2004), Tobin’s Q (Villalonga, 2004), and others. It must be noted that these models are considered firm specific (Galbreath and Galvin, 2008). Until recently, no standardized guidelines exist for measuring and reporting Intellectual Capital (Hayton, 2005).

Several theories explain and support the theoretical underpinnings of the present research which revolves around Intellectual Capital disclosure and the impact of this disclosure on Firm Financial Performance. These theories have evolved from Industrial Paradigms to Intellectual-Based Views as follows:

- Industrial Paradigm
- Resource-Based View
- Competence-Based View
- Knowledge-Based View
- Intellectual-Based View

2.2.2.1 Industrial Paradigm

Studies which attempt at defining the determinants of a firm’s performance have generated a diverged view (Galbreath and Galvin, 2008). The structural characteristics of industry fall on one side of the argument, and firm-specific resources are on the other (Galbreath and Galvin, 2008). Nevertheless, in recent years, the combined effect of the competitive landscape and ever-changing economic conditions has resulted in increased challenges regarding certain deductions (Galbreath and Galvin, 2008).

Therefore, the industry structure theories have been constructed based on these deductions (Galbreath and Galvin, 2008). In the contemporary business landscape, scientific debates suggest that industries' structural characteristics are gradually becoming less important determinants of performance, and firm resources are evolving into the competitive measure of organizations (Barney, 1991; Galbreath and Galvin, 2008).

The focal shift of strategic management and performance from industry-specific to firm-specific factors over the past twenty years cannot be overemphasized (Barney, 1991; Colombo and Grilli, 2005; Galbreath and Galvin, 2008; Veltri, 2009). The focus on industry-specific factors resulted from the Structure-Conduct-Performance ("SCP") standard of industrial organization economics (Galbreath and Galvin, 2008). As stated earlier, today's industry-specific factors model is portrayed by Porter's (1980) Five Forces Model. The firm-specific perspective concentrates on organizational characteristic resources (Barney, 1991). This explains the two 'argumentative' theories of organizational performance variation. In addition, although recognized as a significant theoretical discourse, the industry structure question is also valuable for management practice (Galbreath and Galvin, 2008). In a more explicit rhetorical inquiry, with resources being the most essential determinants of performance, should managers be concerned with industry structure? (Galbreath and Galvin, 2008) Conversely, with the industry structure being the principal determinant of performance, what level of attention should managers dedicate to resources? (Galbreath and Galvin, 2008)

Galbreath and Galvin (2008) observe that strategic management research has made substantial attempts to assess the significance of firm specific versus industry structure factors vis-à-vis performance variation. Consequently, it has been demonstrated that the impact of firm-specific factors on performance variability is more significant than industry-specific effects. However, Galbreath and Galvin (2008) caution that the limitations of existing studies reduce their conjectural and practical applications. By implication, some experts even opine that existing research does not offer relevant details about a Firm's Financial Performance drivers (Galbreath and Galvin, 2008). In addition, Galbreath and Galvin (2008) suggest that comprehensive information on firm resources and industry structure factors are unavailable. Furthermore, key theoretical test development is also missing (Galbreath and Galvin, 2008). This is primarily because studies on "firm factor" versus "industry structure" rely on secondary data and the inability to offer veritable hypotheses (Galbreath and Galvin, 2008). As a consequence, these studies fail to offer an understanding about which industry structure variables or resources define the leading performance variations (Galbreath and Galvin, 2008). Studies also fail to adequately advance the theory beyond explaining the two theories that are tangled in the debate (Galbreath and Galvin, 2008). Consequently, theoretical tests are inaccurate and managerial insights are weakened (Galbreath and Galvin, 2008).

Attempting to improve existing research by using a unique approach, Galbreath and Galvin (2008) completed an investigation on the "firm factor" versus "industry structure"

debate. Focusing on Australian data, Galbreath and Galvin (2008) construct their hypotheses to test the key facets of the leading theories in the stream while 'operationalizing' and measuring the specific resource and industry structure constructs. This adds to the existing literature a clear definition of the "firm" and "industry" effects. Galbreath and Galvin (2008) also relate manufacturing to services providers. Contrary to the competitive forces paradigm, the RBV maintains that firm performance is driven by internal rather than external factors (Galbreath and Galvin, 2008). More importantly, firms are defined as bodies of tangible and intangible resources, and the strategy selection is based on a careful assessment of these resources (Galbreath and Galvin, 2008). Therefore, it follows that a firm's strategic goal should be to foster and distribute its resources that are unique, inimitable, or not available for direct purchase by competitors (Barney, 1991). Achieving this goal will translate to sustainable performance benefits (Galbreath and Galvin, 2008). As a result, the RBV suggests that when attempting to describe performance variation, scholars should complete a direct investigation of the firm's resource base, not the industry's structural characteristics (Galbreath and Galvin, 2008). This supports the two disparate views prominent in strategic management literature regarding performance variation (Galbreath and Galvin, 2008).

Many scholars have applied the Variance Component Analysis ("VCA") for investigating the significance of firm-specific versus industry factors regarding performance variation by assessing business unit, corporate (i.e., internal) and industry (i.e., external) size

effects. When using VCA, the specific effect that each business unit has on firm performance can be expressed in percent of impact (Schmalensee, 1985; Wernerfelt and Montgomery, 1988; Rumelt, 1991; McGahan and Porter, 1997; Chang and Singh, 2000; Hawawini et al., 2003). Thus far, more than twenty years of research have been invested in studying the relative significance of industry and corporate influence on Firm Financial Performance (Galbreath and Galvin, 2008). To the best knowledge of the researcher, the first published work addressing this issue is Schmalensee's (1985) study. Schmalensee (1985) applied the variance decomposition technique to separate the various elements of business unit profits as provided in the 1975 Federal Trade Commission ("FTC") database. The FTC is an independent agency of the USA government, established in 1914 by the FTC Act. Its principal mission is the promotion of consumer protection and the elimination and prevention of anti-competitive business practices (Schmalensee, 1985). Schmalensee's (1985) study reveals that industry structure has the most significant influence on the profitability of the firm. Furthermore, Schmalensee (1985) discovered that firm effects are minimal, with industry effects explaining 32 times the variation regarding the Return on Assets ("ROA"). Industry effects have also been suggested as a dominant factor, explaining more than five times the firm effect (Galbreath and Galvin, 2008). In contrast, however, subsequent research indicates that firm effects is reported dominant, explaining from more than two times the variation of industry effects (Chang and Singh, 2000) to approximately 11 times the variation observed in Rumelt's (1991) Sample B; Rumelt (1991) used two data sets, labeled Sample A (1976 FTC files) and Sample B (1977 FTC files). Galbreath and

Galvin (2008) observe that the background and literature review sections of most existing studies limit discussion to the differences between the effect that resources and industry structure have on Firm Financial Performance. For instance, Mauri and Michaels (1998) and McGahan and Porter (1997) present results outlining the differences between resource and industry structure impacts on firm performance. In general, Porter's (1980) study on industry structure and industrial organization models are contrasted with resource-based (i.e., firm-specific perspectives) research.

Several studies have been conducted on the analysis of VCA's suitability as a framework for measuring Firm Financial Performance. VCA can result in a multidimensional performance indicator; however, the fundamental assumptions of this statistical technique are questioned (Galbreath and Galvin, 2008; Ruefli and Wiggins, 2003). A further limitation of this research stream is its inability to present information regarding the basic drivers of business performance or the mechanisms generating that performance (McGahan and Porter, 2005). Therefore, it has been proposed that new and better methods must be developed for assessing the relationship between Firm Financial Performance and industry structural characteristics (Galbreath and Galvin, 2008).

2.2.2.2 Resource-Based View

According to the RBV of the firm, a strategic asset is regarded as one that is truly uncommon, invaluable, not capable of being perfectly imitated, and not exchangeable

(Wernerfelt, 1984; Galbreath and Galvin, 2008; Cheng et al., 2010). It has been debated that an asset must fulfill all conditions contemporaneously in order to be regarded as a strategic asset (Galbreath and Galvin, 2008). The emergence of Knowledge Management seems to have given Intellectual Capital the recognition as the only strategic asset in contemporary accounting research and practice which could be the reason for the growth of Intellectual Capital management research, and particularly organizational knowledge management systems aimed at managing Intellectual capital (Cheng et al., 2010).

Proponents of the RBV indicate that, because tangible assets can be imitated or purchased, they should not be considered strategic (Barney, 1991). The RBV maintains that in a given market, a firm's sustainable success can be determined by its resources (Veltri, 2009). Moreover, the RBV emphasizes that two types of assets exist: strategic assets and non-strategic assets (Meso and Smith, 2000). While non-strategic assets are believed not to contribute to the firm's long-term success, sustainable competitive success is believed to result from strategic assets only (Meso and Smith, 2000). There are four conditions identified, jointly defining the features of a strategic asset (Meso and Smith, 2000). These conditions are valuable, imperfectly imitable, rare, and non-substitutable, as follows:

- The RBV states that a resource may be regarded as valuable if it provides the firm the opportunity to harness the market prospects or prevent threats of competition;

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- If it can be sustained for a number of years without competitors reproducing or acquiring it; the resource is imperfectly imitable;
- If the resource is held by a very small population relative to the total industry size; and
- The resource is non-substitutable if its strategic equivalents are not available.

The RBV states that each employee inherently carries a body of tacit knowledge, which is rooted deeply in the employee's actions, and a dedication to "a specific profession or vocation or craft, a specific technology, a product market, or a team's activities or activities of a work group" (Nonaka, 1991). Sharing or communicating tacit knowledge is rare in most firms (Sveiby, 2001). As a result, tacit knowledge ceases to exist when the individual carrying it leaves the organization (Sveiby, 2001). Moreover, according to the RBV, tacit knowledge can also be that knowledge resident in an organizational culture; for example, self-motivated creativity, or the will, impetus, and flexibility for success, displayed by employees when completing their assignments or duties within some corporate cultures (Sveiby, 2001).

According to the RBV, a firm's new knowledge creates innovation, resulting in a sustainable competitive advantage (Wernerfelt, 1984; Galbreath and Galvin, 2008). The RBV school of thought suggests that Knowledge Management can be regarded as the creation of a firm's sustainable competitive advantage via constant organizational learning (Wernerfelt, 1984; Galbreath and Galvin, 2008).

As stated earlier, the RBV considers a firm's sustainable competitive advantage as a strength that results from resources that are not capable of being imitated, not substitutable, naturally tacit, and synergistic (Barney, 1991). The resources that provide a firm's competitive position are unique enough that, according to Chung (2010), the key resources and performance drivers should be recognized readily by management. The RBV also states that a firm's competitive advantage or position is usually a result of the firm's ability to pull together and harness a comparatively relevant blend of its tangible and/or intangible resources (Wernerfelt, 1984; Barney, 1991). Accordingly, the resource(s) involvement(s) in the production process (such as capital, equipment, talented managers, individual employee's skills, patents, and financing) must be characterized (Barney, 1991). Resources that are readily available tend toward growth as the firm's effectiveness and capabilities increase (Barney, 1991). Finally, organizational capabilities (i.e., the capacity for a set of resources to collectively carry out a stretch task or an activity) become stronger through constant application, and competitors find that understanding and imitating them is more difficult (Barney, 1991).

2.2.2.3 Competence-Based View

Since the mid-twentieth century, industrial organization economists explored the phenomenon of industry structure as a variable for clarifying firm performance (Bain, 1959). Nevertheless, other scholars in the field believe that Porter (1980) introduced the phenomenon to corporate strategists and business executives (Stoelhorst and Van Raaij, 2004). Porter's (1980) work provides a unique framework of explanations about

extraneous factors' effect on firms in a specified industry. Porter's (1980) framework has been particularly useful for analyzing Firm Financial Performance differentials, and it dominates the extant literature (Stoelhorst and Van Raaij, 2004).

According to Teece et al. (1997), the "competitive forces approach," as defined by Porter (1980), names five structural forces governing the firm's performance potential regarding industry specific competition. The five forces dictate prices, costs, and investment conditions. All of the determinants characteristically drive sustainable profitability and attractiveness of a given industry (Teece et al., 1997). Fundamentally, the five forces of industry structure have an impact on the general industry performance, and the performance of firms operating in that industry (Teece et al., 1997). This justifies Porter's (1980) statement that an industry's competitive forces are crucial for explaining its pattern of performance variation.

Existing economic literature generally recognizes that new firms and new technology-based firms in particular add significantly to the static and dynamic efficacy of the economic system (Audretsch, 1995). To this end, a stream of empirical studies has been conducted on analyzing the determinants of the post-entry performances of new firms, focusing on the role of the Human Capital characteristics of the founding teams (Audretsch, 1995). A positive association is shown between new firm survival or surviving firms' continued growth and factors such as age, education, and founders' work experiences (Reed et al., 2006). Notwithstanding, this empirical evidence is in

logical agreement with the various arguments offered by different streams of the theoretical economics, finance, and management literature (Colombo and Grilli, 2005). According to financial economics literature, it has been argued that because of visible inadequacies of the capital market, procuring external financing is difficult for some firms (e.g., new technology-based firms); in turn, insufficient funding hampers firm growth and endangers its survivability (Carpenter and Petersen, 2002a; Carpenter and Petersen, 2002b ; Colombo and Grilli, 2005). When a firm is established by wealthy individuals, the firm is less vulnerable to financial limitations because of available funds. In existing literature, it has been demonstrated that a positive correlation exists between Intellectual Capital, specifically Human Capital, and owners' or operators' wealth (Botosan, 1997; Colombo and Grilli, 2005). This positive relation that exists between the post-entry performances of new businesses and their owners' Human Capital is traceable to the Human Capital "wealth effect" which basically is a reflection of binding financial limitations (Botosan, 1997; Colombo and Grilli, 2005).

The CBV underscores the different explanation for firm post-entry performance in relation to the characteristics of the firm (Colombo and Grilli, 2005). Rooting its view in the business risks, uncertainties of profit, and the theory of economic development, the CBV maintains that firms are packets of distinctive, hard-to-imitate competences (Colombo and Grilli, 2005). Owner's knowledge and expertise are closely related to the distinguishing capabilities of certain firms, such as the characteristic, irreducible nature of business judgment and the inevitably high costs accompanying knowledge

dissemination among different individuals or groups of individuals (Colombo and Grilli, 2005). In turn, it is argued that these distinguishing capabilities depend largely on the founders' level of expertise gained through formal training and prior professional experience (Colombo and Grilli, 2005). In view of this, new businesses established by individuals or groups with greater Human Capital will naturally perform better than the others with less Human Capital because of their exceptional capabilities (Colombo and Grilli, 2005). The "capability effect" provides explanations for the positive effect that the owners' Human Capital has on new business performances (Colombo and Grilli, 2005). Notwithstanding the nature of the effect, i.e., "wealth" or "capability," that defines the positive correlation between the growth of a new business and its founding team's Human Capital, the fact remains that both "wealth effect" and "capability effect" need further research (Colombo and Grilli, 2005). Colombo and Grilli (2005) opine that the outcomes of "wealth effect" and "capability effect" for business owners and policy makers vary. When large financial resources are the primary determining factor for growth in firms comprised primarily of Intellectual Capital (Human Capital), the attention of owner(s) and policy maker(s) must be directed toward alleviating the "funding gap" (Cressy, 2000). The amount of money needed to fund the ongoing operations or future development of a business or project that is not currently provided by cash, equity, or debt (Cressy, 2000).

There are empirical suggestions that business owners' unique knowledge and expertise are critical to firm growth (Colombo and Grilli, 2005). This indicates that methods of

filling the “knowledge gap” should be a major concern for business owners and policy makers (Colombo and Grilli, 2005). A primary aim of the present research is conducting an empirical examination of the relationship between Intellectual Capital and Firm Financial Performance. As such, the connection between Firm Financial Performance and Intellectual Capital characteristics will be thoroughly studied.

2.2.2.4 Knowledge-Based View

Existing literature about business strategy consistently highlights that managers must amass and protect valuable knowledge or competency (Nickerson and Zenger, 2004). Scholars opine that such knowledge or capability defines organizational aptitude for transforming efforts into value (Barney, 1991; Sudarsanam et al., 2003). This implies that managers must increase the firm's production efficiency by constantly modernizing, globalizing, or advancing knowledge (Barney, 1991; Sudarsanam et al., 2003). To this end, one shared notion and recommendation in the strategy literature stream is that organizations should incorporate these valuable competencies with fundamental knowledge (Sudarsanam et al., 2003). Internalizing or shielding valuable knowledge from external entities affords the firm a positioning advantage; this allows the firm to exploit and protect its knowledge (Sudarsanam et al., 2003). Albeit debatable, there is a fundamental knowledge-based concern that managers must address beyond organizing strategies for exploiting the firm's extant knowledge or capability (Sudarsanam et al., 2003). Specifically, managers must strive to engender effective knowledge and capability (Galbreath and Galvin, 2008).

Recently, research on the RBV and CBV has concentrated on the question, “How do firms organize to engender effective knowledge and capability?” (Galbreath and Galvin, 2008) This quest led to the development of the KBV, or the knowledge-based theory of the firm (Herremans and Isaac, 2004; Nickerson and Zenger, 2004).

The KBV explains how the firm’s choice affects the efficient construction and protection of the firm’s valuable knowledge and capabilities, particularly regarding whether to perform an input in-house or outsource the activity (Galbreath and Galvin, 2008). One common argument in the KBV literature stream is that a firm is an organization that exists to conserve the exchange of knowledge rather than tempering resourcefulness (Grant, 1996). Some existing literature argues that incorporating any activity within the firm’s boundaries makes the firm an "architect of a positive" instead of a "deserter of a negative" (Nickerson and Zenger, 2004)

Although the existing KBV literature has significantly contributed to the literature on the knowledge of the firm, it has its weaknesses, as well. Other scholars have persuasively opposed the assertion that a knowledge-based theory of the firm may not be dependent on resourcefulness or opportunism (Nickerson and Zenger, 2004). It has been argued that the knowledge-based literature has narrowly concentrated on the firm’s role in the provision of an efficient exchange of knowledge rather than the firm’s role in efficient production of knowledge or capabilities (Nickerson and Zenger, 2004). Furthermore,

there are two vital, yet completely inconsistent arguments within the literature that supports the firm's efficient exchange of knowledge vis-à-vis the markets (Nickerson and Zenger, 2004).

- First Argument: The first school of thought maintains that organizational hierarchies exist to principally circumvent the transfer of knowledge (Nickerson and Zenger, 2004), accentuating the firm's authority to direct employee actions.
- Second Argument: On the other hand, the second school of thought argues that organizational hierarchies exist to expedite the transfer of knowledge, underscoring the firm's ability for providing support for constructing common language and identity (Nickerson and Zenger, 2004).

Additionally, the knowledge-based literature does not provide a theory for identifying hierarchies that are ideal to markets or vice versa (Nickerson and Zenger, 2004). Furthermore, existing literature fails to apply knowledge-based rationale for this identification (Nickerson and Zenger, 2004). Beyond that, the KBV tends to focus on the hierarchical qualities, not the limits, in creating and transferring knowledge (Nickerson and Zenger, 2004). According to the cores of the KBV, hierarchy is considered superior in knowledge creation and transfer, leaving other factors to dictate firm boundaries (Nickerson and Zenger, 2004). Consequently, scholars have proposed that there isn't a knowledge-based theory of the firm (Nickerson and Zenger, 2004).

Scholars have attempted to develop a knowledge-based theory of the firm for resolving the shortcomings stated earlier. Specifically, studies have been conducted trying to

determine how organizational prospective objectives for knowledge creation determine how the firm consolidates and conserves knowledge (Nickerson and Zenger, 2004).

Whether a firm decides to possess/purchase knowledge, or ease knowledge exchange matters less; what is expedient is how the managers must coordinate or manage individuals to create knowledge that is being sought by the firm (Nickerson and Zenger, 2004). Stated differently, how a firm acquires knowledge does not matter, what matters is the way it manages knowledge (Nickerson and Zenger, 2004).

According to Grant (1996), there is an important difference between the KBV and the remaining organizational views. This is because the KBV defines the firm as an establishment where goods and services are produced (Grant, 1996).

Meso and Smith (2000) warn that it may not be strategically wise to use organizational Knowledge Management process for capturing and sharing knowledge if doing so can eradicate the intangibility of implicit knowledge. This implies that knowledge acquisition and sharing via organizational knowledge management systems can potentially reduce the asset from strategic to nonstrategic, making it easy for the firm's competitors to acquire or replicate the asset (Meso and Smith, 2000). This condition weakens the firm's sustainable competitive advantage (Meso and Smith, 2000). On the other hand, it would be advisable for a firm to invest in an organizational knowledge management system if it can influence the strategic value of its knowledge (Michalish et al., 1997; Wernerfelt, 1984). Not all tangible assets are strategic since they either can be

reproduced/imitated or acquired (Barney, 1991). Therefore, intangible assets must be considered as an advanced quality for the strategic assets (Meso and Smith, 2000).

Knowledge Management is the process used by a firm for capturing and using its collective intelligence; this process generally inspires innovation(s) (Nonaka, 1991; Quinn et al., 1996; Davenport et al., 1998). The process of organizational learning is responsible for creating new knowledge in a firm (Nonaka, 1991). Nonaka (1991) opines that two types of knowledge are apparent in any firm, including tacit knowledge and explicit knowledge. Tacit knowledge is entrenched in each employee's belief system and persuasions that are taken for granted (Conner and Prahalad, 1996; Saint-Onge, 1996). Tacit knowledge resides in the individual, and as a result, expressing it verbally is almost impossible (Conner and Prahalad, 1996; Saint-Onge, 1996; Meso and Smith, 2000).

Identifying the actual reason for care-why is not easy. However, existing literature on Knowledge Management recognizes that high-level care-why increases firm's overall performance considerably (Davenport et al., 1998). Another example of organizational tacit knowledge is contributory ambiguous knowledge which is the strange resources architecture that offers a firm the sustainable competitive advantage (Michalish et al., 1997). Furthermore, cultural tacit knowledge is another example. Cultural tacit knowledge is the inexplicable knowledge that resides in the corporate culture of a firm (Michalish et al., 1997).

Explicit knowledge is any intelligence that can be defined or codified (Meso and Smith, 2000). This knowledge is easily shared and communicated, and organizations often capture it in methodical repositories (Meso and Smith, 2000). The well-ordered systems, or operating technologies of the firm, make explicit knowledge assets accessible and imitable to all the employees of the organizations (Meso and Smith, 2000). Three types of explicit knowledge have been identified. They are:

- Cognitive Knowledge
- Advanced Systems Skills
- Systems Understanding

Cognitive knowledge is the fundamental mastery of a particular field of study or discipline attained through extensive training and certification (Quinn et al., 1996). Beyond cognitive knowledge is an individual's ability to utilize the basic rules of a particular discipline in practice. This is described as "know-how" or advanced skills (Quinn et al., 1996). "Know-why" or systems understanding is the deep understanding of the characteristic chains of cause-and-effect relationships fundamental to a particular discipline (Nonaka, 1991; Quinn et al., 1996). When systems understanding exists, the firm depends on organizational learning. Stated differently, the firm's success is attributed to the innovation that results from new knowledge (Quinn et al., 1996; Nonaka, 1991). Organizational learning is a constant process that occurs naturally as employees take part in their everyday knowledge work (Davenport et al., 1998). The

repetitive course of articulation and internalization, according to Nonaka (1991), results in organizational learning. Articulation process occurs when an employee's tacit knowledge is gathered as explicit knowledge (Meso and Smith, 2000). Internalization is the result of transforming that explicit knowledge into tacit knowledge for a different employee (Meso and Smith, 2000). To this end, organizational learning occurs when tacit knowledge and explicit knowledge combine through the contact between different employees at different levels in a firm (Nonaka, 1991).

The intellectual value of a firm increases significantly as an employee ascends the intellectual ladder from cognitive knowledge to "know-how" and "know-why" to self-motivated creativity (Nonaka, 1991; Quinn et al., 1996). This process improves the organization's Intellectual Capital, and guarantees the sustainability of the firm's competitive advantage (Nonaka, 1991; Quinn et al., 1996).

Enhancing innovation is the core of Knowledge Management, and to reach this core and maximize the merits derived from effective Knowledge Management, many organizations now invest in developing organizational knowledge management systems (Sveiby, 2001). Knowledge Management systems are often targeted at fostering knowledge work and improving organizational learning (Sveiby, 2001). However, it seems that firms view organizational knowledge management systems differently, resulting in two common perceptions of organizational Knowledge Management systems (Nickerson and Zenger, 2004):

- Technical Perception
- Socio-Technical perception

Each of the above perceptions has an impact on a firm's sustainable competitive position. According to Cheng et al. (2010), this competitive position may depend on firm-specific assets' ownership. This dependency may lead to characteristic benefactions of proprietary resources (Barney, 1991; Peppard and Rylander, 2001).

2.2.2.5 Intellectual-Based View

Scholars and practitioners in the innovation management field are faced with the challenge of understanding the origins of firm innovation (Conner and Prahalad, 1996; Cruz-González and Amores-Salvado, 2011). Empirical efforts have been made to advance the IBV theme by investigating the role that the knowledge base of a firm plays in determining its technological innovation (Colombo and Grilli, 2005).

Extant literature offers two important contributions to the IBV (Cruz-González and Amores-Salvado, 2011). One of its contributions is the suggestion of a measurement model of Intellectual Capital, seeking to categorize Intellectual Capital into three distinct components (Cruz-González and Amores-Salvado, 2011):

- Human Capital
- Structural Capital

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- Relational Capital

Furthermore, existing literature adds to the field of innovation management by providing empirical analyses on the impact of the already recognized components of Intellectual Capital, including their dimensions, on process and product innovation (Cruz-González and Amores-Salvado, 2011). While results often indicate that all dimensions influence both process and product innovation, considerably and positively, there are observable variances that should be examined (Cruz-González and Amores-Salvado, 2011). Three facets are discussed.

- First Facet: The first aspect is the demonstrative power of Intellectual Capital that is higher in the case of product innovation than that of process innovation.
- Second Facet: The second facet is Human Capital which is suggested as the most influential Intellectual Capital component for accomplishing product innovation. In the case of process innovation, however, Structural Capital is suggested as the most influential component.
- Third Facet: The third facet, strangely, within the Structural Capital component of Intellectual Capital, R & D attempts do not have the greatest effect on process or product innovation (Cruz-González and Amores-Salvado, 2011). The dimensions that appear to be the most germane are corporate culture and managers' commitment towards innovation (Cruz-González and Amores-Salvado, 2011).

Knowledge and innovation are the dominant resources in a knowledge economy (Quinn et al., 1996). As stated earlier, innovation and knowledge are viewed as more relevant to the firm than land, capital, or labor. Consequently, efficient management of intangible

assets and knowledge-based intellect is now core to corporate success, particularly in sectors that are knowledge-based or knowledge driven (Quinn et al., 1996). For instance, Morgan Stanley's World Index data shows that the market or listed value of such firms, in the US, varies between 200% and 900% of their book value (Edvinsson and Malone, 1997). As a considerable measure of the value of knowledge-based firms is entrenched in its intangible assets, the firms' balance sheets cannot correctly indicate their true value (Sveiby, 2010). In the IBV, a firm's Intellectual Capital can be regarded as the difference between its market value and book value (Edvinsson and Malone, 1997; Roos and Roos, 1997; Sveiby, 1997; Bukh et al., 2001). Furthermore, it is believed that competitive success is less dependent on the firm's strategic allocation of financial and physical resources, and more dependent on Intellectual Capital strategic management (Sveiby, 2001). As some scholars like Van Buren (1999) argue, intangible assets usually represent more than 66% of corporate value. Likewise, another study revealed that approximately 80% of a firm's value is in its intangible assets (Osborne, 1998). These various arguments provide justification for the claims that conventional accounting measures are insufficient for determining a firm's real value in this knowledge-based economy.

In today's economy, Intellectual Capital measurement is essential as it usually enables firms to understand their real value (Sveiby, 2010). In fact, some pioneering firms have openly publicized their strategic approach to Intellectual Capital management, and they have generally recorded success in this capacity (Lynn, 1998). For instance, Dow

Chemicals Company states that it realizes a yearly tax savings of approximately \$8 million United States Dollars (“USD”) by strategic Intellectual Capital management of its patent holdings (Lynn, 1998). In addition, Intellectual Capital measurement helped Skandia Assurance and Financial Services with achieving a 75% reduction of administrative expenses and performance (i.e., productivity) growth of approximately 400% over a 6 years period (Edvinsson and Malone, 1997). In addition, Toshiba introduced Intellectual Capital management generating an approximate 20% yearly increase in its factory performance or productivity (Fruin, 1997). Although considered a multifaceted phenomenon, Intellectual Capital management is a useful management tool in cutting-edge firms (Bontis, 2002). Although once characterized with obscurity, Intellectual Capital is now understood better; firm managers are beginning to shift their focus into maintaining strategic focus on developing intangible, usually hidden, dynamic, Intellectual Assets instead of managing tangible, often visible, physical assets (Webster, 2002).

The present research is based on the assumption that Intellectual Capital is critical to the firm’s competitiveness, as suggested by the IBV. It is the aim of this research to further illuminate how firms can develop and manage Intellectual Capital while considering the liability side of Intellectual Capital which is often omitted in the Intellectual Capital research stream. Likewise, the enhanced understanding that is required on how Intellectual Capital can add to corporate value is found within the IBV, and this will be expanded by the current research. However, as observed above, little

has been discovered about what happens between Intellectual Capital and corporate value. In other words, the particular means through which corporate value is created by Intellectual Capital is not known yet. Research is not explicit on the processes that lead to Intellectual Capital's definitive effect on corporate value (Wyatt, 2008). Combining facts from relevant literature with empirical efforts, the current research will attempt to prove the characteristic relation between Intellectual Capital disclosure and Firm Financial Performance.

There are many research arguments to substantiate that in the present business world, competitive success is no longer measured based solely on the strategic allocation of physical and financial resources, but based on strategic Intellectual Capital management (Saint-Onge, 1996). However, Intellectual Capital is intangible and its accurate measurement is an issue for today's companies (Saint-Onge, 1996). It then follows that firms must develop reliable techniques by which performance can be enhanced by facilitating their corporate value by proactively maintaining focus on Intellectual Capital management (Saint-Onge, 1996).

2.2.2 Conclusion of Part Two

A major theme of strategic management focus is organizational performance (Galbreath and Galvin, 2008). This focus has passed through a series of transformations, occasioned by economic evolution, from industrial to knowledge-based. This focus has

evolved from an industry-specific into firm-specific focus, both of which are notable dominating paradigms in the strategic management field. With the industry-specific theory evolving into firm specific, the factors of organizational performance, which view the firm as a bundle of tangible and intangible resources, have become the priority of managers (Galbreath and Galvin, 2008). With the understanding that the value, scarcity, uniqueness, and sustainability of these resources prompt a competitive advantage for the firm, researchers seem to have a common view that these resources are the major drivers of the differentials in Firm Financial Performance (Barney, 1991; Galbreath, 2005; Galbreath and Galvin, 2008). Therefore, this understanding is represented by the RBV. With more scholars researching the RBV further, they have increasingly suggested that an organization's intangible resources are the actual drivers of its competitive advantage because of their peculiarity, high scale returns, and difficult barriers to duplication. The integration of the RBV and the CBV paved way for the KBV which finally led to development of the IBV.

The CBV proposes that competitive advantage can be attained through the competent management of the unique resources, as highlighted by the RBV (Conner and Prahalad, 1996; Teece et al., 1997). The KBV regards these resources as the sources of strategic competitive advantage (Nonaka and Takeuchi, 1995). It was the KBV that led scholars and practitioners to discover the basics of the knowledge-based economy. The KBV also states that competitive advantage is dependent on the organization's ability to handle knowledge in terms of growing, management, measurement, and

control (Rubino, 2004). Finally, the KBV was transformed into the advanced IBV which presents competitive advantage and Firm Financial Performance as a function of the organizational movement of knowledge stocks (Carlucci et al., 2004, Tseng and Goo, 2005). Consequently, the knowledge economy is characterized by sources of economic value relying on the managers' ability to properly manage the firm's Intellectual Capital (Guthrie et al., 2004). A major setback that faces the Intellectual Capital field is inadequacy of the orthodox financial accounting reporting techniques for identifying and reporting the actual value of Intellectual Capital. All efforts by scholars and practitioners to develop an effective model for measuring and reporting Intellectual Capital have resulted in the firm specific models.

PART THREE

INTELLECTUAL CAPITAL FROM THE

PERSPECTIVES OF IFRS AND GAAP

2.3 INTELLECTUAL CAPITAL FROM PERSPECTIVES OF IFRS AND GAAP

There is a growing realization in most industries that Intellectual Capital (rather than physical capital) is increasingly becoming the underlying factor in value creation and recognition of a business (Cañibano et al., 2000). The fact is, business professionals, legal practitioners, the academia, and public sector entities are gradually identifying with this development (Brännström and Giuliani, 2009b). According to Walkotten (2003), "Intellectual Capital has not only suddenly become a major referent in attaching value to a firm in contemporary accounting but also the foremost competitive advantage in mergers and acquisitions."

In the present-day economy, generally known as "*knowledge economy*", there is a perceived swing in the principal production factors of virtually every business; therefore, it is very imperative to investigate if firms have *ipso facto* synchronized their practices of disclosure in response to this change (Cañibano et al., 2000). For this reason, there is an undeniable increasing demand for more extensive corporate disclosures regarding Intellectual Capital matters amongst handlers of financial accounting information (Francis and Schipper, 1999). In most industries today, Intellectual Capital information disclosure is featured in the top ten information needs of handlers of financial accounting information (Francis and Schipper, 1999). However, a more germane concern is the importance of exploring the factors that dictate the manner of disclosure

on this subject, in addition to attempting to quantify Intellectual Capital related information (Francis and Schipper, 1999). Thus far, it seems there are limited research studies on the factors that determine voluntary Intellectual Capital disclosure, as well as how the financial position of firms is influenced by those factors (Powell, 2003; Clacher, 2010).

2.3.1 Historical Consideration

Any attempt to justify voluntary disclosure of Intellectual Capital will of course entail prior analysis of the available accounting standards. However, to avoid ambiguities in laying out the various arguments on this subject, the standards that will be considered in this research are the IFRS and GAAP, as they are the most widely accepted accounting standards (Seetharaman et al., 2004; Roslender, 2004).

In the field of accounting history, research initiative seems to have been undervalued (Jerman and Manzin, 2008). The profession has concentrated rather on the costs or benefits of 'proptertizing' intellectual goods (Clacher, 2010). Consequently, wide variances between organizational practice and abstract, theoretical knowledge within the accounting research setting have continued to cause an overwhelming rift within the discipline (Jerman and Manzin, 2008). These differences frustrate both researchers' knowledge and curiosity for further knowledge as individuals working in one specific domain are comparatively incapable of understanding or simply not willing to appreciate the vital issues in other domains (Jerman and Manzin, 2008). As a result, historically,

there has been no universally accepted accounting principle treating the issue of Intellectual Capital or its likes (Jerman and Manzin, 2008). In their response to this need, industry practitioners and academics have come up with various methods, models, and tools for identifying, quantifying, and recognizing these variables (Jerman and Manzin, 2008).

To address this concern, the International Accounting Standards Board (“IASB”) decided to establish the IFRS which is regarded as a set of accounting standards established to offer a global, uniform framework for public companies to prepare and disclose their financial statements (IFRS, 2007). In particular, IFRS 3 targets the international convergence of the accounting for Intangible Assets (IFRS, 2007).

Similarly, GAAP includes a set of conventions, standards, and rules to be followed when recording, summarizing, and preparing financial statements. For this reason, GAAP is the referenced standard framework of guiding principles for financial accounting applied in a given jurisdiction (i.e., Accounting standards) (Jerman and Manzin, 2008). For purposes of this research, when referring to GAAP, it is meant to be interpreted as the USA GAAP. Other Intellectual Capital and intangibles related accounting standards include but are not limited to the USA ARB 24 (1944), USA ARB 43 (1953), USA APB Opinion 16 and 17 (1970), Canada CICA (1973 - 1974), New Zealand SSAP 8 (1979), UK ASC (1980), UK ED 30 (1982), Australia AAS 18 (1984), and others (Seetharaman et al., 2004; Roslender, 2004).

2.3.2 Intellectual Capital Disclosure: Legal Framework Perspective vis-à-vis IFRS and GAAP

Lev et al. (2005) assert that there is a decrease in the economic impact of certain key industrial era indicators. These factors include: production facilities, efficient manufacturing processes, and physical location Lev et al. (2005). During the industrial revolution, these indicators were considered the key resources necessary for a firm to successfully secure superiority in the market place Lev et al. (2005). Furthermore, Lev et al. (2005) maintain that in today's "*knowledge economy*", and with global trade shifting to a buyer-focused rather than a seller focused economy, orthodox reporting techniques are unable to provide an accurate picture of a Firm's Financial Performance. The buyers' market is characterized with more informed and more demanding consumers (Lev et al., 2005). As such, logic dictates that as the pace of a product's technological development increases, its life cycle decreases, such as the software market (Lev et al., 2005).

As argued by many research studies, it appears that present accounting standards (such as IFRS and GAAP) are incapable of harmonizing accounting standards globally and have failed to keep pace with this rapidly changing economy (Francis and Schipper, 1999; Stolowy and Jeny-Cazavan, 2001; Seetharaman et al., 2002; Clacher, 2010).

This implies that IFRS and GAAP have been unable to provide harmonized standards for handling differentiation and innovation, capabilities, assets (including creativity, and R&D), data, branding, copyrights, and patents (Sánchez, et al., 2000; Seetharaman et

al., 2002; Seetharaman et al., 2004; Seetharaman et al., 2006; Busacca and Maccarrone, 2007). Each of these capabilities and assets constitute a firm's Intellectual Capital and intangible assets; additionally, each component is indispensable for procuring a competitive edge in the "*knowledge economy*" (Brundage, 1945; Lev et al., 2005; Brännström and Giuliani, 2009b). Researchers have pointed out numerous parameters that should be considered when discussing Intellectual Capital and intangibles. Atkinson and McGaughey (2006) even investigated and argued the relevance of data as a major component of Intellectual Capital. Questions have been raised about the integrity regarding the manner firms handle Intellectual Capital disclosure (Chatzkel, 2003).

With the asserted or perceived failure of available accounting standards to properly address the issue of reporting harmonization, especially regarding Intellectual Capital reporting, it is important to provide veritable modalities under which firms will be able to consider voluntary disclosure of Intellectual Capital (Brännström and Giuliani, 2009b).

As a point of clarification, it is necessary to underscore the difference between Intellectual Capital and intangible assets. While some authors prefer using the two nomenclatures interchangeably (Lev et al., 2005), it is important to note that they do not share a common denominator per se; hence, the need for clarification. In fact, there is no uniform explicit or industry-specific definition for Intellectual Capital. However, according to Stolowy and Jeny-Cazavan (2001), findings indicate that most regulations

offer only a general theoretical definition of intangibles, adding to it a list of items or some classifications of intangible assets. Generally, when attempting to define intangibles, most regulatory accounting agencies only account for (Busacca and Maccarrone, 2007; Brännström and Giuliani, 2009a; Deloitte, 2011):

- The promise of possible benefits;
- The deficiency of physical substance; and / or
- The non-monetary nature.

2.3.3 Dissimilarities between IFRS and GAAP in Intellectual Capital and Intangible Assets Reporting

The issue of Intellectual Capital and intangible assets reporting requires the creation of uniform global reporting standards that permanently address intra-country and inter-country dissimilar financial reporting practices (Cañibano et al., 2000; Brännström and Giuliani, 2009a). In response to this, there have been attempts by international regulatory accounting entities, such as the Financial Accounting Standards Board (FASB) to standardize this reporting system (FASB, 2001). However, according to Brännström and Giuliani (2009b), the efforts seem insufficient, as they fall short of requirements because they are not empirically (i.e. in real practice) sufficient to accurately grasp Intellectual Capital in full form.

The ultimate goal of change to IFRS is to thoroughly apply a distinct set of universal accounting standards which will yield high quality, best practice, and extremely

transparent financial information to support investors and other stakeholders in making sound, quality economic or financial decisions in the world's capital markets (Deloitte, 2011). Decisions made in this context will be based primarily on readily and easily comparable financial data (Cañibano et al., 2000). In theory, this may be perceived as a good indicator to many as it seems a necessity for a vibrant and emergent global economy; however, Atkinson and McGuaghey (2006) proposed that many strings are intrinsically attached due to fundamental differences in the current globally accepted accounting standards. On the other hand, Riegler and Hollerschmid (2006) claim that Intellectual Capital reporting is still possible under the current accounting regulation.

Several research studies have emphasized the importance of Intellectual Capital and investments in intangibles in general as the source of future economic profits to a firm, claiming they should be recognized as assets and as a result, reflected in the annual reports (Barth and Clinch, 1998; Cañibano et al., 2000; Clacher, 2010). However, findings have shown that this reporting is unobtainable in real practice because of the restrictive accounting asset recognition rules (Cañibano et al., 2000; Lev et al., 2005). To elaborate, in real accounting practice, the current accounting standards have not been able to make adequate provisions to guide firms in reporting Intellectual Capital and intangibles in general in their financial statements (Cañibano et al., 2000; Lev et al., 2005). For instance, IFRS only requires that development expenditures meeting certain conditions should be capitalized as intangible assets (IFRS, 2007). On the other hand, USA GAAP requires said expenditures be expensed (FASB, 2001). Consequently,

integrating these variances will be a major harmonization barrier (Barth and Clinch, 1998). Therefore, Silva and Couto (2007) claim that there is a lot to be achieved in the topic of intangible assets reporting as a result of the magnitude of impact by international regulatory reporting bodies and the advocacy for globalization of reporting standards. While studies have noted significant differences between the USA GAAP and IFRS on Intellectual Capital reporting, goodwill, and impairment as stated earlier, both systems still fail to provide adequate guidelines for the industry on how Intellectual Capital and other intangibles can be reported in financial statements (Barth and Clinch, 1998; Lev et al., 2005; Brännström and Giuliani, 2009a; Clacher, 2010).

2.3.4 Failure of Current Standards in Capturing "Abstract" Wealth

Stolowy and Jeny-Cazavan (2001) propose that the disharmony stated by the dawn of IAS 38 in 1998 (IASB, 2004) could be suggestive of the abandonment of international accounting harmonization. However, it is critical to note that IAS 38, which was revised in 2004, provides additional guidance regarding the main criteria for recognizing intangible assets, including identifiability, controllability, and future economic benefits (IASB, 2004). The literature emanating from the IASB defines an asset as a resource controlled by a firm arising from past transactions from which future economic benefit is expected to accrue to the enterprise (IASB, 2004). According to IAS 38 (IASB, 2004), the following expenditures will not result in an asset on the balance sheet:

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An Empirical Analysis of Publicly Listed Companies in the United Arab Emirates

- Advertising and training expenditures, R&D expenditures, and costs incurred in starting up a business; and
- Human Capital, Structural Capital and publishing titles, brand names, mast-heads, and a host of benefits pertaining to a firm's customer base such as internally generated customer lists, customer loyalty, and customer relationships.

The treatment prescribed by IAS 38 for these types of outlays is to expense them as they are incurred rather than capitalizing them as intangible assets on the balance sheet (Rivat and Nulty, 1998). The revised IAS 38 (IASB, 2004) defines an intangible asset 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.” The range of activities that can classify as intangible assets is expanded to include the following in addition to the ones mentioned above (IASB, 2004):

- Copyrights, covenants not to compete, franchises, future interests, licenses, operating rights; and
- Patents, record masters, secret processes, trademarks and trade names.

Thus, it can be concluded that the items that can be considered as Intellectual Capital by the accounting profession as represented by IASB are similar to those prescribed by non-accounting groups as evidenced by the academic studies cited in earlier sections of this research. Despite these welcomed developments, the IASB has not departed from its industrialized paradigm since it continues to set unwarranted criteria for capitalization (Seetharaman et al., 2002). The first stipulation is that an item must meet the definition

of intangible assets, where no comprehensive definition exists (Seetharaman et al., 2002). The second stipulation is that Intellectual Capital must be separately identifiable and distinguishable from other assets (Seetharaman et al., 2002). In practice, this is impossible to adhere to since Intellectual Capital items tend to be interwoven with each other (Seetharaman et al., 2002). The third stipulation is that a company must show its ability to control its Intellectual Capital (Seetharaman et al., 2002). However, it is very difficult for a firm to demonstrate its ability to control Customer Capital and Human Capital (Seetharaman et al., 2002). A final potential obstacle for capitalization is the requirement that a firm must demonstrate the existence of a probable chance of return from its Intellectual Capital (Seetharaman et al., 2002). However, it can be debated that future returns cannot be predicted with certainty, and there is always a probability of error in forecasting (Seetharaman et al., 2002). Furthermore, capitalization criteria for physical assets rely on accounting conventions and not on facts. These capitalization criteria indicate that there is still a lot of progress that needs to be made before firms are able to show Intellectual Capital on their balance sheets in a practical manner (Seetharaman et al., 2002).

According to (Lev and Zarowin, 1999), a major disagreement regarding the recognition of Intellectual Capital and intangible assets in balance sheets is the improbability of future economic gains from such assets. Adhering to this argument, chances are that the current accounting systems may 'pre-load' the costs of investing in Intellectual Capital and intangibles, choosing to 'defer' the recognition of its benefits (Lev and

Zarowin, 1999). Additionally, studies have confirmed that late 1980s academics and practitioners voiced concerns about this practice, raising the argument that if accounting rules would not adjust to the growing need to making relevant information available regarding investments in Intellectual Capital, accounting will eventually lose its relevance in efficient and effective decision making (Stolowy and Jeny-Cazavan, 2001; Brännström and Giuliani, 2009a). Brännström and Giuliani (2009a) further elaborate the argument that both professional and academic research establishments have a long history of laying emphasis on the need to fine-tune current accounting practices to assure a true and fair assessment of the firm's financial position and performance. According to Brännström and Giuliani (2009a), one perceived effect of a potential loss of accounting information's applicability was a greater difference between book value and market value concerning equity in the 1980's and 1990s. Furthermore, the valuation differences could not be fleshed out using the prevalent earnings growth rates (Brännström and Giuliani, 2009a). This perception is partially responsible for investors adopting the practice of valuing the increasing rate of investment in Intellectual Capital as possible sources of future profitability (Brännström and Giuliani, 2009a).

Furthermore, reports claim that investments in R&D within the USA economy increased by 100 percent between 1953 and 1997, while investments in tangible assets remained steady during this period; this made USA intangible business investment worth more than \$1 trillion USD in the late 1990s (Lev et al., 2005). Despite the noted increase in Intellectual Capital investments as potential foundations for value and profit, under the

USA GAAP, most Intellectual Capital investments must be expensed with immediate effect (FASB, 2001). Consequentially, this practice decreases book value and current earnings which corroborates the scholarly and professional claim that 'innovative capital' remains a vital causal variable of the 'market-to-book value effect' (Brännström and Giuliani, 2009a). Therefore, accounting practice in the USA not only fails to capture Intellectual Capital, but also fails to treat assets as assets (Seetharaman et al., 2002). In 1974, FAS 2 was issued which states that expenses incurred in intangible assets, such as R&D, patents, and trademarks should be expensed when incurred (FASB, 2001). The accounting framework that exists today is transactional and realization based (Seetharaman et al., 2002). Therefore, items are recognized only in situations where transactions with third parties have been the cause (Seetharaman et al., 2002). This inherent problem in the framework still exists in the FASB which has not yet come up with a new standard to help companies in the measurement and treatment of intangible assets (Seetharaman et al., 2002). This accounting body maintains its old stipulation as stated in FAS 2. However, as per FAS 86, software and development costs are allowed to be capitalized after the product reaches technological feasibility, meaning it can be determined that the product can potentially generate future economic benefit to the organization (Seetharaman et al., 2002). A point of weakness still exists in the current pronouncements in that intangible assets that are acquired from third parties are permitted to be capitalized while this is not the case of internally developed intangibles which must still be expensed (Seetharaman et al., 2002).

2.3.5 Impact of Lack of a Worldwide Regulatory Framework on Intellectual Capital Reporting

There has been no exhaustive universally accepted accounting principle treating the issue of Intellectual Capital and related intangible items. Industry practitioners and academics have developed a variety of methods, models, and tools for identifying, quantifying, and recognizing intangibles, resulting in confusion within the industry (Rimerman, 1990; Jerman and Manzin, 2008).

The introduction of IFRS 3 can be regarded as the untangling force, clearing ambiguity created in the industry by the ever-growing quantity of Intellectual Capital reporting models (Brännström and Giuliani, 2009b). Clarity seems possible because the IFRS 3 seemingly presents grounds for empirical application of the tools and methods proposed by the proponents of Intellectual Capital; this may help to bridge the gap between conventional financial accounting and Intellectual Capital accounting (Brännström and Giuliani, 2009b).

In 2004, IASB issued IFRS 3 Business Combinations in response to several years of inconsistencies regarding intangible assets accounting and/or lack of Intellectual Capital reporting (IFRS, 2007). Brännström and Giuliani (2009b) claim this issuance has provided grounds for considerable change in Intellectual Capital reporting. According to the new standard, it is required that all business combinations that started after March 2004 must be accounted for using the purchase method (IFRS, 2007). Furthermore,

amortization of goodwill is no longer allowed as industry best practices (IFRS, 2007). However, goodwill must be tested for annual impairment (IFRS, 2007). The IFRS 3 is targeted at international convergence of Intellectual Capital accounting (Brännström and Giuliani, 2009b). However, several studies have continued to highlight the inadequacies of the current international accounting standards, warning that exclusion of Intellectual Capital from firms' financials does harm a country's overall economy (Seetharaman et al., 2002; Clacher, 2010).

2.3.6 The Global Trend

To complement accounting standards (IFRS and GAAP), some studies have recommended alternative methods for reporting and measuring Intellectual Capital as well as intangible resources within organizations (György and Szilávik, 2007; Rodgers and Housel, 2009). Broad-spectrum accounting procedures such as the Tobin's Q (a quotient or ratio of a firm's stock market value divided by the replacement cost of its assets) and book-to-market ratio were suggested to reflect a more dependable representation to investors (Lev et al., 2005). Though measurement and reporting frameworks incorporating intangible assets were formed in the management accounting and general management literature, there are still noteworthy differences regarding publishing practices of Intellectual Capital related information in the US, Europe, and Australia (Roslender and Fincham, 2001; Seetharaman et al., 2004; Lev et al., 2005; Brännström and Giuliani 2009b). However, studies indicate that some Scandinavian, Spanish, and Danish firms are now recognizing the importance of publishing Intellectual

Capital related information in their annual reports or as unconnected Intellectual Capital statements (Brännström and Giuliani 2009b; Lev, 2005; Wyatt, 2002). Consistent Intellectual Capital statement publishing seems to be a prudent practice.

Harmonization issues within firms, industries, and differing years for data publication comprise the major shortcoming of these reports (Atkinson and McGuaghey, 2006). Furthermore, inconsistencies with other forms of voluntary disclosure of Intellectual Capital create additional problems (Lev et al., 2005). As a result, expediency of the information is reduced considerably (Clacher, 2010).

Despite the identified obstacles against a globally acceptable legal framework for voluntary Intellectual Capital reporting as well as intangible assets reporting, a study by Riegler and Hollerschmid (2006) has revealed that it is possible to utilize financial reporting in a methodical way with a distinctive outline to aggregate the identifiable strengths of financial reporting (i.e., the actuality of homogeneous ways of clarification and a well-informed readership), including indicator-based Intellectual Capital reports. On the contrary, Lev et al. (2005) note a lack of certainty regarding future economic benefits, lack of absolute control, as well as absence of markets to quantify and reliably value intangibles as major causes of accounting regulators' reluctance to adopt more liberal measures; while Seetharaman et al. (2004) maintain there is no future for Intellectual Capital and intangibles.

2.3.7 The Future of Financial Reporting in Relation to Intellectual Capital

Following critical analysis of the information on intangibles, vis-à-vis their mandatory and voluntary disclosure provisions, Riegler and Hollerschmid (2006) conclude that specific rules for asset recognition more often than not block expenses for R&D (i.e., Intellectual Capital) from being recognized on corporate balance sheets. They note that the tangible-intangible accounting disequilibrium has increasingly triggered the development of Intellectual Capital reports for intangibles on the whole, and for R&D in particular. Therefore, in accordance with their findings, the present “*knowledge economy*” will continue to feature more dichotomous reporting format for corporate disclosure unless the system is homogenized as appropriate (Roslender, 2004).

PART FOUR

DETERMINANTS OF VOLUNTARY

INTELLECTUAL CAPITAL DISCLOSURE

2.4 DETERMINANTS OF INTELLECTUAL CAPITAL DISCLOSURE

There is an increasing body of evidence that challenges the long-held paradigm that a business entity's fundamental success, or competitive advantage, in the age of industrial revolution depends largely on its tangible assets like machinery, plant, building, and land. As such, many experts have debated the impact of Intellectual Capital on a firm's competitive advantage (Amir and Lev, 1996; Aboody and Lev, 1998; Behn and Riley, 1999; Fahy, 2000; Edvinsson, 2001; Barney, 2001; Kavida and Sivakoumar, 2009; Guthrie et al., 2009; Abeysekera, 2010; Rashid, 2010). However, as discussed in previous parts, there is no regulatory framework for Intellectual Capital disclosure (Cañibano et al., 2000; Wyatt, 2002; Brännström and Giuliani, 2009a). This has led to various insufficient attempts by academics and industry practitioners to develop techniques (such as the Intellectual Capital-Index, Skandia Navigator, Technology Broker, Intangible Assets Monitor, and others) for voluntary Intellectual Capital disclosure (Ahmed and Courtis, 1999; Abeysekera, 2003; Abhayawansa and Abeysekera, 2009; Rashid, 2010).

The mentioned techniques or models are usually considered as too specific for particular types of businesses (Edvinsson and Sullivan, 1996; Bontis, 2001; Mouritsen et al., 2001a; Hassan, 2009); this corroborates Ahmed and Hussainey's (2010) suggestion that the significant differences that exist between respondents' rates on Intellectual Capital indicators are due to different industry sectors involved in the

selected samples. For instance, many studies have been conducted focusing on different sectors such as: IT industry (Bhasin, 2011; Joshi et al., 2011), oil and gas (Patten, 1992), banking (El-Bannany, 2008; Muhammad and Ismail, 2009), health (Lytras and Ordóñez de Pablos, 2009), biotech (Cumby and Conrod 2001; White et al., 2010; Van der Wielen, 2010), fashion industry (Davey et al., 2009), mining industry (April et al., 2003), micro-finance (Kamukama et al., 2011), and others.

It has been established that there is a lack of specific guidelines or regulations aimed at measuring and reporting of Intellectual Capital (Sveiby, 2001; Nazari and Herremans, 2007). In fact, Sveiby (2001) believes that Intellectual Capital measurement is not only difficult but also expensive, as noted by Van der Wielen (2010). According to Sveiby (2001), the major problem with measurement systems is met with the impossibility of quantifying social phenomena with scientific precision. In addition, Van der Wielen (2010) claims that all measurement systems and conventional accounting rely on proxies (dollars, pounds, Euros, and other indicators) that are too far removed from the actual action or event that initiated the phenomenon. According to Sveiby (2001), this fact causes basic incongruity between what managers expect (i.e., promises made by those who develop the measurement method) and the measurement systems' actual ability, making all these systems extremely fragile and easy to manipulate.

Consequently, Sveiby (2001) posits that the first question an individual embarking on Intellectual Capital measurement mission should ask must be: "What is the purpose of measuring initiative?" Sveiby's (2010) update on Intellectual Capital measurement

systems is comprised of 42 methods (Sveiby, 2010), all of which are fraught with one difficulty or another. Therefore, further research on the various difficulties associated with each of the methods of Intellectual Capital measurement should be conducted. Besides, it should be noted that there are several research evidences confirming that Intellectual Capital measurement complexities make its integration into the present accounting framework very difficult (Bontis et al., 1999; Bontis et al., 2000; Bontis, 2001; Holmen, 2005; eBRC, 2006; Ordóñez de Pablos, 2002; Abeysekera, 2011). While accounting standards refuse to approve full recognition and disclosure of the components of Intellectual Capital (Yaghoubi et al., 2010), Holmen (2005) believes that there are accurate methods that can be used. Perhaps this is why Abeysekera (2003) suggests that "a firm's Intellectual Capital can be referred to as a form of 'unaccounted capital' in the conventional accounting standard." Conventional accounting standards recognize primarily distinguishable assets while recognition for some Intellectual Capital related items (such as training and R&D) may be categorized under goodwill (Gelb, 2002; Abeysekera, 2003). If the inconsistencies and fragilities of current Intellectual Capital disclosure practices continue, it is likely that more dichotomous reporting formats will emerge in the industry (Roslender and Fincham, 2001).

Therefore, this part of the research provides a critical review of various studies on voluntary Intellectual Capital disclosure across several countries. Historical aspects of the voluntary disclosure of Intellectual Capital and intangible assets in these countries are also discussed, revealing: the main findings of the studies, the extent of disclosure

in each country, the different techniques applied to measure disclosure, and the determinants of these disclosures (company size, industry, culture, company age, board size, corporate governance, financial performance, market listing, market capitalization, auditor size, and others).

2.4.1 Limitations of Intellectual Capital Reporting

Because of the numerous limitations of existing Intellectual Capital disclosure practices in current financial accounting standards, discussion dominates the industry concerning Intellectual Capital reporting standardization and disclosure mandates (O'Donnell et al., 2001; Novicevic et al., 2002). However, standardization of “soft” intangibles has been very difficult to achieve (Serenko and Bontis, 2004; Nazari and Herremans 2007; Brügger et al., 2009). Besides, since information related to Intellectual Capital is continuously changing, developing a voluntary Intellectual Capital disclosure standard would prove more helpful and flexible when addressing the difficulty for standardization as noted by Brügger et al. (2009). Brennan and Connell (2000) claim that the lack of liberalism of accounting for intangibles signposts the diminishing chance of regulators to develop and advance a standard for Intellectual Capital. Some researchers (Bontis, 2003; Brügger et al., 2009) believe that a procedure for mandated Intellectual Capital disclosure as endorsed by the FASB is unlikely. To reinforce arguments in favor of voluntary Intellectual Capital disclosure, several researchers like Vandemaele et al., (2005), Brügger et al. (2009), and Bhasin (2011) have proposed that restraining asset definition in contemporary accounting regulations and standards is likely to have an

undesirable influence on the decision making process by shareholders and the potential for material misstatement (Wallman, 1995; Vergauwen and Van Alem, 2005; Wyatt, 2008; Cormier et al., 2009).

Although some researchers (Falikhatun et al., 2010) claim that voluntary Intellectual Capital disclosure can have an undesirable effect on potential shareholders' decision-making processes, Brügggen et al. (2009), posit that this is the proper approach for companies to meet stakeholders' needs for the information.

The additional potentially high costs associated with negative outcomes are another possible difficulty with measuring and reporting Intellectual Capital (Van der Meer-Kooistra and Zijlstra, 2001). A competitive disadvantage could result for any firm that publishes competition sensitive information (Brennan and Connell, 2000; Van der Meer-Kooistra and Zijlstra, 2001). While this is not a direct cost, it is undeniably an important factor affecting a firm's operation. Finally, an extensive disclosure of Intellectual Capital might lead to the reduced management flexibility (Vergauwen and Van Alem, 2005).

2.4.2 Advantages of Voluntary Disclosure of Intellectual Capital

In spite of the difficulties surrounding Intellectual Capital disclosure, there are various reasons that firms often prefer disclosing this information. The following have been identified as the advantages of Voluntary Intellectual Capital Disclosure:

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- Reduced Information Asymmetry;
- Reduced Risk of Insider Trading;
- Reduced Cost of Capital or Equity;
- Better Relationship between Employees (or Managers) and other Stakeholders;
- Increased Marketability and Competitive Advantage; and
- Other advantages.

2.4.2.1 Reduced Information Asymmetry

Andriessen (2001) suggests that information asymmetry may create some capital misallocation, resulting in social costs like reduced productivity or unemployment.

Furthermore, according to a study by Brown and Hillegeist (2007), reducing information asymmetry between a firm and external users of information is one of the major reasons for voluntary Intellectual Capital disclosure. Brown and Hillegeist (2007) investigate two of the possible mechanisms by which disclosure quality is believed to reduce information asymmetry:

- Varying the trading incentives of knowledgeable (or informed) and unknowledgeable (or uninformed) investors to cause relatively reduced trading by confidentially informed investors; and
- Reducing the chances that investors get to know about and trade on confidential information.

The results of the study of Brown and Hillegeist (2007) reveal the following:

- A negative association of information asymmetry with investor relations activities and quality of the annual report;
- A positive link between information asymmetry and quarterly report disclosure quality; and
- A negative link between information asymmetry and quality of disclosure is stronger in settings where there are higher levels of firm-investor asymmetry.

2.4.2.2 Reduced Risk of Insider Trading

Additionally, the meagerness of conventional financial accounting does leave the average investor at a kind of disadvantage as compared to knowledgeable (i.e., informed) insiders, ultimately exposing the company to the risk of insider trading (Lev and Zarowin, 1999). Therefore, Intellectual Capital disclosure reduces the risk of insider trader by increasing the information available to the unknowledgeable investors (Lev and Zarowin, 1999).

2.4.2.3 Reduced Cost of Capital or Equity

Certain advantages are believed to be associated with reduced information asymmetry due to additional disclosure; one of these advantages is lower cost of capital (Botosan, 1997; Mangena et al., 2010). However, it has been observed that empirical research on the positive association between increased disclosure and reduced cost of capital is inconclusive (Hail, 2002; Mangena et al., 2010). Reduced cost of borrowing is primarily attributable to stakeholders' ability to better estimate the firm's risk resulting in a higher

number of potential investors (Bontis, 2003; Andriessen, 2001). Additionally, with better assessment and certainty of a firm's future wealth creation skills, the company's share price may increase, ultimately increasing the firm's market capitalization (Isaac et al., 2009; Williams, 2001; Saleh et al., 2010). Furthermore, Intellectual Capital disclosure can assist with increasing the value importance of a financial statement, increasing its relevance (Mouritsen et al., 2001a; Mouritsen et al., 2001b; Vergauwen and Van Alem, 2005). Besides, unwillingness, or failure, to make applicable information about Intellectual Capital available may set a corrosion of the organization's financial position in motion and in the long run cause a loss of competitiveness (Cañibano et al., 2000). Furthermore, investors are faced with technical problems when attempting to accurately weigh a firm's value, especially when resource allocation by means of financial statements does not include Intellectual Capital reporting (Chen et al., 2005; Holland 2006). Additionally, managers may experience difficulties when determining relevant desirable intangible investments for the firm's operations (Holland, 2006; Burgman and Roos, 2007). Therefore, providing appropriate information to managers and others users of financial statements can become imperative (Mangena et al., 2010; Phusavat et al., 2011).

2.4.2.4 Better Relationship between Employees (or Managers) and other Stakeholders

Companies find further motivation to disclose Intellectual Capital information when creating and maintaining credibility with employees and other stakeholders which is of the utmost importance to their business (Neu et al., 1998; Lev and Zarowin, 1999; Van

der Meer-Kooistra and Zijlstra, 2001; Dammak et al., 2010). Circulation of information related to Intellectual Capital might allow a company to prevent rumor- and gossip-induced disadvantages (FASB, 2001; Claessen, 2005; Brügger et al., 2009). Moreover, creation and sustenance of trust is one of the most significant factors in a firm's long-term strategies for growth because trust engenders higher commitment by stakeholders to the future of the firm, particularly in times of trouble (Van der Meer-Kooistra and Zijlstra, 2001; Brügger et al., 2009; Mangena et al., 2010; Curado et al., 2011).

2.4.2.5 Increased Marketability and Competitive Advantage

In addition, reporting Intellectual Capital related information can be used as a strong marketing tool by firms (Coff, 1997; Van der Meer-Kooistra and Zijlstra, 2001; Kavida and Sivakoumar, 2009). Edvinsson (1997) indicates that in most well-established firms (like Intel, Microsoft, and Netscape) considerable differences exist between book value, what he refers to as the hidden values, and market value (Sullivan, 2000; Konar and Cohen, 2001; Wang, 2008). AREOPA (2011) has supported this view in its entire form by developing a model that identifies and quantifies intangibles as subsets of Intellectual Capital (AREOPA, 2011). The AREOPA model serves to measure a firm's return on all the employed capital, providing the assistance to clarify the difference between book value and market value. The AREOPA model also provides guidelines on how and where management should focus on the firm's business to grow its overall Intellectual Capital. This is a development that can be regarded as providing cogent clarification to the arguments that management needs to focus more on developing Intellectual Capital

and intangibles (Fama, 1980; Nonaka 1991; Kaplan and Norton, 1992; Wallman, 1995; Lynn, 1998; Lynn, 2000; Sánchez et al., 2000; Sánchez and Cañibano, 2001; Hurwitz et al., 2002; Stam, 2009). According to AREOPA (2011), Intellectual Capital calculation is a management tool, not a mere financial calculation of intangible assets of the firm, thereby clarifying the difference between book value and market value.

It is management's desire to understand the firm's the Intellectual Capital value which Stewart (1994) calls the "most valuable asset." By attaching a monetary value to Intellectual Capital, management will understand the Intellectual Capital value and its impact (Harrison and Sullivan, 2000). AREOPA's 4-Leaf Model[®] recognizes the sources of value added components and leverage, or competitive advantage, in businesses (Balakrishnan et al., 2010). This is particularly relevant for virtual organizations — networks of otherwise autonomous economic entities — that develop their business models within the confines of the Internet applying small financial assets (AREOPA, 2011). Therefore, it seems certain that these companies can publicly provide evidence of their true worth and abilities to create wealth by disclosing Intellectual Capital information; this may in turn enrich the reputation of a firm (Vergauwen and Van Alem, 2005; Bhasin, 2011).

Bontis (1996) points out that to build a competitive advantage in the "*knowledge economy*" many organizations are increasingly harnessing their experience and expertise. Research has also increasingly confirmed this point of view (Eustace, 2000;

Seetharaman et al., 2002; Martin-de-Castro et al., 2006). Organizations have many reasons to harness their experience and expertise, especially in an era when competent market theory now suggests that a stock's current price already shows the value of any publicly accessible information about a company (Healy and Palepu, 1993; Bontis and Fitz-enz, 2002). Additionally, organizations showing interest in issuance of debt would see increased disclosure as a valid and competitive advantage (Kavida and Sivakoumar, 2009; Solitander, 2011). In contrast, other organizations may see the costs of increased disclosure as being too high (Bontis et al., 2000), and/or unnecessary as largely seen in the case of Australian firms (Guthrie et al., 1999), Indian firms (Bhasin, 2011), and universities in the United Kingdom ("UK") (Bezhani, 2010).

Larger gains accrue from insider trading with businesses that are R&D focused, as pointed out by Lev and Zarowin (1999), as compared to other business types (Brüggen et al., 2009). This probably led some experts to posit that R&D focused firms usually have less liquid markets for their shares (Bosworth and Rogers, 2001; Riegler and Hollerschmid, 2006). Naturally, this indicates that these firms' market liquidity will increase if they embark on more extensive Intellectual Capital disclosure (Bosworth and Rogers, 2001; Riegler and Hollerschmid, 2006). This is one of the most convincing reasons for a firm's decision to disclose, even with the fact that Intellectual Capital measurement is fraught with so much difficulty, as indicated by numerous experts (Bontis, 1998; Bosworth and Rogers, 2001; Claessen, 2005; Wang, 2008; Arvidsson, 2011). According to Wang (2008) and AREOPA (2011), the current trend in the

“*knowledge economy*” is completely antithetical to the long held classical school of economic theory which believes that a nation’s wealth originates from tangible production factors (i.e., labor, land and capital) (Grant, 1996; Eustace, 2000). This means that the tangible production factors can only apply to the Law of Diminishing Returns while continuous investment in Intellectual Capital applies to the Law of Increasing Return (Grant, 1996; Eustace, 2000). In fact, Coy (2001) claims that “the era of ‘hard assets’ supremacy is over, and for good!” Tian and Chen (2009) also support this view. With continuous investment in Intellectual Capital, Wang (2008) claims that the market value of a firm will appreciate and exceed the book value several times since Intellectual Capital remains a firm’s core differentiator and driver.

After critically examining the Initial Public Offering (“IPO”) prospectuses of 68 Danish companies between 1990 and 2001, Bukh et al. (2005) discovered that disclosure of Intellectual Capital in Danish IPO firms is regarded as vital information for investors and is important information for a company’s strategy, as previously claimed by Bukh (2003). However, financial analysts still favor disclosure on strategy more than on Intellectual Capital (Bukh et al., 2005). Besides, risk reduction for both investors and firms is another benefit of Intellectual Capital disclosure (Alwert et al., 2010).

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Saleh et al. (2010) identified the following as the primary motives behind Intellectual Capital disclosure in the Scandinavian countries:

- Communication of corporate culture;
- Business strategy; and
- Future direction for branding purposes.

The secondary motives identified by Saleh et al. (2010) all center around communication of information to stakeholders in order to achieve the following:

- To retain and entice competent employees;
- To retain and encourage consumers of firm's products;
- To organize more synergetic alliances with partners;
- To support societal factors; and
- To manage the sensitivities of the capital market.

2.4.2.6 Other Advantages

There are several other advantages resulting from Intellectual Capital disclosure which are summarized as follows:

- Reduced gap between stakeholders and managers, due to lower information asymmetry and lower agency costs(Cormier et al., 2009);
- Increased transparency, due to the additional voluntary disclosure of intellectual and intangible items (Neu et al., 1998; Lev and Zarowin, 1999; Van der Meer-Kooistra and Zijlstra, 2001; Dammak et al., 2010);

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- Increased confidence in the company, mainly resulting from improved transparency and lower agency costs (Van der Meer-Kooistra and Zijlstra, 2001; Brügger et al., 2009; Mangena et al., 2010; Curado et al., 2011);
- Improved employee morale and tension management, due to the fact that voluntary Intellectual Capital disclosure improves employees' creativity, especially if the purpose of disclosure is control and rewards (Saleh et al., 2010);
- Improved performance, due to lower cost of equity capital, increased marketability, improved competitive advantage, lower agency costs, and improved transparency (Botosan, 1997; El-Bannany, 2008; Mangena et al., 2010; Phusavat et al., 2011);
- Capital accumulation, mainly resulting from improved performance (Bontis, 2003); and
- Lower payback period on investments, due to improved performance and lower cost of equity capital (Curado et al., 2011).

2.4.3 Disadvantages of Voluntary Disclosure of Intellectual Capital

Several studies indicate that disclosure wholly refers to transmission of information to stakeholders, individuals, or bodies that are regarded as external to the firm (Neu et al., 1998; Carroll and Tansey, 2000; Abeysekera and Guthrie, 2004; F-Jardón and Martos, 2009). Although this is merely the most common approach to disclosure, many still view public disclosure of information as a potential problem which is sometimes referred to as Transparency Drawback (Williams, 2001, Bozzolan et al. 2003; Hope, 2003; Boesso and Kumar 2007; White et al., 2007). In fact, most Intellectual Capital disclosure occurs through the annual reports of organizations. These annual reports may be posted on the Internet (Carroll and Tansey, 2000), and/or sent to shareholders (Oyelere and Kuruppu, 2010; Branco et al., 2011). In practice, a variety of discrete levels exists within a

company, with other levels for the outside world; there are two groups in the outside world are (Van der Wielen, 2010):

- The privileged relationship that an endorsed analyst has with the company; and
- The final disclosure level to website visitors.

Regardless of the two disclosure levels, there are disadvantages that come with disclosure itself (Van der Wielen, 2010). Practitioners are sometimes wary of making a higher level of disclosure available because this results in more information being revealed that can unintentionally empower competitors (Depoers, 2000; Falikhatun et al., 2010). For example, Van der Meer-Kooistra and Zijlstra (2001) believe that such disclosure can result in easy manipulation of Intellectual Capital. The thought of intangibles might not even occur to management during disclosure; this is a situation that can result, to some degree, in splitting of line items when disclosure of intangibles is considered (Van der Wielen, 2010). Furthermore, under-pricing, a direct cause of raising capital, is one consequence of information asymmetry (Singh and Van der Zhan, 2007; Van der Wielen, 2010). In fact, Singh and Van der Zhan (2007) find a positive connection between underpricing and the level of Intellectual Capital disclosure. Their empirical analysis suggests that it is possible that issuers do not apply Intellectual Capital disclosures effectively to reduce their cost of capital. Instead, issuers apply Intellectual Capital disclosures as a strategy to complement under-pricing (Singh and Van der Zhan, 2007). In addition, Tayles et al. (2002) suggest that policymakers may need to consider the introduction of minimal uniform Intellectual Capital disclosure

requirements which they believe will help prevent the development of a speculative IPO market as Intellectual Capital becomes more important in a firm.

Finally, there are legal constraints and requirements in accounting and reporting standards, in addition to traditionalism practiced by auditors in some countries (a consequence of litigation and reputation risk) which may hamper Intellectual Capital disclosure by firms and may result in decreased Intellectual Capital disclosures (Vergauwen and Van Alem, 2005; Van der Wielen, 2010). These regulatory barriers are often imposed by potential legal claims if private information is exposed to the public (White et al., 2007). Countries where regulatory barriers (or regulatory initiatives) exist include the following (White et al., 2007):

- Austria i.e., legislation for Intellectual Capital disclosure by all universities owned by states;
- France i.e., the legislation constituting a part of its Nouvelles Régulations Économiques for companies with high market capitalization; and
- UK i.e., the legislation for implementing operating and financial review statements; it was repealed in 2006 and now requires just a “business review.”

2.4.3 Determinants of Intellectual Capital Disclosure

There are evidences that Intellectual Capital plays an increasingly important role in strengthening competitive advantages and generating corporate value (Bollen et al., 2005). Consequently, many businesses are increasing investments in Intellectual Capital (Bollen et al., 2005). With an increasing significance of Intellectual Capital in the

“*knowledge economy*” (Caddy et al., 2001), but insufficient information and/or proof on Intellectual Capital related assets in many firms’ financial statements (Caddy, 2000), some researchers contend that the applicability of these statements (i.e., the traditional financial statements) has decreased over the years (Brüggen et al., 2009).

Other researchers, like Arvidsson (2011), even posit that the increasing significance of Intellectual Capital disclosure is both regulatory and demand driven. However, presently, the most commonly used and widely accepted accounting standards do not call for Intellectual Capital recognition in the financial statements. Furthermore, a comparatively few number of businesses consider disclosure of Intellectual Capital in their annual reports (FASB, 2001). To explain a company’s obligation to disclose, Guthrie et al. (2004) refer to the stakeholders and legitimacy theory. Cambell (2000) also comments on the debate that surrounds various clarifying theories for the voluntary social disclosure phenomenon, noting that two descriptive theories emerge from the body of literature; these two theories which are most conspicuous and widely applied are legitimacy theory and political economy of accounting explanations. Cambell (2000) claims that the legitimacy theory and political economy of accounting explanations are congruous with stakeholders' understanding of the relationship between the organization and society. From a prudent stakeholder's viewpoint, voluntary disclosure of information is a core duty of a company Cambell (2000). Whether the stakeholders will put the disclosed information to use is at their sole discretion Cambell (2000).

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When considering the ethicality of disclosure, Dammak et al. (2010) explain that according to the stakeholder theory rubric, the company is expected to provide a good measure of fair treatment to its stakeholders. On the other hand, the managerial perspective maintains that stakeholders can have and exercise their power over an organization regarding the level to which they control resources that are vital to the organization (Van der Wielen, 2010; Arvidsson, 2011). According to Saleh et al. (2010), the legitimacy theory clarifies disclosure decision as a company meeting some expectations of society. This is usually accomplished by a “social contract” containing a set of expectations and/or established beliefs of the surrounding communities on the company’s decisions and actions (Saleh et al., 2010). These expectations and beliefs are believed to vary over time. Therefore, the overall effect of all of these foregoing theories has occasioned a growing level of information irregularities between companies and those who use financial statements (Brüggen et al., 2009).

While numerous studies (Lang and Lundholm, 1993; Botosan, 1997; Neu et al., 1998; Ahmed and Courtis, 1999; Hope, 2003; Abdolmohammadi, 2005; Hassan, 2009; Joshi and Ubha, 2009; Bhasin, 2011; Van der Wielen, 2010; White et al., 2010) have made attempts to estimate the extent to which firms take their voluntary Intellectual Capital disclosure, Brüggen et al. (2009) indicate that there is varied proof on the factors that determine voluntary Intellectual Capital disclosure by many firms. Even with the increasing body of research on Intellectual Capital and Intellectual Capital disclosure, Brüggen et al. (2009) claim that there is still a scarcity of explicit results on the

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determinants of Intellectual Capital disclosure. This is the foundation for the research by Brügger et al. (2009) in which a sample of 125 publicly traded Australian firms was examined. The purpose of their study, using content analysis technique, is to explore the determinants of firms' decision to disclose Intellectual Capital in their annual reports. The contents of annual reports of the companies over a period of three years (i.e., 2002 to 2004) were analyzed. Brügger et al. (2009) discover that industry type plays a major role in the determination of Intellectual Capital disclosure as well as intellectual property disclosure of firms in Australian company's annual reports. An interesting finding in Brügger et al.'s (2009) research, in contrast to previous findings (Brown and Hillegeist, 2007; Singh and Van der Zhan, 2007) from research and conjectural predictions of voluntary Intellectual Capital disclosure, found no correlation between the level of information asymmetry and disclosure of Intellectual Capital (Brügger et al., 2009).

A study by Raffournier (1995) was aimed at relating the extent of disclosure in the annual reports of Swiss listed firms to probable Intellectual Capital disclosure determinants representing costs associated with agency and politics. Raffournier (1995) chose Switzerland because before the application of the Swiss New Company Law on 1 July 1992, there were comparatively very few disclosure requirements, allowing a major part of the annual report content to be well thought out as voluntarily disclosed.

Raffournier's (1995) sample was composed of the 1991 annual reports of 161 commercial and industrial businesses. In the study by Raffournier (1995), the level of disclosure was quantified using an index based on information whose disclosure is

obligatory as provided by the Fourth and Seventh EU Directives. The research is extensive, to some extent, at least regarding application of independent variables such as company size, profitability, advantage, ownership structure, auditor's size, internationality, fixed assets percentage, and industry type (Raffournier, 1995). All relations were weighed using univariate and multivariate regressions (Raffournier, 1995). A major finding of the study shows that company size and internationality play a key role in the Intellectual Capital disclosure policy of firms; with large and internationally differentiated companies showing a tendency and willingness to disclose more pertinent information than the small purely domestic businesses (Raffournier, 1995).

In a study by Aljifri and Hussainey (2007) aimed at empirically exploring the fundamental factors that may have an impact on the level at which Intellectual Capital related information is disclosed by companies in the UAE, 46 companies listed in both in the Abu Dubai Securities Exchange ("ADX") and Dubai Financial Market ("DFM") were examined (Aljifri and Hussainey, 2007). The sample comprises of 74 percent of all companies listed in DFM and Abu Dhabi Securities Market ("ADSM") at the end of fiscal year 2004. Measurements applied are as follows:

- Company size equals natural logarithm of the sales of company;
- Debt ratio equals total debt divided by total assets;
- Profitability equals net income divided by net sales;
- Auditor size equals one if the audit firm is among the Big 4 and zero if not; and

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- Industry variables are measured using a set of four dummy variables.

A backward regression method was applied to carry out the statistical regression (Aljifri and Hussainey, 2007). Results revealed that debt ratio and profitability are significant in determining the extent of Intellectual Capital disclosure (Aljifri and Hussainey, 2007). On the contrary, results showed that firm size, sector type, and auditor size have no significant association with the level of Intellectual Capital disclosure in the UAE annual reports (Aljifri and Hussainey, 2007).

Another study by Chu et al. (2011) involving Chinese listed firms investigated whether Intellectual Capital can affect the financial facets of companies' performance. This study also sought to identify the Intellectual Capital components that are related to corporate financial performance pointers that reflect organizational growth (Chu et al., 2011). The study focused on financial data sourced from publicly accessible annual reports from all the companies (in total, the researchers utilized 333 company-year observations from published annual reports) featured by subcomponent of the Hong Kong Stock Exchange (i.e., the Hang Seng Index) for the financial years 2001 to 2009 (Chu et al., 2011). The methodology called VAIC™ is a group of regression models as explained and applied by Zéghal and Maaloul (2010). VAIC™ was applied to study the links between Intellectual Capital and the corporate financial performance indicators; evidence proposes that Intellectual Capital was positively connected to profitability of the studied firms. Similar results have been recorded by other studies (Ittner and Larcker, 1998; Behn and Riley, 1999; Shiu, 2006; Al-Halak et al., 2010; Zéghal and Maaloul, 2010).

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Above all, Structural Capital, a major component of Intellectual Capital, played a prominent role in increasing corporate profitability, and indicated an upward trend in the relevance of Intellectual Capital disclosure (Chu et al., 2011). Practical results, using correlation and linear multivariate regression analysis showed that the modules of VAICTM were robust predicting factors for corporate financial performance (Chu et al., 2011). More importantly, Capital Employed Efficiency (“CEE”) was revealed as a noteworthy predicting factor for all the four corporate financial profitability indicators.

Despite these results, indicating the reliability of VAICTM, Maditinos et al. (2011) found an entirely different result when they applied VAICTM methodology; it failed to give coherent results. Therefore, Maditinos et al. (2011) raised the criticism on the effectiveness of VAICTM methodology, asking questions concerning its reliability and casting doubts on whether VAICTM methodology correctly define the firm reality and whether Intellectual Capt affects Firm Financial Performance and market value or not. In addition, Maditinos et al. (2011) question whether the VAICTM requires upgrading and adjustments to better and accurately reflect the business landscape.

It is even noteworthy that Shiu (2006) noticed negative correlation between Intellectual Capital and productivity while Murthy and Mouritsen (2011) concluded that correlation between Intellectual Capital and financial capital is challenging to identify because Intellectual Capital and financial capital are complementary rather than causal. In his research, Shiu (2006) also applies VAICTM methodology like Chu et al. (2011) to

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measure “value creation” efficiency of companies, examining its correlation with corporate performance utilizing the 2003 annual report of 80 companies from the technology listed on Taiwan market. The researchers use modified VAICTM model, and applications reveal:

- Significant positive correlation of the index of VAICTM with profitability (ROA) and market valuation; and
- Negative correlation of index of VAICTM with productivity.

Shiu's (2006) findings indicate that Taiwan's technological industry will be able to transform Intellectual Capital to high value-added products or services. Furthermore, VAICTM tests and corporate performance measurements suggest that there are some time lag relationships between the two (Shiu, 2006). Furthermore, Murthy and Mouritsen (2001) claim that financial capital not only affects, but also is a vital factor, since the development of Intellectual Capital occurs through the company's budgeting processes. Similarly, Wang's (2011) conclusion that there is insignificant relationship between Structural Capital and Firm Financial Performance is in total contrast with Chu et al.'s (2011) findings.

In Mainland China, Yi and Davey (2010) used content analysis to construct a comprehensive Intellectual Capital disclosure index to code the annual reports of 49 listed companies. Their findings reveal that most of reported attributes of Intellectual Capital are still stated in discursive terms rather than monetary or numerical. The mean

number of items reported is substantial, suggesting a high level of awareness of the significance of Intellectual Capital disclosure (Yi and Davey, 2010). Although their findings do not suggest high disclosure quality, the findings do indicate that the companies demonstrate a modest commitment to communicate their Intellectual Capital information to an external audience (Yi and Davey, 2010). With these mixed results, it is crucial to conduct more studies about the reliability of the tools and methodologies applied in measuring Intellectual Capital, as there seems to be insufficient research in this direction.

The reliability of Value Chain Scoreboard™ developed by Lev (2001) should also be investigated. Although attempts are being made by researchers to develop an integrated framework for Intellectual Capital disclosure (González-Loureiro and Dorrego, 2010; Curado et al., 2011), there is no clear evolution yet.

Mouritsen's (1998) research compared and contrasted EVA™ and Intellectual Capital. Mouritsen (1998), concluded that from the viewpoint of Intellectual Capital, EVA™ is a complete misrepresentation of the future, suggesting that EVA™ and Intellectual Capital contrast significantly. EVA™ is a financial management system that centers on radical allocation plus 'empowerment' and which thus draws more attention to the management-generated results (Mouritsen, 1998). Establishing its basis from the financial micro-theory, EVA™ is a measure of a firm's performance that tries to account more appropriately for the cost of capital (Mouritsen, 1998). Beyond this definition,

EVA™ is also applied as a management control tool that seeks to create radically self-regulating business units and reduce corporate staff (Mouritsen, 1998). Therefore, Mouritsen (1998) maintained that while EVA™ considers managers as the change movers, Intellectual Capital appears to encourage employees' creativity more methodically.

In their research, which covers a 10 year period (1994 to 2004), on the financial sector's leading firms across nine Western European countries (France, Spain, UK, Germany, Netherlands, Italy, Norway, Denmark, and Sweden), Li et al. (2006) applied the content analysis approach to disclosure indices and word count to examine the type, volume, and focus of Intellectual Capital related information in annual reports. Studying these top ranked Western European companies (based on size, performance, and other parameters), Li et al.'s (2006) research has four important goals:

- To explore Intellectual Capital reporting practices in the firms under study, utilizing content analysis to examine whether there are differences regarding variety and extent of Intellectual Capital reporting in annual reports of corporate firms;
- To examine the differences between various measurements of Intellectual Capital disclosure for the companies under study;
- To put forward the suggestions that provide explanations to the differences observed across the sample countries; and
- To explore the variation within a major bank in the UK regarding Intellectual Capital reporting practices over a period of 10 years.

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The findings of Li et al. (2006) can be summarized as follows:

- Form of Intellectual Capital disclosure index does not have considerable effect on Intellectual Capital sample rankings and is largely congruent with Intellectual Capital word count rankings;
- While using focus measure (i.e., Intellectual Capital related word count), ranking results are largely varied among the sampled companies. Therefore, the observed difference is largely attributable to the fact that company size is positively correlated to Intellectual Capital disclosure; and
- A highly significant variation is evident in Intellectual Capital using the time series analysis of Intellectual Capital disclosure practices in a UK based bank over a 10-year period. A strong movement is seen in Intellectual Capital content; movement is from Human Capital to Relational Capital.

Similarly, in his research on American firms, Abdolmohammadi (2005) utilized the Intellectual Capital components as elements of analysis to examine the annual financial reports of 58 Fortune 500 firms between 1993 and 1997. Studying these top ranked 58 American companies, Abdolmohammadi's (2005) research aims to:

- To develop a descriptive framework of Intellectual Capital components in each company's annual reports; and
- To examine the impact of Intellectual Capital disclosure on market capitalization.

The findings of Abdolmohammadi (2005) can be summarized as follows:

- Frequency of information disclosure concerning companies' brands and proprietary processes has become greater than before over the five-year period;
- Considerable differences exist between the "past" or "old" and "present" or "new" economy sectors regarding Intellectual Capital aspects of brand and partnerships. "Old" economy sector has more disclosure than the "new" economy sector; and
- Results show a highly considerable effect for the disclosure of Intellectual Capital on market capitalization.

Li et al.'s (2006) and Abdolmohammadi's (2005) results described above are similar to that of Guthrie and Petty's (2000) in their study of the top 19 Australian firms plus one other company that prides itself as being a role model of best practice in the area of Intellectual Capital reporting over a period of 18 years. Guthrie and Petty (2000) applied content analysis which involves reading out the annual report of each firm and codifying the content in line with a particular framework of Intellectual Capital indicators originally derived from various professional pronouncements on Intellectual Capital. Guthrie and Petty (2000) modified the professional Intellectual Capital framework to better represent items that are likely to be disclosed by Australian firms (Mouritsen et al., 2001a; Mouritsen et al., 2002). After the modifications, 24 variables remained (Guthrie and Petty, 2000). Findings by Guthrie and Petty (2000) reveal that Intellectual Capital elements are not articulated expansively and are considered in a qualitative rather than

quantitative manner. Furthermore, it is clear that explicit framework for Intellectual Capital disclosure is not yet established.

Vuontisjarvi (2006) and Calisir et al. (2010) had similar findings in Finland and Turkey respectively. Vuontisjarvi's (2006) study, using content analysis method, focuses on the annual reports of the largest Finnish companies for the year 2000. Calisir's (2010) study on the other hand uses VAICTM index to compare the Intellectual Capital efficiency of quoted IT and communication firms on the Istanbul Stock Exchange ("ISE"). Additionally, Calisir's (2010) study examines VAICTM, and the impact of its components on company performance. The study by Calisir (2010) applies multivariate regression analysis to identify the variables that contribute largely to company performance, applying annual reports and balance sheets from 2005 – 2007 of the studied companies to calculate VAICTM and obtain its components.

Several similar studies have been conducted in various countries employing the same or slightly different procedure as Li et al. (2006), such as the studies by Sujan and Abeysekera (2007) and Van der Wielen (2010). Each of these studies points out that the framework for Intellectual Capital disclosure is inconsistent, including external capital disclosure. Additionally, these studies also indicate differences regarding the extent of Intellectual Capital disclosure across companies. For instance, according to Brennan (2001), Intellectual Capital related elements in the sample of 11 contemporary (i.e., knowledge-based) Irish-listed companies are disclosed less often than those in

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Guthrie and Petty's (2000) sample. Nonetheless, the sample used by Brennan (2001) is very small; consequently, caution must be exercised when considering the results.

Similarly, different sizes of Intellectual Capital types (External Capital, Internal Capital and Human Capital) are found in Sri Lanka as opposed to the ones in Brennan's (2001) study. The study by Brennan (2001) established a link between mission statements and their role in the Human Capital construct (Bart, 2001). According to Brennan (2001), the mission statement could play a vital role in measurement and disclosure of Intellectual Capital. Essentially, each study applies the same framework, but the results differ; this may be attributed to differences in sample sizes, time, and prevalent regulations specific to each country and culture.

Sonnier et al. (2009) considered a sample of 143 high-technology companies in the US; content analysis is carried out on Part I of the fiscal years 2000 and 2004. Sonnier et al. (2009) used the Security and Exchange Commission ("SEC") Form 10-K of each company to determine the presence of transposed connections between the company size and age and the level of Intellectual Capital disclosure. Results show weak inverse correlation between the number of employees and Intellectual Capital disclosure level on one hand and between total assets and Intellectual Capital disclosure level on the other hand (Sonnier et al., 2009). A considerable inverse correlation is seen between the age of a company and its Intellectual Capital disclosure level (Sonnier et al., 2009). Multivariate regression provides sufficient support indicating that the age of a company is a strong predictor of Intellectual Capital disclosure level (Sonnier et al., 2009).

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Therefore, it is suggested that young firms seem to be applying increased disclosure to send a signal regarding their real value and prospects to the market (Sonnier et al., 2009).

In another study based on 401 firms from six countries, belonging to common law countries (Canada, UK, and USA) and code law countries (France, Germany, and Japan), Jaggi and Low (2000) measured Intellectual Capital disclosure for the fiscal year 1991 using a disclosure index designed by the Center for International Financial Analysis and Research ("CIFAR") in 1993 (Jaggi and Low, 2000). According to variables of legal system, multi-nationality, and cultural values, other variables included in the analysis are as follows: firm size, market capitalization, and debt ratio as a proportion of Gross Domestic Product ("GDP") (Jaggi and Low, 2000). Findings suggest that culture plays a role in Intellectual Capital management and reporting (Jaggi and Low, 2000). In addition, results indicate that firms from common law countries are favorably disposed to higher financial disclosures when compared to their code law countries' counterparts (Jaggi and Low, 2000).

Using the content analysis method, Bontis (2003) discovered that, compared to their Scandinavian counterparts, Canadian firms have a lower Intellectual Capital disclosure rate. His research differs from previous studies that investigated Intellectual Capital disclosure practices. This is because Bontis (2003) did not limit the sample size; he vastly increased the number of firms studied to 10,000 (propelled by market

capitalization plus profits) and expanded the sample beyond knowledge-based companies in Canada.

Halim (2010) presented interesting results after studying the correlation between Intellectual Capital, using its three categories (i.e., Human, Structural, and Relationship capital), and its various indicators in a sample comprised of 42 German Small and Medium Entities (“SMEs”) and 25 SMEs from Germany, France, Slovenia, Poland, and Spain. Halim (2010) applies Structural Equation Modeling (“SEM”) and Sensitivity Analysis to measure the correlation between the different components of Intellectual Capital and their indicators. SEM is regarded as multiple-equation regression representations in which the response variable in a regression equation can be featured as a clarifying variable in another equation. Halim’s (2010) findings reveal that only investor relationship) out of 15 indicators did not show positive correlation to its capital (i.e., Relationship Capital).

In the UK, Williams (2001) investigated annual reports of 31 FTSE 100 listed firms (from several industry groups) over a period of five years from 1996 to 2000. FTSE 100 Index or FTSE or FTSE 100 is the share index of the UK’s 100 most highly capitalized firms listed on the London Stock Exchange (“LSE”). He discovered some noteworthy differences in the extent of Intellectual Capital disclosure among firms. Williams (2001) also discovered that corporate-specific factors like industry exposure, leverage, and listing status all positively influence the extent of Intellectual Capital disclosure.

Using Brooking's (1997) model (designed to place a definitive dollar value of a company's Intellectual Capital) for developing Intellectual Capital disclosure index, Beaulieu et al. (2002) examined the size of Intellectual Capital in 30 random samples of Swedish listed firms. Brooking's (1997) model is also referred to as "Technology broker" which divides reporting among four conceptual variables: human assets, market assets, intellectual property assets, and infrastructure assets. Significant differences are seen in the extent of Intellectual Capital disclosure among the studied firms (Brooking, 1997). In addition, the study reveals that there is a positive association between the size of a firm and the amount of disclosure of Intellectual Capital (Brooking, 1997). In Saudi Arabia, Alsaeed's (2006) findings from his content analysis (i.e., with a set of 20 voluntary items) study of the 2003 annual reports of 40 firms (equaling 56 percent of Saudi Arabia's incorporated firms as at the time of study) favor such an association, revealing that firm size significantly correlates positively with the level of disclosure (Alsaeed, 2006). Aljifri and Hussainey (2007), on the other hand, do not share this view; their findings show no significant association between firm size, auditor size, and sector type with the level of Intellectual Capital disclosure in UAE annual reports.

Bozzolan et al. (2003) examine the annual reports of 30 non-financial companies listed on the 2001 Italian Stock Exchange using content analysis method. They apply a slightly modified version of Guthrie and Petty's (2000) framework as described above. Findings reveal that company size (with 'high profile' industries disclosing more than

'low profile' industries) and industry type (with high-tech companies disclosing more) both influence the extent or amount of Intellectual Capital disclosure in Italian companies (Bozzolan et al., 2003).

Looking critically at the various arguments as stated by these studies and as contained generally in literature concerning the limitations of each study, Brügger et al. (2009) claim that the determinants of Intellectual Capital disclosure are unclear. Brügger et al. (2009) propose that industry type remains a key factor for Intellectual Capital disclosure, pointing out further that Intellectual Capital is more important in some industries (i.e., usually large-sized companies) than others (i.e., usual small-sized companies) and can therefore be regarded as value-relevant for investors. In India, Intellectual Capital disclosure is perceived as insignificant not only in the IT sector (Bhasin, 2011) but in other sectors as well (Singh and Kansal, 2011).

In view of these various arguments and studies discussed above, the following can be deduced as determinants of voluntary Intellectual Capital disclosure:

- Firm Size
- Firm Industry/Sector
- Firm Performance
- Ownership Structure
- Culture/Nationality
- Auditors
- Culture/Nationality

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- Company Age
- Economic Conditions
- Time
- Other Factors

2.4.3.1 Firm Size

Several proxies have been used to measure firm size including asset size, number of employees, revenues, market capitalization, and others. Several studies regarding the relevance of firm size to Intellectual Capital disclosure have been conducted (Hossain et al., 1995; Andrew et al., 1989; Ahmed and Courtis, 1999; Robb et al., 2001; Firer and Williams, 2003; Brügger et al., 2009; Chan, 2009a; Chan, 2009b; Sonnier et al., 2009). Most of the studies report a positive correlation between firm size and level of Intellectual Capital disclosure (Hossain et al., 1995; Botosan, 1997; Ahmed and Courtis, 1999; Deopers, 2000; Garcia-Meca and Martinez 2005; Alsaeed, 2006; Brügger et al., 2009) while others report little relevance between firm size and level of Intellectual Capital disclosure (Sonnier et al., 2009). However, some studies are reporting that there is no significance (Bukh, 2003; Bukh et al., 2005; Hassan, 2009; Bhasin, 2011). Major limitations of these studies however include the following:

- Content Analysis: Annual report analysis, based on the specified list of Intellectual Capital related terms, may not provide an accurate or sufficient picture of the Intellectual Capital disclosure practices as found in the limitation of the research conducted by Brügger et al., (2009);

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- Small Sample Size: A small size may not provide valid and reliable statistically significant relation between firm size and Intellectual Capital disclosure (Bozzolan et al., 2003); and
- Bias in Sample Selection: Most of the studies mentioned earlier select their samples from the largest firms in the individual population. This indicates that sample selections are based on the pre-stated assumption that larger firms will show a larger extent of disclosure than smaller ones. That is, each of these studies simply conjectured or rather assumed “. . . that smaller firms will imitate the larger ones by yard-sticking their voluntary Intellectual Capital disclosure practices against those applied by larger firms” (Bozzolan et al., 2003). Conversely, with firms’ growth, proactive behavior demands that managers respond by making some adjustments regarding their attention to determining vital goals (Barney, 2001). The fundamental postulation of these aforementioned studies leaves a one-sided view that the smaller and younger businesses in a specified population disclose at either a higher level or a lower level in their annual reports than the larger and older counterparts belonging to the same population (Bozzolan et al., 2003). If companies of all sizes were included in these studies this limitation would have been addressed (Bozzolan et al., 2003). However, this has been sparingly considered by a few of these studies (i.e., Sonnier et al., 2009). Main outcomes of studies on the relevance of firm size to Intellectual Capital disclosure are also varied. Firm size plays a major role in Intellectual Capital disclosure according to Brügggen et al. (2009), while weak inverse associations were discovered between number of employees and Intellectual Capital disclosure level (Sonnier et al., 2009).

2.4.3.2 Firm Industry/Sector

Reliance on technology, continual innovation, and emphasis on employee skills and knowledge are the factors that drive performance in most successful companies in

today's knowledge economy; however, focus has totally changed from physical assets, such as manufacturing plants and machinery, to Intellectual Capital and intangible assets (Wang, 2008; AREOPA, 2011). Muhammad and Ismail (2009) claim that forward-looking firms have realized that intangible and intellectual factors are an integral part of their entire performance. This realization led Muhammad and Ismail (2009) to study the efficiency of Intellectual Capital and its performance in the financial sector of the Malaysian economy. Based on the year 2007 data sourced from 18 firms in the Malaysian financial sector, results indicate that banks rely on Intellectual Capital more than insurance companies (Muhammad and Ismail, 2009). Likewise, insurance companies rely more heavily on Intellectual Capital than do insurance brokerage firms (Muhammad and Ismail, 2009). Consequently, Muhammad and Ismail (2009) concluded that Intellectual Capital is positively associated with industry/sector, having more effect on banking sector than insurance.

Industry type is believed to play a major role in determining Intellectual Capital disclosure in annual reports (Robb et al., 2001; Brügger et al., 2009; Ahmed and Hussainey, 2010), while findings from the study carried out by Bhasin (2011) reveal otherwise. Other findings with positive reports include the works of Cormier and Magnan (2000).

2.4.3.3 Firm Performance

Positive correlation exists largely between Intellectual Capital disclosure and organizational performance especially with respect to boosting a firm's competitive advantage (Hall, 1993; Sullivan, 1999; Bharadwaj, 2000; Cormier and Magnan, 2000; Lundholm and Myers, 2002; Bollen et al., 2005; Garcia-Meca and Martinez, 2005; Martin-de-Castro et al., 2006; Longo et al., 2009; Cheng et al., 2010; Mangena et al., 2010; Chu et al., 2011; González-Loureiro and Teixeira, 2011; Maditinos et al., 2011; Kamukama et al., 2010; Kamukama et al., 2011; Phusavat et al., 2011; Vafaei et al., 2011). According to Sonnier et al. (2009), a weak inverse relationship exists between Intellectual Capital disclosure and total assets. Besides, debt ratio and profitability significantly affect Intellectual Capital disclosure level (Sengupta, 1998; Aljifri and Hussainey, 2007). Furthermore, St-Pierre and Audet (2011) and Huang et al. (2010) found that Firm Financial Performance is strategy-specific. Proxies used to measure company performance in these studies include; profit (ROA), total assets, debt ratio, and stock market listing status. Besides, In Jordan, Sharabati et al. (2010) found significant statistical relationship to prove the existence of a relationship between Intellectual Capital Disclosure and Firm Financial Performance within the pharmaceutical sector. Contrary to positive association largely reported between profitability and Intellectual Capital disclosure level, some studies report that there is a negative association between the profitability and Intellectual Capital Disclosure (Ahmed and Courtis, 1999).

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While findings from Muhammad and Ismail (2009) reveal that Intellectual Capital disclosure has significant and positive correlation with Firm Financial Performance in terms of profitability (ROA), Botosan (1997) admits that the effect of Intellectual Capital disclosure extent on the cost of equity capital is also an issue of considerable importance to the financial community. Furthermore, Botosan (1997) claims that the relationship between the extent of Intellectual Capital disclosure and cost of equity capital remains undefined, as it has been difficult to establish. Botosan (1997) examined the relationship between the Intellectual Capital disclosure and cost of equity capital using a regression analysis of firm-specific assessments of cost of equity capital on a set of variables, including market beta, firm size, and Intellectual Capital disclosure levels. Botosan's (1997) sample comprised of 122 New York Stock Exchange ("NYSE") listed manufacturing firms; the 1991 annual report of each of the companies was analyzed. The results of Botosan (1997) indicate that higher disclosure level is associated with lower cost of equity capital which confirms Mangena et al. (2010) findings. Additionally, no significant relevance was indicated between disclosure level and higher cost of equity capital (Botosan, 1997). Mangena et al.'s (2010) findings further reveal that firms practicing enhanced disclosures for both Intellectual Capital and financial disclosures enjoy more benefits with regard to lower cost of equity capital. On this account, they suggest that Intellectual Capital and financial disclosures can be regarded as complementary. Furthermore, Sonnier et al. (2007) also examined the connection between extent of disclosure of Intellectual Capital by management and financial performance for high-tech firms in the US. The results support a statistically

significant negative correlation between the level of Intellectual Capital disclosure and measures of profitability (Sonnier et al., 2007). However, Sonnier et al. (2007) did not include companies in traditional industry sectors (i.e. low-tech companies) in the studied sample.

Most findings reported in the literature and various studies regarding firm's performance in relation to Intellectual Capital disclosure share common limitations. The first limitation is related to measurement issues. Intellectual Capital related information concerning voluntary financial information were mostly quantified using a two-way approach (Milne and Adler., 1999; Hitt et al., 2001; Balakrishnan et al., 2010) which is insufficient to differentiate companies based on the provided detail for each item (Petty et al., 2009; Mangena et al., 2010; Yi and Davey, 2010). Additionally, most procedures involve the application of judgment or subjectivity (Scott, 1955; F-Jardón and Martos, 2009), whether the information-carrying item under consideration is indeed germane to the business (Abhayawansa and Abeysekera, 2009; Rashid, 2010). Judgment must also be used when deciding which category best suits the information-carrying item (Rashid, 2010). However, some of the studies (Pike and Roos, 2000; Roos et al., 2001; Dammak et al., 2010; Mangena et al., 2010; Rashid, 2010) have recognized some of these limitations, but on the whole, the limitations are still present. For instance, regarding the measurement of cost of capital, the study by Mangena et al. (2010) applied only the equity capital and not debt, ensuring that the cost of capital used does not give a full

picture of the firm's status, to prevent over exposure of the firm to competition (Harvey and Lusch, 1999).

Second, several studies used annual reports to measure Intellectual Capital disclosure (Guthrie et al., 1999; April et al., 2003; Barako et al., 2006; Li et al., 2006; Vuontisjarvi, 2006; Aljifiri and Hussainey, 2007; Schleicher et al., 2007). While research-based evidences are available to justify the application of annual reports and IPO prospectuses in measuring Intellectual Capital disclosure, it is very possible that because the reported information in annual reports is not unknown per se, its applicability for investors is restrained (Lev et al., 2005; Li et al., 2006; Mangena et al., 2010; Van der Wielen, 2010). As a result, the extent to which the disclosed information in the annual report affects the cost of capital may also be limited (Lev et al., 2005; Li et al., 2006; Mangena et al., 2010; Van der Wielen, 2010).

2.4.3.4 Ownership Structure

A study by Cordazzo (2007) reveals that intangibles and Intellectual Capital disclosure is increasing in Italian IPOs; the findings of a similar study (Bukh et al., 2005) are exactly the same. Therefore, the two studies conclude that company size and pre-IPO managerial ownership are related to disclosure of Intellectual Capital related information (Bukh et al., 2005; Cordazzo, 2007). Furthermore, publicly listed companies, which are more closely owned, are less likely to consider voluntary disclosure of Intellectual Capital than their counterparts who have more diffused ownership structure (Firer and

Williams, 2003). Besides, companies with a higher level of executive director ownership are less disposed to voluntary disclosure of Intellectual Capital related information than their counterparts with smaller holding executive directors (Firer and Williams, 2003). In addition, government linked companies are likely to make more voluntary Intellectual Capital disclosure than those without government links (Firer and Williams, 2003). Singh and Van der Zhan (2007) examined the correlation between Intellectual Capital disclosures and under-pricing among Singapore IPOs, with a secondary aim of elaborating on the research by Bukh (2003) about Intellectual Capital disclosures by Danish IPOs. Singh and Van der Zhan (2007) hypothesis was based on the concepts of *ex ante* uncertainty and information asymmetry to empirically examine 334 Singapore IPO prospectuses from 1997 to 2004. Singh and Van der Zhan's (2007) findings show a positive correlation between under-pricing and the level of disclosure. Further findings reveal positive cross-market's broader industry base correlation, with the strongest correlation found among IPOs that rely more on Intellectual Capital resources (Singh and Van der Zhan's, 2007). This research is particularly limited because its focus is limited to Singapore IPOs, and within a short period of time (1997-2004). Furthermore, it concentrates on just one mechanism of disclosure (i.e., IPO). Singh and Van der Zhan (2007) then suggest that issuers may not apply Intellectual Capital disclosures appropriately to reduce their cost of capital (Hail, 2002). Instead, they apply Intellectual Capital disclosures as a complementary strategic tool to under-pricing (Hail, 2002).

2.4.3.5 Auditors

Auditors' attitude or perception is relevant according to some studies (Clarkson et al., 2003). Ahmed and Hussainey (2010) reveal mixed findings from their study of the perception of Egyptian firms' auditors and managers on Intellectual Capital disclosure. According to Ahmed and Hussainey (2010), significant differences of response rates exist across the study's participating firms regarding Intellectual Capital disclosure indicators. These differences are seen because of different industry sectors contained in the sample (Ahmed and Hussainey, 2010). An interesting finding is that companies listed on the Egyptian stock market neither measure nor report any of the indicators of Intellectual Capital in their annual reports (Ahmed and Hussainey, 2010). Furthermore, results show that auditors' responsibilities for reporting Intellectual Capital are ambiguous (Ahmed and Hussainey, 2010). On the other hand, work experience is the major determining factor of managers' perceptions of Intellectual Capital indicators, while professional education is the major determinant of external auditors' perceptions of intellectual indicators (Ahmed and Hussainey, 2010). Findings from Ahmed and Courtis (1999) report there is no significant correlation between size of audit firm and disclosure.

2.4.3.6 Company Age

According to Sonnier et al. (2009), a significant inverse relationship exists between company age and disclosure level. Old and independent companies are more favorably disposed to Intellectual Capital related information in their prospectus (Van der Wielen,

2010). On the contrary, other studies have revealed that firm age and level of technology are not connected (Bukh et al., 2005; Cordazzo, 2007). Hormiga et al. (2011) studied the importance of Intellectual Capital disclosure in newly created firms and found that Human Capital is critical to firms' success in their early stages.

2.4.3.7 Culture/Nationality

Firms from common law countries are favorably disposed to higher financial disclosures when compared to their code law countries' counterparts (Jaggi and Low, 2000; Hope, 2003). Cultural values have no significant effect on Intellectual Capital disclosures by companies in common law countries, while mixed results are seen in the case of firms from code law (Jaggi and Low, 2000). In addition, cultural values do not have an impact on Intellectual Capital disclosures of common law countries' multinational companies, while mixed results are seen in the case of multinational companies from code law countries (Jaggi and Low, 2000; Hope, 2003). Consequently, Hope (2003) claims that in common law countries, companies relate with other stakeholders like investors at 'arms-length,' which may ultimately result in request for information concerning company performance, as confirmed by Ball et al. (2000). On the other hand, in code law countries, a greater level of insider owners exists (Jensen and Meckling, 1976; Jensen, 2001). For example, insider owners in banks obtain relevant information directly from management while others even take part directly in company decision making through board membership (Jensen and Meckling, 1976; Jensen, 2001).

According to a study by Andrew et al. (1989), firms in developing countries do not disclose as extensively as their counterparts in developed countries. For example, in France, a developed country, Deopers (2000) applied content analysis methodology to study the 1995 annual reports of a sample of 102 randomly selected industrial and commercial companies, and she discovered that foreign activities have significant impact on a firm's level of disclosure. In fact, findings by Oliveira et al. (2010) show that disclosure is more likely in sustainability reports of listed companies that have adopted the Global Reporting Initiative ("GRI") framework. GRI is a project based on a multiple stakeholder process, connected to an autonomous organization established in 1997 with the purpose of building a framework of guidelines which organizations can voluntarily adopt when reporting on the economic, social, and environmental dimensions of management (Pedrini, 2007).

2.4.3.8 Economic Conditions

Several studies have been conducted on voluntary Intellectual Capital disclosure by firms and the driving factors of such disclosure (Chow and Wong-Boren, 1987; Edvinsson, 2000; Williams, 2001; Collier, 2001; Guthrie, 2001; Abeysekera, 2006; Cerbioni and Parbonetti, 2007; Singh and Van der Zhan, 2007; F-Jardón and Martos, 2009). However, most studies have been centered in developed countries. The study conducted by Barako et al. (2006) in Kenya seems to be one of the most extensive studies with regards to developing countries. Barako et al.'s (2006) study is a longitudinal investigation of voluntary Intellectual Capital disclosure practices in the

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annual reports of Kenyan Stock Exchange listed firms from 1992 to 2001. Barako et al.

(2006) consider the degree to which voluntary disclosure practices are influenced by corporate governance components, ownership structure, and firm characteristics.

Results reveal that firm's corporate governance components, ownership structure, and firm characteristics all influence the extent of voluntary Intellectual Capital disclosure in Kenyan Stock Exchange listed firms (Barako et al., 2006). Findings also suggest that having an audit committee has a significant positive association with Intellectual Capital disclosure level, while notable negative association is found between Intellectual Capital disclosure level and number of non-executive directors on firm's board (Barako et al., 2006). According to Barako et al. (2006), significant positive correlation also exists between voluntary Intellectual Capital disclosure and levels of institutional and foreign ownership. Barako et al. (2006) also reveal that higher levels of disclosure are seen in large companies and companies with high amounts of debt. However, no significant correlation is reported between Intellectual Capital disclosure level and factors such as liquidity, profitability (ROA), board leadership structure, and size or type of external audit firm (Barako et al., 2006).

Abeysekera (2007) compared and contrasted the Intellectual Capital disclosure patterns between developing and developed countries. Applying the content analysis technique, the researcher examined the contents of the annual reports of the top 30 Colombo Stock Exchange listed companies from 1998 to 2000, to differentiate the types of Intellectual Capital-reported information in Australia (Guthrie and Parker, 1989) and

compared those reported in Sri Lanka. Abeysekera's (2007) main findings caught the attention of the industry; the result being increased awareness for the need to develop a universal Intellectual Capital reporting definition and a reporting framework which can provide comparative and reliable reporting under the guidelines of accounting regulators, statutory institutions, and stock exchanges (McElroy, 2002; McElyea, 2002). Abeysekera (2007) claims that the differences in Intellectual Capital reporting between developing and developed countries are attributable to economic, political and social factors. In a similar study, using the same methodology used by Abeysekera (2007), Barako et al. (2006) report similar results in Kenya. Economic conditions have an impact on Intellectual Capital disclosure level (Abeysekera, 2011). External pressure and characteristics of environment affect Intellectual Capital disclosures in annual reports, including the expanse and types of techniques applied in disclosure of Intellectual Capital (Neu et al., 1998).

2.4.3.9 Time

Intellectual Capital disclosure frequency has increased over time (Serenko and Bontis, 2004; Li et al., 2006; Kang and Gray, 2011). The study by Serenko and Bontis (2004) is a critical meta-review examination of Knowledge Management and Intellectual Capital literature through investigation of research productivity and completing a citation and/or bibliography examination of individuals, institutions, and countries. Essentially, the focus of the meta-analysis was on the three foremost peer-reviewed, refereed journals on the subject of Intellectual Capital: JIC, JKM, and KPM (Serenko and Bontis, 2004). Results

reveal that research productivity is increasing and that there are several top rated authors and foundation publications that are referenced more frequently (Serenko and Bontis, 2004). Many studies have confirmed that there is increased Intellectual Capital disclosure (Kang and Gray, 2011). Inchausti (1997) suggests that time can be regarded as a “surrogate” for regulation as it provides an explanation for the extent of disclosure, though it does not affect the amount of voluntary disclosure. Hackston and Milne (1996) claim that in the past 20 - 30 years, public awareness of Intellectual Capital has grown significantly. According to Hackston and Milne (1996), the majority of firms credited with making economic and technological progress in the economy are also being accused of causing social issues. Pollution, waste, resource depletion, safety, product quality, and workers’ rights and statuses are causes for increasing concern (Hackston and Milne, 1996). The private sector is under increased pressure from several channels claiming that the private sector should take full responsibility for the effects of operations in the society (Hackston and Milne, 1996). All of these factors affect disclosure (Hackston and Milne, 1996).

2.4.3.10 Other Factors

Research regarding correlation of other factors with Intellectual Capital disclosure has also been conducted. For instance, the effect of corporate governance on Intellectual Capital disclosure has been done by many researchers employing content analysis (Barako et al., 2006; Cerbioni and Parbonetti, 2007; Li et al., 2008; Hidalgo et al., 2011). In a study, Yaghoubi et al. (2010), positive correlation is reported between Intellectual

Capital disclosure and Organizational Intelligence. Yaghoubi et al. (2010) base their study on the claim that both Intellectual Capital and Organizational Intelligence have much impact on firm efficiency, effectiveness, and performance especially in publicly listed firms. Consequently, Yaghoubi et al. (2010) investigate the correlation between Intellectual Capital and Organizational Intelligence using a sample of randomly selected 92 men and 49 women from two public Iranian East public organizations. The research applied survey for data collation, and correlation coefficient and regression for data analysis (Yaghoubi et al., 2010). According to Yaghoubi et al. (2010), there is positive significant association between Intellectual Capital and Organizational Intelligence. In addition, Yaghoubi et al. (2010) also reveal that alignment, congruence, development knowledge, performance pressure, and shared faith determine the extent of Intellectual Capital disclosure.

2.4.4 Conclusion of Part Four

The review of studies of publicly listed firms across numerous countries (including America, Asia, Australia, Europe, India, Italy, Middle East, Singapore, Uganda, and the UK), clearly shows that many factors play a role in determining a company's level of Intellectual Capital disclosure. These factors include, but are not limited to industry size, industry/sector type, business performance/profitability, ownership structure, auditors, company age, culture/nationality, economic conditions, political factors, and time. Each factor's role in determining a company's level of Intellectual Capital disclosure is subject to various conditions and research limitations which is why researchers have

predominantly mixed conclusions. For example, Kamukama et al. (2011) concludes that competitive advantage is a noteworthy mediator for the relationship between Intellectual Capital and financial profitability/performance, improving the connection between the two. However, Bhasin (2011) points out that this relation is not the case for companies listed on the Indian Stock Exchange. Furthermore, contrary to the findings from prior studies and abstract predictions for voluntary Intellectual Capital disclosure (i.e., Bukh et al., 2005; Brown and Hillegeist, 2007; Mangena et al., 2010) Brügger et al. (2009), studies reveal that there is no significant connection between the extent of information asymmetry and Intellectual Capital disclosure. Brügger et al.'s (2009) study also categorically specifies that industries relying on Intellectual Capital voluntarily disclose information about Intellectual Capital more readily. This may be an important signal to all stakeholders and investors, indicating the significance of Intellectual Capital for some businesses and industries. For those industries where Intellectual Capital is a major driver of value, this information is applicable, especially when making investment decisions. This information is equally important for other stakeholders. As a result, full scrutiny by investors and other stakeholders must include an all-embracing analysis of the content of voluntary Intellectual Capital disclosures in the sectors or industries where disclosure of Intellectual Capital is deemed relevant. More explicitly, because disclosing Intellectual Capital in some industries is a common practice, the extent of disclosure alone should not be the only consideration when examining a business for investment decisions. It is essential to consider the precise content of a company's

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Intellectual Capital disclosure before making any investment decision (Jensen and Meckling, 1976; Jensen, 2001; Garcia-Meca, 2005).

Furthermore, while some results (Hossain et al., 1995; Botosan, 1997; Ahmed and Courtis, 1999; Deopers, 2000; Garcia-Meca and Martinez 2005; Alsaeed, 2006; Brügger et al., 2009) have also largely supported the findings that size is another crucial determinant for Intellectual Capital disclosure, it may be prudent not to consider company size exclusively when making business decisions as an investor. This is particularly important when making a judgment from the mixed evidence regarding the association between company size and disclosure of Intellectual Capital. In fact, considering company size (especially with regard to the small sizes applied by the various studies considered so far) alone may be largely unreliable since some studies have found no considerable correlation between Intellectual Capital disclosure and firm size (Bukh, 2003; Bukh et al., 2005; Hassan, 2009; Bhasin, 2011).

Even though the majority of arguments support the fact that information asymmetry is relevant in voluntary Intellectual Capital disclosure (Andriessen, 2001; Mangena et al., 2010), inconclusive and mixed results are still evident regarding the level of Intellectual Capital disclosure (Brown and Hillegeist 2007; Brügger et al., 2009). Furthermore, it seems that firms regard generally accepted practices within their respective industry as the determining factor for handling information asymmetry regarding Intellectual Capital disclosure (Robb et al., 2001; Brügger et al., 2009; Muhammad and Ismail, 2009;

Ahmed and Hussainey, 2010). Therefore, with such mixed results, it follows that more “larger-sample”, cross-continental studies are necessary to be able to make conclusive statements regarding each of the factors presently being considered (by researchers and practitioners) as relevant determinants of Intellectual Capital disclosure. Clearly, additional country-specific studies are also necessary to address discretionary voluntary disclosure as well as the limitations of prior studies. For instance, to date, very scanty research on Intellectual Capital related issues has been conducted in the UAE (Aljifri and Hussainey 2007). Yet, clearly the importance of Intellectual Capital is not unknown, even to UAE government officials. An evidence to this claim surfaced at the opening of first Research Institute for Renewable Energy in Abu Dhabi in the UAE. Gulf News (2010) reports that Dubai Sheikh Mansour Bin Zayed Al Nahyan, the country’s Deputy Prime Minister and Minister of Presidential Affairs, reaffirmed the UAE’s resolve on economic growth. “The UAE is committed to the development of Human Capital as a foundation to drive the country’s long-term economic viability,” according to Sheikh Mansour. He emphasized further that Abu Dhabi is committed to reinforcing its Intellectual Capital and advancing into a knowledge-based economy by way of new and sustainable investment in higher education and R&D, especially in the field of renewable energy (Gulf News, 2010; Zawya, 2010). The UAE’s situation concerning Intellectual Capital disclosure will be the major focus of this research.

In view of increasing research and literature on the relevance of Intellectual Capital disclosure and its determinants, the following can be deduced:

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- Awareness concerning Intellectual Capital indicators has increased in the last decades and is still increasing (Hackston and Milne, 1996; Roos and Roos, 1997; Chapman, 2000; April et al., 2003; Abdolmohammadi, 2005; Vandemaele et al., 2005; Barako et al., 2006; Yaghoubi et al., 2010).
- Investors and analysts use Intellectual Capital related information for decision-making, and companies consider disclosure more relevant for this purpose (Wallman, 1995; Garcia-Meca, 2005; Vergauwen and Van Alem, 2005; Wyatt, 2008; Cormier et al., 2009).
- Despite all research attempts, companies still disclose Intellectual Capital based on their discretion and efforts. This results in scattered and disjointed reporting formats, leading to different methodologies and proxies. Therefore, there is a need for legal and institutional regulations for the disclosure of Intellectual Capital because companies still find Intellectual Capital measurement and disclosure very difficult (Bontis, 1998; Heine et al., 1999; Bosworth and Rogers, 2001; Guthrie, 2001; Claessen, 2005; Wang, 2008; Yaghoubi et al., 2010; Arvidsson, 2011; Joshi et al., 2011).
- More studies have found positive correlation of Intellectual Capital disclosure level with firm size (Chow and Wong-Boren, 1987; Lang and Lundholm, 1993; Hossain et al., 1995; Raffournier, 1995; Botosan, 1997; Ahmed and Courtis, 1999; Deopers, 2000; Beaulieu et al., 2002; Bozzolan et al., 2003; Garcia-Meca and Martinez 2005; Garcia-Meca et al., 2005; Li et al., 2006; Alsaeed, 2006; Barako et al., 2006; Cerbioni and Parbonetti, 2007; Brügggen et al., 2009; Branco et al., 2011), industry type (Brennan, 2001; Robb et al., 2001; Williams, 2001; Singh and Van der Zhan, 2007; Brügggen et al., 2009; Muhammad and Ismail, 2009; Ahmed and Hussainey, 2010), and Firm Financial Performance (Hall, 1993; Sullivan, 1999; Bharadwaj, 2000; Cormier and Magnan, 2000; Lundholm and Myers, 2002; Bollen et al., 2005; Garcia-Meca and Martinez, 2005; Martin-de-Castro et al., 2006; Longo et al., 2009; Cheng et al., 2010; Mangena et al., 2010; Chu et al., 2011; González-Loureiro and Teixeira, 2011; Maditinos et al.,

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2011; Kamukama et al., 2010; Kamukama et al., 2011; Phusavat et al., 2011;
Vafaei et al., 2011).

While more extensive research is still required regarding the relevance of firm size, performance and type to Intellectual Capital disclosure, many more studies are needed on the other variables, such as auditors, culture/nationality, economic conditions, time, and corporate responsibility. This is because to the best of knowledge of the current study, research on the relevance of these variables to Intellectual Capital disclosure is still very scanty and their measurement and disclosure format are unknown and inconsistent.

PART FIVE

INTELLECTUAL CAPITAL DISCLOSURE AND

FINANCIAL PERFORMANCE

2.5 INTELLECTUAL CAPITAL DISCLOSURE AND FINANCIAL PERFORMANCE

It has been established by several studies that there is an absence of a regulatory framework for Intellectual Capital disclosure (Inchausti, 1997; Cañibano et al., 2000; Eustace, 2000; Sveiby, 2001; Wyatt, 2002; Chaminade and Johanson, 2003; Guthrie et al., 2007; Nazari and Herremans, 2007; Pedrini, 2007; Brännström and Giuliani, 2009a; Tian and Chen, 2009; Mangena et al., 2010). This absence of regulatory framework resulted in various unsatisfactory attempts by academics and industry practitioners, to develop various techniques for voluntary disclosure. Some of these attempts have been mentioned in the previous sections (Ahmed and Courtis, 1999; Abhayawansa and Abeysekera, 2009; Rashid, 2010.) By implication, various users of financial information are not satisfied with the outcome of these attempts to develop Intellectual Capital reporting techniques (Inchausti, 1997). While scholars hold varying sentiments about voluntary Intellectual Capital disclosure (Tian and Chen, 2009), Inchausti (1997) suggests that “it may not be possible to leave disclosure to the market alone, and it may be necessary to regulate accounting to ensure that firms satisfy the information needs of different users.” Consequently, the current research shares Inchausti’s (1997) sentiment that there is need to regulate accounting to ensure that companies satisfy the information needs of different users.

However, under the present accounting practices, measuring Intellectual Capital is difficult (Sveiby, 2001; Serenko and Bontis, 2004; Nazari and Herremans 2007; Brügggen et al., 2009; Van der Wielen, 2010). This may be the primary reason that researchers (Hope, 2003; Barako et al., 2006; Cordazzo, 2007; Singh and Van der Zhan, 2007; Muhammad and Ismail, 2009; Sonnier et al., 2009; Ahmed and Hussainey, 2010; Van der Wielen, 2010; AREOPA, 2011; González-Loureiro and Teixeira, 2011; Maditinos et al., 2011) have proposed different determinants for voluntary disclosure. According to a number of studies (Van der Meer-Kooistra and Zijlstra, 2001; Claessen, 2005; Vandemaele et al., 2005; Brown and Hillegeist, 2007; Brügggen et al., 2009; Kavida and Sivakoumar, 2009; Bhasin, 2011), these determinants (i.e., firm size, industry, performance, ownership structure, auditors, age, culture, and others) affect the firm in one way or another which ultimately reflects upon Firm Financial Performance (Hall, 1993; Sullivan, 1999; Bharadwaj, 2000; Cormier and Magnan, 2000; Bollen et al., 2005; Garcia-Meca and Martinez, 2005; Martín-de-Castro et al., 2006; Cheng et al., 2010; Mangena et al., 2010; Chu et al., 2011; González-Loureiro and Teixeira, 2011; Maditinos et al., 2011; Kamukama et al., 2010; Kamukama et al., 2011; Phusavat et al., 2011; Vafaei et al., 2011).

2.5.1 Why Does Intellectual Capital Affects Firm Financial Performance?

Human Capital, Organizational Capital and Relational Capital are the three most important elements that play the major role in theorizing Intellectual Capital (Murthy and

Mouritsen, 2011). Broadly speaking, Murthy and Mouritsen (2011) believe studies on Intellectual Capital can be categorized into the following two categories:

- Studies that focus on the properties of the elements of Intellectual Capital mentioned above i.e., pinpointing their “size” in annual reports (or IPO prospectuses) and comparing statistically significant correlations between these elements; and
- Field-based studies that focus on the interaction between Intellectual Capital and managerial practices, and question related findings on this interaction. Focus on managers’ efforts to either manage intellectual resources or manage the firm using intellectual resources is maintained through the process. This category of research according to Murthy and Mouritsen (2011) seeks to identify uncertainties in the functions and consequences of Intellectual Capital in companies. It often reveals Intellectual Capital as more fluid while identifying the problems that may be involved in handling its uncertainties (Murthy and Mouritsen, 2011).

Cross-sectional research seeks to reveal explanations for the existence of Intellectual Capital in firms, the relationships that exist between its elements and contextualization of Intellectual Capital by other resources in the firm including financial and physical resources (Murthy and Mouritsen, 2011; Phusavat et al., 2011). However, Murthy and Mouritsen (2011) observe that these studies offer little regarding how the performance of Intellectual Capital is realized, its mobilization (i.e., how it is mobilized), and how tradeoffs are prepared. According to Murthy and Mouritsen (2011), the possible dynamic relationships between the elements of Intellectual Capital could be responsible

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for performance (i.e., this could be the reason Intellectual Capital disclosure affects performance).

Wang and Chang (2005) investigate the impact of Intellectual Capital elements on Firm Financial Performance and the interrelationships between Intellectual Capital elements. Wang and Chang (2005) applied the Partial Least Square (“PLS”) method in this study to view the aspects of Intellectual Capital from a cause-and-effect perspective in the Taiwan IT sector. The PLS is a variance-based structural equation that has been applied in several Intellectual Capital related studies (Bontis, 1998; Bontis et al., 2000; Bontis and Fitz-enz, 2002; Bontis, 2004; Wang and Chang, 2005). Findings of these studies reveal that, except for Human Capital, Intellectual Capital elements affect directly and positively Firm Financial Performance. Findings show that Human Capital does not affect Firm Financial Performance directly; the effect is indirect through the other elements (Switzer and Huang, 2007). Wang and Chang (2005) also claim that there exists a cause-effect relationship between the four chosen Intellectual Capital elements (i.e., Human Capital, Innovation Capital, Customer Capital and Process Capital). The observed relationships are as follows: Innovation Capital and Process Capital are both affected by Human Capital while Innovation Capital influences Process Capital which in turn has an impact on Customer Capital. Lastly, the findings of Wang and Chang (2005) reveal that Customer Capital adds to performance. According to Wang and Chang (2005), this cause-effect connection between foremost elements and lagged elements holds implications for the management of companies (in the IT sector).

The logical explanation provided by the cause-effect chains for how Intellectual Capital disclosure affects Firm Financial Performance is argued by Bjurström (2003) in the E*KNOW-NET Report. Bjurström's (2003) argument in E*KNOW-NET Report is based on the fact that most Danish firms classify their intangible resources based on a "cause-effect" chain of thought instead of a logic-hierarchical intangible resources' classification.

Other studies (Roos and Roos, 1997; Sánchez and Cañibano, 2001; F-Jardón and Martos, 2009; Cheng et al., 2010; Kamukama et al., 2010; González-Loureiro and Teixeira, 2011 Murthy and Mouritsen, 2011) have also recognized cause-effect relationship chain as the main logical factor that best explains "why Intellectual Capital disclosure affects Firm Financial Performance." While F-Jardón and Martos (2009) argue that it is not always easy to measure the impact of Intellectual Capital on Firm Financial Performance, they acknowledge the fact that cause-effect chain is responsible for performance; this agrees with the findings of Cohen and Kaimenakis (2007). On the other hand, Kannan and Aulbur's (2004) argument regarding measurement of the impact that Intellectual Capital has on a Firm's Financial Performance states that the cause-effect association between business benefits (i.e., performance) and cultural strategy (i.e., Intellectual Capital) is not clear, due to:

- The fact that "Hawthorne Effect" may occur; and
- Reliable predictions cannot be made about knowledge-based business organizations due to their complex nature.

Kannan and Aulbur (2004) express doubts about the sustainability, measurability, cumulativeness, or replication of the positive results achieved by cultural/behaviorist strategies.

Therefore, the cause-effect relationship chains between the elements of Intellectual Capital seem to be the reason that Intellectual Capital disclosure affects firm performance.

2.5.2 How does Intellectual Capital Voluntary Disclosure Affect Firm Performance?

Several studies have identified positive and negative effects of Intellectual Capital disclosure on Firm Financial Performance (Neu et al., 1998; Eustace, 2000; Robb et al., 2001; Hail, 2002; Aljifri and Hussainey, 2007; Pedrini, 2007; Tian and Chen, 2009; Dammak et al., 2010; Van der Wielen, 2010; Rashid, 2010). In terms of positive effects, Intellectual Capital disclosure is largely justified based on the value creation notion of the knowledge economy (Edvinsson and Sullivan, 1996; Mouritsen et al., 2001b; Roslender, 2004; Garcia-Meca and Martinez, 2007; Wang, 2008; Wyatt, 2008; Yaghoubi et al., 2010; Curado et al., 2011; Vafaei et al., 2011). This implies that it is advisable for a firm to disclose the structure as well as the qualitative and quantitative appreciation of Intellectual Capital for the following reasons (Yaghoubi et al., 2010):

- Better appeal to investors;
- Reduction of cost of borrowing; and

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- Winning or sustaining customers' confidence and key human resources

On the negative side, it can be reasoned that disclosure in itself is a costly and lengthy process (Wyatt, 2008; Van der Wielen, 2010) which can subject the firm to a financial outlay drawback (Van der Wielen, 2010). The outlay may be monetary forms or in the form of opportunity cost of the loss of time to arrange, review, mechanize, and publish such information. However, on the positive side, the claim above is debatable based on the fact that if Intellectual Capital is measureable, then it is manageable (Roos and Roos, 1997; Andriessen, 2004). Furthering this argument, if Intellectual Capital can be managed, and if it can be improved, then competitive advantage is possible; ultimately, competitive advantage will convert into financial superiority (Wyatt, 2008).

According to Mangena et al. (2010), there is a rapidly emerging view among practitioners and academics that integration of financial measures into principal indicators of performance will require a new reporting model to boost investors' understanding of company operations. From this point of view, it is particularly important to examine how Intellectual Capital disclosure affects performance (Mangena et al., 2010). Mangena et al. (2010) propose that it is likely that the rapidly growing interest in Intellectual Capital reporting may drive the consideration of appropriate legislations in the future. For this reason, understanding the relationship between Firm Financial Performance and Intellectual Capital disclosure is important for firms; this will help the company to assess the economic benefits of increased Intellectual Capital disclosure (Mangena et al., 2010).

An understanding of the costs and advantages of disclosure is imperative for the process of standard setting (Hail, 2002; El-Bannany, 2008; Mangena et al., 2010). Furthermore, a company's management will be able to pinpoint specific Intellectual Capital items to feature in the financial report if they have a complete understanding of the different categories of Intellectual Capital and how each of these categories has an impact on a Firm Financial performance (Kaplan and Norton, 1992; Pedrini, 2007). Besides, it is possible that managers would be more likely to offer quality disclosure if they were to believe in the performance enhancement merits of increased Intellectual Capital disclosure (Pedrini, 2007; Mangena et al., 2010).

2.5.3 Different Proxies used to measure Financial Performance

Several studies have established that the traditional measures of performance not only have failed to fully consider the multiple dimensions of performance, but have also failed to monitor every dimension of performance, concentrating more or less only on financial characteristics of firms (Kaplan and Norton, 1992; Ittner and Lacker, 1998; Firer and Williams, 2003; Shiu, 2006; Sofian et al., 2006). Therefore, practitioners and researchers are increasingly developing and adopting performance measurement systems that are more accurate in reflecting the true value of firms (Kaplan and Norton, 1992; Ittner and Lacker, 1998; Firer and Williams, 2003; Shiu, 2006; Sofian et al., 2006). As a result, Firm Financial Performance has been measured in various ways, using

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different proxies and categorizations (Kaplan and Norton, 1992; Ittner and Lacker, 1998; Firer and Williams, 2003; Shiu, 2006; Sofian et al., 2006).

Sofian et al.'s (2006) choice of performance measurement variables include sales, profitability, EVA, target profit, and shareholder value. A critical feature of Intellectual Capital definitions is that they recognize the relationship that exists between Intellectual Capital, firm structure, and performance (Edvinsson and Sullivan, 1996; Dammak et al., 2010). The definitions indicate the distinctiveness of Intellectual Capital in boosting the competitive advantage of individual firms (El-Bannany, 2008). For instance, Zéghal and Maaloul (2010) categorize performance measurement into:

- Financial performance: Many authors are adamant in their belief that Intellectual Capital disclosure has a positive effect on Firm Financial Performance (Edvinsson and Sullivan, 1996; Youndt et al., 2004; Chen et al., 2005; Wyatt, 2008; Tan et al., 2007; Al-Halak et al., 2010; Dammak et al., 2010; Falikhatun et al., 2010). More often than not, this performance is defined by profitability which is a reflection of the capability of the invested capital to earn some measure of profit (Van der Wielen, 2010). Applying the RBV, Chen et al. (2005) have argued that if Intellectual Capital is a valued resource for a firm's competitive advantages, it will add to the financial performance of that firm. This belief is also shared by other studies (Youndt et al., 2004) which state that Intellectual Capital intensive firms are more competitive than other firms and therefore, tend to be more successful. To constitute continued competitive advantage, which in turn is a determinant of Firm Financial Performance, some studies claim that Intellectual Capital, as well as the financial and physical capital employed, should be used effectively and efficiently (Firer and Williams, 2003; Yaghoubi et al., 2010;

Kamukama et al., 2011). The resources' value-added creation ability according to Pulic (2004) is the best way to assess this efficiency.

- Economic performance: As suggested by several studies, investment in Intellectual Capital enables a firm to improve its economic performance (Neu et al., 1998; Bontis et al., 1999; Brammer and Pavelin, 2008). Economic performance is described by the operating profitability that indicates an economic margin or an economic surplus as calculated by the difference between firm income and production costs (Zéghal and Maaloul, 2010). For example, it is suggested that if firms invest in Intellectual Capital, the success of such investments should ordinarily enable them to reduce their costs of production and/or increase markups (operational margins) (Zéghal and Maaloul, 2010). Zéghal and Maaloul (2010) maintain further that achieving such a markup means highly skilled Human Capital can improve department store sales, while an effectual R&D process can remarkably reduce a factory's costs of production. In its Intellectual Capital valuation model, a study cited by Zéghal and Maaloul (2010) proposes a new methodology based on the economic concept of "production function". According to the proposed methodology, a firm's economic performance is created by using three kinds of resources: physical resources, financial resources, and intellectual resources (Zéghal and Maaloul, 2010).
- Stock market performance: Sometimes studies strongly debate that the cumulative gap between a firm's book value and market value is likely the result of not considering Intellectual Capital in financial statements (Edvinsson and Malone, 1997; Sveiby, 1998; Brennan, 2001; Holland 2006). This gap, largely demonstrated in market-to-book ("MB") ratio is an indication that investors see Intellectual Capital as a viable value creation tool for a firm; even the firm's book value does not feature its Intellectual Capital (Firer and Williams, 2003; Chen et al., 2005). MB is the ratio of the current share price to the book value per share. MB measures a company's worth at present, in comparison with the amount of capital invested by current and past shareholders into it (Firer and Williams, 2003; Chen et al., 2005). From this perspective, Firer and Williams (2003) and

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Chen et al. (2005) have proposed that in an efficient market, investors will consider placing higher value on firms with greater Intellectual Capital. Other studies (Youndt et al., 2004; Bhasin, 2011) also share this belief; therefore, it is proposed that Intellectual Capital intensive firms are given higher value in the stock market than firms that are not Intellectual Capital intensive. However, Zéghal and Maaloul (2010) note that, from the perspective of value creation, investors do not restrict their investments to firms with greater Intellectual Capital. Rather, investors will make the effort to choose in their portfolios firms that have a reputation for constant creation of value added in a well-organized and sustainable manner (Zéghal and Maaloul, 2010).

2.5.4. Limitations of Financial Performance Measurement Proxies

The financial valuation methods categories are EVATM, Market-to-book value, and VAICTM (Sveiby, 2010; Chu et al., 2011). According to Nazari and Herremans (2007), not many of these methods have focused on the interconnectivity that exists among the firm performance, firm performance measurement proxies, and Intellectual Capital (Bontis, 1998; Bontis, 1999; Bontis et al., 2000; Bontis, 2001; Bontis and Fitz-enz, 2002; Bontis, 2004).

A major limitation with financial performance measurement proxies is the lack of cross-company assessments (Nazari and Herremans, 2007). Most financial performance measurement models developed over time measure Intellectual Capital within firms based on indicators that are not publicly assessable (Nazari and Herremans, 2007). However, with the advent of the VAICTM model, cross-company comparisons are possible (Nazari and Herremans, 2007). That is not to say that the VAICTM model does

not have its own inherent limitations. Nazari and Herremans (2007) believe that the relationship between the constructs developed in the Intellectual Capital measurement models have not sufficiently tested Firm Financial Performance. Therefore, Nazari and Herremans (2007) extended the VAIC™ model to accommodate the testing of leading Intellectual Capital components together with Firm Financial Performance. Nazari and Herremans (2007) made further additions to the constructs of Intellectual Capital to develop their own hybrid model. The Edvinsson and Malone's (1997) Skandia Navigator model was applied as the theoretical model of Nazari and Herreman's (2007) study. Then, several indicators were developed to measure the Intellectual Capital proxies; this approach is similar to the study of Bontis (2004) and it gives room for comparison. In fact, Pulic (2004) criticizes other Intellectual Capital measurement models because of their lack of comparability and scope.

Another apparent limitation of the VAIC™ model is its inability to consider firms that have negative book value of equity (or negative operating profit) (Andriessen, 2004; Chu et al., 2011). Negative book value of equity or negative operating profit gives “value-added” a negative value (Andriessen, 2004; Chu et al., 2011). Thus, this invariably implies that the company expends less output resources than its input. As a result, all succeeding indexes have the negative sign, leading to the generation of no meaningful analysis (Andriessen, 2004; Chu et al., 2011). In addition, the presence of an inverse relationship between Human Capital and Structural Capital is not directly obvious from the model (Andriessen, 2004; Chu et al., 2011). However, recognizing this

relationship between Human Capital and Structural Capital is still sound for theoretical considerations and in agreement with the general Intellectual Capital definition to realize Structural Capital by deducting value-added from Human Capital (Andriessen, 2004; Chu et al., 2011). Though additional practical provision may be needed to measure up to the appreciation of a larger audience, such inverse relationship is instinctively applicable and logical (Andriessen, 2004; Chu et al., 2011).

One more limitation of the VAICTM model is the possibility that the model may not adequately recognize the combined influence for value creation when the different forms of Intellectual Capital interact (Andriessen, 2004; Chu et al., 2011). This limitation may also be the case with other Intellectual Capital models (Phusavat et al., 2011; Chu et al., 2011). How much each of the components (i.e., Human Capital, Structural Capital, and capital employed) “adds” to the value-added is also visibly depicted by VAICTM methodology (Andriessen, 2004; Chu et al., 2011). Interactions may occur between the Intellectual Capital components (Bontis et al., 2000) which may result in the inability to get the exact contribution to value creation from each of the resources (Phusavat et al., 2011). According to Chu et al. (2011), this can be better seen when improvements in IT or system computerization (i.e., an element of Structural Capital) occasionally boost labor productivity; such a development can be considered as an improvement in the efficiency of Human Capital. Consequently, quantifying each factor (separately) in aiding an increase in Human Capital efficiency, Structural Capital efficiency, or capital-employed efficiency may not be possible (Chu et al., 2011).

Nevertheless, due to its straightforward application, the VAIC™ methodology has been generally considered, in various perspectives, for the purpose of defining an indicator and the objective measurement method of Intellectual Capital (Nazari and Herremans, 2007). While presenting an objective measure, it also offers a measure of Intellectual Capital efficiency that is financially based because it applies readily accessible audited financial data (Nazari and Herremans, 2007; Chan, 2009a). When compared to other Intellectual Capital measurement models which need to be customized to suit the physiognomic considerations of individual firms, the VAIC™ methodology presents a more consistent and unbiased measurement base (Firer and Williams, 2003; Chen et al., 2005; Nazari and Herremans, 2007; Chu et al., 2011).

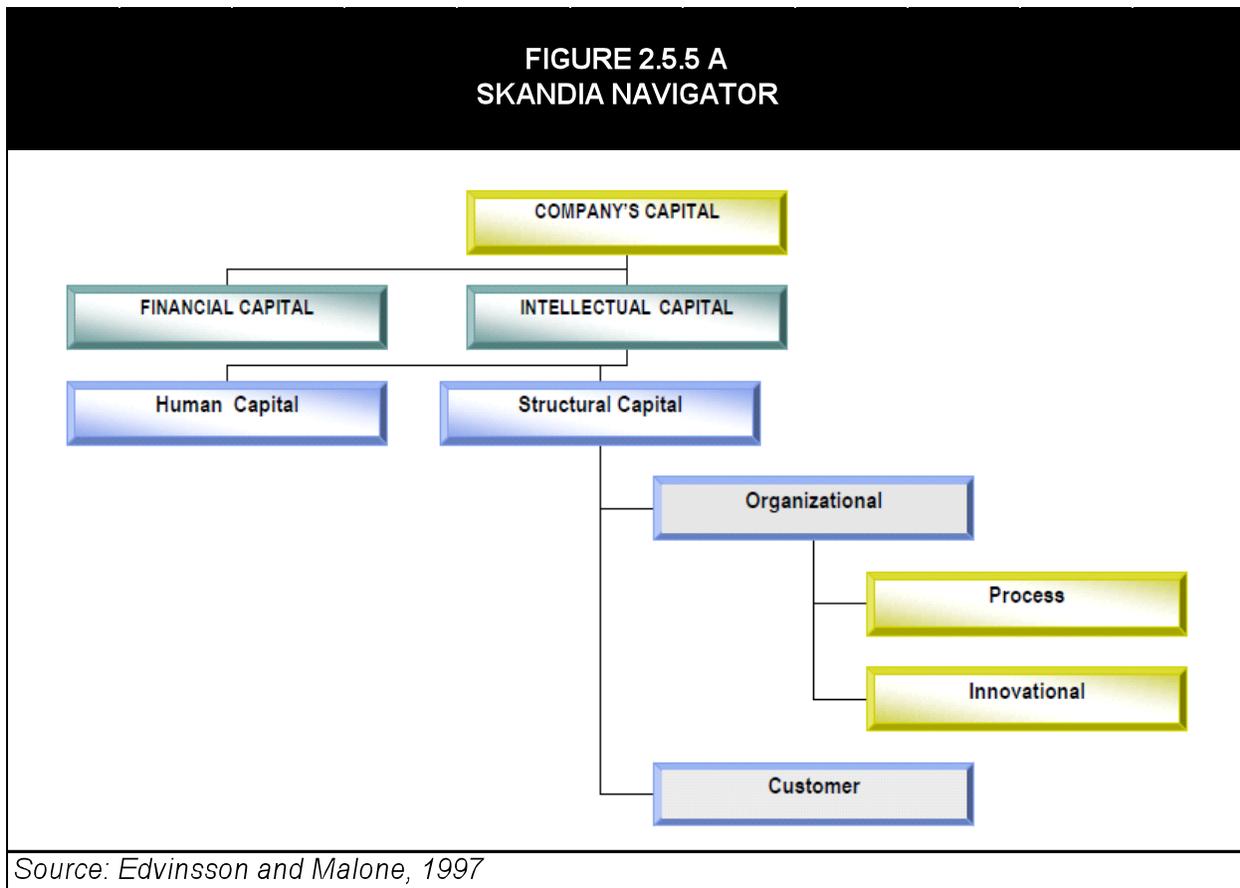
2.5.5 Main Outcomes of Financial Performance Measurement

One of the earliest models of Intellectual Capital is the Edvinsson and Malone's (1997) Skandia Navigator (Nazari and Herremans, 2007). The Skandia Navigator's strength relies primarily on the following:

- Focus on financial aspects representing the firm's total market value;
- Focus on the three traditional Intellectual Capital components (i.e., Human Capital, Organizational Capital, and Relational Capital); and
- Recognition of Process Capital and Innovational Capital as separate components.

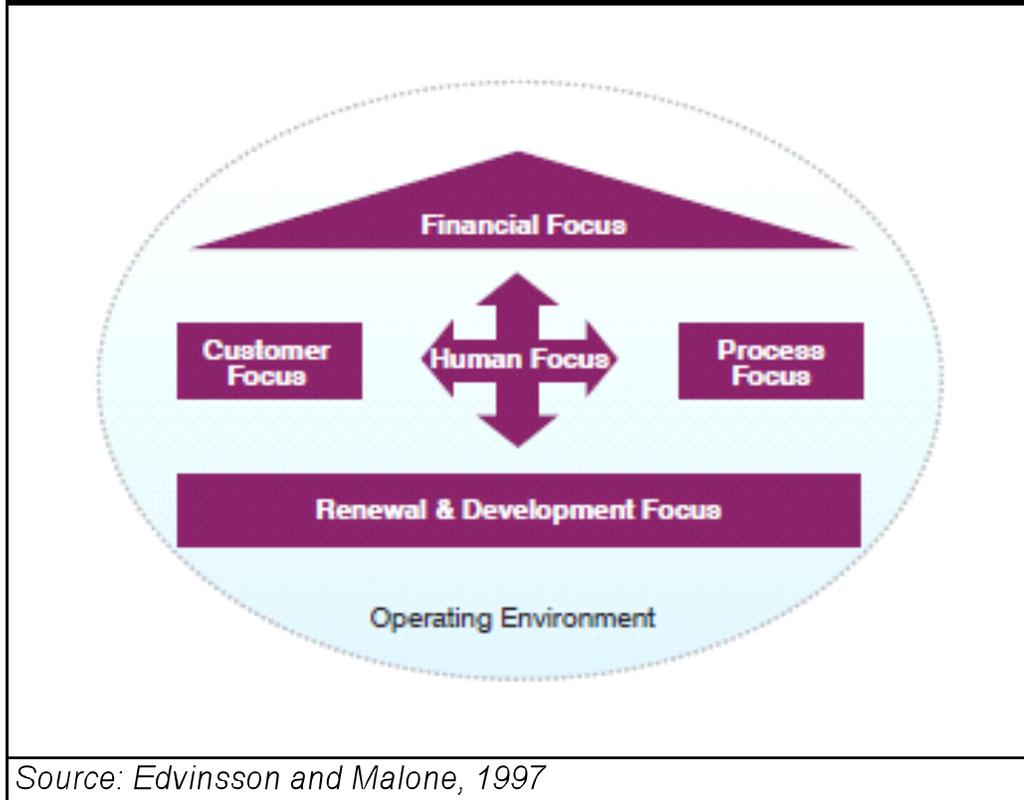
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Skandia Navigator can be visualized in Figure 2.5.5 A:



Indicators or metrics, such as laptops per employee, number of employees, value added per employee, customers lost, and number of training hours are the indicators or metrics that Edvinsson and Malone (1997) use for Intellectual Capital. The Skandia Navigator's results offer a report card that has indicators (i.e., input, output, and outcome) for firm managers to communicate whether there has been improvement with regard to Intellectual Capital development and management. A metaphorical visual representation of the Skandia Navigator is demonstration in Figure 2.5.5 B:

FIGURE 2.5.5 B
METAPHORICAL REPRESENTATION OF SKANDIA NAVIGATOR

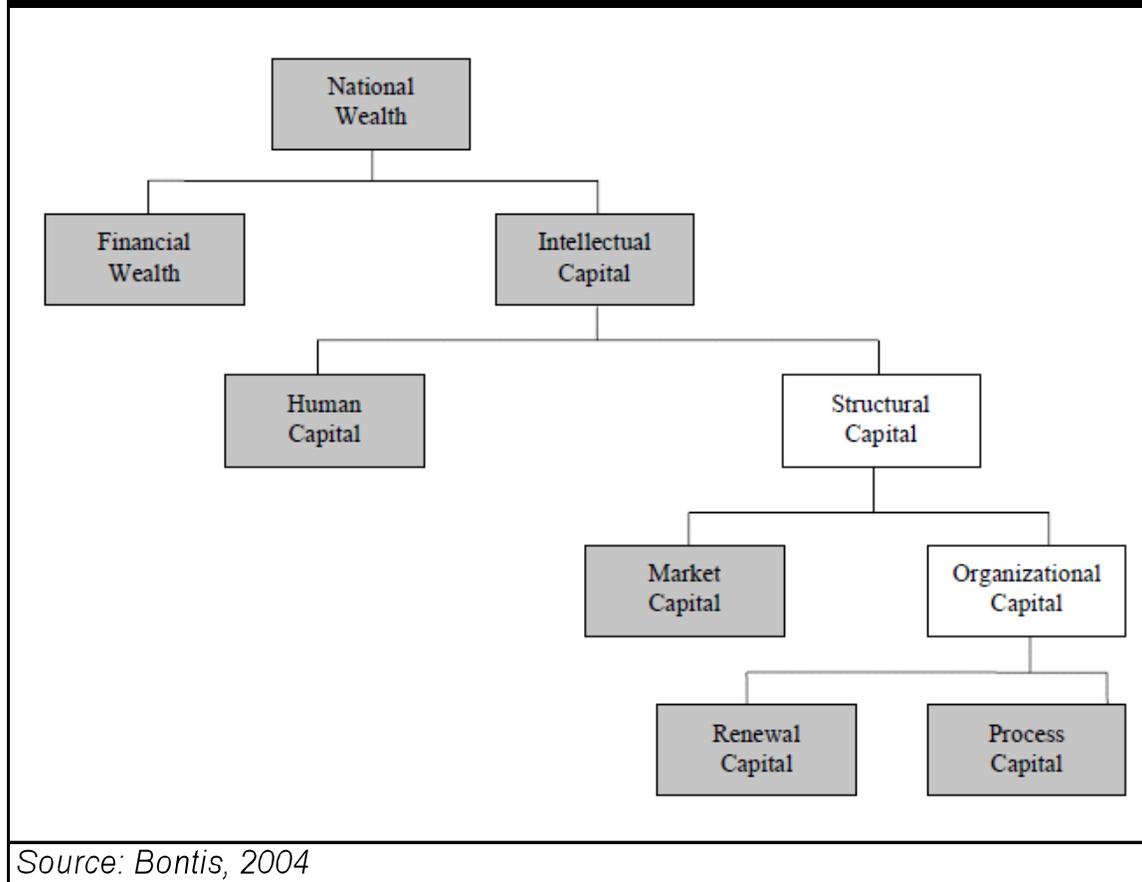


The shape of the Navigator represents a visual metaphor of the Skandia organization itself, seeing it as a house. The upper triangle represents the attic. The Customer and Process focus represent the walls; the Renewal and Development Focus are the foundations, while the Human Focus is the inhabitant of the house, the only active force in the navigator (Edvinsson and Malone, 1997).

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Naturally, National Intellectual Capital Index (“NICI”) developed by Bontis (2004) is a hybrid of Skandia Navigator’s theoretical framework (Nazari and Herremans, 2007). Bontis (2004) developed the NICI with the objectives of recognizing and managing a nation’s intangible wealth. According to Bontis (2004), national wealth can be broken down into financial wealth and Intellectual Capital. In turn, Intellectual Capital can be broken down into Human Capital and Structural Capital. In addition, Structural Capital is broken down into Market Capital and Organizational Capital. Finally, Organizational Capital is broken down into Renewal Capital and Process Capital, demonstration in Figure 2.5.5 C:

FIGURE 2.5.5 C
INTELLECTUAL CAPITAL OF NATIONS



A number of indices for each proxy are specified by Bontis (2004). For instance, to measure financial wealth, GDP per capita is applied, and then the index is normalized on the basis of inter-country purchasing power. The development of NICI model has permitted Bontis (2004) to compare different Arab nations. Results reveal that national Intellectual Capital is responsible for approximately one-fifth of Arab nations' financial wealth, with Intellectual Capital being the dominant precursor (Bontis, 2004).

Value creation efficiency or VAIC™ analysis was developed by (Pulic, 2000; Pulic, 2004). The VAIC is partly based on Skandia Navigator and it applies financial statements' data. Pulic's model is able to identify Intellectual Capital in terms of size and efficiency which Nazari and Herremans (2007) regard as a better approach in identifying Intellectual Capital's quantities and prices.

2.5.6 Recommendations for Improving Financial Performance Measurement

Nearly all organizations in the knowledge economy are beginning to take both financial and non-financial performance measurements more seriously (Youndt and Snell, 2004; Chu et al., 2011). Measurement of performance needs to encompass all areas that managers perceive as relevant to improving the firm's everyday business (Youndt and Snell, 2004; Chu et al., 2011). These relevant areas include but are not limited to (Youndt and Snell, 2004; Chu et al., 2011):

- Profitability
- Productivity
- Quality
- Work-life quality
- Health and safety environment
- Innovation

Several studies suggest that the picture of firm's future or at least some forward-looking information pertaining to the firm's business should become clearly visible from measurement of performance (Williams, 2001; Aljifri and Hussainey, 2007; Beattie and

Thomson, 2007; Guthrie et al., 2007). Furthermore, it is believed that measurement of a Firm's Financial Performance should be in line with the policies and objectives of the firm which should in turn get the firm ready for its operations in the future (Phusavat et al., 2011). Some studies suggest that financial and non-financial aspects of a firm should be covered when measuring performance (Bosworth and Rogers, 2001; Cumby and Conrod, 2001; Chan, 2009a).

To improve Firm Financial Performance measurement, some important steps have been recommended by several studies. Specifically, Nazari and Herremans (2007) recommend the addition of more Intellectual Capital constructs to the measurement models, especially the VAIC™. Phusavat et al.'s (2011) recommendations include the importance of examining and identifying possible effects of Intellectual Capital on a firm's innovation. In addition, the types of interrelationships that exist between Intellectual Capital and different indicators of innovation should also be considered (Phusavat et al., 2011).

2.5.7 Most Influential or Leading Components of Intellectual Capital

Nazari and Herremans (2007) claim that identifying the most influential components of Intellectual Capital on Firm Financial Performance would aid firms' understanding of their organizational abilities. This belief forms the justification for their methodical extension of the Intellectual Capital constructs in their study. Though not necessarily stated exactly in these terms, Human Capital, Relational Capital, and Structural Capital

are regarded by many studies as the main components of Intellectual Capital (Stewart, 1991; Bontis, 1996; Saint-Onge, 1996; Edvinsson and Malone, 1997; Sveiby, 1997; Roos et al., 1998; Bontis, 1998; Bontis et al., 2000; Nazari and Herremans, 2007; Chu et al., 2011).

None of the professional attempts at defining Human Capital has excluded the word “human,” which means Human Capital has to do with the human constituent of a firm (Bontis et al., 2000; Chu et al., 2011). All organizational activities result from actions that are initiated either directly or indirectly by employees (i.e., humans) (Bontis et al., 2000; Chu et al., 2011). Therefore, the relevance of Human Capital as the primary factor that ultimately leads to better Firm Financial Performance has been established. For instance, Bontis (1999) also claims that Human Capital is an organization’s primary source of strategic innovation. Thus, it can be concluded that the Human Capital is the starting point of Intellectual Capital and the firm’s entire business (Bontis, 1999; Bontis, 2004; Nazari and Herremans, 2007). Furthermore, it can also be claimed that other components of Intellectual Capital cannot exist without the Human Capital (Bontis et al., 2000; Chu et al., 2011).

According to Bontis et al. (2000), Structural Capital is regarded as all of a firm’s non-human storehouses of knowledge, including but not limited to the databases, process manuals, organizational charts, strategies, routines, and other components whose value to the firm is regarded as higher than its material value.

2.5.8 Effects of Intellectual Liabilities Disclosure on Financial Performance

Stam (2009) claims, that to balance Intellectual Capital books, Intellectual Assets and Intellectual Liabilities must be reported; this has also been claimed by Harvey and Lusch (1999) and Caddy (2000). As a result, the primary focus of Stam's (2009) theoretical framework is on Intellectual Liabilities measurement, and his findings are combined within other studies about Intellectual Liabilities measurement framework. Stam's (2009) proposed Intellectual Liabilities measurement framework places emphasis on the differences between internal and external liabilities. According to Stam (2009), "internal liabilities are regarded as the causes of deterioration that arise from the sources of value creation within the organization while external liabilities are the causes of deterioration that come from outside and are beyond the control of the organization." Other studies (Harvey and Lusch, 1999; Garcia-Parra et al., 2009; Solitander, 2011) support Stam's (2009) findings, although it appears that these studies have not investigated the effects that such Intellectual Liabilities disclosure have on the Firm's Financial Performance.

Neu et al., (1998) claim that the connection between financial information and Intellectual Capital information may be interpreted from two perspectives that he calls confirmatory and dis-confirmatory. For a profitable firm, which has stakeholders' category that values disclosure of Intellectual Capital related information, disclosure would be a "confirmation" that profit has not been at the cost of the environment (Neu et

al., 1998). Occasionally, firms disclose Intellectual Capital information to correct stakeholder's misconceptions regarding the correlation between profitability and disclosure responsibility (Neu et al., 1998). On the other hand, when there is relatively no profitability, managers might use disclosures to influence financial stakeholders' beliefs, in an attempt to indicate that existing Intellectual Capital investments will further strengthen the firm's future competitive advantage and future profitability (Herremans et al., 1993; Gülgün, 2007; Dammak et al., 2010). This will again translate into an effort to correct the misconception that profitability and disclosure responsibility are meant to even each other out (Neu et al., 1998).

Alternatively, Neu et al., (1998) indicate that Intellectual Capital disclosure can have a 'dis-confirmatory' effect on the firm's financial figures when using the disclosure to redirect focus during unprofitable times. This technique downplays questions about the management competencies which usually arise in times of low or no profitability (Inchausti, 1997; Dammak et al., 2010; Falikhatun et al., 2010). The methodology has also been argued in some studies that have revealed that managers usually simultaneously communicate "good news" (qualitative) with "bad news" (quantitative) (Gibbins et al., 1990; Hackston and Milne, 1996; Inchausti, 1997; Aljifri and Hussainey, 2007). Disclosing "bad news" requires managers to consider the competitive disadvantages of such disclosure, including proprietary costs and the work force to prepare and communicate the information (Inchausti, 1997). These confirmatory and dis-confirmatory applications of Intellectual Capital disclosures can be interpreted as

efforts to “frame” how financial stakeholders interpret the financial information available in the annual report (Inchausti, 1997). While the interests and values of financial stakeholders are not the same, there is the possibility of overlapping interests in some cases (Inchausti, 1997). For example, all financial stakeholders are interested to some degree in returns, and Intellectual Capital disclosure allows managers to determine which information is most valuable to stakeholders. However, Solitander (2011) claims that depending on how voluntary Intellectual Capital is reported, stakeholders may see disclosure as either an asset or a liability.

2.5.9 Disclosure and Financial Performance between Developed and Developing Countries

Several studies have considered Intellectual Capital disclosure from the perspectives of developed economies and averagely developed economies, with emphases on different aspects of Intellectual Capital disclosure (Abeysekera and Guthtie, 2005; Abeysekera, 2008). However, there are very limited studies in the context of developing and/or emerging economies (Abeysekera and Guthtie, 2005; Abeysekera, 2008). Globalization is rapid and is spreading rather rapidly in developing countries; firms in developing countries now consider having lower transaction costs and more readily utilizable capital (Abeysekera and Guthtie, 2005; Abeysekera, 2008). This is reason the study of Intellectual Capital of firms in developing countries has become an increasingly important focal point for companies (Abeysekera and Guthtie, 2005; Abeysekera, 2008). Furthermore, to extrapolate the results obtained from developed countries’ Intellectual

Capital disclosure research studies into the developing countries would be absolutely unscientific (Abeysekera and Guthrie, 2005; Abeysekera, 2008). It is particularly important to recognize that it is not logical to apply results from Intellectual Capital studies conducted in developed countries in the context of developing countries because of two reasons (Abeysekera and Guthrie, 2005; Abeysekera, 2008):

- Firms in developed countries are knowledge intensive and/or high-tech; and
- Firms in developing countries are largely labor-intensive and less knowledge driven.

As observed in the earlier sections, Intellectual Capital can be a source of a firm's competitive advantage and it can encourage innovation that engenders wealth generation (Solitander, 2011).

2.5.10 Conclusion of Part Five

The effect of Intellectual Capital on Firm Financial Performance has been under more than a decade of intensive studies (Kaplan and Norton, 1992; Stewart, 1994; Wallman, 1995; Roos and Roos, 1997; Sveiby, 1997; Mouritsen, 1998; Behn and Riley, 1999; Ittner and Lacker, 1998; Bharadwaj, 2000; Barney, 2001; Cumby and Conrod, 2001; Hitt et al., 2001; Konar and Cohen, 2001; Andriessen, 2004; Cheng et al., 2010). Interests in Intellectual Capital are largely regarded as a driver for a firm's long-term business competitiveness and ultimately both non-financial and financial performance (Roose et al., 2005; Cheng et al., 2010). Many companies in US, Sweden, UK, Australia, Canada,

and Asian countries have started publicizing their Intellectual Capital reports to the stakeholders (Roose et al., 2005; Cheng et al., 2010). These companies disclose mainly to improve their image which is a confirmation of sorts of their leadership position in their respective businesses (Roose et al., 2005; Cheng et al., 2010).

According to Murthy and Mouritsen (2011), the possible interaction between the components of Intellectual Capital may be responsible for variations in a Firm's Financial Performance. Other studies (Kamukama et al., 2010; Vafaei et al., 2011) have also supported Murthy and Mouritsen's (2011) view. Another area of interest in this section is to identify the most influential component of Intellectual Capital. Several studies have attempted to describe Intellectual Capital as the intangible value created from human related aspects and/or activities of a firm; these human related aspects are comprised of employees' certifications or academic qualifications, experiences, knowledge, skills, motivation, and activities, such as business automation (Brooking, 1997; Edvinsson, 1997; Edvinsson and Malone, 1997; Stewart, 1997; Brennan and Connell, 2000; Harrison and Sullivan, 2000; Youndt et al., 2004; Roose et al., 2005; Schiuma and Lerro, 2008). Regardless of these varied definitions, Intellectual Capital underscores the significance of applying a firm's human-generated capital and resources to competitively create the firm's products and services. This brings the importance of Human Capital to the foreground as the starting point of Intellectual Capital and a firm's entire business (Bontis, 1999; Bontis, 2004; Nazari and Herremans, 2007). Additionally, it can be assumed that the other two components of Intellectual

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Capital (i.e., Structural Capital and Relational Capital) depend on Human Capital (Bontis et al., 2000; Chu et al., 2011).

During the past two decades, the above connection between Intellectual Capital components is gradually being investigated and accepted (Schiuma and Lerro, 2008; Cheng et al., 2010). Generally, Intellectual Capital is composed of many intangible subcomponents within a firm that are not captured in the conventional accounting reporting and computation (Sveiby, 1997; Brooking, 1997; Bontis, 1999; Chen et al., 2004). These Intellectual Capital subcomponents have been applied by many researchers in the study of Firm Financial Performance.

Despite repeated efforts, the studies of the effect that voluntary Intellectual Capital disclosure has on Firm Financial Performance are not unified and are visibly scattered, adopting non-uniform methodologies and proxies (Andriessen, 2004; Phusavat et al., 2011). To the best knowledge of the researcher, gained through investigation of the academic field, it is believed that Intellectual Capital Research faces a shortage of studies that measure the effect of Intellectual Liabilities disclosure on Firm's Financial Performance. In fact, according to the findings of this current research, many Intellectual Capital disclosure studies have been carried out in Western and European countries such as the UK (Abraham and Cox, 2007), Italy (Beretta and Bozzolan, 2004), Canada (Lajili and Zéghal, 2005), and Portugal (Lopes and Rodrigues, 2007). However, to the best knowledge of the researcher, no studies have been conducted to measure the

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effect of Intellectual Liabilities disclosure on Firm Financial Performance in any country, and in particular, the registered companies in the UAE. Except for few studies (Aljifri and Hussainey, 2007; Hassan, 2009), Intellectual Capital related literature focusing on the UAE is scanty.

PART SIX

INTELLECTUAL LIABILITIES

2.6 INTELLECTUAL LIABILITIES

As discussed in previous sections, there is a large body of literature regarding Intellectual Capital disclosure as an asset to the firm. However, it seems that most studies have ignored Intellectual Liabilities (Stam, 2009). A noteworthy inaccuracy in Intellectual Capital related studies seems to be researchers' complete omission of the constructs of Intellectual Liabilities (Stam, 2009). The major gap in understanding of Intellectual Capital is the complete misunderstanding of net intellectual worth which in reality equals Intellectual Assets minus Intellectual Liabilities. The current section forms one of the contributions of this research because it elaborates on Intellectual Liabilities.

The reasons, *inter alia*, why emphasis has not been placed on the existence of Intellectual Liabilities in the studies on Intellectual Capital include:

- Absence of regulatory framework for Intellectual Capital disclosure (Abeysekera, 2003); and
- Poor understanding, inadequate identification, inefficient management and inconsistent disclosure of the key components of Intellectual Capital (Petty and Guthrie, 2000; Brennan, 2001).

This section focuses on the relevance of voluntary Intellectual Capital disclosure vis-à-vis Intellectual Liabilities.

2.6.1 What are Intellectual Liabilities?

It has been discussed in the previous sections that researchers and experts describe and interpret the term Intellectual Capital in a number of ways (Solitander, 2011). It appears researchers prefer certain interpretations (Solitander, 2011). Furthermore, it seems that the most preferred definition of Intellectual Capital in research describes Intellectual Capital as a combination of Human Capital, Structural Capital, and Relational Capital (Bontis, 2002). The value creating ability of each or a combination of the elements of Intellectual Capital as defined by Bontis (2002) is probably the primary reason that studies have increasingly embraced this definition (Andriessen, 2004; Stam, 2009). An analysis of the current body of Intellectual Capital related literature suggests that researchers' primary focus is on firm success, and most Intellectual Capital disclosure practices are driven by value-creation (Stam, 2009). This is because most Intellectual Capital reporting frameworks have only been focusing on Intellectual Assets measurement (Stam, 2009). There is a clear-cut difference between a firm's assets and its liabilities.

A firm's assets are those items that are characterized by generation of future economic benefits (IASB, 2004; IFRS, 2007). Therefore, considering this understanding, any nonphysical asset that has the capacity to generate future economic benefits for a firm can be defined as an intangible asset for the firm (Cañibano et al., 2000). It was discussed in the previous sections that the IFRS only requires that development expenditures that meet certain conditions should be capitalized as intangible assets

under international standards. On the other hand, USA GAAP requires that said expenditures be expensed. IFRS and USA GAAP provisions for treatment of intangible assets in financial statements are inadequate (Brännström and Giuliani, 2009a). Current provisions do not report some intangible assets on the balance sheet (Brännström and Giuliani, 2009a). These unreported intangible assets should be described and captured as Intellectual Assets (Abeysekera, 2003; Stam, 2009).

According to some studies, revealing a firm's true hidden values includes Intellectual Capital measurement practice that accounts for both Intellectual Assets and Intellectual Liabilities (Harvey and Lusch, 1999; Caddy, 2000; Abeysekera, 2003). Considering that the current understanding of Intellectual Capital has practically failed to incorporate Intellectual Liabilities, exploring a more holistic definition of Intellectual Capital is the next logical step (Stam, 2009).

Generally, a liability is an item that characterizes a firm's future obligation (IASB, 2004; IFRS, 2007). Stam (2009) claims that since Intellectual Assets are understood as the underpinning factor for a company's competitive advantage or strength, it is logical to construe Intellectual Liabilities as the firm's underpinning factor for competitive disadvantage or weakness. While wealth creation is positively associated with Intellectual Assets, wealth destruction is positively associated with Intellectual Liabilities (Stam, 2009). If the theory of Intellectual Capital must be incorporated properly into the conventional financial accounting principles, a firm must consider its Intellectual Assets

as the nonphysical future economic benefits (Stam, 2009). Using this construct, the firm must consider their Intellectual Liabilities as those nonphysical items that constitute future or potential economic detriments to the firm (Stam, 2009).

A critical analysis of Intellectual Capital literature reveals that Intellectual Capital is often mentioned when discussing assets and value creation (Abeysekera, 2003; Stam, 2009). Intellectual Liabilities, on the other hand, are often discussed together with Market-to-Book Ratio (MB) (Abeysekera, 2003; Stam, 2009). An important view regarding the existence of Intellectual Assets and Intellectual Liabilities is proposed by Stam (2009). This is based on the fact that firms can be valued at more than their net assets and they can also be valued at less than their net assets (Bontis et al., 1999; Abeysekera, 2003).

According to Stam (2009), the difference between the accounting value of a company's assets and the company's liabilities is the company's book value of equity. Similarly, the company's market value can be regarded as the difference between the market's valuation of the company's assets and liabilities (Stam, 2009). It follows logically that the difference between the company's market value of equity and book value must be significant, because it indicates some important mode of measurement criteria for the company (Stam, 2009). Researchers describe this difference between the company's market value of equity and book value of equity as its unrecorded, Intellectual Assets (Cañibano et al., 2000, Abeysekera, 2003). Following this line of reasoning, and referring to the sudden collapse of "big" firms likes the Arthur Anderson, Enron, and

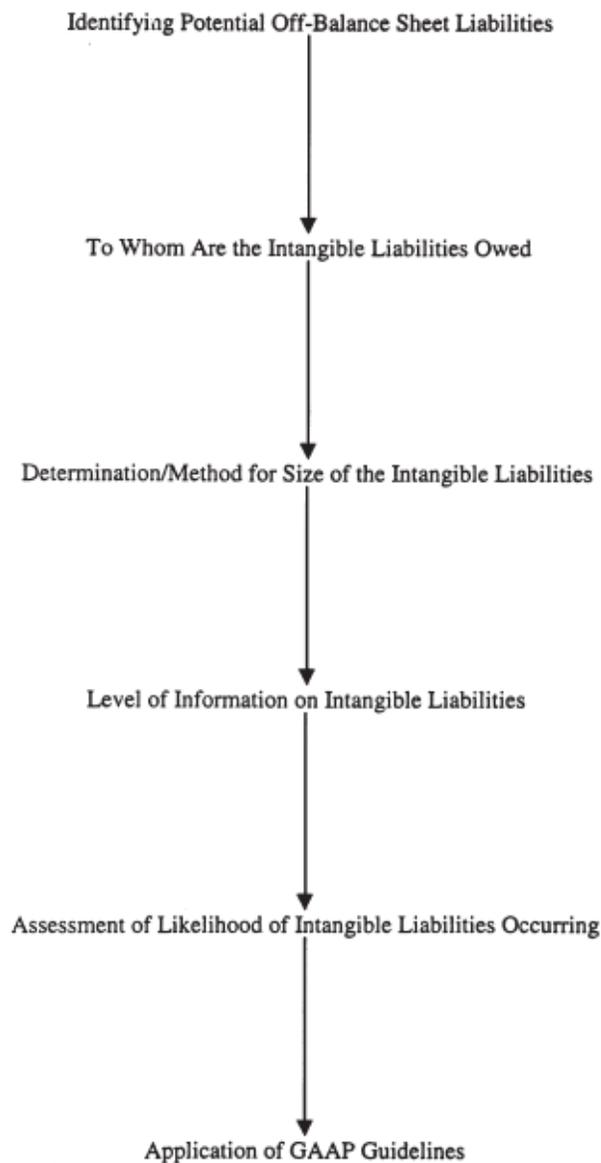
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WorldCom, Stam (2009) proposes that Intellectual Capital should be composed of more than Intellectual Assets. Rather, Intellectual Capital is a composition of both Intellectual Assets and Intellectual Liabilities (Harvey and Lusch, 1999; Caddy, 2000; Stam, 2009). Harvey and Lusch (1999) believe that to think that all Intellectual Capital automatically converts to a matching rise in equity is a biased opinion. They posit further that, "Where are the intangible liabilities that are being accrued along with the potential benefits from the Intellectual Capital?" Harvey and Lusch (1999) maintain further that since companies often claim a huge number of unrecorded intangible assets, then conventional logic states that the companies should also have significant amount of unrecorded intangible liabilities.

Harvey and Lusch (1999) developed a classification model for quantifying Intellectual Liabilities accurately. The model has a six-step process for assessing each Intellectual Liability item's magnitude, as demonstration in Figure 2.6.1 (Harvey and Lusch, 1999):

FIGURE 2.6.1
ASSESSING THE MAGNITUDE OF
OFF-BALANCE SHEET LIABILITIES

Assessing the Magnitude of Off-Balance Sheet Liabilities



Source: Harvey and Lusch, 1999

Working further on Harvey and Lusch's (1999) Intellectual Liabilities measurement model, Caddy (2000) describes Intellectual Capital as the difference between Intellectual Assets and Intellectual Liabilities as follows:

$$\text{Intellectual Capital} = \text{Intellectual Assets} - \text{Intellectual Liabilities}$$

According to Caddy (2000), if capital is quantified indirectly by deducting liabilities from assets, Intellectual Capital should be quantified in the same deduction pattern. Furthermore, Stam (2009) proposes that if the above stated equation is correct, a system of measurement enabling firms to identify the practicality of Intellectual Liabilities should be developed. However, it must be noted that the same problems militating against successful measurement and valuation of Intellectual Assets are also encountered when measuring and valuing Intellectual Liabilities (Stam, 2009). Furthermore, a conservative assumption suggests that any Intellectual Liability should be seen by a firm as a future life-threatening item (Caddy, 2000). To clarify, a firm needs to rally all its applicable Intellectual Assets to either avert or reduce the potential negative effects that the firm's Intellectual Liabilities pose to its wellbeing (Caddy, 2000).

According to Stam (2009), the theory of Intellectual Liabilities can be regarded as the unchecked harmful aspect of Intellectual Capital. This harmful aspect has been identified and exemplified by several studies as follows:

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- Negative value consequences (Cuganesan, 2005; Stam, 2009);
- Negative Intellectual Capital (Stam, 2009);
- Negative drivers of value creation (Viedma-Marti, 2001; Stam, 2009);
- Contradictory value drivers (Abeysekera, 2006); and
- Competitive disadvantages (Stam, 2009).

Even considering the fact that the existence of Intellectual Liabilities has been discussed in some studies (Viedma-Marti, 2001; Cuganesan, 2005; Abeysekera, 2006; Stam, 2009; Solitander, 2011), most current measurement models of Intellectual Capital have continued to focus only on the firm's Intellectual Assets, without accounting for the firm's Liabilities. Nevertheless, a major advantage of Intellectual Liabilities measurement is that it assists with improving firm performance by converting circumstances that have visibly gone out of the firm's control to their advantage (Abeysekera, 2006; Stam, 2009; Solitander, 2011).

Other studies caution that the idea of Intellectual Liabilities and the comparison of the idea of Intellectual Capital with the conventional accounting term capital should not be muddled up (Stam, 2009). Consequently, such studies continued to apply the customary interpretation as explained above, equating Intellectual Capital with assets (Stam, 2009).

Andriessen (2001) claims that the debate about the merits of Intellectual Liabilities is considered an attempt to incorporate the concept of Intellectual Capital into conventional accounting principles. Besides, Intellectual Capital methodologies are

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primarily aimed at identifying the key drivers of value in a firm's business while providing information that supports decision-making (Andriessen, 2001). According to Andriessen (2001), in addition to identifying the firm's key value drivers, the firm should also recognize Intellectual Liabilities for providing decision making related information. The recognition of Intellectual Liabilities goes beyond an attempt to incorporate the idea of Intellectual Capital into the double-entry bookkeeping system (Andriessen, 2001). Moreover, Intellectual Liabilities should offer management and stakeholders with additional dependable information about the intangible resources not captured on the balance sheet (Andriessen, 2001). As a result, with the provision that a firm's management is not cognizant of potential liabilities, deterioration will remain unanticipated (Andriessen, 2001). Therefore, considering the above-mentioned fact, practical assessment of the firm's value is impossible because mere recognition and quantification of the firm's Intellectual Assets will only give a partial picture of the firm's true position (Caddy, 2000).

Stam (2009) favors an Intellectual Capital report that does not measure beyond Intellectual Assets more than a financial report that contains only financial assets measurement. Creating a fairer and clearer picture of a firm's Intellectual Capital entails the measurement of both Intellectual Assets and Intellectual Liabilities (Stam, 2009). Thus, a balanced Intellectual Capital measurement model must be composed of a framework that measures a firm's Intellectual Assets and its Intellectual Liabilities (Stam, 2009).

2.6.2 Various Treatments of Intellectual Liabilities

For the past 15 years, many frameworks have been proposed to identify and measure Intellectual Capital (Pulic, 1998; Pulic, 2000; Andriessen, 2004; Bontis, 2004; Pulic, 2004; Nazari and Herremans, 2007). Virtually every framework, as proposed, is ostensibly narrow, merely identifying and measuring Intellectual Assets (Stam, 2009). This has created a gap regarding identification and measurement of Intellectual Liabilities, making it difficult to balance Intellectual Capital measurements (Stam, 2009). To balance Intellectual Capital reporting, Stam (2009) proposes that it is necessary to redefine the concept of Intellectual Capital itself. According to Stam (2009), if the equation “Intellectual Capital = Intellectual Assets – Intellectual Liabilities”, as proposed by Harvey and Lusch (1999) and Caddy (2000) is true, Stam (2009) argues the logicity that the same equation will be correct for a variety of Intellectual Capital categories. In other words, the same equation can be extrapolated onto each of the different categories of Intellectual Capital. Stam (2009) maintains that it will be inaccurate to take the summation of all Human Assets as a firm’s Human Capital; he recommends that the Human Capital should be derived by deducting the summation of all Human Liabilities from the summation of all Human Assets. The same idea is applied in determining the Structural Capital and Relational Capital. These definitions are an extension of the framework suggested by Bontis (2002). Therefore, Stam’s (2009) definition for each Intellectual Capital component is summarized as follows:

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| | | | | |
|--------------------|---|-------------------|---|------------------------|
| Human Capital | = | Human Assets | - | Human Liabilities |
| Structural Capital | = | Structural Assets | - | Structural Liabilities |
| Relational Capital | = | Relational Assets | - | Relational Liabilities |

Therefore, total Intellectual Capital is defined as:

| | | |
|---------------------|---|------------------------|
| Human Assets | - | Human Liabilities |
| + Structural Assets | - | Structural Liabilities |
| + Relational Assets | - | Relational Liabilities |
| = | | Intellectual Capital |

Integrating the above rationale into a meaningful framework for Intellectual Liabilities measurement, Stam (2009) considers a classification of Intellectual Liabilities that distinguishes between internal and External Liabilities. On the other hand, Stam (2009) also considers differentiating between the four components of Intellectual Capital. This classification was originally developed by Harvey and Lusch (1999), and the Intellectual Capital components considered in the classification include process, human, informational and configuration issues, as outlined in Table 2.6.2:

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| TABLE 2.6.2 CLASSIFICATION OF INTANGIBLE LIABILITIES | | |
|---|--|---|
| Potential Intangible Liabilities | Internal Intangible Liabilities | External Intangible Liabilities |
| Process Issues | Weak strategic planning process Inadequate R&D Process antiquated manufacturing process Poor new product development process | Poor product/service quality Low commitment/trust of suppliers/distribution system High turnover of customers, suppliers and distribution system Potential litigation of government not meeting regulations/laws |
| Human Issues | High employee turnover Discrimination among employees Inadequate training/development Inexperienced top management team | Bad word-of-mouth among customers Potential product liability suits from customer harmed Law based loyalty/awareness among growth market segment |
| Informational Issues | Lack of adequate information infrastructure Inability to turn data into information (lack of analysis) | Negative brand/product information (recall) Decreasing corporate reputation Successful litigation against company Unfavorable stock analyst report on company/industry |
| Configuration Issues | Organizational structure (lack of flexibility) Lack of patents/copyrights Inadequate geographic location of plants, warehouses, etc. | Inadequate distribution channels to achieve growth Lack of strategic alliances to leverage resource base Inefficient location of production facilities |

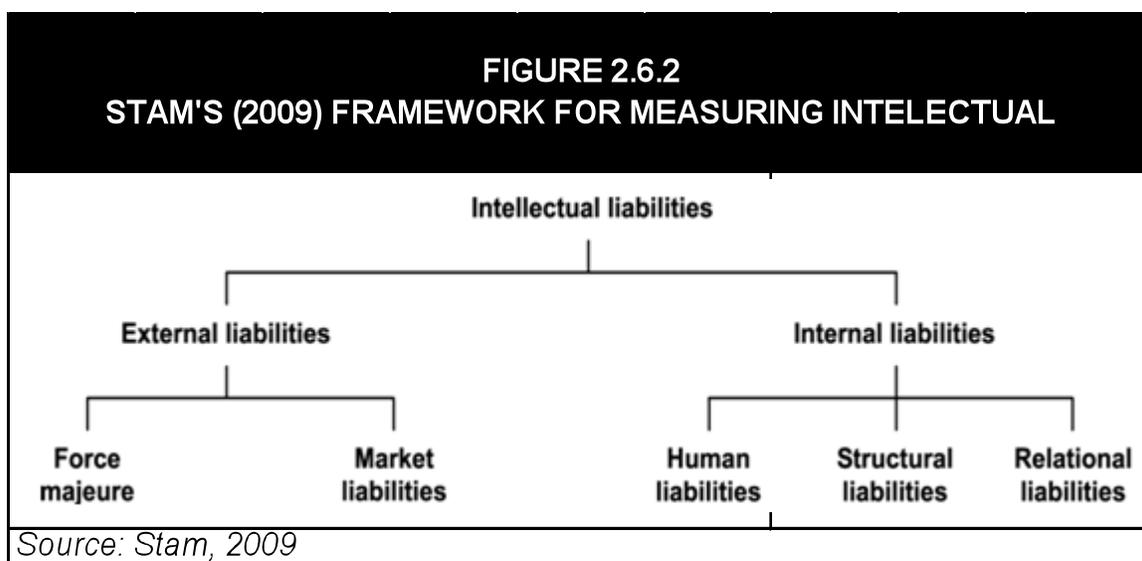
Source: Harvey and Lusch, 1999

Stam's (2009) new classification scheme, developed by combining both theories (i.e., the difference between Internal and External Liabilities and the difference between the four components as identified by Harvey and Lusch (1999) as a two by four matrix, faces the following problems:

- Bontis' (2002) theoretical distinction between human issues, structural issues, and relational issues becomes a major requirement for further studies on Intellectual Capital. Accepting Bontis' (2002) proposed theory is imperative for connecting to existing Intellectual Capital works; and
- The possibilities of integrating both notions (i.e., the difference between internal and External Liabilities, and the differences between the four components) into a

classification scheme can be questioned. Relating the external perspective to the different components of Intellectual Capital is particularly difficult. Stam (2009) observes that the external perspective as proposed by Harvey and Lusch (1999) is a representation of Relational Liabilities which will not combine easily with Human and Structural Liabilities. Notwithstanding these hurdles, Stam (2009) still considers the merits of applying the difference between Internal and External Liabilities and the differences between the four components, but not in direct relation to the different components of Intellectual Capital.

Inspired by and combined within other studies, including Harvey and Lusch's (1999) proposed internal-external differences and Bontis' (2002) proposed Intellectual Capital theory, Stam (2009) classifies different issues into a single model. This single model helps firms identify, measure, and manage their Intellectual Liabilities. Stam's (2009) new framework, as shown in Figure 2.6.2, primarily emphasizes the distinction between Internal and External Liabilities as follows:



Whereas Internal Liabilities are regarded as the causal items of deterioration arising from the sources of value creation within the firms, External Liabilities are regarded as the causal items of deterioration that ensue from outside and are beyond the control of the firm. Two types of External Liabilities are derived:

- Force majeure
- Market Liabilities

Force majeure, according to Stam (2009), means the risk of deterioration resulting from situations that are absolutely outside the control of a firm since they are typically unanticipated, and difficult to predict. Challenges such as threats resulting from nature, demography, economy, society, or politics describe these situations best, and examples include (Stam, 2009):

- Aging population
- Depletion of natural resources
- Financial and economic crises
- Global warming
- Political instabilities
- Product tampering
- Social unrests and boycotts
- Strikes
- Terrorism

Each of the above concerns potentially hampers a firm's value creation capacity (Stam, 2009). On the other hand, Stam (2009) describes Market Liabilities as the risk of deterioration that results from the market's usual competitive forces. While this category of Intellectual Liabilities is also not within the firm's control, they should be or can be anticipated (Stam, 2009). Examples cited by Stam (2009) include the following:

- Crowded markets or population density;
- Industry life cycle;
- New players in the market;
- Strong and successful competitors;
- Substitute products or services; and
- Technological innovation leading to creative destruction (e.g. the internet).

Deterioration caused by value creation sources within the firm are described as Internal Liabilities (Stam, 2009). According to Stam (2009), internal forces of deterioration are significantly stronger than the external forces. Stam (2009) calls these internal forces of deterioration a misuse of value creation sources i.e., Human Capital, Structural Capital and Relational Capital, with the corresponding liabilities being Human Liabilities, Structural Liabilities and Relational Liabilities.

2.6.3 What are Human Liabilities / Structural Liabilities / Relational Liabilities?

Human Liabilities are referred to as causes of deterioration arising from the personnel within the firm, the employees, employees' tacit knowledge, employees' skills, employees' experience, and employees' attitude; examples include:

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- High employee turnover (Harvey and Lusch, 1999);
- Inadequate training and development (Harvey and Lusch, 1999; Abeysekera, 2006);
- Internal competition (Pfeffer and Sutton, 1999; Stam, 2009);
- Not-invented-here syndrome (Weggeman, 1997; Stam, 2009); and
- Risk of losing key employees (Stam, 2009).

Structural Liabilities are defined as causes of deterioration arising from the non-human resources within the firm (Stam, 2009). In other words, they refer to those value creation sources that persist, after the employees have quit the firm (Stam, 2009). Such value creation sources include codified knowledge, processes, procedures, and culture (Stam, 2009). An important synopsis of Structural Liabilities provided by Stam (2009) is as follows:

"The liability of newness, the liability of smallness, group think, top management homogeneity, long management tenure, and past performance."

The following are other examples of Structural Liabilities:

- Bureaucracy and organizational inertia (Lorenz, 1994; Van Witteloostuijn, 1998; Stam, 2009);
- Cost of ignorance or cost of not knowing (Davenport, 1997; Pollard, 2004; Stam, 2009);
- Domestic quarrels or struggle for power (Gibbon, 1782; Stam, 2009);

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- Knowing-doing gap (Pfeffer and Sutton, 1999; Stam, 2009);
- Knowledge, unfriendly culture, and a hierarchical or complex organizational structure (Weggeman, 1997);
- Orphan knowledge (Caddy, 2001; Cuganesan, 2005);
- Poor information or knowledge infrastructure (Harvey and Lusch, 1999);
- Social rigidities and organizational sclerosis (Stam, 2009); and
- Weak strategic planning processes (Harvey and Lusch, 1999; Caddy, 2000)

Relational Liabilities are defined as causes of deterioration arising from relationships between the firm and its customers, suppliers or other external stakeholders (Stam, 2009). The inability of the firm to nurture a sustainable reputation is regarded as a Relational Liability (Stam, 2009). Examples of Relational Liabilities include:

- Poor corporate reputation (Caddy, 2000);
- Bad word of mouth (Harvey and Lusch, 1999);
- Poor product or service quality (Harvey and Lusch, 1999);
- High relational turnover (Harvey and Lusch, 1999);
- Potential product liability suits (Harvey and Lusch, 1999);
- Lack of strategic alliances (Harvey and Lusch, 1999); and
- Relational complexity or complex linkages within the organization and with external stakeholders (Mellahi and Wilkinson, 2004).

Stam (2009) notes that the need to develop a permanent list of Intellectual Liabilities has been contested by some scholars including Harvey and Lusch (1999), Caddy (2000), and Abeysekera (2006). These researchers claim that searching for the variation of the possible negative Intellectual Capital variables and their indicators is a

virtually endless task. Thus, the forces that provoke a firm's performance deterioration can also be regarded as unique (Stam, 2009). The Skandia Navigator's theoretical framework (Edvinsson and Malone, 1997) begins by listing 164 indicators of Intellectual Assets. Drawing from this Skandia Navigator theoretical framework, Stam (2009) argues that it is possible to start the process of developing a framework to measure Intellectual Liabilities. Stam (2009) concludes that the process of developing Intellectual Liabilities measurement framework will benefit from Skandia Navigator by listing possible Intellectual Liabilities, adding that the list could be the starting point of the quest for Intellectual Liabilities measurement framework.

2.6.4 Intellectual Liabilities from a Legal Framework

To determine the magnitude of off-balance sheet liabilities, Harvey and Lusch (1999) propose the following six-step process (refer to Figure 2.6.1 A), with the last step emphasizing the link between Intellectual Liabilities and legal framework:

- Identify possible off-balance sheet liabilities;
- Ascertain to whom the liability is owed;
- Quantify each liability;
- Define the level of information accessible to the firm about possible off-balance sheet liabilities;
- Quantify the probability of occurrence for each of the identified possible liabilities;
and
- Find if any accounting principles/guidelines relate to recognizing the liability.

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Harvey and Lusch (1999) claim that to maintain accuracy in the recording and reporting of a firm's potential Intellectual Liabilities, the standard of measurement should agree with GAAP. That is, FASB Statement No. 5 requirements and the loss possibilities must be related (Harvey and Lusch, 1999). However, Harvey and Lusch (1999) caution that while consistency demands that the basic FASB guidelines be observed, the guidelines should not be related directly to Intellectual Liabilities. According to Harvey and Lusch (1999), this recommendation becomes necessary to avoid the lack of definite bearing on describing Intellectual Capital components in FASB. Consequently, in their conclusion, Harvey and Lusch (1999) maintain that whatever is assumed as Intellectual Liabilities must have a clear relationship with the FASB provisions for recording assets and liabilities to ensure management's and the financial community's acceptance. Moreover, Harvey and Lusch (1999), and while discussing Intellectual Liabilities from a legal/standards perspective, classify liabilities into calculated economic liabilities and uncalculated economic liabilities which can be owed to exchange parties, external parties, and stockholders, as provided in Table 2.6.4:

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TABLE 2.6.4
THE NATURE AND SCOPE OF LIABILITIES

| Liability Owed to | Calculated Economic Liabilities | | Uncalculated Economic Liabilities |
|----------------------------|---------------------------------|------------------------------------|--|
| | Perfect Information | Imperfect Information | |
| Exchange Parties | Accounts Payable | Reserves | Dangerous work conditions |
| Suppliers | Loans | Warranties | Dangerous products |
| Customers | Bonds | Bad Debts | Product tampering |
| Employees | | Health Care Pension Obligations | Terrorism |
| External Parties | Taxes Payables | Environment Cleanup | New technology |
| Segments of Society | | | Anti-trust violations |
| Society | | | |
| Stockholders | Highly Employee Turnover | Antiquated Manufacturing Process | Weak strategic planning Decreasing corporate Reputation |

Source: Harvey and Lusch, 1999

In Table 2.6.4, the first column includes liabilities that are owed to exchange partners; these liabilities represent the ones for which it is available information is either perfect or imperfect, but it is possible to calculate their relative the economic; they often appear on the a balance sheet (Harvey and Lusch, 1999). Examples of these liabilities include accounts payable, loans, bonds, warranty and bad debt reserves, and pension obligations (Harvey and Lusch, 1999). According to Harvey and Lusch (1999), since it is required by the accounting standards to record these liabilities, they are classified as balance sheet liabilities. Calculated economic liabilities that are due to non-exchange partners are shown in the second row of Table 2.6.4. Examples of these liabilities include taxes payable for which there is relatively perfect information but also include

liabilities such as for a potential environmental cleanup for which there is imperfect treatment (Harvey and Lusch, 1999). Furthermore, obligations owed to stockholders due to actions taken that lower economic performance are shown in the bottom row of Table 2.6.4; examples of these liabilities include high employee turnover (Harvey and Lusch, 1999). The last column of Table 2.6.4 includes examples of uncalculated economic liabilities. According to Harvey and Lusch (1999), these liabilities are termed 'uncalculated' because available information is poor and unreliable which will ultimately result in imprudent results when attempting to estimate or quantify them. Examples of uncalculated economic liabilities, which are potentially due to exchange partners, include product tampering, unknown but dangerous products, and dangerous work conditions (Harvey and Lusch, 1999). Uncalculated economic liabilities are due to external parties (non-exchange parties) and include unknown antitrust violations or adverse effects from a new product technology that harms society (Harvey and Lusch, 1999). Uncalculated economic liabilities that will potentially harm stockholder equity include weak strategic planning or decreasing corporate reputation (Harvey and Lusch, 1999). Therefore, according to Harvey and Lusch (1999), the fact the uncalculated economic liabilities exists, this creates the need to confirm the existence of Intellectual Liabilities. However, for many Intellectual Liabilities it will be virtually impossible to determine a reasonable likelihood estimate and an associate monetary value (Harvey and Lusch, 1999). This is an especially difficult issue for many uncalculated economic liabilities such as terrorism or weak strategic planning (Harvey and Lusch, 1999). For these very hard or almost impossible to calculate economic liabilities, the treatment as

per Harvey and Lusch (1999) is to construct likelihood – impact matrix and assign values or metrics accordingly.

2.6.5 Limitations of the Current Standards in Recognizing and Reporting Intellectual Liabilities

There are several evidences that management literature and studies often inadvertently concentrate on organizational excellence, focusing only on success related concerns (Stam, 2009). Furthermore, according to Stam (2009), research of organizational failure or organizational decline is comparatively limited. Stam (2009) illustrates this by a simple internet search for keywords “organizational excellence” and “organizational failure.” Stam’s (2009) research reveals success-failure ratio of approximately 9:1. For the pair “high performance organizations” and “low performance organizations”, the result is ratio 141:1 in favor of “high performance organizations”.

When Stam’s (2009) simple internet search experiment was extended to the field of Intellectual Capital, the result reveal the lack of research on Intellectual Liabilities. The search for Intellectual Assets and Intellectual Liabilities reveals a ratio of 2,733:1. Even the review of Intellectual Capital measurement literature lends credence to Stam’s (2009) internet research.

The long held classical school of economic theory which believes that a “nation’s wealth” originates from tangible production factors (i.e., labor, land, and capital) is

gradually being replaced by the belief that Intellectual Capital is the most important factor for wealth creation (Grant, 1996; Eustace, 2000). Stam (2009) claims that if it is agreed that Intellectual Assets have become more value relevant than tangible and financial assets, then it is logical to also accept that Intellectual Liabilities have overtaken tangible and financial liabilities in terms of relevance to the firm. Review of Intellectual Capital related literature shows that the issue of Intellectual Liabilities measurement is rarely addressed (Harvey and Lusch, 1999; Cañibano et al., 2000; Stam, 2009; Garcia-Parra et al., 2009).

While some studies (Harvey and Lusch, 1999; Caddy, 2000) reason that it is likely that Intellectual Liabilities exist as a part of Intellectual Capital constructs, Abeysekera and Guthrie (2005) argue that the importance of Intellectual Liabilities is still being largely undermined. Whereas some recent studies on Intellectual Capital (Abeysekera and Guthrie, 2005; Ismail, 2005) have considered the Intellectual Liabilities, Stam (2009) maintains that the studies did not consider the subject within the confines of conventional Intellectual Capital measurement or impact on Firm Financial Performance.

The primary justification for most Intellectual Capital studies is the argument that the management of a firm must be able to identify and measure future success (Stam, 2009). In his argument, Stam (2009) extends this line of reasoning to the measurement of failure, maintaining that the firms should also identify and measure failure factors with

the same rigor as they identify and measure success factors. A firm's decision to disclose only the Intellectual Assets is regarded as one-sided, inaccurate, and misinforming to the stakeholders (Abeysekera and Guthrie, 2005). Harvey and Lusch (1999) insist that creating balance when reporting Intellectual Capital is essential for the balance sheet. Furthermore, Stam (2009) maintains that communicating only the firm's positive assets (or good side) is an act of window dressing, a similar flaw in the mainstream financial accounting. In the actual sense, most Intellectual Capital reporting practices have been lopsided (Stam, 2009).

According to Stam (2009), when Intellectual Liabilities are either unrecognized (which is often the case) or unreported, it can force the collapse of a conglomerate. This is evidenced by the collapses of Arthur Andersen, Enron, WorldCom, and other companies (Stam, 2009). A firm's success is, to a large extent determined by its ability to tackle the issues that can potentially result in failure (Stam, 2009). Additionally, Stam (2009) claims that a firm can be negatively affected by factors exceeding its Intellectual Liabilities. However, Stam (2009) points out that increasing awareness of Intellectual Liabilities and their potential effect on performance will increase a firm's ability to manage Intellectual Capital more effectively and efficiently. Furthermore, the firm's knowledge of potential problems can be enhanced by activities related to collating and analyzing data or information surrounding extant and potential Intellectual Liabilities (Stam, 2009).

Expanding traditional explanations of Intellectual Capital is important for analyzing potential Intellectual Liabilities and their effect on a firm's performance (Abeysekera, 2006). Additionally, in the tradition of the Intellectual Capital movement, new management tools and techniques must be developed that describe what Intellectual Capital items are and how to tackle each of them (Stam, 2009).

Although Stam (2009) recognizes the fact that a firm may possess a number of unrecorded liabilities could be unacceptable to some researchers, he argues that Intellectual Liabilities must be revealed to improve the organization's ability to anticipate the risk of failure (Harvey and Lusch, 1999). This thought forms the basis of Stam's (2009) theoretical framework for Intellectual Liabilities measurement to improve a firm's ability to quantify the issues that may lead to organizational decline.

Because historical research often reveals the phenomenon of decline, Stam (2009) designs his framework based on lessons from historical research, specifically, "the lessons drawn by Edward Gibbon (2003) with regard to the decline and fall of the Roman Empire." As the Colossus was perceived as a sign of deterioration (i.e., collapse) of the Roman Empire, Stam (2009) aimed his study at searching for "statues" (i.e., objects or items) that indicate deterioration in contemporary organizations. Therefore, Stam (2009) remarks that in Intellectual Capital literature, indicators of deterioration are referred to as Intellectual Liabilities.

2.6.6 Recent Studies on Intellectual Liabilities

Garcia-Parra et al. (2009) attempt to summarize existing studies on Intellectual Liabilities but their source list is severely limited. Of the 12 studies, as listed by Garcia-Parra et al. (2009), there is only one empirical study and one case study. The majority of the studies merely mention Intellectual Liabilities, from the perspective of value loss or depreciation, without exploring measurement perspectives or impact on Firm Financial Performance.

While recognizing the fact that most Intellectual Capital measurement models equate Intellectual Capital with Intellectual Assets, Garcia-Parra et al. (2009) maintain that sometimes firms cannot avoid incurring Intellectual Liabilities during the process of making their Intellectual Assets really actionable. Against this backdrop, Garcia-Parra et al. (2009) propose that Intellectual Liabilities unavoidably exist in a firm. Consequently, Garcia-Parra et al.'s (2009) study attempts to refine Intellectual Capital assessment techniques. In their study, therefore, the idea of Intellectual Liabilities is refined and extended, including those areas that have been omitted in previous literature and studies. Garcia-Parra et al.'s (2009) study reviews previous conjectural works on Intellectual Liabilities, and an empirical assessment of the employer-employee connections that can create Intellectual Liabilities. The results of the study of Garcia-Parra et al. (2009) are presented in two parts:

- Literature Review: Two research lines ensue from the literature review: Intellectual Assets and Intellectual Liabilities. These research lines are concerned

with the need for a broader definition and further exploration of intellectuals, especially regarding the need to focus more critically on both asset and liability sides. It appears there is a deviation from the traditional definition of liabilities from the perspective of Intellectual Assets depreciation. From this perspective, it seems identifying the causes of intangibles-related value loss is the primary focus. Application of intangible assets on bad inkling (Caddy, 2000), lack of employee commitment and know-how or loss of key employees (Garcia-Parra et al., 2009) and unwillingness to fulfill or outright non-fulfillment of financial obligations (Garcia-Parra et al., 2009) are examples of some actions that cause intangibles-related value loss. Beyond recognizing them as Intellectual Liabilities, Garcia-Parra et al. (2009) recommend that these factors also be considered as depreciation of Intellectual Assets. When the firm is the unit of analysis, the perspective that considers Intellectual Liabilities as non-financial obligation adheres to the traditional definition of liabilities, lacking both conceptual accuracy and theoretical connections generation (Garcia-Parra et al., 2009).

- Empirical Result: The empirical research was designed based on survey questions vis-à-vis the consequences of firm management's failure to fulfill non-monetary obligations (Garcia-Parra et al., 2009). According to the results of the empirical research, a firm failing to fulfill apparent obligations will likely have a negative effect on the organizational processes (Garcia-Parra et al., 2009). When the firm's inability or unwillingness to meet its obligations is recognized by the employees, the workers' willingness to apply their organizational knowledge is negatively affected which can hamper the flow of organizational processes (Garcia-Parra et al., 2009). As a consequence, it is worth conceptualizing these obligations as Intellectual Liabilities (Garcia-Parra et al., 2009).

One major limitation of Garcia-Parra et al.'s (2009) study is that their research has only reconnoitered Intellectual Liabilities in connection to firm employees, without taking into account Intellectual Liabilities that a firm can acquire when dealing with external bodies

such as suppliers and clients/customers. One way to strengthen the identification tools and measurement techniques for Intellectual Liabilities is for managers to expand their Intellectual Capital measurement models by considering not only the Intellectual Assets, but also the Intellectual Liabilities. Garcia-Parra et al. (2009) assert in their conclusion that acknowledging those potential conditions that can hamper organizational knowledge deployment will increase if managers consider taking Intellectual Liabilities into account.

Solitander (2011) compares the definition of Intellectual Liabilities with traditional accounting's definition of liabilities, claiming that the two definitions are quite different. According to Solitander (2011), liabilities in traditional accounting refer to "a present obligation of the enterprise arising from events, the settlement of which is expected to result in an outflow from the enterprise resources embodying economic benefits." On the other hand, Solitander (2011) embraces Stam's (2009) definition of Intellectual Liabilities i.e., "potential non-physical causes for organizational deterioration" as the basis of comparison with traditional accounting's definition of liabilities. Adopting Stam's (2009) proposed Intellectual Capital framework and following his line of reasoning, Solitander (2011) proposes that Intellectual Assets can be regarded as strengths and successes of the firm, and a source of competitive advantage. Conversely, weakness, failure, and competitive disadvantage should be attributed to Intellectual Liabilities (Solitander, 2011). His definition for each of the Intellectual Liabilities sources (i.e., Human, Structural and Organizational liabilities) is based on the framework proposed by

Stam (2009). Just as observed by Stam (2009), Solitander (2011) also observes that identifying a firm's Intellectual Liabilities does not necessarily translate into bad news, because Intellectual Liabilities can also precipitate the firm's innovation. However, the firm's innovation will depend on its ability to quickly adjust to the situation and develop new ways to move its business forward (Solitander, 2011).

Solitander's (2011) review of literature on the competitive side of Intellectual Capital refers primarily to the research trends that focus on the negative side of Intellectual Capital, claiming that Intellectual Liabilities are issues that decrease a company's value or worth. Notable among the findings of Solitander's (2011) study is the fact that inter-organizational relationships affect the flows of Intellectual Capital within the company. The findings particularly pinpoint knowledge protection (i.e., employees' unwillingness to share their knowledge owing to various reasons including games, power, silo mentalities, fear of being redundant, unsupportive managers, and other reasons) (Solitander, 2011). In addition, Solitander (2011) extrapolates the idea of competition as external to the firm which manifests through inter-organizational relationships and negatively affects the firm's internal flow. Another view expressed by Solitander (2011) is the issue of Intellectual Liabilities and collaboration. It is proposed that a firm's collaboration with competitors could engender gains with increased financial and Intellectual Assets (i.e., through learning and new ideas). On the other hand, Solitander (2011) claims that a firm's collaboration with competitors could lead to increased Intellectual Liabilities, resulting from dichotomous value creation, hampering the flow of

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Intellectual Capital within the firm. Solitander (2011) points out that certain collaborative issues, such as group think which can instigate managers' decision based on work group cohesion, could also result in liabilities. Moreover, Solitander's (2011) findings show that there is no linear relationship between Intellectual Assets and collaboration, and Intellectual Liabilities and competition. According to Solitander (2011), collaboration and competition are strategies for the firm's competitive advantage. He respectively compared sharing and protection of knowledge, and collaboration and competition, indicating that they are "not two ends of a scale." One of the limitations of Solitander's (2011) study is that the commercial effect of value creation and knowledge sharing/protection is not captured. Another limitation is that Solitander (2011) only considers the subject of Intellectual Liabilities from the abstract level without necessarily sub-grouping them when recognizing their existence in inter-organizational relationships.

Abeysekera's (2006) study considers some key concerns on the subject of Intellectual Capital disclosure by touching some of the strengths, weaknesses, and disconnects of the existing body of research. After a critical examination of the contemporaneous definitions of Intellectual Capital and Intellectual Capital disclosure, Abeysekera (2006) concludes as follows: Firstly, the diversity of Intellectual Capital definitions underscores the necessity to further the debate and effort toward reaching a uniform definition which ultimately must be extended to the more complex issue of disagreement about a generally accepted Intellectual Capital theory; and secondly, Intellectual Capital

disclosure definition is hardly debated in literature. However, Abeysekera (2006) examines methodological issues related to the application of source documents, frameworks for coding, and research methods. Additionally, focus is maintained on both positivist and critical theoretical sides applied in providing a theoretical groundwork for Intellectual Capital disclosure analysis. In his conclusion, Abeysekera (2006) maintains that addressing these issues is important to improve the reliability of Intellectual Capital disclosure. A major recommendation by Abeysekera (2006) is to improve the reliability of Intellectual Capital disclosure by strengthening the theoretical groundwork of Intellectual Capital disclosure studies. Abeysekera (2006) acknowledges that the positivist and critical theories can indeed reinforce the strengthening process. He argues, however, that studies across countries would profit from applying the political economy of accounting standpoint to start a much more critical consideration of such outcomes.

Although Caddy's (2000) study is regarded as one of the first studies to explicitly address the issue of Intellectual Liabilities, Stam (2009) claims that the subject of Intellectual Liabilities has not been adequately addressed in Caddy's (2000). Furthermore, Caddy (2000) contends that the current framework of Intellectual Capital adopted by firms has been somewhat inadequate. Caddy (2000) refers to the confusion surrounding the use of the terms "Intellectual" assets and "intangible" assets in literature: they are often used interchangeably, but Caddy (2000) maintains that differences exist between the two. Other concerns expressed by Caddy (2000) include

researchers' excessive focus on Intellectual Assets, and to a degree an inferred equality between Intellectual Assets and Intellectual Capital. The issue of Intellectual Liabilities as part of the factors to be considered within the Intellectual Capital equation is also considered. Caddy (2000) maintains that if the "double entry" concept is to be applied in Intellectual Capital then ideally there should be an allowance for the probability of a credit with each debit. Furthermore, Caddy (2000) claims that, in reality, Intellectual Capital is more correctly derived as a net figure "deducting Intellectual Liabilities from Intellectual Assets" instead of an ordinary summation of the firm's identified Intellectual Assets. Moreover, Caddy (2000) doubts the possibility of deriving actual absolute values for Intellectual Assets and Intellectual Liabilities.

Harvey and Lusch (1999) proposed the first definition of Intellectual Liabilities, alongside a system of classification and a six-step managerial framework to assess the amount of these liabilities (Garcia-Parra et al., 2009). Interestingly, most other studies on Intellectual Liabilities have continued to adopt Harvey and Lusch's (1999) definition of Intellectual Liabilities (Stam, 2009). Harvey and Lusch (1999) remark that the positive difference between a firm's market value and its book value results in value creation, is generally credited to intangible or Intellectual Capital. This remark forms the basis of other researchers' extrapolations in which they claim that the opposite situation will suffice to explain the existence of Intellectual Liabilities (Caddy, 2000; Garcia-Parra et al., 2009; Solitander, 2011).

Abeysekera (2004) codified both Intellectual Assets and Intellectual Liabilities having reasoned that both items together represent Intellectual Capital. The line count or frequency of Intellectual Capital is represented by the total score for a particular Intellectual Capital item (Abeysekera, 2004). While the line count designates the allocated space (i.e., volume) of a specified intellectual item, the frequency gives the intensity (or density) of a specified Intellectual Capital item: either in quantitative or qualitative manner; the number of times the description of an Intellectual Capital item appears determines the frequency in Abeysekera's (2004) study.

2.6.7 Disclosure of Intellectual Liabilities

In the "*knowledge economy*", emphasis is placed on Intellectual Assets rather than Intellectual Liabilities (Abeysekera, 2003). This may suggest the firm's inability to disclose in full extent or communicate to stakeholders the nature of their Intellectual Capital through annual reports and other public documents (Abeysekera, 2006). Moreover, Abeysekera (2006) claims that if the aforementioned argument is true, it means Intellectual Capital disclosure is a venture embarked upon by firms to favor their aspirations instead of providing a means to improve the quality of information shared with shareholders. However, according to Abeysekera (2004), Intellectual Capital disclosure in financial statements is seen by many practitioners and academics as a means of fashioning a reliable, unified, "true and fair" account of company activities. Abeysekera (2006) explains that while Mouritsen and his colleagues refer to Intellectual Capital statements as "true and fair," most often Intellectual Capital disclosure literature

is compiled based on analysis of texts in annual reports. In practice, not many firms provide distinct Intellectual Capital statements (Abeysekera, 2006). The intricate part of a firm's business is not necessarily reflected in a credible way when crafting Intellectual Capital disclosures that may result in cohesive reports (Abeysekera, 2006). Furthermore, according to Solitander (2011), Caddy (2000), and Garcia-Parra et al. (2009), and despite the fact the several studies have attempted to measure the disclosure of Intellectual Capital items, there are no known studies that have attempted to measure disclosure of Intellectual Liabilities.

2.6.8 Conclusion of Part Six

To date, very little research has been conducted on Intellectual Liabilities (Stam, 2009; Solitander, 2011). Although a conceptual methodology is suggested to recognize both Intellectual Assets and Intellectual Liabilities in the financial reports (Abeysekera, 2003), this effort is still meager (Stam, 2009). This is because the aforementioned methodology only uses the market value as a reference point, acknowledging that Intellectual Assets and Intellectual Liabilities items cannot be quantified correctly for individual identification. What has been done so far is mostly abstract, rather than empirical (Abeysekera, 2006). Some studies emphasize that balancing Intellectual Capital books requires reporting both Intellectual Assets and Intellectual Liabilities (Harvey and Lusch, 1999; Caddy, 2000; Stam, 2009). In other words, the urgent need for companies to incorporate Intellectual Liabilities when identifying and measuring their Intellectual Capital is underscored by experts (Harvey and Lusch, 1999; Caddy, 2000; Stam, 2009;

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Solitander, 2011). Consequently, researchers must concentrate on including Intellectual Liabilities in future conceptualized Intellectual Capital models (Harvey and Lusch, 1999; Caddy, 2000; Stam, 2009; Solitander, 2011). Furthermore, empirical testing of the expanded Intellectual Capital models is necessary (Harvey and Lusch, 1999; Caddy, 2000; Stam, 2009; Solitander, 2011).

CHAPTER THREE

RESEARCH METHODOLOGY

CHAPTER THREE – RESEARCH METHODOLOGY

3.0 OVERVIEW

Within the RBV context, the present research is aimed at investigating the effect of Intellectual Assets and Intellectual Liabilities disclosure on Firm Financial Performance of publicly listed companies in the UAE by using mixed-method research: quantitative and qualitative methods. A quantitative research approach, using statistical analysis of content analysis findings, will be applied to examine the relationships between the disclosure of Intellectual Capital components and Firm Financial Performance for publicly listed companies in the UAE for the fiscal year 2011. Empirical results will be compared to existing studies and logical arguments that are relevant to the field and practice of Intellectual Capital. In addition, a qualitative approach, using semi-structured interviews and follow-up interviews, will be applied to examine Intellectual Capital measurement and disclosure, and the effect of disclosure on Firm Financial Performance. The present research aims to develop a model that will reveal how Intellectual Capital components and tangible (financial) resources interact in the process of creating firm value. Furthermore, the present research will identify and address any disconnect between UAE based firm managers and academic research on the subject of Intellectual Capital, especially in terms of measurement, disclosure, and effect on performance. Moreover, adopting a mixed-method research approach allows the research to carry out evidence triangulation and complementation. Therefore, the

employed mixed-method research is expected to generate a valid addition to the body of literature on the integration of the RBV theory and the importance of Intellectual Capital components.

The mixed-method research paradigm integrates both quantitative and qualitative methodologies (Tashakkori and Teddlie, 1998; Creswell, 1999; Johnson and Onwuegbuzie, 2004; Creswell, 2003; Creswell, 2006). Essentially, the employed mixed-method research paradigm in the present research is comprised of reviewing existing seminal literature (desk research), content analysis of existing corporate data (desk research), and semi-structured interviews with primary stakeholders in the industry (field research).

3.1 APPROPRIATENESS

The nature of data and the research problem determine the type of methodology or mix of methodologies appropriate for a study (Creswell and Plano Clark, 2007; Chen, 2012). In the present research, data collection will be in three phases. In the first phase, the objective is to collect the relevant quantitative information using the annual reports of publicly listed companies, while the second phase will use semi-structured interviews to collect qualitative information. The third phase will involve the use of follow-up interviews to complement the collection of qualitative information. The mixed-method research is selected for this research because it has the potential of filling the vacuum in

the previous research studies on Intellectual Capital Disclosure on Firm Financial Performance, including difficulties in addressing the relationships between the various components of Intellectual Capital and Firm Performance (Creswell and Plano Clark, 2007; Chen, 2012). The mixed-method research approach seems to be appropriate for the current research because it provides the researcher with the ability to study the interactions between various components of Intellectual Capital which ultimately leads to value creation as pointed by the RBV (Kristandl and Bontis, 2007; Bhasin, 2011; Chen, 2012).

Basically, the mixed-method research approach presents a more cogent evidence for considering a research problem than does either the quantitative research or qualitative research alone (Creswell et al., 2003). Therefore, the mixed-method research is appropriate for the present research because it makes the achievement of evidence triangulation and complementation possible (Creswell and Plano Clark, 2007; Chen, 2012). Moreover, the mixed-method research is also appropriate for this research because it helps to overcome the problems encountered in the use of single methods i.e., quantitative and qualitative (Johnson and Onwuegbuzie, 2004; Creswell and Plano Clark, 2007; Chen, 2012). Furthermore, the objective of Intellectual Capital reports includes the recording, management, and documentation of knowledge-based processes, in addition to providing the firm's management and all concerned stakeholders with new sets of qualitative and quantitative information (Bezhani, 2010). Therefore, and based on this objective of Intellectual Capital reporting, the mixed-

method research seems to be the best choice for the present study because it covers both qualitative and quantitative methods; in addition, it considers the midpoint between the two methods (Johnson and Onwuegbuzie, 2004).

3.1.1 Qualitative Research and Intellectual Capital Studies

Tavallaei and Abu Talib (2010) claim that developing an unambiguous, valid, irrefutable, and globally acceptable definition for qualitative research is challenging. However, Tavallaei and Abu Talib (2010) seem to endorse Denzin and Lincoln's (2005) definition of qualitative research because it is relatively comprehensive:

"Qualitative research is a situated activity that locates the observer in the world. It consists of a set of interpretive, material practices that make the world visible. These practices transform the world. They turn the world into a series of representations, including field notes, interviews, conversations, photographs, recordings and memos to the self. At this level, qualitative research involves an interpretive, naturalistic approach to the world. This means that qualitative researchers study things in their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meaning people bring to them."

Qualitative research is applied in Intellectual Capital studies because researchers believe that it helps in understanding the participants (through their speech or action), or the meaning of an idea, a concept, or a view within the field of Intellectual Capital (Tavallaei and Abu Talib, 2010). Using the qualitative research in Intellectual Capital studies provides the researcher with the ability to explore the means of enhancing the

effectiveness of specified models and the proxies employed in the quantitative study (Creswell and Plano Clark, 2007; Chen, 2012). As revealed in existing literature, previous studies have not adequately applied the qualitative research approach to study all the relevant phenomena within the field of Intellectual Capital disclosure (Creswell and Plano Clark, 2007; Chen, 2012). For instance, Chen (2012) argues that in previous studies, not many researchers have applied the qualitative research to examine the various forms of interactions and transformations that exist between the various elements of Intellectual Capital vis-à-vis firm value creation chain. Furthermore, Chen (2012) opines that researchers should have employed the qualitative research approach to the examination of the cause-and-effect relationship between Intellectual Capital components and Firm Financial Performance (Creswell and Plano Clark, 2007; Solintander, 2011; Chen, 2012).

The main qualitative data collection methods such as surveys, interviews, and case studies are often applied in Intellectual Capital research because the concept of Intellectual Capital measurement in firms is still relatively in its early stages (Brennan and Connell, 2000; Marr et al., 2003; Boedker et al., 2005). This is a major importance of qualitative research methods in Intellectual Capital studies. The qualitative research approach has been used by a number of Intellectual Capital researchers to investigate a number of phenomena, such as measurement of Intellectual Capital, disclosure of Intellectual Capital, and modeling of Intellectual Capital (Brennan and Connell, 2000; Mouritsen et al., 2001b; Bontis and Fitz-enz, 2002; Cuganesan, 2005; Wang and

Chang, 2005; Reed et al., 2006; Dammak et al., 2010; Arvidsson, 2011; Solintander, 2011). However, there are several fundamental disadvantages associated with the use of qualitative research, including sampling, reliability, validity, and generalizability.

These issues will be discussed in this chapter.

3.1.2 Quantitative Research and Intellectual Capital Studies

The quantitative research approach involves data generation in quantitative forms which is subjected to formal, thorough, and rigid quantitative analysis (Johnson and Onwuegbuzie, 2004).

A major advantage of quantitative research in Intellectual Capital studies is that it focuses particularly on the attempts to create an integrated framework for examining the links between all components of Intellectual Capital (Creswell and Plano Clark, 2007; Chen, 2012). Furthermore, the quantitative research presents Intellectual Capital researchers with variables or proxies that are useful in identifying codes and concepts labeling when processing qualitative data (Creswell and Plano Clark, 2007; Chen, 2012). According to Chen (2012), the concepts being labeled are usually obtained from the existing literature and can draw the researcher's attention to their existence in the case data.

However, in Intellectual Capital research, the quantitative research method has a major disadvantage because it entails the use of isolated quantitative financial measures to

assess the performance of a firm (Joshi et al., 2011). Using quantitative financial measures as a single method for firm financial performance assessment is inadequate because such measures not only fail to give a full and precise assessment of the firm's assets, they also fall short of providing the firm's potential for future growth (Chen, 2012).

However, despite of its advantages, several Intellectual Capital researchers have used quantitative methods alone, or have used a combination with qualitative methods in order to overcome some of the disadvantages associated with the use of quantitative methods alone; some of these researchers include Guthrie and Petty (2000), Guthrie (2001), Lev and Zarowin (1999), Chatzkel (2003), Hassan (2009), Kamukama et al. (2010), and González-Loureiro and Teixeira (2011).

3.1.3 Mixed-method Research

Johnson et al. (2007) define the mixed-method research as follows:

“Mixed-method research is the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches (e.g., use of qualitative and quantitative viewpoints, data collection, analysis, and inference techniques) for the broad purposes of breadth and depth of understanding and corroboration”.

Researchers claim that the mixed-method research approach is both logical and practical, because more often than not it leaves no room for the weaknesses associated

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with the use of qualitative or quantitative methods alone (Creswell and Plano Clark, 2007; Chen, 2012). According to Johnson et al. (2007), the mixed-method research approach also provides more helpful, accurate, balanced, and reliable research results. The mixed-method research approach essentially is based on the pragmatic philosophical perspective (Creswell and Plano Clark, 2007; Chen, 2012). The pragmatic philosophical perspective asserts that scientific inquiry is not always subject to formalism, and the inquirer's epistemological orientation may be objective and/or subjective during the period of attempting to solve a research question (Creswell and Plano Clark, 2007; Chen, 2012). It is based on this view that some researchers in the field of social science claim that applying both qualitative and quantitative research approaches are valuable; in addition, they claim that research experts need to take the most advantage of these research methods to appreciate the social phenomena in a research study (Creswell and Plano Clark, 2007; Tashakkori and Teddlie, 1998; Chen, 2012).

The management and accounting research fields historically have been dominated by positivism; however, in the last twenty to thirty years the mixed-method research seems to have gained some growing interest because it explores accounting reality better than either method individually (Creswell and Plano Clark, 2007; Chen, 2012). In the contemporary research arena, positivism is regarded as an inappropriate choice for addressing quantitative research, as positivism seems to have been long replaced by more recent scientific philosophies, such as neutralism; this is based on the belief that

positivism is a one-sided paradigm (Johnson and Onwuegbuzie, 2004). Moreover, the term positivism is too weak and does not stand for any contemporary research (Johnson and Onwuegbuzie, 2004). In reality, positivists believe that there is only one measurable reality, whereas the mixed-method research works based on the belief that multiple, continually changing realities exist which are difficult but not impossible to measure (Johnson and Onwuegbuzie, 2004). Other aspects of the positivist paradigm include the following:

- Researcher and participants in the research can be independent of one another, without necessarily influencing one another (Tuli, 2010);
- Research findings can be generalized from the sample into the larger target population (Tuli, 2010);
- It is possible to conduct research in an objective and value-free manner (Tuli, 2010); and
- Testing of cause-and-effect relationships is possible (Tuli, 2010).

The motivation to adopt the mixed-method research approach for the present research stems mainly from the development of the mixed methodology in management and accounting research. In the present research, the philosophical assumptions will take a middle position which is the deciding factor for choosing the mixed-method research. Taking a middle position implies that philosophical assumptions will align with the existence of multiple realities which can only be studied holistically; furthermore, it implies that the prediction or control of these realities is not possible, though certain level of understanding is achievable.

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In the conduct of scientific research, it is important that the researcher makes a methodological choice; a step usually determined by the researcher's philosophical assumptions (Creswell et al., 2003; Creswell and Plano Clark, 2007; Tashakkori and Creswell, 2007; Chen, 2012). Furthermore, the determinants of the methodological choice also include the level of available resources and attributes and all the components of the research phenomena (Creswell and Plano Clark, 2007; Chen, 2012). In the present research, using the mixed-method research approach is determined by the author's philosophical assumptions as well as the gaps in the existing literature that revolve around the dilemmas in the Intellectual Capital research field. In extant research literature, the mixed-method research approach creates a vacuum because some researchers still fail to take the middle position in their philosophical assumptions, thereby leaving no room for the existence of multiple realities (for example, Durst and Gueldenberg, 2007).

Applying the RBV, Chen (2012) examines the importance of intangibles in some European banks using mixed-method research. Chen (2012) adopts the quantitative research approach, using surveys and secondary data from publicly sources, to investigate the connections between different intangible elements and the performance of banks. The results, among other findings, reveal that Human Capital at the top management level positively affects either bank financial performance and/or customer relationships (Creswell and Plano Clark, 2007; Chen, 2012). On the other hand, Chen

(2012) also applies the qualitative research approach to examine measurement, disclosure, and modeling of intangibles by using semi-structured interviews. Chen's (2012) argument for adopting the mixed-method research is rooted in the ability of the mixed-method research to provide a procedure for collecting, analyzing, and integrating qualitative and quantitative research data. In line with Chen's (2012) argument, it is believed that adopting the mixed-method research enables the present research to realize evidence triangulation as well as complementation.

3.2 RESEARCH DESIGN

Research design, as stated by Creswell and Plano Clark (2007), refers to the data collection, analysis, interpretation, and reporting procedures in research studies. For more than 30 years, researchers have made great efforts towards classifying the mixed-method research design (Tashakkori and Teddlie, 1998; Creswell and Plano Clark, 2007). Considering the various arguments on mixed-method designs classification, it is obvious that a variety of research design options exist (Creswell and Plano Clark, 2007). Even as different attributes have been highlighted and debated, it seems there are more similarities than differences among mixed research methods designs classifications, in which some issues are riveted in all of them (Creswell and Plano Clark, 2007). In essence, not only are these issues imperative for each mixed-method research, they also must be cautiously taken into consideration at the stage of research

design (Creswell and Plano Clark, 2007). Such issues include the following (Creswell and Plano Clark, 2007):

- The data collection and analysis sequence;
- The precedence or level of importance attached to the quantitative and qualitative study; and
- The level(s) in the research process in which there is connection between quantitative and qualitative phases, and where integration of the results takes place.

Therefore, this section deals with the decision-making process of the research design of the present research, taking into account the above highlighted issues, to wit:

- Research implementation decision;
- Research weighting decision; and
- Research mixing decision.

3.2.1 Research Implementation Decision

The temporal relationship between the quantitative and qualitative collection and analysis of data is referred to as research timing which is otherwise termed "research sequence" or "research implementation" (Creswell and Plano Clark, 2007). Research timing determines whether the methods (quantitative and qualitative) are applied sequentially (following each other) or concurrently (running together) (Creswell et al., 2003).

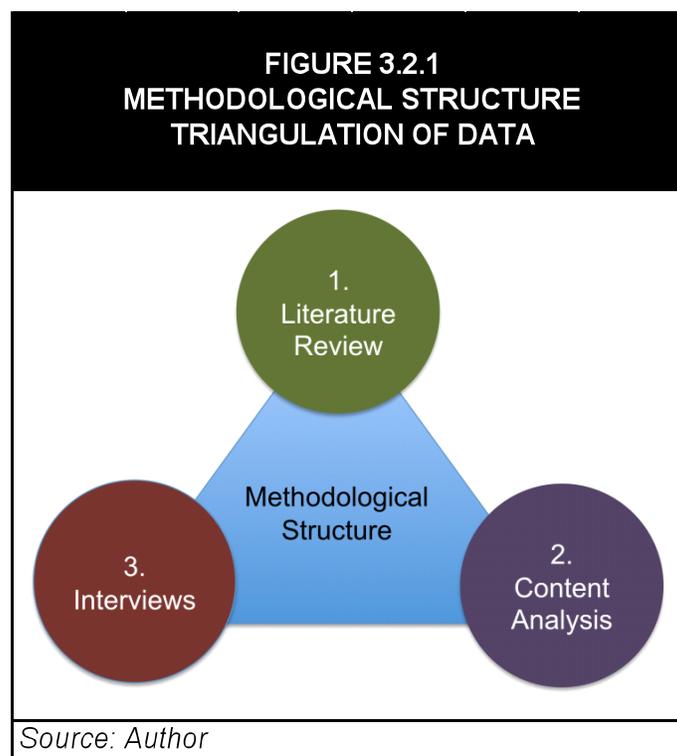
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In their attempt to deal with the implementation decision, researchers have defined two paths for designing the mixed-method research: sequential explanatory study design or concurrent study design (Creswell and Plano Clark, 2007). The sequential explanatory design study involves data collection over a specified period, and in two successive phases (Creswell and Plano Clark, 2007). Sequential design is best applied when the researcher seeks an explanation or attempts to develop a concept (Creswell and Plano Clark, 2007). Concurrent timing is used when collection, analysis, and interpretation of both quantitative and qualitative data all take place at, or almost at, the same time (Johnson and Onwuegbuzie, 2004). The concurrent timing approach is generally applied when taking advantage of data triangulation or embedment of results because it makes the best use of the extensive data collection efforts often involved in the mixed-method research (Creswell and Plano Clark, 2007). The concurrent research design has the capacity to offset methodological weaknesses and stimulate further insight into the subject of study (Creswell and Plano Clark, 2007). According to Creswell and Plano Clark (2007) triangulated concurrent mixed-method research design gives the researcher the opportunity to explore the level to which open-ended qualitative arguments favor quantitative results from survey data. Moreover, Creswell and Plano Clark (2007) maintain that this ultimately gives the researcher the advantage of holistically interpreting the statistical relationships and the results of confirmation.

The present research is designed as an empirical study of the relationships between Intellectual Capital Disclosure and Firm Financial Performance for publicly listed

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companies in the UAE. As Figure 3.2.1 shows, the aim of the present research is to respond to the main research question by way of a triangulation of research data within a concurrent mixed-method research paradigm.



Triangulation remains a key concept in mixed-method research because it communicates much of the *raison d'être* behind adopting mixed-method research, representing a set of main beliefs to strengthen the design, analysis, and findings interpretation in impact assessment (Narayanasamy, 2009). Triangulation considers research concerns from various perspectives, and therefore it is considered a good method of properly addressing problems stemming from studies that depend on a single investigator/researcher (Mikkelsen, 2005). Furthermore, it is believed that studies that

depend on a single research method are weak because they are mostly conducted based on a single research theory, a single research method, or a single data set; however, triangulation addresses this problem (Mikkelsen, 2005). Different triangulation types exist; broadly, they are as follows (Mikkelsen, 2005):

- Data Triangulation: Studies a problem by applying different data types, considering the influence of time, or different analysis units;
- Investigator Triangulation: Refers to cases where more than one investigator work on the same problem;
- Discipline Triangulation: The same problem is studied by investigators with expertise in different disciplines;
- Theory Triangulation: Multiple competing theories are applied to study the same problem; and
- Methodological Triangulation: Studying a problem using different techniques, or the same technique over time. Methodological triangulation is the method that will be applied in the present research.

Concurrent mixed-method design has been chosen for this current research because the aim is to examine the research problem both theoretically and practically. The main focus of the present research is to study the same phenomenon using both numerical and narrative data. This will enable the development of an extensive and complementary understanding of the core phenomenon under study. Furthermore, while two data types are collected from two different sources, their analyses will be carried out using a complementary approach. In other words, the two data sets will be analyzed at the same time.

Senior-level business executives will be interviewed for the qualitative aspect of the present research. However, arranging interviews with the target population might be difficult and time consuming; the researcher might be forced to wait for the interviewees to respond positively. This means using the sequential mixed-method research is inappropriate for conducting the present research because it will be difficult to complete the research within a reasonable time frame. For this reason, the concurrent research appears to be the better choice for the present research.

3.2.2 Research Weighting Decision

When answering the research question, it is important to weight the relative significance or priority of the quantitative or qualitative research methods after concluding the timing phase of the research design (Creswell and Plano Clark, 2007). This process is known as research weighting decision (Creswell and Plano Clark, 2007). Thus, the weighting of the quantitative and qualitative research methods must be determined (Creswell and Plano Clark, 2007). There are two weighting approaches in concurrent research designs. The quantitative and qualitative research methods are given either equal or unequal weights (Creswell and Plano Clark, 2007). If unequal weights are given, the research problem is addressed by giving more priority to one method than the other (Creswell and Plano Clark, 2007). The prioritized approach during the processing of data collection and analysis often depends on a number of factors, including the

research question, research purpose, and the researcher's beliefs (Creswell, 2003; Creswell and Plano Clark, 2007).

Equal priority will be given to both qualitative and quantitative research approaches in the present research. This decision is fundamentally rooted in the purpose of the present research which is to examine the relationships between Intellectual Capital disclosure and Firm Financial Performance for publicly listed companies in the UAE. While it is argued that qualitative research method is a great tool in the investigation of open-ended information (i.e., complex phenomena) with dearth of supporting theories, quantitative research on the other hand deals with closed-ended information (Johnson and Onwuegbuzie, 2004). Therefore, setting the priority level of each of the two research methodologies in a mixed-method research is important because it determines the point at which open-ended and closed-ended sets of information are addressed (Johnson and Onwuegbuzie, 2004).

3.2.3 Research Mixing Decision

According to Creswell and Plano Clark (2007), the research mixing decision refers to the link between the quantitative and the qualitative data. In other terms, it deals with how quantitative research data relate to qualitative research data (Creswell and Plano Clark, 2007). When using the mixed-method research approach, researchers are able to apply all of the tools available for data collection instead of being limited to applying the only data collection types that are often applied when carrying out either quantitative

or qualitative research alone (Creswell et al., 2003). It is argued that it is important to consider all the possibilities associated with data collection in any study (Creswell et al., 2003). It has also been argued that it is crucial to organize the various techniques of data collection by their level of preset nature, their application in terms of questioning (i.e., closed-ended questions versus open-ended questions), and their spotlight for analysis of data (i.e., numeric data analysis versus non-numeric analysis) (Creswell, 2003). In mixed-method research, certain approaches have been established by several studies which include (Creswell et al., 2003):

- Archived and research data
- Document data
- Focus groups
- Interviews
- Observation
- Questions which are either open-ended or closed-ended
- Text and image analysis

Creswell and Plano Clark (2007) opine that, at a minimum, a researcher must be well acquainted with all data collection approaches, including quantitative, qualitative, and mixed-method data collection approaches and techniques of analysis. Therefore, in order to strengthen the research design, the present research examines all the relevant data collection approaches, including seminal literature review, content analysis, and semi-structured interviews.

3.2.4 Research Process

When considering the mixed-method research approach, scientists generally combine both qualitative and quantitative research approaches in various forms (Buber et al., 2004). Basically, all kinds of qualitative and quantitative combinations, as described by Buber et al. (2004), will be applied in the present research. When applying the mixed-method approach in research, Buber et al. (2004) warn of some definitional issues, including issues relating to paradigmatic as well as other problems naturally connected with mixing methods. Buber et al. (2004) attempted to differentiate between qualitative approach and quantitative approach; thus, they base their definitions on the following (Buber et al., 2004):

- Data type in use which may be structured or unstructured, and textual or numeric;
- Logic applied which may be inductive or deductive;
- Investigation type which may be exploratory or confirmatory;
- Method of analysis which may be interpretive or statistical;
- Explanation approach which may be variance theory or process theory; and
- Generally accepted underlying paradigm which may be positivist or critical/interpretive, and rationalistic or naturalistic.

It seems that the existing literature has not clearly expressed what the mixed-method research is about in order for researchers to have a common understanding of this technique (Creswell and Plano Clark, 2007; Chen, 2012). However, it is believed that the mixed-method research is a continuum that has an array of independent facets

along which any form of research, quantitative or qualitative, may be established (Buber et al., 2004). If numbers are used, interpretation will still be required. If data texts are used, it is still very likely that counting will be required (Buber et al., 2004). Variables for all intents and purposes have no straightforward meanings; numeric analyses and narratives can be used to reveal processes (Buber et al., 2004). This lack of ability to specifically differentiate one methodology from another holds consequences for the satisfactoriness of mixing methods as drawing clear “lines of conflict” is not possible (Buber et al., 2004).

Since there is no basic congruence between the various dimensions of the quantitative-qualitative characteristics, the terms on their own are most functional either for presenting an idea of general direction in a study, or to simply describe the data type in use. This explains the application of the term approaches in the present research.

Therefore, the present research is designed as follows:

Research Step One: Desk Research – In-Depth Literature Review Part 1

The overall importance of literature review is to provide the researcher with logical justification, indicating clearly how a contemplated research is different from the existing research (Blaxter et al., 2006). Literature review is also important because it enables the researcher to develop a logical case or an argument founded in the literature that has been reviewed (Blaxter et al., 2006). Therefore, working from the preliminary literature

review carried out for the purposes herein, an in-depth review of the seminal authors within the domain of Intellectual Capital is the first step completed with the research process. Part One of the In-Depth Literature Review provides a solid foundation on which the Content Analysis of Step Two is considered and placed into an overall scientific context both from the perspective of academic as well as professional knowledge. The literature research process in general has been broken into two parts for illustrative purposes. In reality, the literature review is an on-going iterative process that will continue in parallel as the content analysis of Step Two and the Semi-Structured Interview process of Step Three are carried out and finalized. The In-depth literature review will be returned to in a more formal manner in Step 4 in order to provide more academic detail in the exploration of the “Gap” analysis stage.

Research Step Two: Desk Research - Content Analysis

Based on the foundational readings of the Literature Research – Part 1 mentioned above, a quantitative analysis considering a series of null hypotheses based on data obtained from annual reports, supporting commercial documents and other data sources is considered in order to develop an empirical understanding of the relationship of Intellectual Capital disclosure to Firm Financial Performance, i.e.: independent versus dependent variables. Data analysis will be concluded using SPSS.

Research Step Three: Field Research - Semi-Structured Interviews

With the benefit of the Literature Research completed in Step One and the results of the content analysis from Step Two, the field research takes the form of a qualitative semi-structured interview process with key strategic stakeholders within the industry. The development of the interview questions is informed by results of the Literature Review and Content Analysis steps. Stakeholders to be considered are industry participants at a Vice-President position and above with a minimum of five years of industry experience within the UAE stock exchange listed companies. At present, there are 124 UAE listed companies. Sample size is to include fifteen (15) unique participants from varying companies. Unique participant is defined as one respondent from each unique company who is permitted to participate in the interview process in order to ensure data integrity and safeguard from error due to duplication of responses. Interviews are held in person at a location amenable to the subject and last between thirty (30) to forty five (45) minutes in length. Interviews are tape recorded unless objected to by the participant in which case manual notes are taken. The results of the semi-structured interviews are analyzed using NVIVO.

Research Step Three B – Field Research – Follow-Up Interviews

Five (5) Follow-up interviews of a more specific and narrow view informed by the first round of interviews, content analysis and literature review to date are concluded with a smaller sub-set of respondents from the First Round sample. Follow-up interviews have the benefit and insight of the First Round Interviews, previous content analysis and

literature review, and therefore provide an even deeper understanding of the relationship between Intellectual Capital disclosure and Firm Financial Performance by uncovering additional personally held beliefs and subtle understandings of the critical factors considered with respect to Intellectual Capital in the commercial day-to-day environment of the selected participants.

Research Step Four – Desk Research – In-Depth Literature Review – Part 2

Once the second round of interviews is completed and a more granular appreciation of the issues faced by the sample participants is uncovered through the statistical analysis of both the quantitative (SPSS) and qualitative data (NVIVO) a return to the Literature Research is completed to further refine the scope and consideration of the existing knowledge within the academic field. This step is necessary and critical in order to ensure that the scope of the research is as delineated as possible and that the most critical, important and recent literature is considered going forward.

Research Step Five & Six – Triangulation of the Data & Gap Analysis

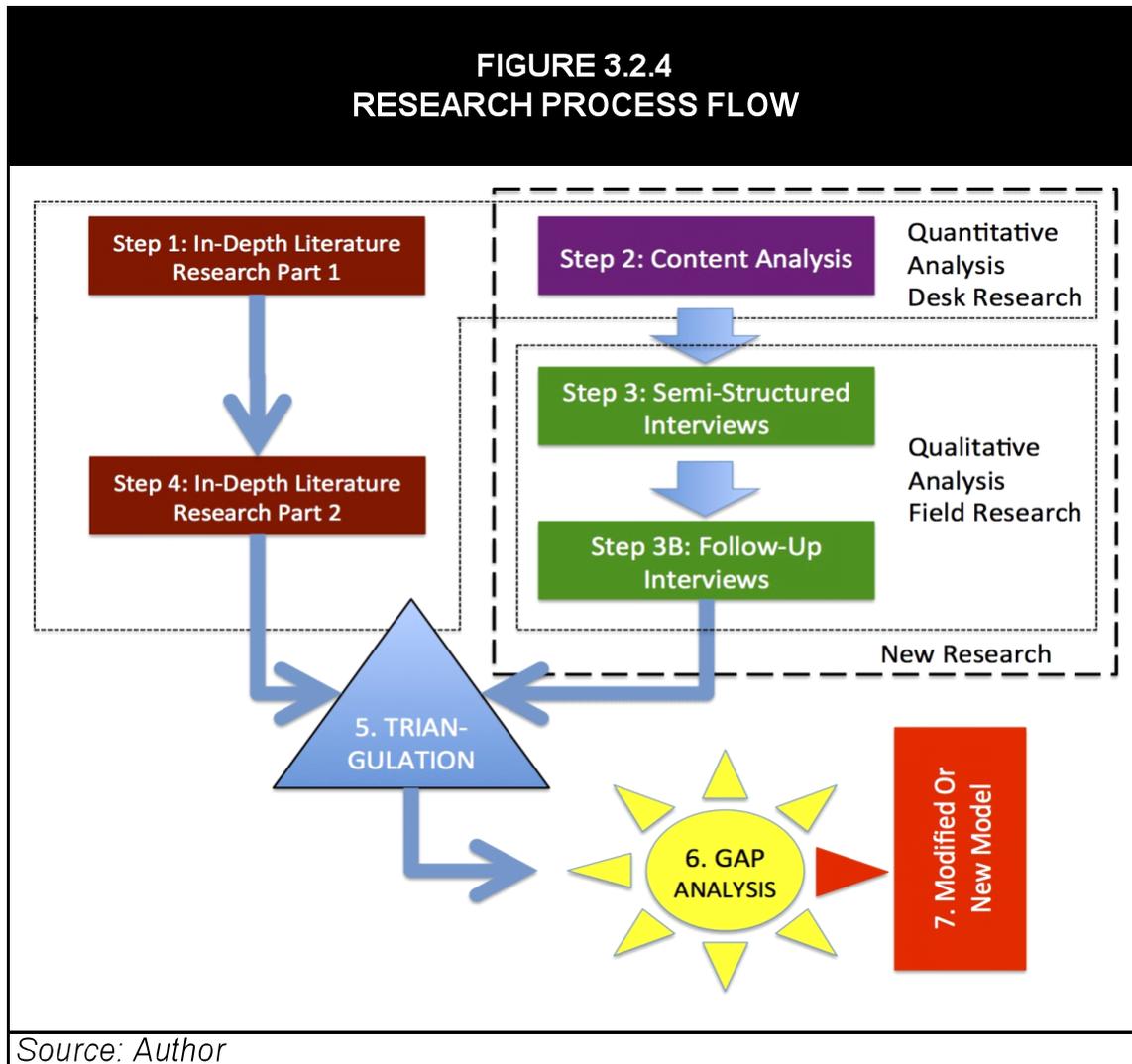
With the benefit of the both the desk and field research being completed in the form of content analysis, two-stage participant interviews and exhaustive literature research a triangulation of the data is considered and analyzed in order to determine whether or not the existing academic knowledge is congruent with the practical application of the field on a day-to-day commercial basis. The result of this analysis should dictate

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whether or not a “Knowledge Gap” exists between the academic (theoretical) and the practical (applied) domains.

Step 7: Development of New Model

Building on the Gap Analysis in Step Six and determination of whether agreement is shown between the practical application and the theoretical analysis of the seminal literature a thorough analysis of the existing frameworks within the academic domain will be made.



This analysis will inform whether or not the existing frameworks sufficiently address the requirement for practical application existing within the industry and whether or not they may be further improved or modified. The same analysis if showing significant disagreement between the theoretical models and the practical application found within industry will dictate the development of a new model or framework as an alternative methodology for Intellectual Capital with the intent of bridging this “Gap” between the

theory and practice. This final step in the research is considered to be the contribution of original knowledge taking the form of the development of a uniquely modified or significantly new framework or model. The above Research Steps are illustrated in Figure 3.2.4.

3.2.5 Relevance of UAE Stock Market to the Present Research

In the present research, quantitative research data is obtained from the UAE stock market publications, open data, and the various indicators of the economy and the firms available from statistical agencies. On the other hand, qualitative research data is obtained through semi-structured interviews with key strategic executives. Before proceeding with this section, it is necessary to discuss briefly the history and importance of the UAE stock market, especially with a focus on its relevance to the present research.

Officially founded in 2000, the UAE stock market trading used to be the over-the-counter type (DFM, 2012; ADX, 2012). The UAE stock market is comprised of the DFM and ADX (Khedhiri and Muhammad, 2008). The DFM started its operations in April 2000 while the ADSM started in November 2000 (Khedhiri and Muhammad, 2008). The ADSM was renamed into the ADX in May 2008. The Emirates Securities and Commodities Authority (“ESCA”), which was established in January 2000, monitors the activities of both markets. Commendable growth and general improvements are seen in both ADX and DFM since their inception (Oxford Business Group, 2007). Since

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inception, the UAE stock markets have grown in terms of capitalization and company listing because of the welcoming investment climate in the UAE (Khedhiri and Muhammad, 2008). The number of listed companies in the UAE stock markets has increased by 377% from 26 companies in 2000 to 124 companies in 2012 (Bloomberg, 2012). Furthermore, market capitalization increased by 170% from \$44.5 billion in 2003 to \$120 billion in 2012 (Bloomberg, 2012). The companies listed on the DFM are mostly Emirati companies in addition to some secondary listings from the neighboring Gulf countries, in particular Kuwait (DFM, 2012; ADX, 2012). The main trading floor is in Abu Dhabi. The ADX also has secondary listings for several companies elsewhere in the Middle East and North Africa (“MENA”) region.

Table 3.2.5 A shows the number of listed companies in each of the member countries of the Gulf Cooperation Council (“GCC”).

| TABLE 3.2.5 A LISTED FIRMS IN THE GCC | |
|--|-------------------------------|
| Stock Market | Number of Listed Firms |
| Kuwait | 195 |
| Kingdom of Saudi Arabia | 161 |
| United Arab Emirates | 124 |
| Oman | 123 |
| Qatar | 43 |
| Bahrain | 32 |
| Total GCC | 431 |
| <i>Source: Bloomberg, 2012</i> | |

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As evidenced by Table 3.2.5 A, the UAE ranks third in the GCC in terms of number of publicly listed companies; hence, the relative importance of the stock markets in the UAE.

Market capitalization is the price of a share of stock multiplied by the number of shares outstanding (Eiteman et al., 2010). Most studies suggest that the macroeconomic environment has an important effect on the stock market capitalization through indices, such as GDP, exchange rates, interest rates, current account, and money supply (Kurihara, 2006; Ologunde et al., 2006). The comparison between the market capitalization of the UAE stock markets and the total Arab market capitalization in 2012 is shown in Table 3.2.5 B (IMF, 2012):

| TABLE 3.2.5 B ARAB MARKET CAPITALIZATION IN 2012 | |
|---|---|
| Country | Market Capitalization in Billions of USD |
| Kingdom of Saudi Arabia | 397 |
| United Arab Emirates | 125 |
| Qatar | 117 |
| Kuwait | 102.7 |
| Others | 67.4 |
| Morocco | 61.5 |
| Egypt | 61.2 |
| Jordan | 27 |
| Syria | 1.4 |
| Total Arab Market Capitalization | 960.2 |
| <i>Source: IMF, 2012</i> | |

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As evidenced by Table 3.2.5 B, the UAE accounts for the second largest marketplace in the Middle East in terms of capitalization.

Since the present research focuses on the relationships between Intellectual Capital disclosure and Firm Financial Performance for publicly listed companies in the UAE, understanding the UAE financial market is very critical (Ceil, 2012). Understanding the UAE financial market is necessary for capturing the general economic/financial performance of the companies listed in the country (Ceil, 2012). The importance of stock markets is emphasized because stock markets provide firms the opportunity to raise capital for their investment (Ceil, 2012). Furthermore, through the current prices in the stock market, the expectations of the firm's profitability are determined (Ceil, 2012). Since research has substantiated that firm profitability may be connected to its Intellectual Capital disclosure (Abdolmohammadi, 2005; Aljifri and Hussainey, 2007; Abhayawansa and Abeysekera, 2009) and general economic activity (Ceil, 2012), the UAE stock market constitutes an economic activity which provides information that plays a very significant role in the present research.

After the historic stock market collapse in 1987, several studies have been carried out by academics and practitioners to better understand the UAE stock market behavior with regard to various parameters, including volatility (Khedhiri and Muhammad, 2008) and forward-looking information (Aljifri and Hussainey, 2007). While most of the existing studies on the UAE stock market do not deal with Intellectual Capital disclosure (Aljifri

and Hussainey, 2007; Hassan, 2009), other accounting disclosure related studies have only investigated the relationship between disclosure level and corporations-specific or country-specific variables or characteristics (Hassan, 2009). Therefore, Hassan (2009) argues that significant focus should be on the investigation of other disclosure dimensions because it will encourage transparency and boost investors' confidence. Hassan's (2009) argument on the introduction of other dimensions finds wide expression in the UAE because research that investigates such dimensions is very insignificant in this country (Aljifri and Hussainey, 2007; Gulf News, 2010). Scholars have also observed that Intellectual Capital disclosure studies have focused more on the Western and European markets, leaving out the UAE market (Hassan, 2009).

In addition to the above background, the UAE market is also important due to a number of factors, including (Hassan, 2009):

- As an emerging capital market, second largest in the Gulf region in terms of market capitalization, the UAE market seems to espouse market based economic beliefs as well as trade liberalization paradigm;
- Compared to other advanced capital markets such as the US, UK, and Australia, the accounting professional practice in the UAE still measures below standard in terms of Intellectual Capital Disclosure practices; and
- The regulatory framework in the UAE features different disclosure legislations that need to be researched further to align with the legislations in advanced economies.

Due to the importance of the UAE stock market in the Gulf and the factors highlighted above, the present research utilizes secondary (i.e., quantitative) data from the UAE stock market. This quantitative data will be scrutinized against validity, reliability, accuracy, objectives, inflation and currency adjustments, and business nature (Buber et al., 2004). Data from interviews will be obtained from participants taken from the aforementioned list and two or three of the largest companies will be selected for the interviews which total 15.

3.2.6 Relevance of Semi-Structured Interview to the Present Research

One of the research methods to be used in the assessment of primary data in the present research is semi-structured interviews method with key strategic personnel of publicly listed companies in the UAE. Yin (2003) maintains that undeniably, interview method is the most applied data collection approach in qualitative research studies. Three types of interview are often used in research namely: unstructured, semi-structured, and structured interviews (Yin, 2003).

- Structured Interviews: In a structured interview, the same set of questions is asked in the same order applying the same word or set of words to different interviewees (Yin, 2003);
- Semi-Structured Interviews: The semi-structured interview is a form of guided interview that finds an expression at some point between structured interview and unstructured interview in such a format that applies questions for probing for additional information or clarifications (Vogt, 2007); and

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- Unstructured Interviews: There are no officially designed or consensus guidelines for unstructured interviews; they are totally dependent on the interviewer's skill and training (Vogt, 2007)

Interviews have been used as the basis of inquiries in a large number of studies (Johnson and Onwuegbuzie, 2004). It has been observed that interviewing managers, using formats such as highly structured interview and adhering strictly to predetermined questions, may prevent the researcher from getting the best information (Creswell and Plano Clark, 2007; Chen, 2012). It is important that an interviewer guides himself or herself for all intents and purposes by what the interviewee desires to talk about while making sure that the conversation in the long run lays bare all data relevant to the phenomenon under study (Creswell and Plano Clark, 2007; Chen, 2012). Thus, the researcher is expected to have the required mental dexterity to adjust the interview or information-gathering strategies as needed (Stuart et al., 2002).

In the present research, semi-structured interview method is chosen over the other two interview formats because adhering strictly to predetermined questions may prevent the researcher from getting the best information. More importantly, the author will attempt to seek ways of ensuring that the conversation ultimately uncovers all of the data relevant to the present research. This will involve ingeniously course plotting the conversation in the direction of the subject of interest and applying some mental flexibility to juggle interview or information-gathering strategies as needed (Stuart et al., 2002).

Bernard (1988) maintains that semi-structured interview approach is best applied in research when the researcher will not get more than a single interview session with the interviewee which is often preceded by observation and unstructured interview. A major advantage of semi-structured interviews over unstructured interviews is that unstructured interviews might require that the interviewer takes more than one session with the interviewee; this explains why unstructured interviews depend solely on the interviewer's skill and professional training (Bernard, 1998). Analysis of unstructured interview data is more challenging (Bernard, 1998). Besides, an interviewer's vulnerability to bias of influencing the results is higher in unstructured interviews as compared to semi-structured interviews (Bernard, 1998).

Another advantage of the semi-structured interview format lies in the fact that it offers the interviewer the opportunity to query and seek deep responses, thereby uncovering details that are hitherto hidden and bringing to fore new enquiry lines (Burgess, 1982). This is congruous with the hypothesis of Rubin and Rubin (2005) who state that in a qualitative research process, altering the design as the process advances should be anticipated at all times. As the interviewer finds out how the interviewees view their environment, the interviewer may desire to adjust what is presently being researched and reorganize the questioning pattern (Yin, 2003). Being flexible in questioning is advantageous to illogically sticking to a design that does not succeed or does not leave an opportunity to gain unanticipated insights on the subject of study (Yin, 2003). In addition, when performing semi-structured interviews, the author carefully takes into

account a set of crucial interviewing skills that are needed to get desired results (Yin, 2003):

- Ability to ask relevant questions and properly interpret the answers;
- Good listening ability without being ensnared in bias;
- Adaptability and flexibility, viewing newly met circumstances during the course of research as opportunities not threats;
- Solid grasp of the phenomenon under study; and
- Ability not to be biased based on pre-conceived ideas, and thus receptive and sensitive to conflicting evidence.

3.2.7 Relevance of Content Analysis to the Present Research

Content analysis is one of the more widely used research methods used by researchers to assess the frequency and type of Intellectual Capital disclosure and gain valuable insights into accounting practices (Beattie, 2004; Abeysekera, 2007; Steenkamp and Northcott, 2007). Content Analysis is a data collection technique that involves codifying qualitative and quantitative data into predetermined categories, based on selected criteria, to derive certain patterns in the reporting of information (Beattie and Thomson, 2007). Content analysis assumes the frequency and indicates the importance of the subject matter (Krippendorff, 1980). Content analysis is used to analyze published information in a systematic, objective, and reliable manner (Krippendorff, 1980; Guthrie, 1983; Guthrie and Parker, 1990). Guthrie and Petty (2000) and Brennan (2001) pioneered the content analysis of the annual reporting of Intellectual Capital.

Furthermore, this method of analysis is held to be empirically valid (Gray et al., 1995;

Guthrie and Parker, 1990). According to Guthrie and Mathews (1985), for content analysis to be effective, there are certain criteria to be met:

- The categories of classification must be clearly and operationally defined;
- Categorization should be done objectively in a way to ensure that there's no overlap between categories; and
- Content analysis should be carried out by a reliable coder.

However, content analysis has several limitations, such as the risk of subjectivity in coding (Frost and Wilmshurst, 2000) and the preference given to quantity over quality which may result in information loss (Gray et al., 1995). According to Milne and Adler (1999), to ensure reliability in the use of content analysis, two important issues must be handled. First, the coded data set produced from the analysis must be reliable. This is usually achieved by the use of several coders and ensuring that the differences between them are minimal (Milne and Adler, 1999). Second, reliability of the coding instrument must be ensured (Milne and Adler, 1999). According to Krippendorff (1980), there are three different kinds of reliability for content analysis: stability, reproducibility, and accuracy. The criteria can be met by selecting disclosure criteria from relevant literature, creating a reliable coding instrument, and training the coders.

Content analysis is seen as a labor-intensive effort, as large quantities of textual information need to be coded and checked for accuracy and consistency (Neuendorf, 2002; Krippendorff, 2004). Computerized support for content analysis is therefore an

attractive proposition. Computer-assisted content analysis is also the topic of substantial technological development (Neuendorf, 2002; Krippendorf, 2004), as electronic search engines look to improve their classification of electronic content to provide more accurate and reliable search results from unstructured textual repositories. Computer-based content analysis tools could be seen as strong in terms of stability and reproducibility (Neuendorf, 2002; Krippendorf, 2004).

3.2.6.1 Use of Annual Reports in Content Analysis

Since the 1960's, researchers have tried to discover and clarify differences in the frequency of Intellectual Capital disclosure in company annual reports (Guthrie and Petty, 2000; Abeysekera, 2007). They have quantified the level of disclosure in annual reports using counting analysis, by counting the list of items as they appear in the annual reports (Guthrie and Petty, 2000; Abeysekera, 2007). As seen in the literature review section of this research, Intellectual Capital reporting studies in different countries have used corporate annual reports as the major source of data and have employed content analysis as the method of investigating intellectual reporting trends and practices (Guthrie and Petty, 2000; Abeysekera, 2007). Although it can be argued that all forms of external communication of an organization should be monitored if a researcher wants to capture all Intellectual Capital reporting, the difficulty is that it is impossible to determine with certainty that all communications are taken into consideration (Gray et al., 1995). Annual reports were chosen for three reasons:

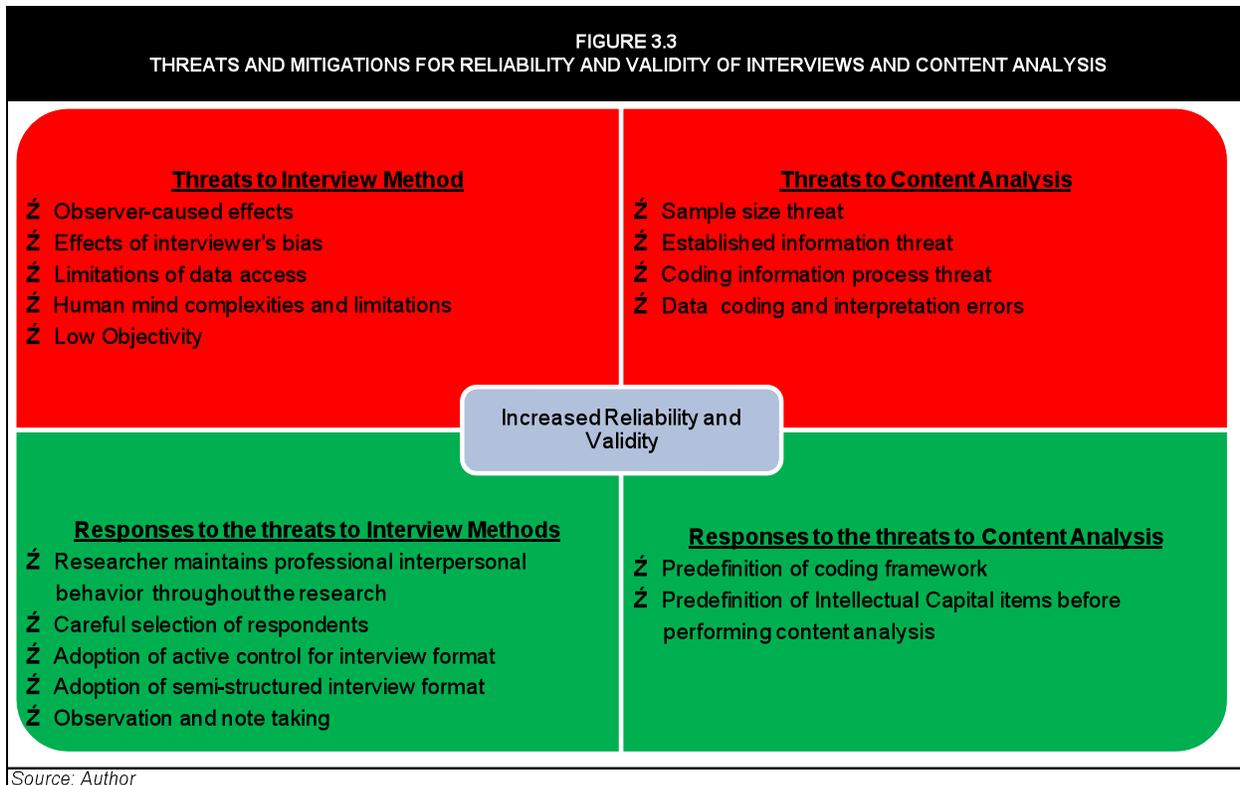
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- They are considered an important source of company information by internal and external users such as stakeholders (Guthrie and Petty, 2000; Abeysekera, 2007);
- The level of disclosure in annual reports has a positive correlation with the volume of corporate information communicated to the market and to stakeholders via the use of other media (April et al., 2003, Guthrie and Petty, 2000); and
- Annual reports are produced on a regular basis, usually yearly, and as such, they provide an opportunity for meaningful comparisons and analysis (Niemark, 1995).

3.3 VALIDITY AND RELIABILITY

Validity in mixed-method research is used for verifying the data quality as well as results (Creswell and Plano Clark, 2007). As stated by LeCompte and Goetz (1982), validity is related to the accuracy of research findings, while reliability refers to the repeatability of the research findings. Reliability refers to the degree to which a study can be replicated (Milne and Adler, 1999); this will be discussed further in the latter part of this section.

Figure 3.3 summarizes the threats associated with validity and reliability concerning interviews and content analysis, and the mitigation of these threats; detailed discussion will follow in this section:



3.3.1 Threats to Validity and Reliability in Interviews and their Mitigations

In interviews, validity and reliability face threats from five factors that find expression in the present research. The factors are (Abeysekera, 2007):

- Observer-caused effects: In observer-caused effects, respondents may be compelled to their behavior during the course of the interview (Abeysekera, 2007). Additionally, a respondent may not be favorably disposed to answering the interview questions because of some unknown reasons to the interviewer (Abeysekera, 2007);
- Effects of interviewer's bias: The effects of interviewer's bias can influence the recording, interpretation, as well as the coding of the events that take place during interview (Abeysekera, 2007);

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- Limitations of data access: Limitations of data access occur possibly because gathering of data through interviews is often confined to the specific time during which the interview is being conducted (Abeysekera, 2007). This ultimately limits the data quality and quantity (Abeysekera, 2007);
- Human mind complexities and limitations: This factor implies that face value should not be expressly attached to the respondents' statements because respondents can decide to give misleading or deceptive information to the researcher (Abeysekera, 2007). Besides, respondents' honesty and accuracy are still subject to the natural weaknesses and tendencies in humans which may affect their statements (Abeysekera, 2007);and
- Low objectivity: The interview method and accuracy are largely dependent on the researcher's integrity, intellectual honesty, and professionalism (Abeysekera, 2007).

In order to overcome the threats to the validity and reliability of interviews, several studies have suggested steps as remedies to mitigate these threats:

- Researchers must be very professional in their approach to interviews, maintaining neutrality throughout the process of conducting the interview (Abeysekera, 2007);
- Probing questions should be asked as this will help in overcoming threats of human complexities and limitations (Creswell and Plano Clark, 2007; Chen, 2012);
- Researchers must take detailed notes and records of all the relevant happenings during the interview to reduce observer-caused threats (Abeysekera, 2007);
- Researchers need to apply a consistent method of coding to enhance the reliability during the process of data analysis in a qualitative study (Creswell and Plano Clark, 2007; Chen, 2012); and

- Careful planning is needed to deal with the threats associated with data access (Abeysekera, 2007; Creswell and Plano Clark, 2007; Chen, 2012).

3.3.2 Threats to Validity and Reliability in Content Analysis and their Mitigations

Despite its merits, content analysis still has its own peculiar threats (Abeysekera, 2007).

Content analysis method relies a lot on the coder's or researcher's integrity

(Abeysekera, 2007; Abhayawansa and Abeysekera, 2009). While integrity transcends

the question, and the researcher maintains a high level of caution during the process of

coding, a major limitation of this method is the issue of subjectivity or judgment

associated with the process of coding which may affect the results (Abeysekera, 2007).

To address this problem in the current research, the researcher modified existing

Intellectual Capital framework to incorporate all the relevant Intellectual Capital items in

the equity market into the framework.

Since the contents of annual reports contents are coded by no other individual but the

researcher that is working directly on the document, the researcher's reference frame

might have an effect on the reliability of the annual reports content, because the

researcher's questions are guiding the reference frame (Abeysekera, 2007). Therefore,

the researcher defines each Intellectual Capital component/item before proceeding with

the analysis of the content in the annual reports. Additionally, to ascertain steady

identification of the annual reports contents, the researcher carries out some

reexaminations of the annual reports after a time interval. Through this process, the

researcher is constrained to scrutinize his own underpinning assumptions in analyzing

the content and then enhances the quality of the data generated from the content analysis (Abeysekera, 2007). In summary, validity and reliability in content analysis face the following threats:

- Sample-size threat: This a threat resulting from the threatening effect of small sample sizes on validity and reliability (Abeysekera, 2007). Therefore, content analysis must aim for generalizability via the adoption of large sample sizes or, at least, representative sampling which will ultimately enhance the validity of the research findings (Creswell and Plano Clark, 2007; Chen, 2012);
- Established information threat: This is threat resulting from limitations associated with getting and using publicly available established information (Abeysekera, 2007);
- Coding information process: Certain limitations are associated with getting an established information for the purpose of content analysis, including differences in documents typeface or pictorial information, difficulties in coding web page information, and changes in grammar and repetitions (Gray et al., 1995; Abeysekera, 2007); and
- Data recording and interpretation errors: This is the threat resulting from researcher's inability to accurately record and interpret all relevant content analysis data (Abeysekera, 2007).

Since the main aim of the content analysis is to attain scientific objectivity, several studies have established strict procedures to be adopted to mitigate the above threats, including (Krippendorff, 2004):

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- Establishment of research questions and hypotheses formulation;
- Determination of sampling unit;
- Establishment of various categories of coding (context unit);
- Defining recording unit;
- Pre-testing the coding on a selected text and reliability and validity assessment by adjusting the rule of coding and repeating pre-testing until satisfactory reliability achieved;
- Coding of all the texts and assessing the achieved reliability and validity; and
- Analyzing, interpreting, and reporting the results.

In a quantitative research, there are two kinds of validity: internal and external. The internal validity is theorized as the level of researcher's confidence in the inferences or conclusion per the underlying connections between research variables (Tashakkori and Teddlie, 1998). Conversely, external validity deals with the degree to which the research findings can be generalized across populations, perspectives and time (Modell, 2005).

3.3.3 Credibility of Semi-Structured Interviews and Content Analysis

Yin (2003) and Modell (2005) refer to credibility as that which deals with the causal link between variables and/or events. Tashakkori and Teddlie (1998) opine that a researcher can be said to achieve high internal validity once the researcher has the confidence that generated groupings, relationships, and interpretations accurately represent the reality. In addition, Tashakkori and Teddlie (1998) state that in a quantitative research study, the conclusion section has internal validity provided that the changes found in dependent variables are attributable to the independent variables instead of other possible connecting factors. In the present research, the relationship

between dependent and independent variables are internally validated using findings from theoretical and empirical analyses. SPSS will be applied to check the internal validity of the present research.

In qualitative research, internal validity refers to the level to which social reality is represented in observations and measurements (LeCompte and Goetz, 1982). As stated by Onwuegbuzie and Leech (2007), the researcher intends to apply certain tactics, like observation, to carefully examine inferences that will be drawn from the qualitative data. To this end, the researcher will seriously consider and without bias any unexpected concepts, extraneous variables, or controversial issues encountered during the course of research.

In the mixed-method research, a combination of quantitative and qualitative data can enhance internal validity (Modell, 2005). Therefore, the researcher will examine in the semi-structured interviews (qualitative study) any unexpected or unsteady results originating from the quantitative study (Modell, 2005). This will enable the researcher to cross check any evidence for the unexpected or unsteady results, as well examine any possible explanation for them (Modell, 2005).

3.3.4 Transferability of Semi-Structured Interviews and Content Analysis

Research findings generalization is articulated in external validity (Bryman, 2004).

Generalization into theory (not population) is easier in a quantitative research (Bryman,

2004) than in a qualitative research because the latter utilizes smaller samples (Johnson et al., 2006). In the present research, through gathering of data from multiple sources to construct a theory, conclusions will be generalized or transferred to other contexts.

In the present research, the researcher's plan is to enhance external validity through the following methods:

- Sampling (Silverman, 2001);
- Investigation of multiple cases gathered from different firms (Bryman, 1988);
- Investigation of the same phenomenon using two sets of interviewees (i.e., managerial and external perspectives in the case of this research) (Bryman, 1988);
- In the case of content analysis of quantitative data, there may be some problems with the sample size as well as data quality, and these will threaten external validity (Creswell and Plano Clark, 2007; Chen, 2012). Therefore, the researcher will tackle this challenge by collecting the highest volume of data while also modifying the indicators to increase the sample size and enhance the quality of the data; and
- Triangulation: is possible because of the chosen mixed-method methodology (Bryman, 1998).

3.3.5 Dependability of Semi-Structured Interviews and Content Analysis

Dependability (otherwise known as reliability), by definition, means the degree to which a study can be replicated (Milne and Adler, 1999). Dependability fundamentally requires that either the same research at different times or different researchers using the same

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methods are able to get results that are similar to those of the previously conducted study/studies (Scott, 1955; Johnson et al., 2006).

Milner and Adler (1999) state that content analysts need to lay bare the dependability of their instruments and/or the dependability of the data collected via the use of those instruments to allow replicability and validity of inferences to be drawn from all the data obtained from content analysis.

Jordan and Hoefler (2001) state that measurement consistency is the fundamental idea of dependability in a quantitative social research; they also state that statistical instruments are the best for dependability testing in a quantitative research. However, in a qualitative research, it seems that dependability remains a subject of controversy among scholars (Milner and Adler, 1999). Dependability in a qualitative research, according to Johnson et al. (2006), works on a philosophical assumption which maintains that the world is not only stable, but also can be assessed neutrally. In view of this fact, replication of a qualitative study is not so possible, but this does not imply that dependability is not important in qualitative research (Johnson et al., 2006). This is why researchers have not only argued that qualitative scientific research and non-qualitative scientific research should complement each other, but have also suggested alternative ways of handling dependability, including accurate documentation of research procedures (Creswell and Plano Clark, 2007; Chen, 2012).

3.3.6 Confirmability of Semi-Structured Interviews and Content Analysis

Confirmability, or objectivity, refers to the indispensable foundation of any good research (Onwuegbuzie and Johnson, 2006). Objectivity in data recording and analysis was increased in Abeysekera's (2007) study by devising two methods. The two methods entail coding framework pre-definition and annual report re-examination in the latter part of the study to substantiate the reliability of the coding frequency (Abeysekera, 2007). As discussed earlier, in the current research, the researcher addresses objectivity concerns by modifying the existing Intellectual Capital framework to incorporate all the relevant Intellectual Capital items in the equity market into the framework.

Using many other techniques to address the threats in content analysis is possible, but research-domain constraints often prevent this (Abeysekera, 2007). The reason for this is that of requirement concern, as the usual reliability test needs a level of consensus between different researchers responsible for the coding (Abeysekera, 2007). The consensus coefficient is used to interpret this consensus between the different coding researchers (Abeysekera, 2007). Different coding of semantic content of an already coded data in a research study by an entirely different researcher is also possible (Abeysekera, 2007). Abeysekera (2007) maintains that this should not be regarded as negligence or slackness between researchers; he calls it differences in objectivity-driven ingenuity and responsiveness between researchers. Unlike in syntactic content analysis, in semantic content analysis ingenuity facet is an established dynamic

(Abeysekera, 2007). The semantic rules permit the use of word-based expression of different concepts to different people (Abeysekera, 2007). According to Abeysekera's (2007) argument, because a natural language that establishes a single interpretation of a sentence does not exist, the most accurate or correct semantic inquiry is pointed at the construction of an empirical knowledge instead of a normative knowledge (Abeysekera, 2007).

There are two identified weaknesses in consensus coefficient. First, it has the potential of creating doubt on reliable data in the case of a low coefficient (Abeysekera, 2007). Second, a high coefficient, even if it has reliability issue, can appear trustworthy due to the presence of a high level of bogus data (Abeysekera, 2007). A more appropriate reliability test may amount to several other reliability tests being carried out to re-code a random sample of an already investigated item to recognize any variances in order to be able calculate an ordinary coefficient (Abeysekera, 2007). However, this approach is not only time-consuming but it also has high cost implications for the researcher (Abeysekera, 2007). With the limitations discussed above, in semantics analysis, the results of the single researcher's judgment need to be trusted, because this appears to be the only practical way of working out a process to measure data veracity in semantic content (Abeysekera, 2007).

In the present research, semantic content analysis is used based on the understanding that the aim of the analysis is to add up pre-determined Intellectual Capital items that

appear in the annual reports of the sample companies. This method is used because semantic content analysis has the ability to classify annual reports content according to its lexical meanings (Abeysekera, 2007).

3.4 SAMPLING METHOD

In mixed methods research, Creswell (2006) states that researchers collect data to answer research questions or to test research hypotheses. The type of mixed methods design chosen in research requires an appropriate data collection procedure (Creswell, 2006). Often, this entails applying procedures fashioned either from concurrent or sequential methods of data collection (Creswell, 2006). Whether the research employs concurrent or sequential forms of data collection, several issues exist which must be addressed by the investigator (Creswell, 2006). However, it is important to discuss the quantitative and qualitative data collection basic elements in a mixed methods approach to research study before reviewing the mixed methods data collection procedures. This will be addressed in Section 3.5. In this section, sampling for content analysis and semi-structured interviews will be addressed. The next section will focus on the procedures for quantitative and qualitative data collection and the procedures for mixed methods data collection within the mixed methods designs with regard to concurrent data collection approaches.

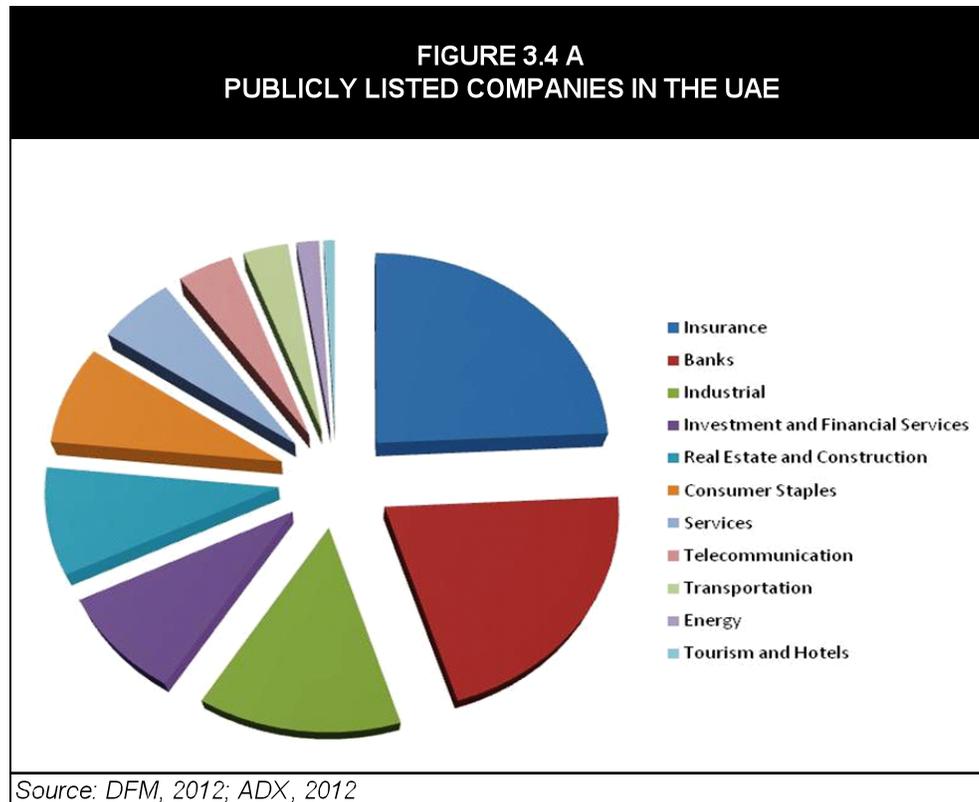
Research population includes all the publicly listed companies in the UAE as listed in the DFM and ADX (see Section 3.2.5). In total, there are 124 publicly listed companies

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in the UAE: 66 in ADX and 58 in DFM. Table 3.4 shows the number of companies listed in the DFM and ADX by sector along with the percentage of each sector of the total number of listed companies. Table 3.4 and Figure 3.4 A show the split by sector of the publicly listed companies in the UAE.

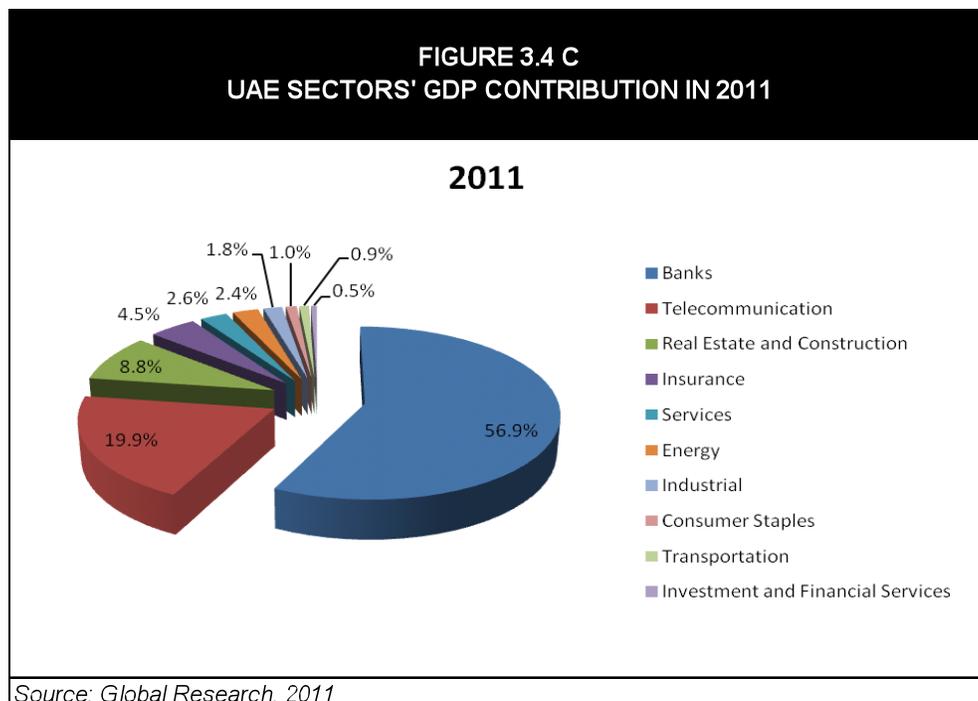
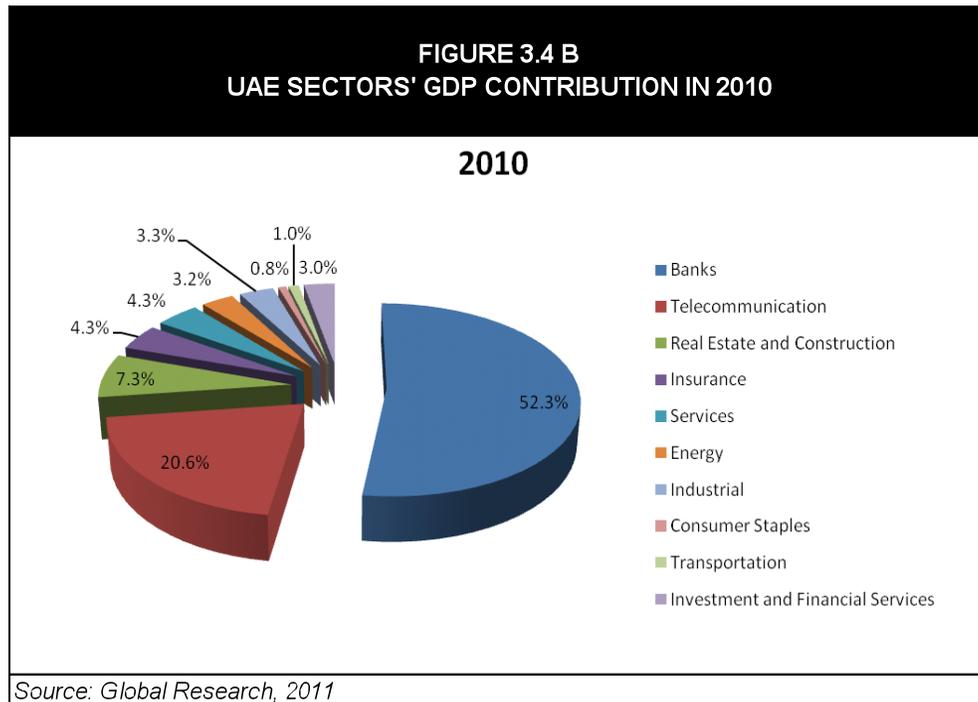
| TABLE 3.4 PUBLICLY LISTED COMPANIES IN THE UAE | | |
|---|----------------------------|----------------------------|
| Sector | Number of Companies | Percentage of Total |
| Insurance | 30 | 24% |
| Banks | 26 | 21% |
| Industrial | 17 | 14% |
| Investment and Financial Services | 11 | 9% |
| Real Estate and Construction | 11 | 9% |
| Consumer Staples | 10 | 8% |
| Services | 7 | 6% |
| Telecommunication | 5 | 4% |
| Transportation | 4 | 3% |
| Energy | 2 | 2% |
| Tourism and Hotels | 1 | 1% |
| Total | 124 | 100% |
| <i>Source: DFM, 2012; ADX, 2012</i> | | |

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The UAE stock market has been a dynamic one; it was founded in 2000, and as at 2001, it has become a member of the World Trade Organization (“WTO”) (Bontis, 2002). As shown in Figure 3.4 A and Table 3.4, the UAE stock market is diversified, with the insurance sector being the largest, representing 24% of publicly listed companies. The banking sector, being currently the largest contributor to the UAE market, constitutes 56.9% of the UAE’s GDP, as shown in Figure 3.4 C (Global Research, 2011). Based on the characteristics of the UAE stock market, the present research has relied heavily on this market to generate the pertinent hypotheses and elucidate the empirical findings. Figures 3.4 B and 3.4 C show a comparison of the contribution of each sector to the GDP of the UAE between the years 2010 and 2011.

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As evidenced in Figures 3.4 B and 3.4 C, banking, telecommunication, and real estate and construction sector dominate the contribution to the GDP in the UAE, with a total of 80.20% in 2010 and 85.60% in 2011.

3.4.1 Sampling for Content Analysis

The emergent variety of research techniques applied under content analysis has prompted researchers to use a variety of categories to describe content analysis (Steenkamp and Northcott, 2007). The following are the content analysis categories identified by Krippendorff (2004):

- Pragmatical Content Analysis: The procedures work such that signs are classified based on their possible causes and effects (Krippendorff, 2004); and
- Semantical Content Analysis: This refers to procedures which classify signs based on their meanings (Krippendorff, 2004). Semantical content analysis relates to meanings of words, images, and classification of annual reports contents on the basis of their meanings (Krippendorff, 2004).

Steenkamp and Northcott (2007) have identified three categories of semantical content analysis which are:

- Designations or Subject-matter Analysis: It deals with providing the frequency of referring to certain objects, including persons, groups, things, or ideas (Steenkamp and Northcott, 2007);
- Attribution Analysis: It deals with the frequency of referring to certain characterizations. such as honesty (Steenkamp and Northcott, 2007);

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- Assertions or Thematic Analysis: It deals with the frequency of characterizing certain objects in a particular manner (Steenkamp and Northcott, 2007); and
- Sign-vehicle Analysis: The procedures classify contents based on the psychophysical properties of their signs (Steenkamp and Northcott, 2007).

In the present research, content analysis is applied for the classification of annual reports contents according to Intellectual Capital terms and the frequency at which they appear; hence, the semantical content analysis method. This technique is in line with the methods defined and applied by Abeysekera (2003).

To ensure the external validity and the generalizability to the population of interest, Richardson (2000) opines that the researcher needs to adequately respond to the question of whether the survey results would have remained the same if a response rate of 100% had been attained. In the current research, the researcher has responded to this concern by studying 100% of the sample i.e., 124 publicly listed companies in the UAE. Adopting a 100% sample was relatively straightforward in this research because the publicly listed companies in the UAE are of a manageable size; in addition, all of them have their respective annual reports published in their online portals.

According to Dillman (2000), controlling for non-response error in research is crucial, and ought to start with research design and implementation that follow some generally acceptable procedures and techniques. To maximize participation, suitable sampling protocols and procedures need to be applied (Dillman, 2000). Adequate response rate

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will be achieved once the researcher has been able to maximize participation which will ultimately help the researcher to eliminate the threat of non-response to external validity (Lindner, 2002). Maximization of participation can also result in a response rate that will necessitate additional procedures to ensure that non-response does not constitute a threat to external validity of the research (Lindner, 2002). Therefore, in the present research, the adoption of a 100% sample for content analysis has also helped in controlling for non-response threat.

Additionally, the present research is superior to the majority of existing studies in the fact that it has used 100% of the population for content analysis, unlike several previous Intellectual Capital related studies that failed to consider 100% of the population (Chu et al., 2011; Kamukama et al., 2011; Zéghal and Maaloul, 2010). The choice of 100% sample population closes a gap in the literature which is the small sample of companies being studied relevant to the population of publicly listed companies (Abeysekera, 2007).

The sample in this research consists of publicly listed firms on the UAE stock markets which publish annually their annual reports. According to empirical evidence, annual reports are important because they often present firms with an opportunity to increase their communication with investors, as firms are able to report both financial and nonfinancial information, showing leadership and vision by highlighting firm values and position (Abeysekera, 2007). The present research uses the 2010 annual reports of the

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124 firms listed on the UAE stocks market as its source of information principally

because of the following:

- None of the companies have published the 2012 annual report due to the fact that the fiscal year 2012 is not finished yet; and
- Annual reports for 2011 are required to check the impact of the disclosure of Intellectual of Capital in 2010 on the financial performance in 2011. Obviously, there exists a time lag between Intellectual Capital disclosure and Firm Financial Performance effect. This is evidenced by several studies that have pointed to an inevitable time lag between increased transparency and disclosure on one hand, and performance on the other; this time lag is generally perceived to be one year (Aksu and Kosedag, 2005)

3.4.2 Sampling for Semi-structured Interviews

In the present research, interviewing all the 124 publicly listed firms for primary data collection can only be realistically achieved outside the given time frame for this research. Given the constraints of time, access and logistics, and meaningful collection of information from the firms or the firm managers is typically not viable or worthwhile (Vogt, 2007). Efforts in such direction have significantly proved abortive in past studies, contributing to the failure of research studies (Vogt, 2007). Since it is normally neither viable nor required to visit all the locations and demographics of concern in a particular study, drawing a sample is expedient (Vogt, 2007). Therefore, the sampling frame of the present research which is defined as the list of all areas and the population from which the sampling units are drawn (Fowler, 2002), was selected from the 124 firms listed in the UAE stock market.

In several studies in which semi-structured interviews are conducted, there is always a trade-off between the sample representativeness and diversity, and the efficacy and timeliness with which data collection can be done (Vogt, 2007). Selecting a sample for semi-structure interviews to generate relevant data and information for a study does not require being representative as it needs to be rapid (Craddock and Mathias, 2009; Vogt, 2007). Constraints of time and information generally restrict statistical or random representative sampling; thus, purposive sampling is the most suitable technique for this phase (Vogt, 2007). Furthermore, purposive sampling is appropriate for the present research because a qualitative researcher is most likely to choose non-probability methods, like purposive sampling, since the aim does not lie in achieving statistical representativeness, but in understanding social phenomena and processes (Mays and Pope, 1995).

Purposive sampling, a form of non-probability sampling technique, provides a sample wherein the groups or group of individuals for survey interview are selected based on the choice of the researcher (Mays and Pope, 1995). Purposive sampling involves no random selection; therefore, extrapolating results to wider populations is not possible (Mays and Pope, 1995; Craddock and Mathias, 2009); however, the significance of purposive sampling remains in the selection of information-rich cases for thorough analysis with regards to the subject of study (Craddock and Mathias, 2009; Vogt, 2007).

In purposive sampling, the researcher has the opportunity to sample the desired population with a purpose in mind (Craddock and Mathias, 2009).

A major advantage of purposive sampling is the researcher's ability to verify whether the respondent does actually meet the criteria for being a part of the sample (Vogt, 2007).

Purposive sampling also gives the researcher an opportunity to pick the opinions of the target population/demographics (Vogt, 2007). However, this advantage comes with the likelihood of overweighting subgroups in the population that are more readily reachable (Craddock and Mathias, 2009). Purposive sampling also has the advantage of helping in the enhancement of external validity because the researcher is able to select the cases that characterize the features of the subject of interest (Silverman, 2001).

According to Patton (1990), using a wide range of sampling techniques is possible under purposive sampling, and these include the following:

- Critical case sampling
- Expert sampling
- Extreme (or deviant) case sampling
- Homogeneous sampling
- Maximum variation sampling
- Total population sampling
- Typical case sampling

Semi-structured interviews in this research focus on a sample of 15 out of 124 which is considered enough and adequate in this qualitative research. In studies that apply semi-

structured interviews which are analyzed with content analysis method, the justification for sample size is usually based on performing interviews for participants till “data saturation” is achieved (Francis et al., 2010). Data saturation, according to Francis et al. (2010), refers to the point at which no new or additional data can be found that develop features of a conceptual category in data collection. Therefore, in the present research, data saturation was achieved before the completion of the 15 interviews; however, the researcher completed the 15 interviews to ensure that no additional data could be achieved.

Furthermore, the selected sample is appropriate because the researcher considered performing follow-up interviews to evoke a more thorough response from participants (Public Service Commission of Canada, 2009). In other words, using follow-up questions has the leverage and insight of the first round interviews, previous content analysis and literature review to date. Therefore, this provides an essentially deeper understanding of the phenomenon that underpins the relationship between Intellectual Capital and Firm Financial Performance by uncovering additional personally held beliefs and subtle understandings of the critical factors considered with respect to Intellectual Capital in the commercial day-to-day environment of the selected participants (Damian et al., 2007).

3.5 DATA COLLECTION

It is prudent that researchers consider specific data collection types along with the procedures for collecting that data (Creswell, 2006). As outlined in Table 3.5, Creswell (2006) states that there are certain stages in the data collection process that combine to form an acceptable data collection step in any research:

TABLE 3.5
PHASES IN DATA COLLECTION PROCESS FOR QUALITATIVE & QUANTITATIVE RESEARCH

| <i>Qualitative Data Collection</i> | <i>Phases in the Process of Research</i> | <i>Quantitative Data Collection</i> |
|--|--|--|
| <ul style="list-style-type: none"> • Purposeful sampling strategies • Small number of participants and sites | Sampling | <ul style="list-style-type: none"> • Random sampling • Adequate size to reduce sampling error and provide sufficient power |
| <ul style="list-style-type: none"> • From individuals providing access to sites • Institutional review boards • Individuals | Permissions | <ul style="list-style-type: none"> • From individuals providing access to sites • Institutional review boards • Individuals |
| <ul style="list-style-type: none"> • Open-ended interviews • Open-ended observations • Documents • Audiovisual materials | Data sources | <ul style="list-style-type: none"> • Instruments • Checklists • Public documents |
| <ul style="list-style-type: none"> • Interview protocols • Observational protocols | Recording the data | <ul style="list-style-type: none"> • Instruments with scores that are reliable and valid |
| <ul style="list-style-type: none"> • Attending to field issues • Attending to ethical issues | Administering data collection | <ul style="list-style-type: none"> • Standardization of procedures • Attending to ethical issues |

Source: Creswell, 2006

Each phase will be discussed individually for both qualitative and quantitative data collection.

3.5.1 Data Collection from Annual Reports

Several researchers have tried to describe differences in the level of disclosed information in firms' annual reports since the 1960s; however, developing a precise approach to this analysis was difficult (Guthrie et al., 2004). Recently, the extent to which firms disclose Intellectual Capital in their annual reports was successfully investigated by Guthrie et al. (1999). Afterwards, more researchers conducted similar studies over the years (Guthrie and Petty, 2000; Williams, 2001; Beaulieu et al., 2002; Bontis, 2002; April et al, 2003; Abdolmohammadi, 2005; Abeysekera and Guthrie, 2005; Vergauwen and Van Alem, 2005; Vandemaele et al., 2005; Sujan and Abeysekera, 2007; Aljifri, and Hussainey, 2007; Balakrishnan et al., 2010).

The present research uses annual reports not on the account of the popularity they have gained in disclosure studies over time, but because annual reports are perceived to be an exceedingly valuable source of investigating the firm's communication level with stakeholders (Guthrie et al., 2007). Besides, annual reports can be reliably accessed, audited, and compared (Gray et al., 1995).

3.5.1.1 Data Collection from Annual Reports for Content Analysis

Increasingly, Intellectual Capital researchers must be able to justify the precise research methods they apply to collect the empirical data that they examine towards substantiating and assessing opinions vis-à-vis the importance of different approaches to managing and reporting Intellectual Capital (Guthrie et al., 2004). Content analysis is presently the most empirically valid and popular among the different methods available to researchers in the field of Intellectual Capital (Guthrie et al., 2004). It is against this backdrop that the adoption of content analysis is justified in this research.

As an empirically valid data gathering technique (Guthrie et al., 2004), content analysis requires the codification of qualitative and quantitative information into predefined categories to develop patterns in presenting and reporting information (Guthrie et al., 2004).

Similar to the ways in which content analysis has been applied in previous studies (Guthrie et al., 2004; Steenkamp and Northcott, 2007), the use of content analysis in the present research is aimed at analyzing published 2010 annual reports systematically, objectively, and reliably as stated by Guthrie and Petty (2000). The 2010 annual reports of 124 publicly listed companies were downloaded in PDF format from the website of each company. The downloaded annual reports were converted to MS Word 2007 format using “ABBYY FineReader 10 Professional Edition” which is an optical-character-recognition software that provides researchers with precision recognition and

format retention. It is a timesaving solution that allows researchers to convert and edit a wide range of papers and electronic files. The MS 2007 Word format of each company's annual report was uploaded to the content analysis software (QDAMINER 4 and WORDSTAT 6), coded, and then electronically codified to extract the disclosure of Intellectual Assets and Intellectual Liabilities (independent variables) according to the predefined categories. The 2011 annual reports of 124 publicly listed companies were analyzed to extract the required financial indicators (dependent variable) for each company, in order to statistically analyze the impact of Intellectual Assets and Intellectual Liabilities disclosure on Firm Financial Performance using multivariate regression analysis in SPSS 20.

3.5.1.2 Validity and Reliability of Data Collection for Content Analysis

As stated earlier, content analysis method depends a lot on the coder's integrity (Abeysekera, 2007; Abhayawansa and Abeysekera, 2009). To mitigate the integrity threat, high level of caution was applied throughout the coding process which ultimately contributed to controlling the risk of researcher's subjectivity or judgment associated with the process of coding. Therefore, it is believed that the final results will not be affected. The existing Intellectual Capital frameworks were combined and to incorporate all the relevant and empirically held valid Intellectual Capital items into the framework.

The contents of the annual reports were coded directly by the researcher to prevent the reference frame applied from having an effect on reliability. Since the researcher's

questions are guiding the reference frame, each Intellectual Capital component was studied before proceeding with the analysis of annual reports contents. To further ascertain steady identification of the contents of the various annual reports, the annual reports were reexamined after a time interval of one hour. This process made it possible to scrutinize the researcher's underpinning assumptions in analyzing the content while also enhancing the quality of the data generated from the content analysis.

Therefore, the following steps were taken to ensure validity and reliability of the content analysis used in this research:

- Sample-size threat: The threatening effect of small sample size on validity and reliability was eliminated by determining the sampling unit and content-analyzing the annual reports of all the 124 companies in the sample which ultimately enhance the validity of the research findings;
- Established information threat: All the annual reports used in this research are audited and publicly available; this ultimately averted the threat of using data that have not be established;
- Coding information process: Coding units were well defined and various categories of coding established, using QDAMINER 4 to eliminate this threat; and
- Data recording and interpretation errors: Research questions were established and research hypotheses were formulated, and hourly reexamination of the annual reports was applied to eliminate this threat. In addition, pre-testing of the coding on a selected text, reliability and validity assessment by adjusting the rule of coding, and repeating pre-testing were performed until satisfactory reliability achieved.

3.5.2 Data Collection for Semi-Structured Interviews

In Yin's (2003) work, it is proven that case studies data can originate from diverse sources of evidence which include interviews, documents, and archives. In this research, semi-structured interview method was applied as the primary approach for qualitative data collection, with annual reports as the complementing documents.

Through the semi-structured interview, the researcher had the opportunity to gain in-depth understanding and meanings of the effect of Intellectual Assets and Intellectual Liabilities disclosure on Firm Financial Performance using 15 out of the 124 companies listed in the UAE. Therefore, the semi-structured interview method was appropriate for this research; it assisted the researcher in getting robust and detailed information about Intellectual Assets and Intellectual Liabilities in relation to Firm Financial Performance from practitioners' viewpoints.

Through the semi-structured interview, the researcher was also able to gain a deeper understanding of multiple cases, as there was an opportunity for cross-case comparability to compare and contrast the value-creating potential of the Intellectual Assets and Liabilities within the sample. The interview data collection procedure in this research followed the interview instruments adopted in previous studies (Bryman, 2004; Public Service Commission of Canada, 2009; Francis et al., 2010), including:

- Directing and Designing: In this phase, an interview guide was prepared which served as a framework that helped in ensuring that all specific sub-topics

germane to the research were covered while more exhaustive or thoughtful details were obtained;

- Gaining Access to the Interviewees: This is the phase where potential interviewees were contacted to request their approval for conducting the semi-structured interviews.
- Interviewing: This is the phase where the interviews were conducted, as per the set guidelines;
- Transcribing: This is the phase where the interviews response details were transcribed, and the data was made ready for analysis. This is discussed in the Data Analysis Section;
- Analyzing: This is the phase where the coding of the transcribed data was performed and themes were assigned. This is discussed in the Data Analysis Section; and
- Reporting: This is the phase where the findings of the interview were presented, as per the analysis performed earlier. This part will be discussed in Chapter Four.

3.5.2.1 Directing and Designing

An interview guide was prepared in a list such that interview questions were framed from the perspective of interviewees as suggested by Bryman (2004). The interview guide was prepared based on the research questions for this research and the understanding garnered from literature (Appendix A; Appendix B). The interview guide helped the researcher to remain focused on the main research theme, while allowing for flexibility. The researcher designed the interview questions to encourage interviewees to reconstruct their experience while exploring their meaning as suggested by Seidman (1998). In addition, the questions were structured in a way that allowed the researcher

to change the order in which the questions were asked or skip some specific questions based on participants' answers during real interviews.

Each interview was followed with review of the interview process, to see the possibility of having a revision of the interview guides based on the details obtained from the participants. In other words, the interview was designed in a way that if after having interviewed some interviewees, incorporating any useful observation into the interview guide was possible. Therefore, as the interview progressed, the researcher was able to use observations to construct additional questions pertaining Intellectual Assets, Intellectual Liabilities, and Firm Financial Performance.

During this phase of directing and designing the interview, there was an integration of the quantitative and qualitative research. The adopted variables in the quantitative research, such as Human Assets, Human Liabilities, Relational Assets, Relational Liabilities, Structural Assets, and Structural Liabilities, were used to frame more interview questions to test the level to which these variables are able to capture the nature of Intellectual Assets and Intellectual Liabilities from the perspective of the interviewees. The researcher asked these questions towards the latter part of each interview i.e., 10 minutes to the end of each interview. This approach helped in avoiding the risks of impressing the researcher's bias on the interviewees' experience and tapering the interviewees' views.

3.5.2.2 *Gaining Access to Participants*

The primary targets for this in-depth interview were senior managers of the companies in the sampling unit. The first contact with potential interviewees was made during the months of August and September 2012. The area of research deals with a huge amount of information which potential interviewees might view as confidential and rather sensitive. The researcher understood the potential danger that might result from this during interview data collection. To deal with these issues and collect as much information as possible, the researcher applied the following strategies to spot suitable participants, get their permission, and schedule interviews with them within the time allocated for the research:

- An introductory email was sent to each participant to seek their permission;
- The introductory email consisted of the following phases:
 - An introduction to the research and the purpose of the research (Appendix C);
 - A Letter of Acceptance from the researcher's University, authorizing the researcher to carry out the research. The letter contained the relevant credentials of the University together with a Letter of Consent, and a Human Subject Approval Form (Appendix D);
- Each participant was advised to select a thirty-minute time frame, at his or her convenience, for a volunteer interview. It is important to note that to generate a more spontaneous and free-flowing conversation with the interviewees, no interview questions were given to any of them beforehand.
- A general summary of the interview was discussed with participants at the date of their scheduled appointment times. For example, participants were told that there would be two sections: participant profile and Intellectual Capital concepts. This method, however, may have been a reason for the lack of participation by

certain organizations. Certain organizations had wished to see the details and extent of the questions being asked beforehand, prior to confirming their willingness to participate in the research. In those cases, the researcher refused such requests but did give a general overview of the interview structure and of its divisions. This in turn, could have made the potential participants insecure about participating in the research. Furthermore, the former could have made potential participants apprehensive about the research itself. This method was chosen in order to prevent participants from preparing ahead of time, as the research's aim was not to test knowledge, but rather to discover the extent of Intellectual Capital understanding in firms and potential relationships with financial performance;

- Initially, two weeks were given to potential participants to respond; otherwise, they were eliminated from the process due to time constraints. Furthermore, vacation times, business trips, and workloads interfered with the response time. Therefore, the time allotted was extended, as some organizations required the approval from higher levels of management to disclosing information about themselves and the organizations they work for. This, despite the fact that confidentiality was stressed within the informed consent forms.
- All of the potential participants were called and/or emailed to verify that they had received the introductory email of the research. If no email was received, they were then given the option of contacting the researcher within a one-week time frame. The interview times were decided by the participants to eliminate the potential feeling of being pressured. The intention of the interview process was to provide a low stress and comfortable experience for participants, in order to allow them to volunteer as much information as they wished.

3.5.2.3 *Interviewing*

The following steps were used in the semi-structured interview:

- Pre-testing of the instrument was performed with five participants (not from the 124 companies) to allow the researcher to assess any deficiencies of the instrument. The instrument was slightly adjusted to ensure the language used and the structure of the questions were clear and easily comprehensible; and
- The interview questions were open-ended as the participants worked in various industries and had a diverse range of experiences and expertise. During the interview process, any vague responses provided were probed for further elaboration.

The researcher first assured each participant that there was no correct or incorrect answer for each of the questions, making them believe that the focus of the interview was mainly on the opinions and experience of the interviewees (Rubin and Rubin, 2005).

There were 15 semi-structured interviews conducted with the firm managers on one-on-one basis and face-to-face basis. In addition, there were five follow-up interviews with selected participants who agreed for second round interviews. The interviews were recorded using a recording device (Sony IC Recorded / Reference: ICD-SX25 V.O.R) that has a recording capacity of 4 hours and can be connected to a laptop computer to download the content. All of the data collection instruments were used to initiate direct entry of information as the interview was taking place. The majority of the publicly listed

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companies are located in the emirates of Dubai, Abu Dhabi, Shajrah, and Ras Al Khaima. The interviews were conducted in the following areas: six in Dubai, 6 in Abu Dhabi, 2 in Sharjah, and 1 in Ras Al Khaima. As for the follow-up interviews, two were conducted in Dubai and three in Abu Dhabi.

The interviews (initial and follow-up) were conducted with the researcher keeping all the potential threats in mind. Therefore, the researcher ensured that all the following threats were handled professionally, yet without neglecting flexibility:

- Observer-caused effects and effects of interviewer's bias: The researcher maintained neutrality throughout the interview while taking detail notes of happenings during interview;
- Limitations of data access: The research was carefully planned, with each and every step to be taken by the researcher to achieve best response from participants all mapped ahead of the interview, yet flexibility was not compromised during the interview;
- Human mind complexities and limitations: The researcher asked probing questions during the research; and
- Low objectivity: The research was conducted professionally.

While each interview was projected to take around thirty minutes, the actual duration for each turned to be different, ranging from 45 minutes to one hour; though the researcher had informed all interviewees that they could punctuate or even stop the interview completely should they feel so at any point in time. Some of the interviewees did notify the researcher ahead that they would not be able to spare more than one hour of their

time for the interview. In some other instances, it was the researcher that decided to punctuate or end the interview, as there were some signs that the interviewee really wanted to rush the conversation; however, in these cases, the researcher ensured that all interview questions were attempted. Generally, the researcher did ask more questions at the end of each interview; questions relating to additional information that interviewees wished to give as well as missing information. At the end of each interview, the researcher appreciated the interviewee for the time and assistance given, while maintaining further contact with them. This was also an important step, as the researcher anticipated getting further help from the interviewees, including conducting follow-up interviews. In general, the above data collection procedure was effective, because it gave the researcher an insight into the practical understanding of Intellectual Capital and its relationship with Firm Financial Performance.

3.6 DATA ANALYSIS

The present research's methodological choice has been discussed, together with the design of the quantitative and qualitative components of this research. This section provides details of how the quantitative (content analysis) and qualitative (semi-structured interview) data were analyzed in this research.

For the quantitative component (content analysis of annual reports) of this research, the process of data collection has been discussed in the earlier part of this chapter; data analysis process, including hypothesis development will be discussed in this section. For the qualitative component of this research, this section illustrates the analysis of qualitative data, while briefly discussing the possible limitations associated with it.

3.6.1 Coding of Annual Reports

As explained earlier, data for content analysis (quantitative data) were collected from the annual reports of the 124 listed in the UAE; the variables are defined later in this section. The steps followed by the researcher to carry out coding of the annual reports are discussed in this section, together with the research hypotheses developed to test the relationship between various categories of Intellectual Assets and Intellectual Liabilities, including Human Capital, Relational Capital, Structural Capital, Human liabilities, Relational Liabilities, and Structural Liabilities. This section also discusses the hypothesis developed to test the relationship between Intellectual Assets/Intellectual liabilities, and Firm Financial Performance.

Intellectual Capital terms were grouped into six categories, with a total of 498 terms (Appendix E). The categories of Intellectual Liabilities are consistent with the frameworks of Harvey and Lush (1999) and Stam (2009). The validity of this content was tried through a rigorous literature search (Bontis, 1998; Bontis, 2002). Thus, the constructs were selected on the basis of a rigorous review of a pool of literature on

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Intellectual Capital research, organizational learning, and knowledge management.

Therefore, the Intellectual Capital items were adopted on the basis of established scales as made available to the public by the Institute for Intellectual Capital Research. Since construct validity refers to “whether theoretical concepts are adequately reflected by the operational definitions and measures of empirical phenomenon” (Modell, 2005), as soon as the content validity was ascertained, the items were checked for construct validity.

Construct validity examines whether the item has close relation to the underlying construct it claims to measure or not.

The number of terms under the categories of Intellectual Liabilities is much lower than Intellectual Capital categories due to the scarcity of studies that attempt to measure the disclosure of Intellectual Liabilities. The count of Intellectual Capital related words was used as the unit of the content analysis because of better comparison of different annual reports (Gao et al., 2005). Afterwards, the disclosure frequencies of occurrence were aggregated to determine the frequency of Intellectual Assets and Intellectual Liabilities disclosure. To ensure objectivity, which is usually associated with the allocation of different weights to various Intellectual Capital categories, a 0 - 1 coding scheme was used, following the set of coding rules. Nevertheless, other coding schemes exist, such as the 4-point coding scheme as proposed by Guthrie and Petty (2000), the 5-point by Beaulieu et al. (2002), and the 3-point by Bozzolan et al. (2003). However, the 0 - 1 coding scheme, otherwise called 2-point coding system, was used, because applying a coding scheme with more points results in high subjectivity

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(Williams, 2001). Moreover, studies by Guthrie and Petty (2000), Brennan (2001), and Guthrie et al. (2006) have shown that Intellectual Capital information is only reported in a discursive form which makes any coding scheme with more than two points unnecessary. Therefore, to mitigate the high subjectivity associated with the assignment of the weights of importance in this research, the appearance of the terms, as per the content analysis software search engine yields a score of 1, whereas the nonappearance yields a score of 0. The categories and the number of terms under each category are listed in Table 3.6.1:

| TABLE 3.6.1 INTELLECTUAL CAPITAL CATEGORIES | |
|--|------------------------|
| Category | Number of Terms |
| Human Capital | 158 |
| Relational Capital | 133 |
| Structural Capital | 146 |
| Human Liabilities | 13 |
| Relational Liabilities | 17 |
| Structural Liabilities | 31 |
| Total | 498 |
| <i>Source: Harvey and Lush (1999); Guthrie and Petty (2000); Bozzolan et al., (2003); Guthrie et al. (2004); Abeysekera and Guthrie (2005); Stam (2009); Yi and Davey (2010)</i> | |

As stated in section 3.3.2, coding depends largely on the researcher's integrity; therefore, this problem was mitigated in this research by ensuring strict adherence to best practices i.e., using an Intellectual Capital framework that incorporates all the relevant and empirically held valid Intellectual Capital into the framework. The adopted

categories of variables are also suitable for this research because each Intellectual Capital component/item was studied before proceeding with the content analysis to enhance the reliability of the annual reports. In addition, the researcher carried out a reexamination of the annual reports after a time of interval of 1 week to ascertain steady identification of the annual reports contents, and ultimately the quality of the data generated for the coding.

The definitions of Intellectual Capital categories are as follows:

- Human Assets: The tacit knowledge embedded in the minds of the employees (Edvinsson and Sullivan, 1996);
- Relational Assets: The knowledge embedded in the relationships established with the outside environment (Edvinsson and Sullivan, 1996);
- Structural Assets: The organizational routines of the business (Edvinsson and Sullivan, 1996);
- Human Liabilities: Sources of deterioration that arise from the human resources with the organization (Harvey and Lush, 1999);
- Relational Liabilities: Causes of deterioration that arise from the relationship with customers, suppliers, and other external stakeholders (Caddy, 2000); and
- Structural Liabilities: Causes of deterioration from internal non-human resources (Mellahi and Wilkinson, 2004)

The Intellectual Capital categories and their related terms are summarized in Annex 3.

In Intellectual Capital studies, performance variables are time specific, representing information or a set of details that may interest the users of accounting information (Wallace and Naser, 1995). Consequently, researchers often apply variations of profit

margins (operating profit margin or net operating profit margin), Return on Equity (“ROE”), ROA, current ratio, or VAIC™ as measure of performance (Alsaeed, 2006; Zéghal and Maaloul, 2010). To carry out the necessary analysis in this research, the dependent variable of ROE was used as proxy for Firm Financial Performance. ROE is defined as the ratio of Net Income divided by average Total Equity (Total Assets minus Total Liabilities). The use of ROE as a proxy for performance in this research is justified based on the fact that ROE reflects the resource utilization efficiency of the firm as an indicator of profitability and overall performance. In addition, investors and potential investors apply this ratio to assess a firm’s leadership and efficiency in converting every unit of their funds into value. Therefore, ROE in accounting is generally accepted as a valid and veritable measure of the overall performance of the firm as it provides the relevant details about the value added to the firm that causes better performance (Zéghal and Maaloul, 2010).

3.6.1.1 Validity and Reliability of Data Coding for Content Analysis

Internal validity was achieved in this research based on the studies conducted by Modell (2005) and Yin (2003); simply put, high internal validity was achieved as researcher was confident that the categories of variables, relationships, and interpretations generated are actually true, and this is congruous with Tashakkori and Teddlie’s (1998) claim about internal validity (of data coding). The coding for content analysis is valid and reliable as the changes observed in the dependent variable were expected to be attributable to the independent variables instead of other potential

causal factors as identified by Tashakkori and Teddlie (1998). Furthermore, the relationship assumed between the dependent and independent variables was based on theoretical footing and the outcomes of empirical work. In addition, SPSS 20, which is a reliable statistical instrument, was employed in ascertaining the robustness of the anticipated results.

3.6.2 Transcribing and Coding of Semi-Structured Interviews

The responses of senior managers (in the initial and follow-up interviews) of the publicly listed companies were analyzed, coded and categorized, using NVIVO 9, to develop a further understanding of the disclosure of Intellectual Assets and Intellectual Liabilities and their impact on Firm Financial Performance on publicly listed companies in the UAE. The following chapter will explore in further detail the data collected and will present the resultant findings.

The important issues and special content provided by the interviews were transcribed and then proofread by the researcher. Afterwards, they were returned to the participants via email in order for them to verify their intended responses and to verify, whether or not, there were any discrepancies between the transcribed text and the intended meaning. If modifications were required, the respondents were given the initial transcript by the researcher to modify. Finally, the modified transcript needed to be approved by both the researcher and the participant. The participants were sent a final copy of the transcript for their own personal records. The participants can access their recorded

interview segment by contacting the researcher should any requests be made. No publication or duplication will be allowed without the written permission and at the request of the participant.

Coded categories were then developed with associated content by analyzing the questionnaire segments. This process allowed for the creation of a coding dictionary that was continuously tested and revised until no new categories emerged. Further discussion on coding schemes will be reviewed in Chapter Four.

Internal validity of the semi-structured interview in this research, like other studies, means a more practically valid concept because the researcher perceived validity as the extent to which the research observations and measurement represented the reality in the sample unit. The researcher carefully examined the inferences that were drawn from the semi-structured data by using some techniques suggested by literature (Yin, 2003; Onwuegbuzie and Leech, 2007) as stated in Section 3.2.6 in this research.

Consequently, during the process of interviews, the researcher did not discount any unexpected concepts and controversy related issues; all issues were addressed by follow-up efforts rather than dismissal, with the researcher taking into consideration explanations and possibilities contrary to the researcher's previous knowledge. The semi-structured interview data were analyzed based on the theoretical coding procedure, using various methods such as axial coding technique, open coding

technique, and selective coding. This approach ultimately offered adequate explanations of how theory was built in this research.

3.6.2.1 Validity and Reliability of Data Coding and Transcription of Semi-Structured Interviews

Since this research follows the mixed methods research method, validity and reliability were enhanced by combining quantitative (coding) and qualitative (semi-structured interviews and follow-up interviews) data. For instance, the research was conducted with the mindset of employing the transcribed semi-structured interview data to assess limited quantitative (i.e., coding) validity based on a thorough review of semi-structured interview evidence if unexpected findings emerge from the statistical analysis.

Therefore, unstable or unanticipated results found in the coding were further reviewed in the semi-structured interview for crosscheck of evidence and exploration of their possible interpretations.

3.7 SUMMARY OF CHAPTER THREE

In this chapter, Section 3.1 elaborates the appropriateness of the methodologies, quantitative, qualitative, and mixed-methods, used in this research. Section 3.2 discusses research design in detail, with emphasis on the importance of considering research validity and reliability in Section 3.3. The sampling method employed in this

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research is discussed in Section 3.4 while data collection and data analyses procedures were elaborated in Sections 3.5 and 3.6.

The following chapter will explore in further detail the data collected and will present the resultant findings.

CHAPTER FOUR

PRESENTATION OF THE DATA

CHAPTER FOUR – PRESENTATION OF THE DATA

4.1 PURPOSE STATEMENT

The primary purpose of the present research is:

To determine, using quantitative and qualitative research methods, the characteristics of a new conceptual model that assists in explaining the relationships between Intellectual Capital disclosure and Firm Financial Performance for companies listed on the UAE stock exchanges.

4.1 REVIEW OF THE RESEARCH METHOD

As discussed in the previous chapter, the present research is aimed at investigating the effect of Intellectual Assets and Intellectual Liabilities disclosure on Firm Financial Performance of publicly listed companies in the UAE by using mixed-method research: quantitative and qualitative methods. A quantitative research approach, using statistical analysis of content analysis findings, is applied to examine the relationships between the disclosure of Intellectual Capital components in the fiscal year 2010 and Firm Financial Performance for publicly listed companies in the UAE for the fiscal year 2011. In addition, a qualitative approach, using semi-structured interviews and follow-up

interviews, is applied to examine Intellectual Capital measurement and disclosure, and the effect of disclosure on Firm Financial Performance.

4.2 REVIEW OF DESIGN AND DATA COLLECTION

For the quantitative analysis, the 2010 annual reports of 124 publicly listed companies were downloaded in PDF format from the website of each company, converted to Ms. Word format 2007 using “ABBY FineReader 10 Professional Edition”, uploaded to the content analysis software (QDAMINER 4 and WORDSTAT 6), coded, and then electronically codified to extract the disclosure of Intellectual Assets and Intellectual Liabilities (independent variables) according to the predefined categories. The 2011 annual reports of 124 publicly listed companies were analyzed to extract the ROE (dependent variables) for each company, in order to statistically analyze the impact of Intellectual Assets and Intellectual Liabilities disclosure on Firm Financial Performance using multivariate regression analysis in SPSS.

For the qualitative analysis, the data was collected in two phases: initial semi-structured interviews and follow-up semi-structured interviews. Using purposive sampling, senior managers of the companies in the sampling unit were contacted for first round interviews. The first contact with potential interviewees was made during the months of August and September 2012. Introductory emails were sent to potential participants to seek their permission. The introductory email consisted of an introduction and purpose

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of the research, in addition to a letter of acceptance from the University. Each participant was advised to select a thirty-minute time frame, at his or her convenience, for a volunteer interview. In addition, a general summary of the interview was discussed with participants at the date of their scheduled appointment times. Initially, two weeks were given to potential participants to respond; otherwise, they were eliminated from the process due to time constraints. There were fifteen semi-structured interviews conducted with the firm managers on one-on-one basis and face-to-face basis. In addition, there were five follow-up interviews with selected participants who agreed for follow-up interviews. The interviews were recorded using a recording device (Sony IC Recorded / Reference: ICD-SX25 V.O.R). The interviews were conducted in the following areas: six in Dubai, 6 in Abu Dhabi, 2 in Sharjah, and 1 in Ras Al Khaima. As for the follow-up interviews, two were conducted in Dubai and three in Abu Dhabi. While each interview was projected to take around thirty minutes, the actual duration for each turned to be different, ranging from 45 minutes to one hour. The five follow-up interviews lasted for around 30 minutes each. The responses of interviewees (in the initial and follow-up interviews) of the publicly listed companies were analyzed, coded and categorized, using NVIVO 9.

The following section is divided into data distillation for the three methods employed in the present research: content analysis, first round semi-structured interviews, and follow-up interviews.

4.3 DATA DISTILLATION FOR CONTENT ANALYSIS

This section will provide a detailed statistical analysis of the information collected from the annual reports of 124 publicly listed companies in the UAE. To demonstrate the use of multivariate regression analysis and to answer the research question and test the hypotheses, the procedures used will be discussed in the sections below.

4.3.1 Objectives of Multiple Regression Analysis

The present research aims to determine the characteristics of the effect of Intellectual Capital disclosure (set of independent variables) on Firm Financial Performance (dependent variable). Therefore, based on the perception of the determinants of Firm Financial Performance, it is proposed to use multivariate regression analysis to predict the relationship between the dependent and independent variables. Multivariate regression analysis is the most widely used dependent technique, with applications across all types of problems and disciplines (Hair et al. 2009).

Multivariate regression analysis is employed as a prediction tool in order to predict a dependent variable from a set of independent variables. As such, two objectives are associated with the prediction, including:

- Maximization of the overall predictive power of the independent variables in the variables; and

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- Comparison of competing models made up of several independent variables in order to assess the predictive power of each.

Multivariate regression analysis is also employed as an explanation tool, in order to explain the degree and character of the relationship between the dependent and independent variables. As such, three objectives are associated with explanation (Hair et al., 2009):

- Determination of the relative importance of each independent variable in the prediction of the dependent variable;
- Assessment of the nature of the relationships between the predictors and the dependent variable (linearity); and
- Insight into the interrelationships among the independent variables and the dependent variable (correlations).

Multivariate regression analysis is appropriate for statistical relationships, where it is assumed that more than one value of the dependent value will be observed for any value of the independent variables (Hair et al., 2009). An average value is estimated and error is expected in prediction (Hair et al., 2009). The selection of dependent and independent variables for multiple regression analysis is based primarily on theoretical and conceptual meaning, as mentioned in the previous chapters. Table 4.3.1 includes the dependent and independent variables, their definitions, and the proxies used in measurement.

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TABLE 4.3.1
INDEPENDENT AND DEPENDENT VARIABLES

| Independent Variables | Code | Definition |
|------------------------------|-------------|---|
| Human Assets | HA | Tacit knowledge embedded in the minds of the employees |
| Relational Assets | RA | Knowledge embedded in the relationships established with the outside environment |
| Structural Assets | SA | Organizational routines of the business |
| Human Liabilities | HL | Sources of deterioration arising from human resources with the organization |
| Relational Liabilities | RL | Causes of deterioration arising from relationships with external stakeholders |
| Structural Liabilities | SC | Causes of deterioration from internal non-human resources |
| Dependent Variable | Code | Definition |
| Return on Equity | ROE | Net Income divided by average Total Equity (Total Assets minus Total Liabilities) |
| <i>Source: Author</i> | | |

4.3.2 Design of Multivariate Regression Analysis

Data examination techniques vary from a simple visual examination of graphical representations to complex statistical analyses which address missing data problems and the assumptions underlying the multivariate technique (Hair et al., 2009).

There are four phases of data examination (Hair et al., 2009):

- Graphical examination of variables;
- Missing data analysis;
- Identification of outliers; and
- Assessment of the ability of the data to meet the statistical assumptions specific to the selected multivariate technique which in this case is multivariate regression analysis.

4.3.3 Graphical Examination of Variables

The graphical examination of the variables, including the nature of the variables and the relationships between the dependent variable and the independent variables, will be discussed in details in the detailed discussion of the assumptions of multivariate regression analysis in the follow sections.

4.3.4 Missing Data Analysis

Missing data analysis is an important step because missing data can produce hidden biases in the analysis results and can also adversely affect the sample size available for analysis (Hair et al., 2009). The missing value output shows that there are no missing values, as per Table 4.3.4.

| TABLE 4.3.4 MISSING DATA ANALYSIS | | | |
|--|----------|----------------|----------------|
| | N | Missing | |
| | | Count | Percent |
| ROE | 124 | 0 | 0.0 |
| HA | 124 | 0 | 0.0 |
| RA | 124 | 0 | 0.0 |
| SA | 124 | 0 | 0.0 |
| HL | 124 | 0 | 0.0 |
| RL | 124 | 0 | 0.0 |
| SL | 124 | 0 | 0.0 |
| <i>Source: Author</i> | | | |

4.3.5 Identification of Outliers

An outlier is a case that is extremely different from other case values and is often excluded from the analysis (Burn and Burns, 2008; Hair et al., 2009). They are eliminated in most cases because they have an undue influence on calculations like means and squared differences from the mean, as in calculating standard deviations (Burn and Burns, 2008; Hair et al., 2009). Outliers can be identified from univariate, bivariate, or multivariate perspectives based on the number of variables considered (Burn and Burns, 2008; Hair et al., 2009).

4.3.5.1 Univariate Outliers Detection

The univariate identification of outliers examines the distribution of observations for each variable in the analysis and selects as outliers those cases falling at the outer ranges (high or low) (Burn and Burns, 2008; Hair et al., 2009). The typical approach first converts the data values to standard scores which have a mean of 0 and a standard deviation of 1 (Burn and Burns, 2008; Hair et al., 2009). For a sample larger than 80 observations which is the case in the present research, outliers typically are defined as cases with absolute values of standard scores (“Z-Score”) of 4.0 or higher (Burn and Burns, 2008; Hair et al., 2009).

As evidenced in Appendix F, the Z-Scores of ROE, Human Assets, Relational Assets, Structural Assets, Human Liabilities, Relational Liabilities, and Structural Liabilities do

not show any values larger than 4.0 or lower than -4.0. Thus, at the univariate level, no outliers were detected in any of the dependent or independent variables.

4.3.5.2 Multivariate Outliers Detection

In the present research, multivariate outliers are of special concern for the set of independent variables in the data analysis (Hair et al., 2009). Multivariate outliers are addressed by the Mahalanobis distance (“ D^2 ”) which is a multivariate assessment of each observation across a set of variables (Burns and Burns, 2008; Hair et al., 2009). A case is a multivariate outlier if the probability associated with its D^2 is 0.001 or less (Burns and Burns, 2008; Hair et al., 2009). To calculate D^2 , a regression analysis is performed. SPSS calculates the D^2 scores; however, the evaluation for outliers requires the probability for D^2 and not the scores themselves. Thus, a function called “CDF.CHISQ” calculates the probability of D^2 scores which follows a chi-square distribution like D^2 (Burns and Burns, 2008; Hair et al., 2009). As evidenced in Appendix G, there are no cases with values less than 0.001; thus, there are no multivariate outliers in the data set.

4.3.6. Assumptions of Multiple Regression Analysis

A statistical linear relationship must exist between the independent and dependent variables (Hair et al., 2009). In the present research, the independent and dependent variables are metric variables. To employ multivariate regression analysis, there are five assumptions to be met (Hair et al., 2009):

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- Linearity
- Normality
- Homoscedasticity
- Uncorrelated Error Terms
- Multicollinearity

The five assumptions will be interpreted before interpretation of multivariate regression results.

4.3.6.1 Linearity

Linearity relates to the patterns of association between each pair of variables and the ability of the correlation coefficient to adequately represent the relationship (Burns and Burns, 2008; Hair et al., 2009). Regression attempts to predict one variable from a group of other variables. When no relationship between the dependent variable and independent variables exists, there can be no prediction (Burns and Burns, 2008; Hair et al., 2009). In the present research, and as discussed in the literature review, a theoretical relationship exists between Intellectual Capital disclosure and Firm Financial Performance. Therefore, from a theoretical perspective, the relationship exists.

Therefore, this relationship must be tested statistically.

In order to justify the use of multivariate regression analysis, the anticipated relationship between each pair of variables should be linear; otherwise, variables should be

transformed to achieve linearity (Burns and Burns, 2008; Hair et al., 2009). There are both graphical and statistical methods for evaluating linearity.

Graphical Method: The most commonly recommended strategy for graphically evaluating linearity is visual examination of a scatter plot (Burns and Burns, 2008; Hair et al., 2009). Scatter diagrams are prepared for each of the independent variables as X-axis, with the dependent variable as Y-axis.

As evidenced by Appendix H, the scatter plot and the trend line show that the relationship between ROE and HA is linear. Furthermore, the strength of the relationship, measured by the Coefficient of Determination (R^2), is 0.580 which reflects a significant linear relationship (Burns and Burns, 2008; Hair et al., 2009).

As evidenced by Appendix H, the scatter plot and the trend line show that the relationship between ROE and RA is linear. Furthermore, the strength of the relationship, measured by R^2 , is 0.243 which reflects a significant linear relationship (Burns and Burns, 2008; Hair et al., 2009).

As evidenced by Appendix H, the scatter plot and the trend line show that the relationship between ROE and SA is linear. Furthermore, the strength of the relationship, measured by R^2 , is 0.640 which reflects a significant linear relationship (Burns and Burns, 2008; Hair et al., 2009).

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As evidenced by Appendix H, the scatter plot and the trend line show that the relationship between ROE and HL is linear. Furthermore, the strength of the relationship, measured by R^2 , is 0.204 which reflects a significant linear relationship (Burns and Burns, 2008; Hair et al., 2009).

As evidenced by Appendix H, the scatter plot and the trend line show that the relationship between ROE and RL is linear. Furthermore, the strength of the relationship, measured by R^2 , is 0.161 which reflects a significant linear relationship (Burns and Burns, 2008; Hair et al., 2009).

As evidenced by Appendix H, the scatter plot and the trend line show that the relationship between ROE and SL is linear. Furthermore, the strength of the relationship, measured by R^2 , is 0.050 which reflects a significant linear relationship (Burns and Burns, 2008; Hair et al., 2009).

Statistical Method: Linearity can be tested statistically using a correlation matrix for the dependent variable and the independent variables (Burns and Burns, 2008; Hair et al., 2009). As shown in Appendix I, the independent variables HA ($p = 0.000$), RA ($p = 0.000$), SA ($p = 0.000$), HL ($p = 0.000$), RL ($p = 0.000$), and SL ($p = 0.012$) show a statistically significant correlation with the dependent variable (ROE) at the 95% confidence interval ($\alpha = 5\%$). Therefore, using graphical and statistical methods, it is

established that the dependent variable (ROE) is linearly related to each of the independent variables (HA, RA, SA, HL, RL, SL).

4.3.6.2 Normality

Normality refers to a continuous probability distribution in which the horizontal axis represents all possible values of a variable, and the vertical axis represents the probability of those values occurring (Burns and Burns, 2008; Hair et al., 2009). The scores on the variable should be clustered around the mean in a symmetrical, unimodal pattern known as the bell-shaped, or normal, curve (Burns and Burns, 2008; Hair et al., 2009). If the variation from the normal distribution is sufficiently large, all resulting statistical tests are invalid because normality is required to use the F and t statistics (Burns and Burns, 2008; Hair et al., 2009).

Univariate Normality – Graphical Method: Each variable in the analysis must be normally distributed (Burns and Burns, 2008; Hair et al., 2009). Each variable is tested individually for univariate normality. There are several methods, including graphical and statistical methods for evaluating normality (Burns and Burns, 2008; Hair et al., 2009).

As shown in Appendix J, the empirical distributions of the histograms are fairly bell-shaped and resemble the normal distribution of the variables ROE, Human Assets, Relational Assets, Structural Assets, Human Liabilities, Relational Liabilities, and Structural Liabilities.

Univariate Normality – Statistical Method: There are two tests used to statistically test univariate normality which are Shapiro-Wilk test and Kolmogorov-Smirnov test (Burns and Burns, 2008; Hair et al., 2009). Since the sample is larger than 50, Kolmogorov-Smirnov test will be used (Burns and Burns, 2008; Hair et al., 2009). The null hypothesis for the test of normality states that the actual distribution of the variable is equal to the expected distribution which means that the variables are normally distributed (Burns and Burns, 2008; Hair et al., 2009). As displayed in Table 4.3.6.2, the probabilities associated with the test of normality for the dependent and independent variables are greater than the level of significance ($\alpha = 5\%$); thus, the null hypothesis is not rejection which means that all the variables are normally distributed.

| TABLE 4.3.6.2 | | | |
|--------------------------------|------------------|-----------|-------------|
| KOLMOGOROV-SMIRNOV TEST | | | |
| | Statistic | df | Sig. |
| ROE | .079 | 124 | .058 |
| HA | .059 | 124 | .200 |
| RA | .060 | 124 | .200 |
| SA | .069 | 124 | .200 |
| HL | .054 | 124 | .200 |
| RL | .079 | 124 | .056 |
| SL | .067 | 124 | .200 |
| <i>Source: Author</i> | | | |

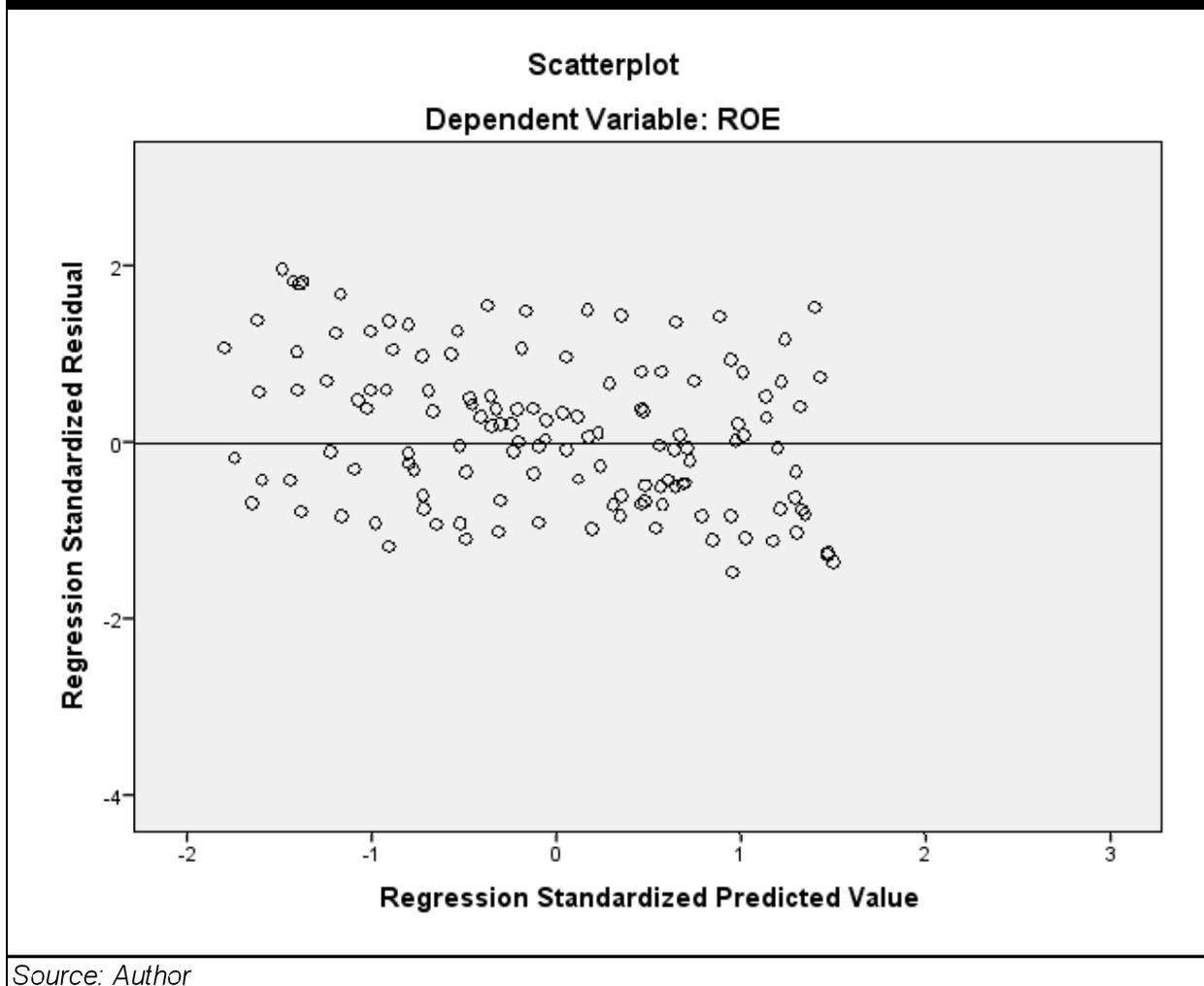
Multivariate Normality: With multivariate statistics, the assumption is that the combination of variables follows a multivariate normal distribution (Burns and Burns, 2008; Hair et al., 2009). Therefore, each variable is regressed in order to obtain the residuals; if all the variables are normally distributed (using normal distribution of regression standardized residuals), then it is assumed that all the variables are multivariate normal (Burns and Burns, 2008; Hair et al., 2009). As shown in Appendix K, the empirical distribution of the histogram of the regression standardized residuals is fairly bell-shaped and therefore resembles multivariate normal distribution. The histogram does not reveal definite skewness or extreme outliers.

4.3.6.3 Homoscedasticity

Homoscedasticity refers to the constancy of the residuals across values of the independent variables (Burns and Burns, 2008; Hair et al., 2009). The assumption of a statistical relationship means that the dependent variable will have a number of different values at each level of the independent variables; thus, the assumption is that the variance of the dependent variable values will be equal (Burns and Burns, 2008; Hair et al., 2009). Therefore, for each level of the independent variables, the dependent variable should have a constant variance. When the distributions are not equal, we have a condition referred to as heteroscedasticity (Hair et al., 2009). For multivariate regression analysis, comparable scatter plots can be produced by plotting the observed value Y on the vertical axis and the predicted values on the horizontal axis. When the error terms have increasing or modulating variance, the data are said to be

heteroscedastic (Burns and Burns, 2008; Hair et al., 2009). As shown in Figure 4.3.6.3, plots of predicted values of the dependent variable against residuals show constant variance (no increasing or decreasing trend); therefore, the assumption of homoscedasticity is met.

FIGURE 4.3.6.3
SCATTERPLOT: REGRESSION STANDARDIZED RESIDUALS AND PREDICTED VALUES



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4.3.6.4 *Uncorrelated Error Terms*

Any errors encountered in multiple regression analysis are expected to be completely random in nature and not systematically related (Burns and Burns, 2008; Hair et al., 2009). Durbin Watson Statistic is a number that tests for autocorrelation in the residuals from a statistical regression analysis. The Durbin-Watson statistic is always between 0 and 4. A value close to 2 means that there is no autocorrelation in the sample; values approaching 0 indicate positive autocorrelation, and values toward 4 indicate negative autocorrelation (Burns and Burns, 2008; Hair et al., 2009). As shown in Table 4.3.6.4, the value of the Durbin Watson statistic is 2.136 which is close 2; therefore, there is no serial auto correlation between variables.

| TABLE 4.3.6.4 DURBIN WATSON STATISTIC | | | | | | | | | | | |
|---|-------------------|----------|-------------------|----------------------------|-------------------|----------|------|------|---------------|---------------|--|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | | Durbin-Watson | |
| | | | | | R Square Change | F Change | df 1 | df 2 | Sig. F Change | | |
| 1 | .800 ^a | .640 | .637 | 5.937 | .640 | 216.893 | 1 | 122 | .000 | | |
| 2 | .861 ^b | .742 | .738 | 5.048 | .102 | 47.752 | 1 | 121 | .000 | | |
| 3 | .877 ^c | .769 | .764 | 4.790 | .028 | 14.378 | 1 | 120 | .000 | | |
| 4 | .899 ^d | .808 | .802 | 4.389 | .039 | 23.928 | 1 | 119 | .000 | | |
| 5 | .908 ^e | .825 | .818 | 4.207 | .017 | 11.554 | 1 | 118 | .001 | | |
| 6 | .913 ^f | .833 | .825 | 4.124 | .008 | 5.792 | 1 | 117 | .018 | 2.136 | |
| a. Predictors: (Constant), SA | | | | | | | | | | | |
| b. Predictors: (Constant), SA, RA | | | | | | | | | | | |
| c. Predictors: (Constant), SA, RA, HA | | | | | | | | | | | |
| d. Predictors: (Constant), SA, RA, HA, HL | | | | | | | | | | | |
| e. Predictors: (Constant), SA, RA, HA, HL, RL | | | | | | | | | | | |
| f. Predictors: (Constant), SA, RA, HA, HL, RL, SL | | | | | | | | | | | |
| g. Dependent Variable: ROE | | | | | | | | | | | |
| Source: Author | | | | | | | | | | | |

4.3.6.5 *Multicollinearity*

Multicollinearity is a statistical phenomenon in which two or more predictor variables in a multiple regression model are highly correlated (Burns and Burns, 2008; Hair et al., 2009). In this situation the coefficient estimates may change erratically in response to small changes in the model or the data (Burns and Burns, 2008; Hair et al., 2009). Multicollinearity does not reduce the predictive power or reliability of the model as a whole, at least within the sample data themselves; it only affects calculations regarding individual predictors (Burns and Burns, 2008; Hair et al., 2009). That is, a multiple regression model with correlated predictors can indicate how well the entire bundle of predictors predicts the outcome variable, but it may not give valid results about any individual predictor, or about which predictors are redundant with respect to others (Burns and Burns, 2008; Hair et al., 2009). Tolerance is a measure of collinearity between two independent variables or multicollinearity among three or more independent variables (Burns and Burns, 2008; Hair et al., 2009). It is the proportion of variance in one independent variable that is not explained by the remaining independent variables (Burns and Burns, 2008; Hair et al., 2009). A common cutoff threshold for Tolerance is 0.1, below which a multicollinearity problem is encountered (Burns and Burns, 2008; Hair et al., 2009). Variance inflation factor ("VIF") is the reciprocal of the tolerance value and measures the same problem of multicollinearity. VIF values of over 10.0 indicate a multicollinearity problem (Burns and Burns, 2008; Hair et al., 2009). As shown in Table 4.3.6.5, since all independent variables in the model have a Tolerance

of more than 0.1 and a VIF less than 10.0, the problem of multicollinearity does not exist.

**TABLE 4.3.6.5
MULTICOLLINEARITY DIAGNOSTICS**

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95.0% Confidence Interval for B | | Collinearity Statistics | |
|------------|-----------------------------|------------|---------------------------|---------|------|---------------------------------|-------------|-------------------------|-------|
| | B | Std. Error | Beta | | | Lower Bound | Upper Bound | Tolerance | VIF |
| (Constant) | -37.531 | 2.168 | | -17.310 | .000 | -41.825 | -33.237 | | |
| SA | .388 | .134 | .229 | 2.887 | .005 | .122 | .654 | .225 | 4.438 |
| RA | .732 | .119 | .255 | 6.151 | .000 | .496 | .968 | .828 | 1.207 |
| HA | .646 | .102 | .480 | 6.327 | .000 | .444 | .849 | .247 | 4.043 |
| HL | .584 | .137 | .183 | 4.257 | .000 | .313 | .856 | .774 | 1.291 |
| RL | .995 | .306 | .134 | 3.252 | .001 | .389 | 1.602 | .843 | 1.186 |
| SL | .601 | .250 | .101 | 2.407 | .018 | .106 | 1.095 | .803 | 1.245 |

Source: Author

4.3.7 Estimating the Regression Model and Assessing Overall Fit

The selected regression model used is the sequential search approach which employs the stepwise estimation method. Stepwise estimation is a combination of forward and backward methods; it begins with no variables in the equation as with forward estimation and then adds variables that satisfy the F test (Burns and Burns, 2008; Hair et al., 2009). The equation is estimated again and additional variables that satisfy the F test are entered (Burns and Burns, 2008; Hair et al., 2009). However, at each re-estimation stage, the variables already in the equation are also examined for removal by the appropriate F test (Burns and Burns, 2008; Hair et al., 2009). This repetition

continues until all F tests are not satisfied by any of the variables either in or out of the regression equation (Burns and Burns, 2008; Hair et al., 2009). SPSS goes through a systematic procedure with a number of predictors to discover the best combination of predictors (Burns and Burns, 2008; Hair et al., 2009). This procedure is useful to identify important variables (Burns and Burns, 2008; Hair et al., 2009). Assessment of the regression model fit is in two parts:

- Overall model fit; and
- Analysis of the variate.

4.3.7.1 Overall Model Fit

Examining the overall model fit involves examining the variate's ability to predict the criterion variable and assessing how well the independent variables predict the dependent variable. Several statistics exist for the evaluation of overall model fit.

Variables entered and removed: Table 4.3.7.1 A reveals the sequence in which the variables were entered, thereby producing 6 models. SA is added to the first model, while RA, HA, HL, RL, and SL are added to the second, third, fourth, fifth, and sixth model respectively. No variables were removed in any of the six models.

TABLE 4.3.7.1 A
VARIABLES ENTERED AND REMOVED

| Model | Variables Entered | Variables Removed | Method |
|-------|-------------------|-------------------|---|
| 1 | SA | | Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100). |
| 2 | RA | | Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100). |
| 3 | HA | | Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100). |
| 4 | HL | | Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100). |
| 5 | RL | | Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100). |
| 6 | SL | | Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100). |

Source: Author

Coefficient of determination (R^2): The coefficient of determination is a measure of the amount of variance in the dependent variable explained by the independent variables (Burns and Burns, 2008; Hair et al., 2009). A value of one (1) means perfect explanation and is not encountered in reality due to ever present errors (Burns and Burns, 2008; Hair et al., 2009). The amount of variation explained by the regression model should be more than the variation explained by the average; thus, R^2 should be greater than zero (Burns and Burns, 2008; Hair et al., 2009). The model summary in Table 4.3.7.1 B reveals again that 6 steps were taken before the best model could be reached. Therefore, the best prediction of ROE requires all the independent variables (HA, RA,

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SA, HL, RL, and SL). Adjusted R² at 82.50% for model 6 is significantly higher than that for model 1 at 63.70%, and therefore it explains more the variance in ROE. The change of adjusted R² between Model 1 and Model 6 is 18.80% which shows an improvement of the fit of the model. The interpretation of R² is that 82.50% of the variation in ROE is justified by the variation in the independent variables. 17.50% of the variation is explained by other factors not included in this model.

**TABLE 4.3.7.1 B
MODEL SUMMARY**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | | Durbin-Watson |
|-------|-------------------|----------|-------------------|----------------------------|-------------------|----------|------|------|---------------|---------------|
| | | | | | R Square Change | F Change | df 1 | df 2 | Sig. F Change | |
| 1 | .800 ^a | .640 | .637 | 5.937 | .640 | 216.893 | 1 | 122 | .000 | |
| 2 | .861 ^b | .742 | .738 | 5.048 | .102 | 47.752 | 1 | 121 | .000 | |
| 3 | .877 ^c | .769 | .764 | 4.790 | .028 | 14.378 | 1 | 120 | .000 | |
| 4 | .899 ^d | .808 | .802 | 4.389 | .039 | 23.928 | 1 | 119 | .000 | |
| 5 | .908 ^e | .825 | .818 | 4.207 | .017 | 11.554 | 1 | 118 | .001 | |
| 6 | .913 ^f | .833 | .825 | 4.124 | .008 | 5.792 | 1 | 117 | .018 | 2.136 |

a. Predictors: (Constant), SA
b. Predictors: (Constant), SA, RA
c. Predictors: (Constant), SA, RA, HA
d. Predictors: (Constant), SA, RA, HA, HL
e. Predictors: (Constant), SA, RA, HA, HL, RL
f. Predictors: (Constant), SA, RA, HA, HL, RL, SL
g. Dependent Variable: ROE

Source: Author

Cronbach's alpha: Cronbach's alpha is a measure of reliability that ranges from 0 to 1, with values of 0.60 to 0.70 deemed the lower limit of acceptability (Burns and Burns, 2008; Hair et al., 2009). Cronbach's alpha assesses the consistency of the scales used in the study (Burns and Burns, 2008; Hair et al., 2009). As revealed in Table 4.3.7.1 C,

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the overall alpha is 0.772 which is considered acceptable (Burns and Burns, 2008; Hair et al., 2009). In Table 4.3.7.1 D, the Corrected Item-Total Correlation column reveals the variables that have low correlations with the test or scale as a whole. Although SL shows a low correlation relative to the other variables, the overall scale alpha or internal reliability if SL is removed will only rise to 0.789 which does not produce any significant improvement to the achieved level of alpha of 0.772. Therefore, with Cronbach's Alpha at 0.772, this reveals a high internal consistency.

| TABLE 4.3.7.1 C RELIABILITY STATISTICS | |
|---|-------------------|
| Cronbach's Alpha | N of Items |
| 0.772 | 7 |
| <i>Source: Author</i> | |

TABLE 4.3.7.1 D
ITEM-TOTAL STATISTICS

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
|-----|----------------------------|--------------------------------|----------------------------------|----------------------------------|
| ROE | 70.692 | 245.307 | 0.908 | 0.646 |
| HA | 48.497 | 369.994 | 0.708 | 0.691 |
| RA | 66.785 | 549.542 | 0.382 | 0.766 |
| SA | 58.130 | 397.422 | 0.823 | 0.667 |
| HL | 69.402 | 557.358 | 0.385 | 0.767 |
| RL | 71.074 | 598.147 | 0.354 | 0.781 |
| SL | 72.564 | 606.598 | 0.164 | 0.789 |

Source: Author

F Test: This test indicates whether a significant amount (significantly different from zero) of variance was explained by the model (Burns and Burns, 2008; Hair et al., 2009). In Table 4.3.7.1 E, the F values for each model are shown. The sixth model produces a significant F of 97.576 ($p = 0.000$). This indicates that the six independent variables together significantly predict ROE at a better F level than the first, second, third, fourth, and fifth models which show higher values of F. Therefore, the multiple correlation is highly significant at the confidence level of 95% ($\alpha = 5\%$).

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TABLE 4.3.7.1 E
ANOVA

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|-------|------------|----------------|-----|-------------|---------|-------------------|
| 1 | Regression | 7,645.81 | 1 | 7,645.812 | 216.893 | .000 ^b |
| | Residual | 4,300.70 | 122 | 35.252 | | |
| | Total | 11,946.51 | 123 | | | |
| 2 | Regression | 8,862.78 | 2 | 4,431.389 | 173.880 | .000 ^c |
| | Residual | 3,083.73 | 121 | 25.485 | | |
| | Total | 11,946.51 | 123 | | | |
| 3 | Regression | 9,192.72 | 3 | 3,064.240 | 133.528 | .000 ^d |
| | Residual | 2,753.79 | 120 | 22.948 | | |
| | Total | 11,946.51 | 123 | | | |
| 4 | Regression | 9,653.74 | 4 | 2,413.435 | 125.263 | .000 ^e |
| | Residual | 2,292.77 | 119 | 19.267 | | |
| | Total | 11,946.51 | 123 | | | |
| 5 | Regression | 9,858.22 | 5 | 1,971.643 | 111.409 | .000 ^f |
| | Residual | 2,088.29 | 118 | 17.697 | | |
| | Total | 11,946.51 | 123 | | | |
| 6 | Regression | 9,956.72 | 6 | 1,659.453 | 97.576 | .000 ^g |
| | Residual | 1,989.79 | 117 | 17.007 | | |
| | Total | 11,946.51 | 123 | | | |

a. Dependent Variable: ROE

b. Predictors: (Constant), SA

c. Predictors: (Constant), SA, RA

d. Predictors: (Constant), SA, RA, HA

e. Predictors: (Constant), SA, RA, HA, HL

f. Predictors: (Constant), SA, RA, HA, HL, RL

g. Predictors: (Constant), SA, RA, HA, HL, RL, SL

Source: Author

4.3.7.2 Analysis of the Variate

The variate is the linear combination of independent variables used to predict the dependent variables. Analysis of the variate relates the respective contribution of each independent variable in the variate to the regression model (Burns and Burns, 2008; Hair et al., 2009). The model for regression is specified thus:

$$\text{ROE} = a + b_1 \text{HA} + b_2 \text{RA} + b_3 \text{SA} + b_4 \text{HL} + b_5 \text{RL} + b_6 \text{SL} + \varepsilon$$

The unstandardized B coefficients in Table 4.3.7.2 reveal t values that are all significant for the sixth model at the 95% confidence interval ($\alpha = 5\%$). Therefore, the null hypotheses which state that the coefficients are equal to zero, are rejected. From the unstandardized B coefficients of the sixth model, the regression equation can be produced as follows:

$$\text{ROE} = -37.531 + 0.646 \text{HA} + 0.732 \text{RA} + 0.388 \text{SA} + 0.584 \text{HL} + 0.995 \text{RL} + 0.601 \text{SL} + \varepsilon$$

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**TABLE 4.3.7.2
COEFFICIENTS**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95.0% Confidence Interval for B | |
|-------|------------|-----------------------------|------------|---------------------------|----------|-------|---------------------------------|-------------|
| | | B | Std. Error | Beta | | | Lower Bound | Upper Bound |
| 1 | (Constant) | (18.913) | 1.741 | | (10.862) | 0.000 | (22.360) | (15.466) |
| | SA | 1.352 | 0.092 | 0.800 | 14.727 | 0.000 | 1.170 | 1.533 |
| 2 | (Constant) | (25.485) | 1.760 | | (14.483) | 0.000 | (28.968) | (22.001) |
| | SA | 1.225 | 0.080 | 0.725 | 15.289 | 0.000 | 1.067 | 1.384 |
| | RA | 0.941 | 0.136 | 0.328 | 6.910 | 0.000 | 0.671 | 1.211 |
| 3 | (Constant) | (29.133) | 1.927 | | (15.118) | 0.000 | (32.948) | (25.317) |
| | SA | 0.780 | 0.140 | 0.462 | 5.581 | 0.000 | 0.504 | 1.057 |
| | RA | 0.951 | 0.129 | 0.331 | 7.359 | 0.000 | 0.695 | 1.207 |
| | HA | 0.418 | 0.110 | 0.311 | 3.792 | 0.000 | 0.200 | 0.637 |
| 4 | (Constant) | (32.209) | 1.874 | | (17.183) | 0.000 | (35.921) | (28.498) |
| | SA | 0.520 | 0.139 | 0.308 | 3.749 | 0.000 | 0.245 | 0.795 |
| | RA | 0.882 | 0.119 | 0.307 | 7.398 | 0.000 | 0.646 | 1.119 |
| | HA | 0.551 | 0.105 | 0.409 | 5.264 | 0.000 | 0.344 | 0.758 |
| | HL | 0.700 | 0.143 | 0.219 | 4.892 | 0.000 | 0.417 | 0.983 |
| 5 | (Constant) | (35.997) | 2.114 | | (17.028) | 0.000 | (40.183) | (31.811) |
| | SA | 0.446 | 0.135 | 0.264 | 3.314 | 0.001 | 0.180 | 0.713 |
| | RA | 0.818 | 0.116 | 0.285 | 7.056 | 0.000 | 0.588 | 1.047 |
| | HA | 0.584 | 0.101 | 0.434 | 5.793 | 0.000 | 0.384 | 0.784 |
| | HL | 0.613 | 0.140 | 0.191 | 4.391 | 0.000 | 0.336 | 0.889 |
| | RL | 1.058 | 0.311 | 0.142 | 3.399 | 0.001 | 0.441 | 1.674 |
| 6 | (Constant) | (37.531) | 2.168 | | (17.310) | 0.000 | (41.825) | (33.237) |
| | SA | 0.388 | 0.134 | 0.229 | 2.887 | 0.005 | 0.122 | 0.654 |
| | RA | 0.732 | 0.119 | 0.255 | 6.151 | 0.000 | 0.496 | 0.968 |
| | HA | 0.646 | 0.102 | 0.480 | 6.327 | 0.000 | 0.444 | 0.849 |
| | HL | 0.584 | 0.137 | 0.183 | 4.257 | 0.000 | 0.313 | 0.856 |
| | RL | 0.995 | 0.306 | 0.134 | 3.252 | 0.001 | 0.389 | 1.602 |
| | SL | 0.601 | 0.250 | 0.101 | 2.407 | 0.018 | 0.106 | 1.095 |

Source: Author

The regression coefficients labeled in the unstandardized coefficients show the intercept value (constant), denoted by (a) in the regression equation, of -37.531. This intercept is the point at which the regression line and the y-axis intersect. This means that when the

coefficients of all the independent variables are zero, ROE will be -37.531%. The independent variables in the regression equation are reported by coefficient (b_1) of value 0.646, (b_2) of value 0.732, (b_3) of value 0.388, (b_4) of value 0.584, (b_5) of value 0.995, and (b_6) of value 0.601.

These coefficients in the regression model show the average change in ROE for every one-unit increase or decrease in HA, RA, SA, HL, RL, and SL. Therefore, if HA disclosure increases by 1, ROE will increase by 0.646%; if RA disclosure increases by 1, ROE will increase by 0.732%; if SA disclosure increases by 1, ROE will increase by 0.388%; if HL disclosure increases by 1, ROE will increase by 0.584%; if RL disclosure increases by 1, ROE will increase by 0.995%, and if SL disclosure increases by 1, ROE will increase by 0.601%.

4.3.8 Summary of Regression Analysis

A stepwise regression was conducted to find the best combination of predictors of ROE among six independent variables: HA, RA, SA, HL, RL, and SL. Six steps were conducted with all the independent variables providing the best combination with adjusted $R^2 = 82.50\%$, and a significant $F = 97.576$, $p = 0.000$. In Chapter Five, the findings from the quantitative analysis will be triangulated with the findings from semi-structured interviews, follow-up interviews, and literature review in order to bridge the research gaps and formulate a model.

4.4 DATA DISTILLATION FOR SEMI-STRUCTURED INTERVIEWS

This section will provide a detailed explanation of the information collected from the previously stated semi-structured interviews used in Chapter Three-Research Methodology. The fifteen senior managers (SM) responses were apportioned into two parts:

1. Part A – Participant Profile: the respondents were categorized into three tables: 4.4.1 A, 4.4.1 B, 4.4.1 C. Afterwards, each respondent was given a code name and listed numerically as SM1 to SM15, then characterized with their respective demographics:
 - Age
 - Gender
 - Nationality
 - Education
 - Position
 - Years of Experience in Current Organization
 - Years of Experience in Current Industry/Sector
 - Years of Experience in the UAE
 - Address

2. Part B – Characteristics Survey: from section 4.4.2 until section 4.4.26, twenty-five classifications were produced based on the resultant findings. This

information was then coded and distributed into several tables and tally charts to illustrate the results. Tally charts are used in order to identify significance of findings. According to Vogt (2007), using tally charts provides an effective means of analysis that aids in improving the understanding of qualitative data.

4.4.1 Participant Profile

The presentation of the data distillation will begin with a series of tables (Appendix L) based on the profiles of SM1 to SM15. The participant profile tables are divided into three parts to introduce five different SM's at a time in an ascending numerical value.

4.4.2 Personal Definition of Intellectual Capital

In this question, every SM was asked to respond to the following question, 'Please provide your own personally held definition for Intellectual Capital'. Each of the responses were then collected and documented. Concept maps were created using NVIVO 9 to allow for the responses to be further analyzed, categorized, and coded to create the tables and tally charts seen in the resulting subsections.

4.4.2.1 Combined Results on the Personal Definition of Intellectual Capital

In Appendix M, data similarities were highlighted and common terms were generated into units of meaning in order to define and explain Intellectual Capital from a personal perspective. There were fourteen key words and terms used to define Intellectual Capital from a personal perspective. The results are not ranked in order of importance.

In Appendix M also, a tally chart was produced to analyze the value of each SM's responses in defining Intellectual Capital from a personal perspective. Furthermore, this was an important measure to see how many SM's used these categories. There were ten categories generated.

4.4.3 Organizational Definition of Intellectual Capital

In this question, every SM was asked to respond to the following question, 'Does your organization have an official or operational definition of Intellectual Capital? What is it?' Each of the responses were then collected and documented. Concept maps were created using NVIVO 9 to allow for the responses to be further analyzed, categorized, and coded to create the tables and tally charts seen in the resulting subsections.

4.4.3.1 Combined Results on the Organizational Definition of Intellectual Capital

In Appendix N, data similarities were highlighted and common terms were generated into units of meaning in order to define and explain Intellectual Capital from an organizational perspective. There were twenty key words and terms used to define Intellectual Capital from an organizational perspective. The results are not ranked in order of importance.

In Appendix N also, a tally chart was produced to analyze the value of each SM's responses in defining Intellectual Capital from an organizational perspective.

Furthermore, this was an important measure to see how many SM used these categories. There were nine categories generated.

4.4.4 Examples of Organizational Definition of Intellectual Capital

In this question, which is a probing question for the organizational definition of Intellectual Capital, every SM was asked to respond to the following question, 'Can you give me some examples?' Each of the responses were then collected and documented. Concept maps were created using NVIVO 9 to allow for the responses to be further analyzed, categorized, and coded to create the tables and tally charts seen in the resulting subsections.

4.4.4.1 Combined Results on the Examples of Organizational Definition of Intellectual Capital

In Appendix O, data similarities were highlighted and common terms were generated into units of meaning in order to give examples of the organizational definition of Intellectual Capital. There were twenty key words and terms used to define Intellectual Capital from an organizational perspective. The results are not ranked in order of importance.

In Appendix O also, a tally chart was produced to analyze the value of each SM's responses in defining Intellectual Capital from an organizational perspective.

Furthermore, this was an important measure to see how many SM used these categories. There were thirteen categories generated.

4.4.5 Measurement of Intellectual Capital

In this question, every SM was asked to respond to the following question, 'Does your organization measure its Intellectual Capital? How?' Each of the responses were then collected and documented. Concept maps were created using NVIVO 9 to allow for the responses to be further analyzed, categorized, and coded to create the tables and tally charts seen in the resulting subsections.

4.4.5.1 Combined Results on the Measurement of Intellectual Capital

In Appendix P, data similarities were highlighted and common terms were generated into units of meaning in order to check the measurement of Intellectual Capital. There were nineteen key words and terms used. The results are not ranked in order of importance.

In Appendix P also, a tally chart was produced to analyze the value of each SM's responses regarding measurement of Intellectual Capital. Furthermore, this was an important measure to see how many SM used these categories. There were two categories generated.

4.4.6 Disclosure of Intellectual Capital

In this question, every SM was asked to respond to the following question, 'Does your organization disclose its Intellectual Capital in Annual Reports?' Each of the responses were then collected and documented. Concept maps were created using NVIVO 9 to allow for the responses to be further analyzed, categorized, and coded to create the tables and tally charts seen in the resulting subsections.

4.4.6.1 Combined Results on the Disclosure of Intellectual Capital

In Appendix Q, data similarities were highlighted and common terms were generated into units of meaning in order to check the disclosure of Intellectual Capital. There were twenty key words and terms used. The results are not ranked in order of importance.

In Appendix Q also, a tally chart was produced to analyze the value of each SM's responses regarding disclosure of Intellectual Capital. Furthermore, this was an important measure to see how many SM used these categories. There were two categories generated.

4.4.7 Challenges faced in Intellectual Capital Reporting

In this question, every SM was asked to respond to the following question, 'In reporting Intellectual Capital what are the challenges faced by your organization?' Each of the responses were then collected and documented. Concept maps were created using

NVIVO 9 to allow for the responses to be further analyzed, categorized, and coded to create the tables and tally charts seen in the resulting subsections.

4.4.7.1 Combined Results on the Challenges faced in Intellectual Capital Reporting

In Appendix R, data similarities were highlighted and common terms were generated into units of meaning in order to check the challenges faced in reporting Intellectual Capital. There were sixteen key words and terms used. The results are not ranked in order of importance.

In Appendix R also, a tally chart was produced to analyze the value of each SM's responses regarding challenges faced in reporting Intellectual Capital. Furthermore, this was an important measure to see how many SM used these categories. There were seven categories generated.

4.4.8 Methods of Intellectual Capital Disclosure

In this question, every SM was asked to respond to the following question, 'How does your organization disclose its Intellectual Capital (quantitatively, qualitatively)?' Each of the responses were then collected and documented. Concept maps were created using NVIVO 9 to allow for the responses to be further analyzed, categorized, and coded to create the tables and tally charts seen in the resulting subsections.

4.4.8.1 Combined Results on the Methods of Intellectual Capital Disclosure

In Appendix S, data similarities were highlighted and common terms were generated into units of meaning in order to check the methods of Intellectual Capital Disclosure. There were thirteen key words and terms used. The results are not ranked in order of importance.

In Appendix S also, a tally chart was produced to analyze the value of each SM's responses regarding method of Intellectual Capital disclosure. Furthermore, this was an important measure to see how many SM used these categories. There were three categories generated.

4.4.9 Organizational Definition of Intellectual Assets

In this question, every SM was asked to respond to the following question, 'Does your organization have an official or operational definition of Intellectual Assets? What is it?' Each of the responses were then collected and documented. Concept maps were created using NVIVO 9 to allow for the responses to be further analyzed, categorized, and coded to create the tables and tally charts seen in the resulting subsections.

4.4.9.1 Combined Results on the Organizational Definition of Intellectual Assets

In Appendix T, data similarities were highlighted and common terms were generated into units of meaning in order to define and explain Intellectual Assets from an organizational perspective. There were seventeen key words and terms used to define

Intellectual Assets from an organizational perspective. The results are not ranked in order of importance.

In Appendix T also, a tally chart was produced to analyze the value of each SM's responses in defining Intellectual Assets from an organizational perspective.

Furthermore, this was an important measure to see how many SM used these categories. There were nine categories generated.

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4.4.10 Examples of Organizational Definition of Intellectual Assets

In this question, which is a probing question for the organizational definition of Intellectual Assets, every SM was asked to respond to the following question, 'Can you give me some examples?' Each of the responses were then collected and documented. Concept maps were created using NVIVO 9 to allow for the responses to be further analyzed, categorized, and coded to create the tables and tally charts seen in the resulting subsections.

4.4.10.1 Combined Results on the Examples of Organizational Definition of Intellectual Assets

In Appendix U, data similarities were highlighted and common terms were generated into units of meaning in order to give examples of the organizational definition of Intellectual Assets. There were eighteen key words and terms used to define Intellectual

Assets from an organizational perspective. The results are not ranked in order of importance.

In Appendix U also, a tally chart was produced to analyze the value of each SM's responses in defining Intellectual Assets from an organizational perspective.

Furthermore, this was an important measure to see how many SM used these categories. There were ten categories generated.

4.4.11 Differences between Intellectual Assets and Intellectual Capital

In this question, every SM was asked to respond to the following question, 'Do you think Intellectual Assets are different from Intellectual Capital? Why / Why Not?' Each of the responses were then collected and documented. Concept maps were created using NVIVO 9 to allow for the responses to be further analyzed, categorized, and coded to create the tables and tally charts seen in the resulting subsections.

4.4.11.1 Combined Results on the Differences between Intellectual Assets and Intellectual Capital

In Appendix V, data similarities were highlighted and common terms were generated into units of meaning in order to highlight the differences between Intellectual Assets and Intellectual Capital. There were ten key words and terms used. The results are not ranked in order of importance.

In Appendix V also, a tally chart was produced to analyze the value of each SM's responses in explain the differences between Intellectual Assets and Intellectual Capital. Furthermore, this was an important measure to see how many SM used these categories. There were ten categories generated.

4.4.12 Measurement of Intellectual Assets

In this question, every SM was asked to respond to the following question, 'Does your organization measure its Intellectual Assets? How?' Each of the responses were then collected and documented. Concept maps were created using NVIVO 9 to allow for the responses to be further analyzed, categorized, and coded to create the tables and tally charts seen in the resulting subsections.

4.4.12.1 Combined Results on the Measurement of Intellectual Assets

In Appendix W, data similarities were highlighted and common terms were generated into units of meaning in order to check the measurement of Intellectual Assets. There were seventeen key words and terms used. The results are not ranked in order of importance.

In Appendix W also, a tally chart was produced to analyze the value of each SM's responses regarding measurement of Intellectual Assets. Furthermore, this was an important measure to see how many SM used these categories. There were four categories generated.

4.4.13 Disclosure of Intellectual Assets

In this question, every SM was asked to respond to the following question, 'Does your organization disclose its Intellectual Assets in Annual Reports?' Each of the responses were then collected and documented. Concept maps were created using NVIVO 9 to allow for the responses to be further analyzed, categorized, and coded to create the tables and tally charts seen in the resulting subsections.

4.4.13.1 Combined Results on the Disclosure of Intellectual Assets

In Appendix X, data similarities were highlighted and common terms were generated into units of meaning in order to check the disclosure of Intellectual Assets. There were seventeen key words and terms used. The results are not ranked in order of importance.

In Appendix X also, a tally chart was produced to analyze the value of each SM's responses regarding disclosure of Intellectual Assets. Furthermore, this was an important measure to see how many SM used these categories. There were five categories generated.

4.4.14 Challenges faced in Intellectual Assets Reporting

In this question, every SM was asked to respond to the following question, 'In reporting Intellectual Assets what are the challenges faced by your organization?' Each of the responses were then collected and documented. Concept maps were created using

NVIVO 9 to allow for the responses to be further analyzed, categorized, and coded to create the tables and tally charts seen in the resulting subsections.

4.4.14.1 Combined Results on the Challenges faced in Intellectual Capital Assets

In Appendix Y, data similarities were highlighted and common terms were generated into units of meaning in order to check the challenges faced in reporting Intellectual Assets. There were fifteen key words and terms used. The results are not ranked in order of importance.

In Appendix Y also, a tally chart was produced to analyze the value of each SM's responses regarding challenges faced in reporting Intellectual Assets. Furthermore, this was an important measure to see how many SM used these categories. There were six categories generated.

4.4.15 Methods of Intellectual Assets Disclosure

In this question, every SM was asked to respond to the following question, 'How does your organization disclose its Intellectual Assets (quantitatively, qualitatively)?' Each of the responses were then collected and documented. Concept maps were created using NVIVO 9 to allow for the responses to be further analyzed, categorized, and coded to create the tables and tally charts seen in the resulting subsections.

4.4.15.1 Combined Results on the Methods of Intellectual Assets Disclosure

In Appendix Z, data similarities were highlighted and common terms were generated into units of meaning in order to check the methods of Intellectual Assets Disclosure. There were ten key words and terms used. The results are not ranked in order of importance.

In Appendix Z also, a tally chart was produced to analyze the value of each SM's responses regarding methods of Intellectual Assets disclosure. Furthermore, this was an important measure to see how many SM used these categories. There were three categories generated.

4.4.16 Organizational Definition of Intellectual Liabilities

In this question, every SM was asked to respond to the following question, 'Does your organization have an official or operational definition of Intellectual Liabilities? What is it?' Each of the responses were then collected and documented. Concept maps were created using NVIVO 9 to allow for the responses to be further analyzed, categorized, and coded to create the tables and tally charts seen in the resulting subsections.

4.4.16.1 Combined Results on the Organizational Definition of Intellectual Liabilities

In Appendix AA, data similarities were highlighted and common terms were generated into units of meaning in order to define and explain Intellectual Liabilities from an organizational perspective. There were fifteen key words and terms used to define

Intellectual Liabilities from an organizational perspective. The results are not ranked in order of importance.

In Appendix AA, a tally chart was produced to analyze the value of each SM's responses in defining Intellectual Liabilities from an organizational perspective. Furthermore, this was an important measure to see how many SM used these categories. There were six categories generated.

4.4.17 Examples of Organizational Definition of Intellectual Liabilities

In this question, which is a probing question for the organizational definition of Intellectual Liabilities, every SM was asked to respond to the following question, 'Can you give me some examples?' Each of the responses were then collected and documented. Concept maps were created using NVIVO 9 to allow for the responses to be further analyzed, categorized, and coded to create the tables and tally charts seen in the resulting subsections.

4.4.17.1 Combined Results on the Examples of Organizational Definition of Intellectual Liabilities

In Appendix AB, data similarities were highlighted and common terms were generated into units of meaning in order to give examples of the organizational definition of Intellectual Liabilities. There were seventeen key words and terms used to define

Intellectual Liabilities from an organizational perspective. The results are not ranked in order of importance.

In Appendix AB, a tally chart was produced to analyze the value of each SM's responses in defining Intellectual Liabilities from an organizational perspective. Furthermore, this was an important measure to see how many SM used these categories. There were eleven categories generated.

4.4.18 Measurement of Intellectual Liabilities

In this question, every SM was asked to respond to the following question, 'Does your organization measure its Intellectual Liabilities? How?' Each of the responses were then collected and documented. Concept maps were created using NVIVO 9 to allow for the responses to be further analyzed, categorized, and coded to create the tables and tally charts seen in the resulting subsections.

4.4.18.1 Combined Results on the Measurement of Intellectual Liabilities

In Appendix AC, data similarities were highlighted and common terms were generated into units of meaning in order to check the measurement of Intellectual Liabilities. There were thirteen key words and terms used. The results are not ranked in order of importance.

In Appendix AC, a tally chart was produced to analyze the value of each SM's responses regarding measurement of Intellectual Liabilities. Furthermore, this was an important measure to see how many SM used these categories. There were three categories generated.

4.4.19 Disclosure of Intellectual Liabilities

In this question, every SM was asked to respond to the following question, 'Does your organization disclose its Intellectual Liabilities in Annual Reports?' Each of the responses were then collected and documented. Concept maps were created using NVIVO 9 to allow for the responses to be further analyzed, categorized, and coded to create the tables and tally charts seen in the resulting subsections.

4.4.19.1 Combined Results on the Disclosure of Intellectual Liabilities

In Appendix AD, data similarities were highlighted and common terms were generated into units of meaning in order to check the disclosure of Intellectual Liabilities. There were thirteen key words and terms used. The results are not ranked in order of importance.

In Appendix AD, a tally chart was produced to analyze the value of each SM's responses regarding disclosure of Intellectual Liabilities. Furthermore, this was an important measure to see how many SM used these categories. There were two categories generated.

4.4.20 Challenges faced in Intellectual Liabilities Reporting

In this question, every SM was asked to respond to the following question, 'In reporting Intellectual Liabilities what are the challenges faced by your organization?' Each of the responses were then collected and documented. Concept maps were created using NVIVO 9 to allow for the responses to be further analyzed, categorized, and coded to create the tables and tally charts seen in the resulting subsections.

4.4.20.1 Combined Results on the Challenges faced in Intellectual Capital Liabilities

In Appendix AE, data similarities were highlighted and common terms were generated into units of meaning in order to check the challenges faced in reporting Intellectual Liabilities. There were eleven key words and terms used. The results are not ranked in order of importance.

In Appendix AE also, a tally chart was produced to analyze the value of each SM's responses regarding challenges faced in reporting Intellectual Liabilities. Furthermore, this was an important measure to see how many SM used these categories. There were seven categories generated.

4.4.21 Methods of Intellectual Liabilities Disclosure

In this question, every SM was asked to respond to the following question, 'How does your organization disclose its Intellectual Liabilities (quantitatively, qualitatively)?' Each

of the responses were then collected and documented. Concept maps were created using NVIVO 9 to allow for the responses to be further analyzed, categorized, and coded to create the tables and tally charts seen in the resulting subsections.

4.4.21.1 Combined Results on the Methods of Intellectual Liabilities Disclosure

In Appendix AF, data similarities were highlighted and common terms were generated into units of meaning in order to check the methods of Intellectual Liabilities Disclosure. There were seven key words and terms used. The results are not ranked in order of importance.

In Appendix AF also, a tally chart was produced to analyze the value of each SM's responses regarding methods of Intellectual Liabilities disclosure. Furthermore, this was an important measure to see how many SM used these categories. There were three categories generated.

4.4.22 Impact of Intellectual Assets Measurement and Disclosure on Firm Financial Performance

In this question, every SM was asked to respond to the following question, 'From your experience, does the measurement and disclosure of Intellectual Assets affect Firm Financial Performance?' Each of the responses were then collected and documented. Concept maps were created using NVIVO 9 to allow for the responses to be further

analyzed, categorized, and coded to create the tables and tally charts seen in the resulting subsections.

4.4.22.1 Combined Results on the Impact of Intellectual Assets Measurement and Disclosure on Firm Financial Performance

In Appendix AG, data similarities were highlighted and common terms were generated into units of meaning in order to check whether respondents think that the measurement and disclosure of Intellectual Assets affects Firm Financial Performance or not. There were eight key words and terms used. The results are not ranked in order of importance.

In Appendix AG also, a tally chart was produced to analyze the value of each SM's responses regarding the impact of Intellectual Assets measurement and disclosure on Firm Financial Performance. Furthermore, this was an important measure to see how many SM used these categories. There were three categories generated.

4.4.23 Reasons of the Impact of Intellectual Assets Measurement and Disclosure on Firm Financial Performance

In this question, which is a probing question for the impact of Intellectual Assets Measurement and Disclosure on Firm Financial Performance, every SM was asked to respond to the following question, 'Why do you think it affects (or doesn't affect) Firm's Financial Performance?' Each of the responses were then collected and documented.

Concept maps were created using NVIVO 9 to allow for the responses to be further analyzed, categorized, and coded to create the tables and tally charts seen in the resulting subsections.

4.4.23.1 Combined Results on the Reasons of the Impact of Intellectual Assets

Measurement and Disclosure on Firm Financial Performance

In Appendix AH, data similarities were highlighted and common terms were generated into units of meaning in order to check the respondents' answers on the reasons of the impact of measurement and disclosure of Intellectual Assets on Firm Financial Performance. There were nineteen key words and terms used. The results are not ranked in order of importance.

In Appendix AH also, a tally chart was produced to analyze the value of each SM's responses regarding the reasons of the impact of Intellectual Assets measurement and disclosure on Firm Financial Performance. Furthermore, this was an important measure to see how many SM used these categories. There were ten categories generated.

4.4.24 Impact of Intellectual Liabilities Measurement and Disclosure on Firm Financial Performance

In this question, every SM was asked to respond to the following question, 'From your experience, does the measurement and disclosure of Intellectual Liabilities affect Firm Financial Performance?' Each of the responses were then collected and documented.

Concept maps were created using NVIVO 9 to allow for the responses to be further analyzed, categorized, and coded to create the tables and tally charts seen in the resulting subsections.

4.4.24.1 Combined Results on the Impact of Intellectual Liabilities Measurement and Disclosure on Firm Financial Performance

In Appendix AI, data similarities were highlighted and common terms were generated into units of meaning in order to check whether respondents think that the measurement and disclosure of Intellectual Liabilities affects Firm Financial Performance or not. There were eight key words and terms used. The results are not ranked in order of importance.

In Appendix AI also, a tally chart was produced to analyze the value of each SM's responses regarding the impact of Intellectual Liabilities measurement and disclosure on Firm Financial Performance. Furthermore, this was an important measure to see how many SM used these categories. There were three categories generated.

4.4.25 Reasons of the Impact of Intellectual Liabilities Measurement and Disclosure on Firm Financial Performance

In this question, which is a probing question for the impact of Intellectual Liabilities Measurement and Disclosure on Firm Financial Performance, every SM was asked to respond to the following question, 'Why do you think it affects (or doesn't affect) Firm's

Financial Performance?’ Each of the responses were then collected and documented.

Concept maps were created using NVIVO 9 to allow for the responses to be further analyzed, categorized, and coded to create the tables and tally charts seen in the resulting subsections.

4.4.25.1 Combined Results on the Reasons of the Impact of Intellectual Liabilities Measurement and Disclosure on Firm Financial Performance

In Appendix AJ, data similarities were highlighted and common terms were generated into units of meaning in order to check the respondents’ answers on the reasons of the impact of measurement and disclosure of Intellectual Liabilities on Firm Financial Performance. There were eighteen key words and terms used. The results are not ranked in order of importance.

In Appendix AJ also, a tally chart was produced to analyze the value of each SM’s responses regarding the reasons of the impact of Intellectual Liabilities measurement and disclosure on Firm Financial Performance. Furthermore, this was an important measure to see how many SM used these categories. There were eight categories generated.

4.4.26 Importance of Inclusion of Intellectual Capital in Annual Reports

In this question, every SM was asked to respond to the following question, ‘Do you believe that the inclusion of Intellectual Capital within the financial statements of the

corporation is important?’ Each of the responses were then collected and documented. Concept maps were created using NVIVO 9 to allow for the responses to be further analyzed, categorized, and coded to create the tables and tally charts seen in the resulting subsections.

4.4.26.1 Combined Results on the Importance of Inclusion of Intellectual Capital in Annual Reports

In Appendix AK, data similarities were highlighted and common terms were generated into units of meaning in order to check the respondents’ answers on the importance of inclusion of Intellectual Capital in annual reports. There were twelve key words and terms used. The results are not ranked in order of importance.

In Appendix AK, a tally chart was produced to analyze the value of each SM’s responses regarding the importance of inclusion of Intellectual Capital in annual reports. Furthermore, this was an important measure to see how many SM used these categories. There were eight categories generated.

4.4.27 Summary of Data Distillation for Semi-Structured Interviews

The fifteen senior managers’ responses from initial interviews were analyzed, coded, and categorized into result tables in order to generate understanding of how companies define and understand various Intellectual Capital components, methods of measurement and disclosure, challenges faced in measurement and disclosure, and

impact on Firm Financial Performance. Chapter Five will examine in greater detail the synthesis and integration of the research findings. In Chapter Five, the findings from the semi-structured interviews will be triangulated with the findings from the quantitative analysis, follow-up interviews, and literature review in order to bridge the research gaps and formulate a model.

4.5 DATA DISTILLATION FOR FOLLOW-UP INTERVIEWS

This section will provide a detailed explanation of the information collected from the previously stated follow-up interviews used in Chapter Three-Research Methodology. The five SM's (SM1, SM2, SM9, SM10, and SM11) responses were apportioned into two parts:

3. Part A – Participant Profile: the respondents were categorized into Table 4.5.1. Afterwards, each respondent is given the same code used in Section 4.4 and characterized according to the following demographics:

- Age
- Gender
- Nationality
- Education
- Position
- Years of Experience in Current Organization
- Years of Experience in Current Industry/Sector

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- Years of Experience in the UAE
- Address

4. Part B – Characteristics Survey: from section 4.5.2 until section 4.5.13, twelve classifications were produced based on the resultant findings. This information was then coded and distributed into several tables and tally charts to illustrate the results. Tally charts are used in order to identify significance of findings. According to Vogt (2007), using tally charts provides an effective means of analysis that aids in improving the understanding of qualitative data.

4.5.1 Participant Profile

The presentation of the data distillation will begin with Appendix AL based on the profiles of the five SM's.

4.5.2 Impact of Human Assets Measurement and Disclosure on Firm Financial Performance

In this question, every SM was asked to respond to the following question, 'Does the measurement and disclosure of Human Assets affect Firm Financial Performance?'

Each of the responses were then collected and documented. Concept maps were created using NVIVO 9 to allow for the responses to be further analyzed, categorized, and coded to create the tables and tally charts seen in the resulting subsections.

4.5.2.1 Combined Results on the Impact of Human Assets Measurement and Disclosure on Firm Financial Performance

In Appendix AM, the answers to this closed-ended question were classified directly into two categories: “Does Impact” and “Does not Impact”. A tally chart was produced to analyze the value of each SM’s responses regarding the impact of Human Assets measurement and disclosure on Firm Financial Performance. Furthermore, this was an important measure to see how many SM used these categories.

4.5.3 Reasons of the Impact of Human Assets Measurement and Disclosure on Firm Financial Performance

In this question, which is a probing question for the impact of Human Assets Measurement and Disclosure on Firm Financial Performance, every SM was asked to respond to the following question, ‘How?’ Each of the responses were then collected and documented. Concept maps were created using NVIVO 9 to allow for the responses to be further analyzed, categorized, and coded to create the tables and tally charts seen in the resulting subsections.

4.5.3.1 Combined Results on the Reasons of the Impact of Human Assets Measurement and Disclosure on Firm Financial Performance

In Appendix AN, data similarities were highlighted and common terms were generated into units of meaning in order to check the respondents’ answers on the reasons of the impact of measurement and disclosure of Human Assets on Firm Financial

Performance. There were twelve key words and terms used. The results are not ranked in order of importance.

In Appendix AN also, a tally chart was produced to analyze the value of each SM's responses regarding the reasons of the impact of Human Assets measurement and disclosure on Firm Financial Performance. Furthermore, this was an important measure to see how many SM used these categories. There were five categories generated.

4.5.4 Impact of Relational Assets Measurement and Disclosure on Firm Financial Performance

In this question, every SM was asked to respond to the following question, 'Does the measurement and disclosure of Relational Assets affect Firm Financial Performance?' Each of the responses were then collected and documented. Concept maps were created using NVIVO 9 to allow for the responses to be further analyzed, categorized, and coded to create the tables and tally charts seen in the resulting subsections.

4.5.4.1 Combined Results on the Impact of Relational Assets Measurement and Disclosure on Firm Financial Performance

In Appendix AO, the answers to this closed-ended question were classified directly into two categories: "Does Impact" and "Does not Impact". A tally chart was produced to analyze the value of each SM's responses regarding the impact of Relational Assets

measurement and disclosure on Firm Financial Performance. Furthermore, this was an important measure to see how many SM used these categories.

4.5.5 Reasons of the Impact of Relational Assets Measurement and Disclosure on Firm Financial Performance

In this question, which is a probing question for the impact of Relational Assets Measurement and Disclosure on Firm Financial Performance, every SM was asked to respond to the following question, 'How?' Each of the responses were then collected and documented. Concept maps were created using NVIVO 9 to allow for the responses to be further analyzed, categorized, and coded to create the tables and tally charts seen in the resulting subsections.

4.5.5.1 Combined Results on the Reasons of the Impact of Relational Assets Measurement and Disclosure on Firm Financial Performance

In Appendix AP, data similarities were highlighted and common terms were generated into units of meaning in order to check the respondents' answers on the reasons of the impact of measurement and disclosure of Relational Assets on Firm Financial Performance. There were twelve key words and terms used. The results are not ranked in order of importance.

In Appendix AP also, a tally chart was produced to analyze the value of each SM's responses regarding the reasons of the impact of Relational Assets measurement and disclosure on Firm Financial Performance. Furthermore, this was an important measure to see how many SM used these categories. There were three categories generated.

4.5.6 Impact of Structural Assets Measurement and Disclosure on Firm Financial Performance

In this question, every SM was asked to respond to the following question, 'Does the measurement and disclosure of Structural Assets affect Firm Financial Performance?' Each of the responses were then collected and documented. Concept maps were created using NVIVO 9 to allow for the responses to be further analyzed, categorized, and coded to create the tables and tally charts seen in the resulting subsections.

4.5.6.1 Combined Results on the Impact of Structural Assets Measurement and Disclosure on Firm Financial Performance

In Appendix AQ, the answers to this closed-ended question were classified directly into two categories: "Does Impact" and "Does not Impact". A tally chart was produced to analyze the value of each SM's responses regarding the impact of Structural Assets measurement and disclosure on Firm Financial Performance. Furthermore, this was an important measure to see how many SM used these categories.

4.5.7 Reasons of the Impact of Structural Assets Measurement and Disclosure on Firm Financial Performance

In this question, which is a probing question for the impact of Structural Assets Measurement and Disclosure on Firm Financial Performance, every SM was asked to respond to the following question, 'How?' Each of the responses were then collected and documented. Concept maps were created using NVIVO 9 to allow for the responses to be further analyzed, categorized, and coded to create the tables and tally charts seen in the resulting subsections.

4.5.7.1 Combined Results on the Reasons of the Impact of Structural Assets Measurement and Disclosure on Firm Financial Performance

In Appendix AR, data similarities were highlighted and common terms were generated into units of meaning in order to check the respondents' answers on the reasons of the impact of measurement and disclosure of Structural Assets on Firm Financial Performance. There were twelve key words and terms used. The results are not ranked in order of importance.

In Appendix AR also, a tally chart was produced to analyze the value of each SM's responses regarding the reasons of the impact of Structural Assets measurement and disclosure on Firm Financial Performance. Furthermore, this was an important measure to see how many SM used these categories. There were three categories generated.

4.5.8 Impact of Human Liabilities Measurement and Disclosure on Firm Financial Performance

In this question, every SM was asked to respond to the following question, 'Does the measurement and disclosure of Human Liabilities affect Firm Financial Performance?' Each of the responses were then collected and documented. Concept maps were created using NVIVO 9 to allow for the responses to be further analyzed, categorized, and coded to create the tables and tally charts seen in the resulting subsections.

4.5.8.1 Combined Results on the Impact of Human Liabilities Measurement and Disclosure on Firm Financial Performance

In Appendix AS, the answers to this closed-ended question were classified directly into three categories: "Does Impact", "Does not Impact", and "It Depends". A tally chart was produced to analyze the value of each SM's responses regarding the impact of Human Liabilities measurement and disclosure on Firm Financial Performance. Furthermore, this was an important measure to see how many SM used these categories.

4.5.9 Reasons of the Impact of Human Liabilities Measurement and Disclosure on Firm Financial Performance

In this question, which is a probing question for the impact of Human Liabilities Measurement and Disclosure on Firm Financial Performance, every SM was asked to respond to the following question, 'How?' Each of the responses were then collected and documented. Concept maps were created using NVIVO 9 to allow for the

responses to be further analyzed, categorized, and coded to create the tables and tally charts seen in the resulting subsections.

4.5.9.1 Combined Results on the Reasons of the Impact of Human Liabilities

Measurement and Disclosure on Firm Financial Performance

In Appendix AT, data similarities were highlighted and common terms were generated into units of meaning in order to check the respondents' answers on the reasons of the impact of measurement and disclosure of Human Liabilities on Firm Financial Performance. There were eleven key words and terms used. The results are not ranked in order of importance.

In Appendix AT, a tally chart was produced to analyze the value of each SM's responses regarding the reasons of the impact of Human Liabilities measurement and disclosure on Firm Financial Performance. Furthermore, this was an important measure to see how many SM used these categories. There were five categories generated.

4.5.10 Impact of Relational Liabilities Measurement and Disclosure on Firm Financial Performance

In this question, every SM was asked to respond to the following question, 'Does the measurement and disclosure of Relational Liabilities affect Firm Financial Performance?' Each of the responses were then collected and documented. Concept maps were created using NVIVO 9 to allow for the responses to be further analyzed,

categorized, and coded to create the tables and tally charts seen in the resulting subsections.

4.5.10.1 Combined Results on the Impact of Relational Liabilities Measurement and Disclosure on Firm Financial Performance

In Appendix AU, the answers to this closed-ended question were classified directly into three categories: “Does Impact”, “Does not Impact”, and “It Depends”. A tally chart was produced to analyze the value of each SM’s responses regarding the impact of Relational Liabilities measurement and disclosure on Firm Financial Performance. Furthermore, this was an important measure to see how many SM used these categories.

4.5.11 Reasons of the Impact of Relational Liabilities Measurement and Disclosure on Firm Financial Performance

In this question, which is a probing question for the impact of Relational Liabilities Measurement and Disclosure on Firm Financial Performance, every SM was asked to respond to the following question, ‘How?’ Each of the responses were then collected and documented. Concept maps were created using NVIVO 9 to allow for the responses to be further analyzed, categorized, and coded to create the tables and tally charts seen in the resulting subsections.

4.5.11.1 Combined Results on the Reasons of the Impact of Relational Liabilities

Measurement and Disclosure on Firm Financial Performance

In Appendix AV, data similarities were highlighted and common terms were generated into units of meaning in order to check the respondents' answers on the reasons of the impact of measurement and disclosure of Relational Liabilities on Firm Financial Performance. There were twelve key words and terms used. The results are not ranked in order of importance.

In Appendix AV also, a tally chart was produced to analyze the value of each SM's responses regarding the reasons of the impact of Relational Liabilities measurement and disclosure on Firm Financial Performance. Furthermore, this was an important measure to see how many SM used these categories. There were five categories generated.

4.5.12 Impact of Structural Liabilities Measurement and Disclosure on Firm Financial Performance

In this question, every SM was asked to respond to the following question, 'Does the measurement and disclosure of Structural Liabilities affect Firm Financial Performance?' Each of the responses were then collected and documented. Concept maps were created using NVIVO 9 to allow for the responses to be further analyzed, categorized, and coded to create the tables and tally charts seen in the resulting subsections.

4.5.12.1 Combined Results on the Impact of Structural Liabilities Measurement and Disclosure on Firm Financial Performance

In Appendix AW, the answers to this closed-ended question were classified directly into three categories: “Does Impact”, “Does not Impact”, and “It Depends”. A tally chart was produced to analyze the value of each SM’s responses regarding the impact of Structural Liabilities measurement and disclosure on Firm Financial Performance. Furthermore, this was an important measure to see how many SM used these categories.

4.5.13 Reasons of the Impact of Structural Liabilities Measurement and Disclosure on Firm Financial Performance

In this question, which is a probing question for the impact of Structural Liabilities Measurement and Disclosure on Firm Financial Performance, every SM was asked to respond to the following question, ‘How?’ Each of the responses were then collected and documented. Concept maps were created using NVIVO 9 to allow for the responses to be further analyzed, categorized, and coded to create the tables and tally charts seen in the resulting subsections.

4.5.13.1 Combined Results on the Reasons of the Impact of Structural Liabilities Measurement and Disclosure on Firm Financial Performance

In Appendix AX, data similarities were highlighted and common terms were generated into units of meaning in order to check the respondents’ answers on the reasons of the

impact of measurement and disclosure of Structural Liabilities on Firm Financial Performance. There were thirteen key words and terms used. The results are not ranked in order of importance.

In Appendix AX also, a tally chart was produced to analyze the value of each SM's responses regarding the reasons of the impact of Structural Liabilities measurement and disclosure on Firm Financial Performance. Furthermore, this was an important measure to see how many SM used these categories. There were five categories generated.

4.5.14 Summary of Data Distillation for Follow-up Interviews

The five senior managers' responses from follow-up interviews were analyzed, coded, and categorized into result tables in order to generate understanding companies' perceptions on the impact of disclosure of Human Assets, Relational Assets, Structural Assets, Human Liabilities, Relational Liabilities, and Structural Liabilities on Firm Financial Performance. Chapter Five will examine in greater detail the synthesis and integration of the research findings. In Chapter Five, the findings from the follow-up interviews will be triangulated with the findings from the quantitative analysis, semi-structured interviews, and literature review in order to bridge the research gaps and formulate a model.

CHAPTER FIVE

SYNTHESIS AND INTEGRATION

CHAPTER FIVE – SYNTHESIS AND INTEGRATION

5.0 OVERVIEW

The present research was conducted using publicly listed companies on the stock exchanges of the UAE. The sample size for content analysis consists of 124 companies, representing 100% of the population. Besides, the sample size for semi-structured interviews consists of fifteen companies, selected by purposive sampling from the sampling frame of 124 companies. Furthermore, follow-up interviews were conducted with five from the fifteen respondents initially interviewed. The subsequent sections will synthesize, present the findings, and construct a new model for the relationship between Intellectual Capital disclosure and Firm Financial Performance.

5.1 IDENTIFICATION OF FINDINGS FROM CONTENT ANALYSIS

The dissertation attempts to answer the following main research question:

“What are the characteristics of a new conceptual model that assists in explaining the relationships between Intellectual Capital disclosure and Firm Financial Performance for companies listed on the UAE stock exchanges?”

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In order to adequately respond to the main research question the following null hypotheses have been developed and presented earlier in Chapter One:

| TABLE 5.1 A NULL HYPOTHESES | |
|--|--|
| H1 ₀ | There is no statistically significant relationship between Intellectual Capital Disclosure and Firm Financial Performance for publicly listed companies in the UAE. |
| H2 ₀ | There is no statistically significant relationship between Human Assets Disclosure and Firm Financial Performance for publicly listed companies in the UAE |
| H3 ₀ | There is no statistically significant relationship between Relational Assets Disclosure and Firm Financial Performance for publicly listed companies in the UAE |
| H4 ₀ | There is no statistically significant relationship between Structural Assets Disclosure and Firm Financial Performance for publicly listed companies in the UAE |
| H5 ₀ | There is no statistically significant relationship between Human Liabilities Disclosure and Firm Financial Performance for publicly listed companies in the UAE |
| H6 ₀ | There is no statistically significant relationship between Relational Liabilities Disclosure and Firm Financial Performance for publicly listed companies in the UAE |
| H7 ₀ | There is no statistically significant relationship between Structural Liabilities Disclosure and Firm Financial Performance for publicly listed companies in the UAE |
| <i>Source: Author</i> | |

The above null hypotheses were chosen to study the interaction effects between the components of Intellectual Assets disclosure (Human Assets, Structural Assets, and Relational Assets) and Firm Financial Performance on one hand, and the interaction

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between the components of Intellectual Liabilities disclosure (Human Liabilities, Structural Liabilities, and Relational Liabilities) and Firm Financial Performance on the other hand. Therefore, in the following sections each of the above null hypotheses will be tested using the results of the multivariate regression analysis conducted earlier and presented in Chapter Four.

The F Test and analysis of the coefficients, which were provided by the multivariate regression analysis and presented in Chapter Four, are displayed in Table 5.1 B and Table 5.1 C respectively.

| TABLE 5.1 B MODEL SUMMARY | | | | | | | | | | |
|---|-------------------|----------|-------------------|----------------------------|-------------------|----------|------|------|---------------|---------------|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | | Durbin-Watson |
| | | | | | R Square Change | F Change | df 1 | df 2 | Sig. F Change | |
| 1 | .800 ^a | .640 | .637 | 5.937 | .640 | 216.893 | 1 | 122 | .000 | |
| 2 | .861 ^b | .742 | .738 | 5.048 | .102 | 47.752 | 1 | 121 | .000 | |
| 3 | .877 ^c | .769 | .764 | 4.790 | .028 | 14.378 | 1 | 120 | .000 | |
| 4 | .899 ^d | .808 | .802 | 4.389 | .039 | 23.928 | 1 | 119 | .000 | |
| 5 | .908 ^e | .825 | .818 | 4.207 | .017 | 11.554 | 1 | 118 | .001 | |
| 6 | .913 ^f | .833 | .825 | 4.124 | .008 | 5.792 | 1 | 117 | .018 | 2.136 |
| a. Predictors: (Constant), SA | | | | | | | | | | |
| b. Predictors: (Constant), SA, RA | | | | | | | | | | |
| c. Predictors: (Constant), SA, RA, HA | | | | | | | | | | |
| d. Predictors: (Constant), SA, RA, HA, HL | | | | | | | | | | |
| e. Predictors: (Constant), SA, RA, HA, HL, RL | | | | | | | | | | |
| f. Predictors: (Constant), SA, RA, HA, HL, RL, SL | | | | | | | | | | |
| g. Dependent Variable: ROE | | | | | | | | | | |
| Source: Author | | | | | | | | | | |

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**TABLE 5.1 C
COEFFICIENTS**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95.0% Confidence Interval for B | |
|-------|------------|-----------------------------|------------|---------------------------|----------|-------|---------------------------------|-------------|
| | | B | Std. Error | Beta | | | Lower Bound | Upper Bound |
| 1 | (Constant) | (18.913) | 1.741 | | (10.862) | 0.000 | (22.360) | (15.466) |
| | SA | 1.352 | 0.092 | 0.800 | 14.727 | 0.000 | 1.170 | 1.533 |
| 2 | (Constant) | (25.485) | 1.760 | | (14.483) | 0.000 | (28.968) | (22.001) |
| | SA | 1.225 | 0.080 | 0.725 | 15.289 | 0.000 | 1.067 | 1.384 |
| | RA | 0.941 | 0.136 | 0.328 | 6.910 | 0.000 | 0.671 | 1.211 |
| 3 | (Constant) | (29.133) | 1.927 | | (15.118) | 0.000 | (32.948) | (25.317) |
| | SA | 0.780 | 0.140 | 0.462 | 5.581 | 0.000 | 0.504 | 1.057 |
| | RA | 0.951 | 0.129 | 0.331 | 7.359 | 0.000 | 0.695 | 1.207 |
| | HA | 0.418 | 0.110 | 0.311 | 3.792 | 0.000 | 0.200 | 0.637 |
| 4 | (Constant) | (32.209) | 1.874 | | (17.183) | 0.000 | (35.921) | (28.498) |
| | SA | 0.520 | 0.139 | 0.308 | 3.749 | 0.000 | 0.245 | 0.795 |
| | RA | 0.882 | 0.119 | 0.307 | 7.398 | 0.000 | 0.646 | 1.119 |
| | HA | 0.551 | 0.105 | 0.409 | 5.264 | 0.000 | 0.344 | 0.758 |
| | HL | 0.700 | 0.143 | 0.219 | 4.892 | 0.000 | 0.417 | 0.983 |
| 5 | (Constant) | (35.997) | 2.114 | | (17.028) | 0.000 | (40.183) | (31.811) |
| | SA | 0.446 | 0.135 | 0.264 | 3.314 | 0.001 | 0.180 | 0.713 |
| | RA | 0.818 | 0.116 | 0.285 | 7.056 | 0.000 | 0.588 | 1.047 |
| | HA | 0.584 | 0.101 | 0.434 | 5.793 | 0.000 | 0.384 | 0.784 |
| | HL | 0.613 | 0.140 | 0.191 | 4.391 | 0.000 | 0.336 | 0.889 |
| | RL | 1.058 | 0.311 | 0.142 | 3.399 | 0.001 | 0.441 | 1.674 |
| 6 | (Constant) | (37.531) | 2.168 | | (17.310) | 0.000 | (41.825) | (33.237) |
| | SA | 0.388 | 0.134 | 0.229 | 2.887 | 0.005 | 0.122 | 0.654 |
| | RA | 0.732 | 0.119 | 0.255 | 6.151 | 0.000 | 0.496 | 0.968 |
| | HA | 0.646 | 0.102 | 0.480 | 6.327 | 0.000 | 0.444 | 0.849 |
| | HL | 0.584 | 0.137 | 0.183 | 4.257 | 0.000 | 0.313 | 0.856 |
| | RL | 0.995 | 0.306 | 0.134 | 3.252 | 0.001 | 0.389 | 1.602 |
| | SL | 0.601 | 0.250 | 0.101 | 2.407 | 0.018 | 0.106 | 1.095 |

Source: Author

Analysis of the variate relates the respective contribution of each independent variable in the variate to the regression model (Burns and Burns, 2008; Hair et al., 2009). The model for regression is specified thus:

$$\text{ROE} = a + b_1 \text{HA} + b_2 \text{RA} + b_3 \text{SA} + b_4 \text{HL} + b_5 \text{RL} + b_6 \text{SL} + \varepsilon$$

5.1.1 First Hypothesis

The first null hypothesis (H_{10}) states that no statistically significant relationship exists between Intellectual Capital disclosure and Firm Financial Performance. As stated in Chapters Three and Four, Intellectual Capital disclosure is measured by the disclosure of Human Assets, Relational Assets, Structural Assets, Human Liabilities, Relational Liabilities, and Structural Liabilities. In testing the first null hypothesis (H_{10}), the statistical relationship is first assessed using the significance of F Test which indicates whether a significant amount of variance was explained by the model (Burns and Burns, 2008; Hair et al., 2009). The sixth model, which was deemed to be the most representative, produced a significant F of 97.576 ($p = 0.000$) which is statistically significant at the chosen 95% confidence level ($\alpha = 5\%$). This indicates that the model is fit (Burns and Burns, 2008; Hair et al., 2009). Furthermore, the coefficient of variation (adjusted R^2) which is a measure of the amount of variance in the dependent variable explained by the variation in independent variables (Burns and Burns, 2008; Hair et al., 2009), is 82.50%; this indicates that 82.50% of the variation in Firm Financial Performance is explained by the variation in Intellectual Capital disclosure. Therefore, and based on the statistical findings, the first null hypothesis (H_{10}) is not accepted, and the alternative hypothesis (H_1) is accepted.

The intercept, which is defined by the constant term (a) in the regression equation, has an interpretive and predictive meaning (Burns and Burns, 2008; Hair et al., 2009). It has interpretive value only within the range of values for the independent variables which means that it can only be interpreted if zero is a conceptually valid value for all the independent variables (Burns and Burns, 2008; Hair et al., 2009). Since zero is not a valid value for all the independent variables, as evidenced in Table 5.1 C, then the intercept in this model only has a predictive value when combined with all other independent variables in the variate. In the sixth model, the intercept (a) has a value of -37.531 and is statistically significant ($p = 0.000$) at the chosen 95% confidence level ($\alpha = 5\%$).

5.1.2 Second Hypothesis

The second null hypothesis (H_{20}) states that no statistically significant relationship exists between Human Assets disclosure and Firm Financial Performance. In testing the second null hypothesis (H_{20}), the statistical relationship is assessed using the significance of t Test which tests the statistical significance of the variable's unstandardized coefficient at the chosen 95% confidence level (Burns and Burns, 2008; Hair et al., 2009). The sixth model, which was deemed to be the most representative, produced a t value of 6.327 ($p = 0.000$) for Human Assets disclosure which is statistically significant at the chosen 95% confidence level ($\alpha = 5\%$) (Burns and Burns, 2008; Hair et al., 2009). This indicates that there is a statistically significant relationship between Human Assets disclosure and Firm Financial Performance. Furthermore, the

unstandardized B coefficient of Human Assets disclosure (b_1) is 0.646 which indicates a positive relationship between Human Assets disclosure and Firm Financial Performance. Thus, for every increase of one unit in Human Assets disclosure, ROE will increase by 0.646%. Therefore, and based on the statistical findings, the second null hypothesis (H_{20}) is not accepted, and the alternative hypothesis (H_2) is accepted. The 95% confidence limit for B lower bound and upper bound shows a 95% confidence interval for the coefficient (Burns and Burns, 2008; Hair et al., 2009). This shows how high and how low the actual population value of the parameter might be; so this shows with a 95% confidence that the real regression coefficient for the population regression lies within this interval. The confidence intervals are related to the p-values such that the coefficient will not be statistically significant if the confidence interval includes 0 (Burns and Burns, 2008; Hair et al., 2009). The confidence interval for HA does not include 0 and ranges between 0.444 as lower bound and 0.849 as upper bound which is an additional confirmation for not accepting the second null hypothesis (H_{20}) and accepting the alternative hypothesis (H_2). The increase in ROE can be as low as 0.444% and as high as 0.849% for every one-unit increase in Human Assets disclosure.

5.1.3 Third Hypothesis

The third null hypothesis (H_{30}) states that no statistically significant relationship exists between Relational Assets disclosure and Firm Financial Performance. In testing the third null hypothesis (H_{30}), the statistical relationship is assessed using the significance of t Test which tests the statistical significance of the variable's unstandardized

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coefficient at the chosen 95% confidence level (Burns and Burns, 2008; Hair et al., 2009). The sixth model, which was deemed to be the most representative, produced a t value of 6.151 ($p = 0.000$) for Relational Assets disclosure which is statistically significant at the chosen 95% confidence level ($\alpha = 5\%$) (Burns and Burns, 2008; Hair et al., 2009). This indicates that there is a statistically significant relationship between Relational Assets disclosure and Firm Financial Performance. Furthermore, the unstandardized B coefficient of Relational Assets disclosure (b_2) is 0.732 which indicates a positive relationship between Relational Assets disclosure and Firm Financial Performance. Thus, for every increase of one unit in Relational Assets disclosure, ROE will increase by 0.732%. Therefore, and based on the statistical findings, the third null hypothesis (H_{3_0}) is not accepted, and the alternative hypothesis (H_3) is accepted. The 95% confidence limit for B lower bound and upper bound shows a 95% confidence interval for the coefficient (Burns and Burns, 2008; Hair et al., 2009). This shows how high and how low the actual population value of the parameter might be; so this shows with a 95% confidence that the real regression coefficient for the population regression lies within this interval. The confidence intervals are related to the p-values such that the coefficient will not be statistically significant if the confidence interval includes 0 (Burns and Burns, 2008; Hair et al., 2009). The confidence interval for RA does not include 0 and ranges between 0.496 as lower bound and 0.968 as upper bound which is an additional confirmation for not accepting the third null hypothesis (H_{3_0}) and accepting the alternative hypothesis (H_3). The increase in ROE

can be as low as 0.496% and as high as 0.968% for every one-unit increase in Relational Assets disclosure.

5.1.4 Fourth Hypothesis

The fourth null hypothesis (H_{4_0}) states that no statistically significant relationship exists between Structural Assets disclosure and Firm Financial Performance. In testing the fourth null hypothesis (H_{4_0}), the statistical relationship is assessed using the significance of t Test which tests the statistical significance of the variable's unstandardized coefficient at the chosen 95% confidence level (Burns and Burns, 2008; Hair et al., 2009). The sixth model, which was deemed to be the most representative, produced a t value of 2.887 ($p = 0.000$) for Structural Assets disclosure which is statistically significant at the chosen 95% confidence level ($\alpha = 5\%$) (Burns and Burns, 2008; Hair et al., 2009). This indicates that there is a statistically significant relationship between Structural Assets disclosure and Firm Financial Performance. Furthermore, the unstandardized B coefficient of Structural Assets disclosure (b_3) is 0.388 which indicates a positive relationship between Structural Assets disclosure and Firm Financial Performance. Thus, for every increase of one unit in Structural Assets disclosure, ROE will increase by 0.388%. Therefore, and based on the statistical findings, the fourth null hypothesis (H_{4_0}) is not accepted, and the alternative hypothesis (H_4) is accepted. The 95% confidence limit for B lower bound and upper bound shows a 95% confidence interval for the coefficient (Burns and Burns, 2008; Hair et al., 2009). This shows how high and how low the actual population value of the parameter might

be; so this shows with a 95% confidence that the real regression coefficient for the population regression lies within this interval. The confidence intervals are related to the p-values such that the coefficient will not be statistically significant if the confidence interval includes 0 (Burns and Burns, 2008; Hair et al., 2009). The confidence interval for SA does not include 0 and ranges between 0.122 as lower bound and 0.654 as upper bound which is an additional confirmation for not accepting the fourth null hypothesis (H_{4_0}) and accepting the alternative hypothesis (H_4). The increase in ROE can be as low as 0.122% and as high as 0.654% for every one-unit increase in Structural Assets disclosure.

5.1.5 Fifth Hypothesis

The fifth null hypothesis (H_{5_0}) states that no statistically significant relationship exists between Human Liabilities disclosure and Firm Financial Performance. In testing the fifth null hypothesis (H_{5_0}), the statistical relationship is assessed using the significance of t Test which tests the statistical significance of the variable's unstandardized coefficient at the chosen 95% confidence level (Burns and Burns, 2008; Hair et al., 2009). The sixth model, which was deemed to be the most representative, produced a t value of 4.257 ($p = 0.000$) for Human Liabilities disclosure which is statistically significant at the chosen 95% confidence level ($\alpha = 5\%$) (Burns and Burns, 2008; Hair et al., 2009). This indicates that there is a statistically significant relationship between Human Liabilities disclosure and Firm Financial Performance. Furthermore, the unstandardized B coefficient of Human Liabilities disclosure (b_4) is 0.584 which

indicates a positive relationship between Human Liabilities disclosure and Firm Financial Performance. Thus, for every increase of one unit in Human Liabilities disclosure, ROE will increase by 0.584%. Therefore, and based on the statistical findings, the fifth null hypothesis ($H5_0$) is not accepted, and the alternative hypothesis ($H5$) is accepted. The 95% confidence limit for B lower bound and upper bound shows a 95% confidence interval for the coefficient (Burns and Burns, 2008; Hair et al., 2009). This shows how high and how low the actual population value of the parameter might be; so this shows with a 95% confidence that the real regression coefficient for the population regression lies within this interval. The confidence intervals are related to the p-values such that the coefficient will not be statistically significant if the confidence interval includes 0 (Burns and Burns, 2008; Hair et al., 2009). The confidence interval for HL does not include 0 and ranges between 0.313 as lower bound and 0.856 as upper bound which is an additional confirmation for not accepting the fifth null hypothesis ($H5_0$) and accepting the alternative hypothesis ($H5$). The increase in ROE can be as low as 0.313% and as high as 0.856% for every one-unit increase in Human Liabilities disclosure.

5.1.6 Sixth Hypothesis

The sixth null hypothesis ($H6_0$) states that no statistically significant relationship exists between Relational Liabilities disclosure and Firm Financial Performance. In testing the sixth null hypothesis ($H6_0$), the statistical relationship is assessed using the significance of t Test which tests the statistical significance of the variable's unstandardized

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coefficient at the chosen 95% confidence level (Burns and Burns, 2008; Hair et al., 2009). The sixth model, which was deemed to be the most representative, produced a t value of 3.252 ($p = 0.001$) for Relational Liabilities disclosure which is statistically significant at the chosen 95% confidence level ($\alpha = 5\%$) (Burns and Burns, 2008; Hair et al., 2009). This indicates that there is a statistically significant relationship between Relational Liabilities disclosure and Firm Financial Performance. Furthermore, the unstandardized B coefficient of Relational Liabilities disclosure (b_5) is 0.995 which indicates a positive relationship between Relational Liabilities disclosure and Firm Financial Performance. Thus, for every increase of one unit in Relational Liabilities disclosure, ROE will increase by 0.995%. Therefore, and based on the statistical findings, the sixth null hypothesis (H_{6_0}) is not accepted, and the alternative hypothesis (H_6) is accepted. The 95% confidence limit for B lower bound and upper bound shows a 95% confidence interval for the coefficient (Burns and Burns, 2008; Hair et al., 2009). This shows how high and how low the actual population value of the parameter might be; so this shows with a 95% confidence that the real regression coefficient for the population regression lies within this interval. The confidence intervals are related to the p-values such that the coefficient will not be statistically significant if the confidence interval includes 0 (Burns and Burns, 2008; Hair et al., 2009). The confidence interval for RL does not include 0 and ranges between 0.389 as lower bound and 1.602 as upper bound which is an additional confirmation for not accepting the sixth null hypothesis (H_{6_0}) and accepting the alternative hypothesis (H_6). The increase in ROE

can be as low as 0.389% and as high as 1.602% for every one-unit increase in Relational Liabilities disclosure.

5.1.7 Seventh Hypothesis

The seventh null hypothesis (H_{7_0}) states that no statistically significant relationship exists between Structural Liabilities disclosure and Firm Financial Performance. In testing the seventh null hypothesis (H_{7_0}), the statistical relationship is tested using the significance of t Test which tests the statistical significance of the variable's unstandardized coefficient at the chosen 95% confidence level (Burns and Burns, 2008; Hair et al., 2009). The sixth model, which was deemed to be the most representative, produced a t value of 2.407 ($p = 0.018$) for Structural Liabilities disclosure which is statistically significant at the chosen 95% confidence level ($\alpha = 5\%$) (Burns and Burns, 2008; Hair et al., 2009). This indicates that there is a statistically significant relationship between Structural Liabilities disclosure and Firm Financial Performance. Furthermore, the unstandardized B coefficient of Structural Liabilities disclosure (b_6) is 0.601 which indicates a positive relationship between Structural Liabilities disclosure and Firm Financial Performance. Thus, for every increase of one unit in Structural Liabilities disclosure, ROE will increase by 0.601%. Therefore, and based on the statistical findings, the seventh null hypothesis (H_{7_0}) is not accepted, and the alternative hypothesis (H_7) is accepted. The 95% confidence limit for B lower bound and upper bound shows a 95% confidence interval for the coefficient (Burns and Burns, 2008; Hair et al., 2009). This shows how high and how low the actual population value of the

parameter might be; so this shows with a 95% confidence that the real regression coefficient for the population regression lies within this interval. The confidence intervals are related to the p-values such that the coefficient will not be statistically significant if the confidence interval includes 0 (Burns and Burns, 2008; Hair et al., 2009). The confidence interval for SL does not include 0 and ranges between 0.106 as lower bound and 1.095 as upper bound which is an additional confirmation for not accepting the seventh null hypothesis (H_{7_0}) and accepting the alternative hypothesis (H_7). The increase in ROE can be as low as 0.106% and as high as 1.095% for every one-unit increase in Structural Liabilities disclosure.

After the verification of the seventh hypotheses, the relationship between Intellectual Capital Disclosure and Firm Financial Performance can be derived from the unstandardized B coefficients of the sixth model; the regression equation can be produced as follows:

$$\text{ROE} = -37.531 + 0.646 \text{ HA} + 0.732 \text{ RA} + 0.388 \text{ SA} + 0.584 \text{ HL} + 0.995 \text{ RL} + 0.601 \text{ SL} + \varepsilon$$

5.1.8 Analysis of Content Analysis Findings

This sections aims to compare the findings of the content analysis in the present research to existing academic literature to further refine the scope and consideration of the existing knowledge within the academic field. This step is necessary and critical in

order to ensure that the scope of the research is as delineated as possible and that the most critical, important, and recent literature is considered going forward.

5.1.8.1 Human Assets Disclosure and Firm Financial Performance

Findings from the present research indicate that Human Assets disclosure is statistically related to Firm Financial Performance in a significant manner. As stated in the previous sections, for every increase of one unit in Human Assets disclosure, ROE will increase by 0.646%. Besides, analysis of the upper and lower bounds indicates that the increase in ROE can be as low as 0.444% and as high as 0.849% for every one-unit increase in Human Assets disclosure.

Stam (2009) claims that it is inaccurate to take the summation of all Human Assets as a firm's Human Capital; he recommends that Human Capital should be derived by deducting the summation of all Human Liabilities from the summation of all Human Assets. However, most of the studies on Intellectual Capital use the terms Human Capital and Human Assets interchangeably; thus, they refer to Human Assets as Human Capital (Stam, 2009). Therefore, the analysis of findings of the present research takes this gap in literature into consideration.

According to Fitz-enz (2000), Human Assets include knowledge, skills and technical abilities, personal traits such as intelligence, energy, attitude, reliability and commitment, ability to learn, including aptitude, imagination and creativity, desire to

share information, participate in a team, and focus on the goals of the firm. Furthermore, Human Assets are considered one of the core components of Intellectual Capital and are a critical resource in many industries such as software development, management consulting, and financial services (Dess and Shaw, 2001). Moreover, Human Assets are expected to be the most important corporate resource in the next decade; this is due to the fact that Human Assets include talented, smart, and sophisticated employees who are technologically literate, globally astute, and operationally agile (Dess and Shaw, 2001).

According to the RBV, Human Assets are a source of competitive advantage because tacit knowledge and social complexity are hard to imitate (Wernerfelt, 1984). As such, these unique resources are the drivers of the organization's differentials in performance (Barney, 1991; Conner and Prahalad, 1996; Colombo and Grilli, 2005; Galbreath, 2005; Galbreath and Galvin, 2008). In addition, and as evidenced in the present research, previous research suggests that intangible resources are the real drivers of competitive advantage associated with peculiarity, high scale returns, and difficult barriers to duplication (Conner and Prahalad, 1996; Grant, 1996; Sudarsanam et al., 2003). Firms have several motivations for disclosing their Human Assets in annual reports, including the following (Abeysekera, 2008):

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- Firms tend to disclose more their Human Assets to reduce job security tension that usually arises when firms reduce staff members to increase profitability; this disclosure aims to motivate non-redundant employees which in turn increases the productivity of the firm and increases capital accumulation;
- In the current knowledge-based economy, firms are facing increasing pressures to contribute to the knowledge economy; thus, they showcase their contribution by encouraging their employees to transfer and share their tacit knowledge with each other; however, the real beneficiaries of this tacit knowledge transfer are the firms themselves, as knowledge transfer reduces the cost of knowledge loss when employees quit the firm voluntarily or through termination;
- Capital providers believe that good relations between firms and their employees improve capital accumulation and performance; therefore, Human Assets disclosure is used to send a signal to capital providers that capital accumulation is enhanced by an environment of trust between firms and their employees; and
- Voluntary Human Assets disclosure decreases cost of capital by reducing the information asymmetry between firms and investors.

In light of the Human Assets disclosure motivations, as outlined by Abeysekera (2008), the findings of the present research confirm these claims by showing a strong positive relationship between Human Assets disclosure and Firm Financial Performance.

Furthermore, the findings of the current research agree with the findings of Edvinsson and Sullivan (1996) who claim that Human Assets are important because their extraction creates capital accumulation of firms. In addition, Human Assets and their disclosure are significantly related to performance, productivity, profitability, or market evaluation (Walker, 2001). Moreover, Daley (2001) claims that immutable intangibles, including Human Assets, are the main drivers of the competitive advantage of firms. In

addition, capital providers are interested in the firms' capabilities of fully utilizing their assets (including Human Assets) at the highest levels of efficiency in order to increase capital accumulation (Abeysekera, 2008). Furthermore, there are two distinctive features of Human Assets disclosure (Abeysekera, 2008):

- There is lack of regulation in Human Assets disclosure which allows firms to control the quantity, quality, timing, and content of disclosure; and
- Firms can set plans to ease their capital accumulation using Human Assets disclosure due to the fact that this disclosure is proactive and voluntary in nature, with no governing accounting or legislative requirements.

According to Cooper (1980), disclosure has become a means through which firms can sustain and legitimize their activities to various stakeholders, including social, economic, and political constituents. Therefore, within this construct, disclosure of Human Assets in annual reports is seen as a means to create, sustain, and legitimize activities in the private interest of the firm (Abeysekera, 2006). Furthermore, according to Buhr (1998) and Guthrie and Parker (1990), firms proactively disclose Human Assets in their annual reports in order to mediate, suppress, mystify, or transform the tension between the firm and its constituents, resulting from capital accumulation.

However, despite several studies that evidence the positive impact of Human Assets disclosure on Firm Financial Performance, some studies view disclosure of Human Assets as a potential problem due to the transparency drawback (Williams, 2001, Bozzolan et al. 2003; Hope, 2003; Boesso and Kumar, 2007; White et al., 2007).

According to Depoers (2000) and Falikhatun et al. (2010), there is a potential negative impact of Human Assets disclosure because it can empower competitors by providing them with additional sensitive information. Besides, according to Van der Wielen (2010), excessive disclosure of Human Assets may lead to leakage of Human Assets. Furthermore, according to Hughes et al. (2007), increased voluntary disclosure (including Human Assets disclosure), provides additional information only to a portion of potential investors; therefore, it increases the information risk of uninformed investors, who in turn demand higher risk premiums. Besides, according to Lambert et al. (2007), voluntary disclosure increases a firm's cost of capital which reduces Firm Financial Performance. Additional disclosure requires additional resources which increase the cost base of the firm and decrease profitability (Lambert et al., 2007).

Further to the extended review of the analysis of findings on the relationship between Human Assets disclosure and Firm Financial Performance, the findings of the present research agree with existing literature regarding the positive impact of disclosure on performance due to several factors as explained by the RBV. However, the findings contradict previous studies that claim that Human Assets disclosure has potential drawbacks and may eventually deteriorate Firm Financial Performance.

5.1.8.2 Relational Assets Disclosure and Firm Financial Performance

Findings from the present research indicate that Relational Assets disclosure is statistically related to Firm Financial Performance in a significant manner. As stated in

the previous sections, for every increase of one unit in Relational Assets disclosure, ROE will increase by 0.732%. Besides, analysis of the upper and lower bounds indicates that the increase in ROE can be as low as 0.496% and as high as 0.968% for every one-unit increase in Relational Assets disclosure.

According to Harvey and Lusch (1999) and Stam (2009), Relational Capital cannot be considered only as Relational Assets; therefore, it is inaccurate to take the summation of all Relational Assets as a firm's Relational Capital; they recommend that Relational Capital should be derived by deducting the summation of all Relational Liabilities from the summation of all Relational Assets. However, most of the studies on Intellectual Capital use the terms Relational Capital and Relational Assets interchangeably; thus, they refer to Relational Assets as Relational Capital (Harvey and Lusch, 1999; Stam, 2009). Therefore, the analysis of the findings of the present research takes this gap in literature into consideration.

According to Capello and Faggian (2005), Relational Assets refer to market relationships, cooperation, and power relationships established between the firm and its stakeholders. Stakeholders include customers, suppliers, government bodies, tax authorities, banks, environmental constituents, society groups, and others (Capello and Faggian, 2005). Furthermore, according to Tsai and Ghoshal (1998), Relational Assets are the basis of corporate collaboration that extends beyond Human Assets, where the relationships enjoyed by firms are their true assets.

According to Youndt and Snell (2004), Relational Assets disclosure affects positively Firm Financial Performance as it reduces organizational costs in several ways, including (Youndt and Snell, 2004; De Clercq and Sapienza, 2006; Kijek and Kijek, 2008):

- Showcasing the knowledge derived from customers, suppliers, and other third parties which results in innovations in processes that can reduce variations, enhance output levels, and diminish bottlenecks;
- Improving planning and enhancing problem solving and troubleshooting which in turn can increase the efficiency of production and service deliveries;
- Improving organizational information processing capacity;
- Increasing transparency between the firm and its customers and suppliers which in turn facilitates efficient exchange of information, reduces the time needed for monitoring, and removes the perceived need to hide sensitive information;
- Enhancing the benefits to clients by improving flexibility, reliability, and quality;
- Facilitating the development of original solutions to address market needs;
- Improving the supply chain structure of the firm which in turn reduces costs, improves firm's effectiveness and efficiency, and enhances Firm Financial Performance; and
- Decreasing cost of capital by reducing the information asymmetry between firms and investors.

In light of the Relational Assets disclosure motivations, as outlined by Youndt and Snell, (2004), De Clercq and Sapienza (2006), and Kijek and Kijek (2008), the findings of the present research confirm these findings by showing a strong positive relationship between Relational Assets disclosure and Firm Financial Performance. Furthermore,

the findings of the current research agree with the RBV of the firm which focuses on internal, firm-specific factors and their strong effect on Firm Financial Performance. Besides, the findings agree with the claims of Bontis et al. (2000) and Carmeli and Tishler (2004) which show significant positive relationship between Relational Assets disclosure and Firm Financial Performance, where knowledge-equipped firms tend to outperform their rivals in a knowledge-based economy. According to Teece (1998), the primary reason for firms' existence is customers; however, firms cannot succeed without strong relationships with suppliers, other companies, governmental bodies, and other stakeholders; hence, the positive impact of Relational Assets and their disclosure on Firm Financial Performance.

However, despite several studies that evidence the positive impact of Relational Assets disclosure on Firm Financial Performance, some studies view disclosure of Relational Assets as a potential problem due to the transparency drawback (Williams, 2001, Bozzolan et al. 2003; Hope, 2003; Boesso and Kumar, 2007; White et al., 2007). According to Depoers (2000) and Falikhatun et al. (2010), there is a potential negative impact of Relational Assets disclosure because it can empower rivals by providing them additional sensitive information. Besides, according to Van der Wielen (2010), excessive disclosure of Relational Assets may lead to leakage of processes, innovations, and best practices; this reduces the competitive and absolute advantages of firms. Furthermore, according to Hughes et al. (2007), increased voluntary disclosure (including Relational Assets disclosure), provides additional information only to a portion

of potential investors; therefore, it increases the information risk of uninformed investors, who in turn demand higher risk premiums. Besides, according to Lambert et al. (2007), voluntary disclosure increases a firm's cost of capital which reduces Firm Financial Performance. In addition, Lambert et al. (2007) claim that additional voluntary disclosure put additional pressure on the disclosing firm to increase investments and overhead costs needed to deal with the abundance of disclosed information; hence, affecting negatively Firm Financial Performance.

Further to the extended review of the analysis of findings on the relationship between Relational Assets disclosure and Firm Financial Performance, the findings of the current research agree with existing literature regarding the positive impact of disclosure on performance due to several factors as explained by the RBV. However, the findings contradict previous studies that claim that Relational Assets disclosure has potential drawbacks and may eventually deteriorate Firm Financial Performance.

5.1.8.3 Structural Assets Disclosure and Firm Financial Performance

According to Roos et al. (1998), Structural Assets include knowledge at the organizational level resulting from institutionalization, including organizational routines, non-human storehouses of knowledge, databases, processes, routines, strategies, and culture which codify and preserve memories and knowledge, and whose value to the firm is higher than mere material value. Besides, Bontis (1998) opines that the overall Intellectual Assets of the firm cannot reach full potential in the absence of adequate

systems and procedures that can track organizational actions. Bontis (1998) adds that Structural Assets provide a supportive culture that empowers humans to innovate and learn; hence, providing the critical link that allows for organizational level analysis of Intellectual Assets.

Stam (2009) claims that it is inaccurate to take the summation of all Structural Assets as a firm's Structural Capital; he recommends that Structural Capital should be derived by deducting the summation of all Structural Liabilities from the summation of all Structural Assets. However, most of the studies on Intellectual Capital use the terms Structural Capital and Structural Assets interchangeably; thus, they refer to Structural Assets as Structural Capital (Harvey and Lusch, 1999; Stam, 2009). Therefore, the analysis of the findings of the impact of Structural Assets disclosure on Firm Financial Performance in the present research takes this gap in literature into consideration.

According to Bontis (1998), there is a valid, reliable, significant, and substantial link between Structural Assets and their disclosure on one hand, and business performance on the other hand. Furthermore, according to Bontis (1998), Human Assets and Relational Assets are useless without Structural Assets. Furthermore, Bontis et al. (2000) opine that the positive impact of Structural Assets and their disclosure on Firm Financial Performance is important and applicable in all industries, due to several reasons, including (Roos et al., 1997; Zambon, 2002; Ahmadi et al., 2012):

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- Allowing the firm to codify organizational knowledge, yielding sustainable competitive advantage;
- Providing legal protection using patents and trademarks, as Structural Assets involve investments in R & D;
- Helping employees in attaining optimum intellectual performance by mechanisms and structures, leading to improved business performance;
- Providing a cohesive, supporting organizational culture that empowers employees to learn, try, and fail, without the threat of being penalized;
- Support elements of cost minimization and profit maximization;
- Eliminating the effects of interpersonal relationships by setting rational, systematic, and standardized work techniques;
- Improving the organization's capabilities; hence, improving its ability to meet and exceed market requirements;
- Reducing the organization's barriers to success by improving the fit between strategies and the organization's structures and cultures; and
- Decreasing cost of capital by reducing the information asymmetry between firms and investors.

In light of the Structural Assets disclosure motivations, as outlined by Roos et al. (1997), Zambon (2002), and Ahmadi et al. (2012), the findings of the present research confirm these findings by showing a strong positive relationship between Structural Assets disclosure and Firm Financial Performance. Furthermore, the findings of the current research agree with the RBV of the firm which focuses on internal, firm-specific factors and their strong effect on Firm Financial Performance.

Besides, the findings agree with the claims of Chen (2001) who opines that Structural Assets and their disclosure are an important reference index for the evaluation the value

of the firm. Furthermore, Chen (2001) claims that Structural Assets allows the firm to create distinct characteristics which build competitiveness and ultimately improve financial performance. Furthermore, the findings of the present research are supported by the claims of Nejadirani et al. (2012), who confirm strong positive relationship between the management and disclosure of Structural Assets on one hand, and organizational performance on the other hand. In addition, Nejadirani et al. (2012) opine that the effect on performance is lead by paying attention to aligning the strategic decisions related to structural strategies to organizational goals, and by accommodating proper Structural Assets in organizations.

However, despite several studies that evidence the positive impact of Structural Assets disclosure on Firm Financial Performance, some studies view disclosure of Structural Assets as a potential problem due to the transparency drawback (Williams, 2001, Bozzolan et al. 2003; Hope, 2003; Boesso and Kumar, 2007; White et al., 2007). According to Depoers (2000) and Falikhatun et al. (2010), there is a potential negative impact of Structural Assets disclosure because it can empower rivals by providing them with additional sensitive information. Besides, according to Van der Wielen (2010), excessive disclosure of Structural Assets may lead to leakage of the competitive advantage of the firm which is embedded in the structure of the firm; this reduces the competitive and absolute advantages of firms; however, this risk can be mitigated by the legal protection of Structural Assets in the form of patents, as discussed earlier. Moreover, according to Hsu and Fang (2009), Structural Assets have a negative effect

on organizational performance due to very high spending on information systems and R & D. Furthermore, according to Hughes et al. (2007), increased voluntary disclosure (including Structural Assets disclosure), provides additional information only to a portion of potential investors; therefore, it increases the information risk of uninformed investors, who in turn demand higher risk premiums. Besides, Lambert et al. (2007), voluntary disclosure increases a firm's cost of capital which reduces Firm Financial Performance. In addition, Lambert et al. (2007) claim that additional voluntary disclosure of Structural Assets put additional pressure on the disclosing firm to increase investments and overhead costs needed to deal with the abundance of disclosed information; hence, affecting negatively Firm Financial Performance.

Further to the extended review of the analysis of findings on the relationship between Structural Assets disclosure and Firm Financial Performance, the findings of the current research agree with existing literature regarding the positive impact of disclosure on performance due to several factors as explained earlier. However, the findings contradict previous studies that claim that Structural Assets disclosure has potential drawbacks and may eventually deteriorate Firm Financial Performance.

5.1.8.4 Intellectual Liabilities Disclosure and Firm Financial Performance

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Intellectual Capital should be composed of more than Intellectual Assets; rather, Intellectual Capital is a composition of both Intellectual Assets and Intellectual Liabilities (Harvey and Lusch, 1999; Caddy, 2000; Stam, 2009). Based on this reasoning, it follows that Human Capital is a composition of both Human Assets and Human Liabilities; Relational Capital is a composition of both Relational Assets and Relational Liabilities, and Structural Capital is a composition of both Structural Assets and Structural Liabilities. This section discusses all the components of Intellectual Liabilities (Human Liabilities, Relational Liabilities, and Structural Liabilities), due to the scarcity of studies on Intellectual Liabilities.

Garcia-Parra et al. (2009) attempt to summarize existing studies on Intellectual Liabilities, but their source list is severely limited. Of the 12 studies, as listed by Garcia-Parra et al. (2009), there is only one empirical study and one case study. The majority of the studies merely mention Intellectual Liabilities from the perspective of value loss or depreciation, without exploring measurement and disclosure perspectives or impact on Firm Financial Performance (Garcia-Parra et al., 2009).

Human Liabilities are referred to as causes of deterioration arising from the personnel within the firm, employees' tacit knowledge, employees' skills, employees' experiences, and employees' attitudes; examples include: high employee turnover rates, inadequate training and development, internal competition, risk of losing key employees, and others (Harvey and Lusch, 1999; Abeysekera, 2006; Stam, 2009).

Relational Liabilities are defined as causes of deterioration arising from relationships between the firm and its customers, suppliers, or other external stakeholders (Stam, 2009). Examples of Relational Liabilities include poor corporate reputation, bad word of mouth, poor product or service quality, high relational turnover, potential product liability suits, lack of strategic alliances, and others (Harvey and Lusch, 1999; Caddy, 2000; Stam, 2009).

Structural Liabilities are defined as causes of deterioration arising from the non-human resources within the firm (Stam, 2009). In other words, they refer to value creation (or deterioration) sources that persist after the employees have quit the firm (Stam, 2009). Such sources include codified knowledge, processes, procedures, and culture (Stam, 2009). Examples of Structural Liabilities include bureaucracy and organizational inertia, cost of ignorance, domestic quarrels, struggle for power, complex organizational structure, weak strategic planning processes, and others (Harvey and Lusch, 1999; Caddy, 2000; Stam, 2009).

According to Stam (2009), there is a need to develop a framework of Intellectual Liabilities in order to identify the unique criteria that provoke Firm Financial Performance. Furthermore, Stam (2009) confirms that there are extremely few studies that tackle Intellectual Liabilities. Stam (2009) maintains that existing studies on Intellectual Liabilities do not consider the subject within the confines of conventional

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Intellectual Capital measurement, disclosure, or impact on Firm Financial Performance.

In his argument, Stam (2009) extends this line of reasoning to the measurement of failure, maintaining that the firms should also identify and measure failure factors with the same rigor as they identify and measure success factors.

In terms of impact of performance, a major advantage of Intellectual Liabilities measurement and disclosure is that they assist with improving Firm Financial Performance by actually converting to the firm's advantage those circumstances that have visibly gone out of the firm's control (Abeysekera, 2006; Stam, 2009). Stam (2009) adds that the failure to recognize and disclose Intellectual Liabilities can force the collapse of organizations, such as the failure of Arthur Andersen, WorldCom, Enron, and others. Therefore, according to Stam (2009), disclosure of Intellectual Liabilities may have a positive impact on Firm Financial Performance, as it highlights the firm's ability to tackle the issues that can potentially result in failure. Furthermore, Stam (2009) points out that increasing awareness of Intellectual Liabilities and their potential effect on performance increases a firm's ability to manage Intellectual Capital more effectively and efficiently. Furthermore, the firm's knowledge of potential problems can be enhanced by activities related to collating and analyzing data or information surrounding extant and potential Intellectual Liabilities (Stam, 2009). Furthermore, according to Harvey and Lusch (1999), Intellectual Liabilities must be revealed to improve the organization's ability to anticipate the risk of failure. This thought forms the basis of Stam's (2009) theoretical framework for Intellectual Liabilities measurement to improve

a firm's ability to quantify the issues that may lead to organizational decline. Moreover, according to Garcia-Parra et al. (2009), firms have non-monetary obligations, and firms failing to fulfill apparent obligations will likely have a negative effect on the organizational processes. When the firm's inability or unwillingness to meet its obligations is recognized by the employees, the workers' willingness to apply their organizational knowledge is negatively affected which can hamper the flow of organizational processes (Garcia-Parra et al., 2009). Therefore, it follows that there's a positive impact related to the recognition and disclosure of non-monetary obligations which are conceptualized as Intellectual Liabilities (Garcia-Parra et al., 2009).

The claims of Harvey and Lusch (1999), Garcia-Parra et al. (2009), and Stam (2009) confirm the findings of the current research, where the disclosure of Human Liabilities, Relational Liabilities, and Structural Liabilities was found to have a significant positive impact on Firm Financial Performance. Furthermore, in an interesting study, Darrough and Stoughton (1990) model a game in which the incumbent manager can influence both the firm's stock price and the competitors' entry decision through voluntary disclosures about industry conditions. The model predicts that an increase in competitive entry threat increases disclosure of both good and bad news; hence, the positive impact of disclosure of bad news on Firm Financial Performance. This also confirms the findings of Roychowdhury and Sletten (2012), who opine that earnings' informativeness is higher whenever firms make voluntary disclosure of bad news. Furthermore, Roychowdhury and Sletten (2012) propose that the values of the earnings

reporting process as an information source lies in limiting delays in the release of bad news either by inducing managers to disclose it voluntarily, or by directly releasing the negative news that managers have incentives to withhold; hence, the positive impact of bad news, and as a consequence, disclosure of Intellectual Liabilities. These views are in congruence with the agency theory which suggests that there is a disconnection between ownership and control (Frankel et al., 1999). Therefore, agency costs arise due to the information (whether good or bad) that is withheld by managers. From this perspective, it is viewed that Intellectual Liabilities disclosure reduces information asymmetry, decreases agency costs, and as a result, improves Firm Financial Performance.

Solitander's (2011) review of literature on the competitive side of Intellectual Capital refers primarily to the research trends that focus on the negative side of Intellectual Capital, claiming that Intellectual Liabilities are issues that decrease a company's value or worth. Although most studies on Intellectual Liabilities refer to them as sources of negative value to the firm (Harvey and Lusch, 1999; Caddy, 2000; Abeysekera, 2003; Abeysekera, 2006), the findings of the current research indicate that Intellectual Liabilities disclosure has a positive impact on Firm Financial Performance. Thus, the present research contradicts previous research which claims that Intellectual Liabilities disclosure should be avoided at all cost. On the contrary, the findings indicate that firms that attempt to measure and disclose their Intellectual Liabilities tend to be at a relative advantage compared to competitors, as they are able to identify and deal with

sources of deterioration on one hand, while decreasing information asymmetry and agency costs on the other hand.

Further to the extended review of the analysis of findings on the relationship between Intellectual Liabilities disclosure and Firm Financial Performance, and despite the scarcity of studies on the disclosure and performance of Intellectual Liabilities, the findings of the current research agree with existing literature regarding the positive impact of Intellectual Liabilities disclosure on performance due to several factors as explained earlier. However, the findings contradict previous studies that claim that Intellectual Liabilities disclosure has potential drawbacks and may eventually deteriorate Firm Financial Performance.

5.1.9 Model Development Based on Content Analysis Findings

Quality research employs a sound research design to deal with important problems (Wellington et al., 2009). Original research must add to the existing literature body by contributing to theory, knowledge, methodology, and/or practice (Wellington et al., 2009). The research goals should be clearly linked to the theoretical and physical context of the research and to its intended contribution (Wellington et al., 2009).

Empirical evidence does not, consistently support measurement and disclosure theories, and the results found appear to be contradictory (Andriessen, 2004; Phusavat et al., 2011). To the knowledge of the researcher gained through investigation of the

literature, it is believed that detailed research focused on testing the interactive effects of Intellectual Capital elements on Firm Financial Performance in the publicly listed companies in the UAE has yet to be completed. Based on the content analysis findings, this section presents a new conceptual framework that addresses the underlying relationships between the various components of Intellectual Capital and Firm Financial Performance.

By incorporating Intellectual Liabilities in the theoretical framework, the present research brings a more refined, theoretically and empirically based conceptualization of Intellectual Capital than those provided so far, aiding in the development of a more robust theory of Intellectual Capital disclosure and its correlation with Firm Financial Performance. The main findings derived from content analysis are the integration of the constructs of Human Liabilities, Structural Liabilities, and Relational Liabilities into a model which elucidates the influence of voluntary disclosure on Firm Financial Performance.

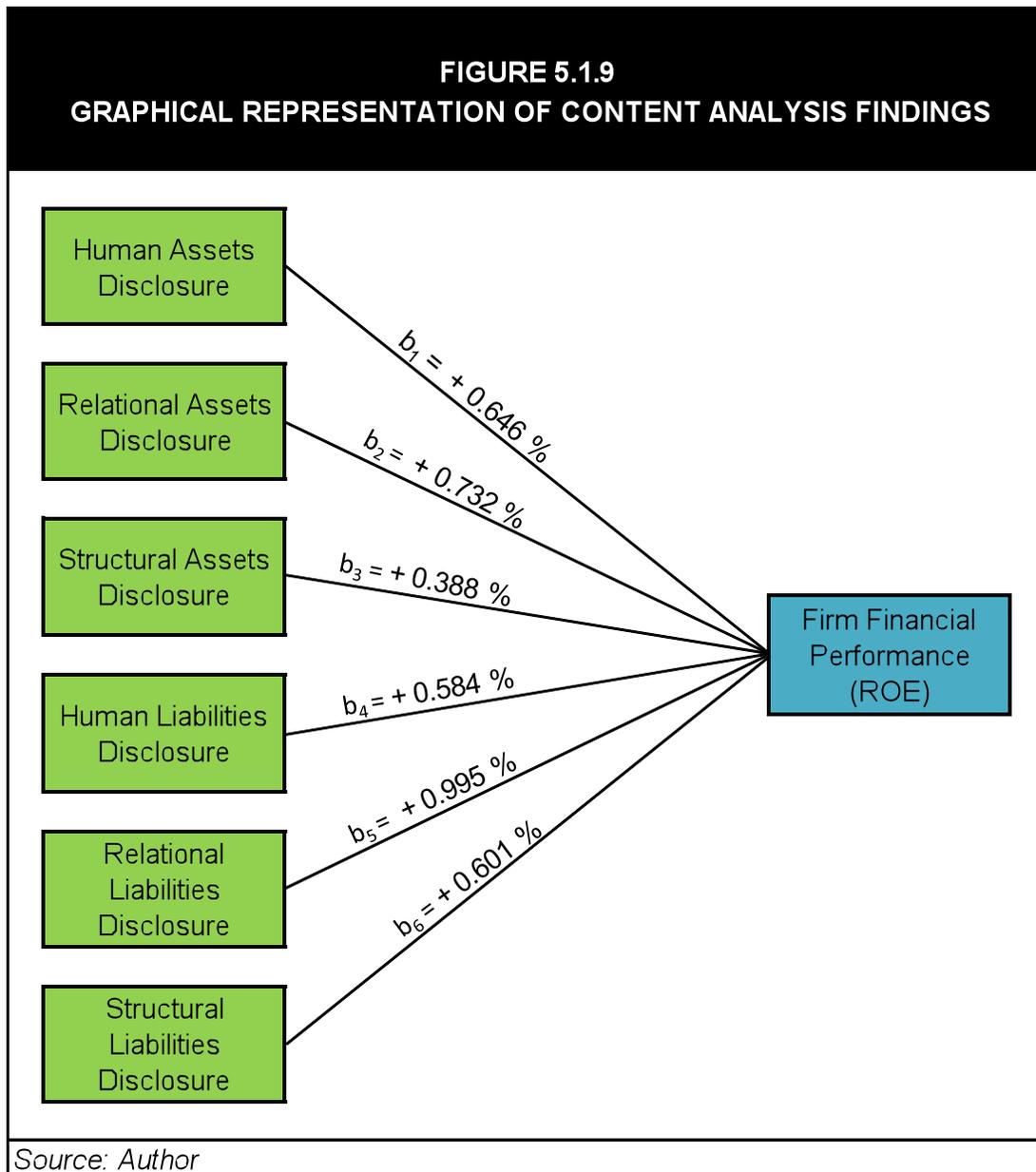
To date, very little research has been conducted on Intellectual Liabilities (Stam, 2009; Solitander, 2011). Although a conceptual methodology is suggested to recognize both Intellectual Assets and Intellectual Liabilities in the financial reports (Abeysekera, 2003), this effort is still meager (Stam, 2009). What has been done so far is mostly abstract, rather than empirical (Abeysekera, 2006). Some studies emphasize that balancing Intellectual Capital books requires reporting both Intellectual Assets and Intellectual

Liabilities (Harvey and Lusch, 1999; Caddy, 2000; Stam, 2009). In other words, the urgent need for companies to incorporate Intellectual Liabilities when identifying and measuring their Intellectual Capital is underscored by several studies (Harvey and Lusch, 1999; Caddy, 2000; Stam, 2009; Solitander, 2011). Consequently, researchers must concentrate on including Intellectual Liabilities in future conceptualized Intellectual Capital models (Harvey and Lusch, 1999; Caddy, 2000; Stam, 2009; Solitander, 2011). Furthermore, empirical testing of the expanded Intellectual Capital models is necessary (Harvey and Lusch, 1999; Caddy, 2000; Stam, 2009; Solitander, 2011). The findings of the present research address the aforementioned gaps of Intellectual Liabilities research, including empirical analysis of Intellectual Liabilities disclosure and their impact on Firm Financial Performance.

As shown in Table 5.1 C, the unstandardized B coefficient of Human Assets disclosure (b_1) is 0.646; the unstandardized B coefficient of Relational Assets disclosure is (b_2) 0.732; the unstandardized B coefficient of Structural Assets disclosure (b_3) is 0.388; the unstandardized B coefficient of Human Liabilities disclosure (b_4) is 0.584; the unstandardized B coefficient of Relational Liabilities disclosure (b_5) is 0.995, and the unstandardized B coefficient of Structural Liabilities disclosure (b_6) is 0.601. Figure 5.1.9 presents graphically the findings of statistical analysis conducted on the findings of content analysis. As mentioned in earlier sections, all Intellectual Capital disclosure components, including Human Assets disclosure, Relational Assets disclosure, Structural Assets disclosure, Human Liabilities disclosure, Relational Liabilities

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disclosure, and Structural Liabilities disclosure have a significant, positive statistical relation with Firm Financial Performance, but at varying degrees.



The content analysis findings, as shown in Figure 5.1.9, will be integrated with the findings from semi-structured and follow-up interviews in the subsequent sections in order to arrive to the final model of the relationship between Intellectual Capital disclosure and Firm Financial Performance.

5.2 IDENTIFICATION OF FINDINGS FROM SEMI-STRUCTURED INTERVIEWS

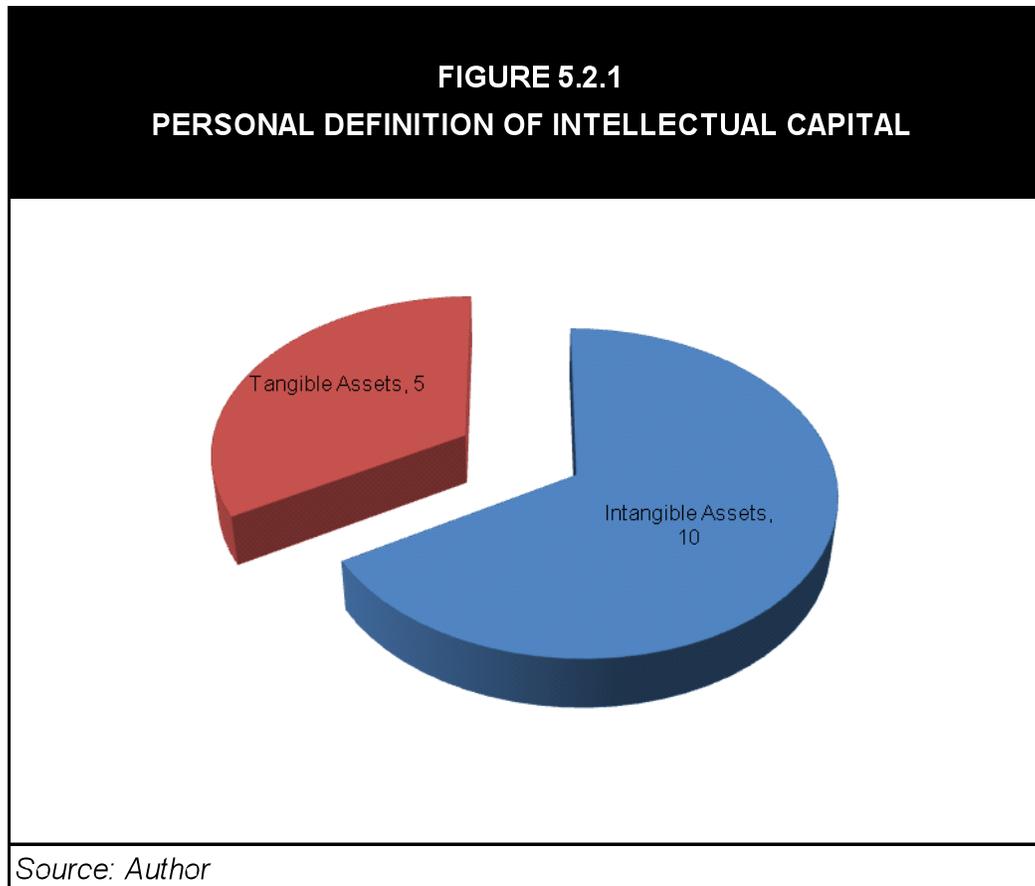
Findings of semi-structured interviews and follow-up interviews are derived using a method that involves breaking down the data into discrete 'incidents' (Glaser and Strauss, 1967) or 'units' (Lincoln and Guba, 1985) and coding them to categories. Categories arising from this method generally take two forms: those that are derived from the participants' customs and language, and those that the researcher identifies as significant to the project's focus-of-inquiry; the goal of the former is to reconstruct the categories used by subjects to conceptualize their own experiences and world view; the goal of the latter is to assist the researcher in developing theoretical insights into the social processes operative in the site under study; thus, the process used stimulates thought that leads to both descriptive and explanatory categories (Lincoln and Guba, 1985). Categories undergo content and definition changes as units and incidents are compared and categorized, and as understandings of the properties of categories and the relationships between categories are developed and refined over the course of the analytical process. According to Taylor and Bogdan (1984), the researcher

simultaneously codes and analyses data in order to develop concepts; by continually comparing specific incidents in the data, the researcher refines these concepts, identifies their properties, explores their relationships to one another, and integrates them into a coherent explanatory model.

Thus, findings of semi-structured interviews are presented in six sections. Findings will be presented for each theme and any sub-themes or categories contained within that section. Each section will commence with a visual overview of the findings followed by and supported with a descriptive account in text.

5.2.1 Personal Definition of Intellectual Capital

Participants were asked to offer a personal definition of Intellectual Capital. It was clear from the responses coded to this category that many participants could not offer a clear definition of Intellectual Capital. Responses were initially coded to two broad sub-categories where participants defined Intellectual Capital in the first instance as a tangible or intangible asset.



A tangible asset in this context did not mean that the participant misunderstood the intangible nature of Intellectual Capital, but rather they assigned a monetary value to Intellectual Capital where others did not. The label 'assets' was used for these codes because it was apparent that many participants confused capital with assets. The dearth of clearly articulated definitions meant that many participants did not expand on this topic. As some participants responded:

"I believe that Intellectual Capital is one of the company's intangible assets." - SM1

“Any asset that cannot be touched, kicked, or felt” – SM3

Some participants did display a clear understanding of Intellectual Capital as distinct from intellectual assets:

“It is the broadcast rights we own and owe others for television content.” - SM12

“Non-monetary capital deployed by the company” - SM5

5.2.2 Organizational Definition of Intellectual Capital

Section 5.2.1 considered personal definitions of Intellectual Capital. Section 5.2.2 analyzes companies' definitions of Intellectual Capital, if such definitions existed. Participants were further probed for examples to support their definitions. In addition, participants were also prompted as to the degree, if any, that their companies measured Intellectual Capital and if they disclosed the outcomes of such measurement systems and in what way. During this discourse, participants were encouraged to discuss any challenges they faced in cases where they reported Intellectual Capital and if they used quantitative or qualitative methods to measure and report on Intellectual Capital. The same set of probes was later used to split down Intellectual Capital into Intellectual Assets and Intellectual Liabilities. Section 5.2.2 reports under the following sub-sections:

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- Defining Intellectual Capital
- Examples of Intellectual Capital Definitions
- Measuring Intellectual Capital
- Disclosing Intellectual Capital in Annual Reports
- Challenges Faced in Reporting Intellectual Capital
- Quantitative versus Qualitative Intellectual Capital Disclosure

5.2.2.1 Defining Intellectual Capital

Participants were asked an open question from the interview schedule which enquired as to whether their companies had a definition of Intellectual Capital and if so, to articulate such definitions. It was clear from the responses that the same phenomena as reported under Section 5.2.1 also applied to company definitions.

Three participant companies had no official definition of Intellectual Capital. Of the remaining twelve, six offered clear definitions while the remaining six offered unclear definitions. Three of the fifteen participants said their company did not have such a definition:

“There is no formal definition of Intellectual Capital in our organization. The company experiences high employee-turnover, due to the nature of business. We pay decent commissions for sales people but the basic salary is very low.” – SM1

“No, our organization does not have an official definition of Intellectual Capital.” – SM15

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Of the twelve remaining companies, it was clear that many were confusing Intellectual Capital with Intellectual Assets:

“Yes, we have a definition. It includes all the nonphysical and intangible assets of the company.” – SM14

Some participants defined Intellectual Capital only in Human Assets terms:

“Any positive contribution in delivering optimal services by the employees” – SM4

Others defined Intellectual Capital only in terms of quantifiable Structural Assets albeit intellectually based ones:

“We define it as the right of broadcast we buy from producers to air and rerun certain content in addition to some exclusivity rights; we also sublicense these rights sometimes.” – SM12

“We define Intellectual Capital as the investment we have allocated to acquire and distribute licenses of printed material.” – SM11

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Six participants offered 'clear definitions' in so far as the application of deductive reasoning would allow their responses to be interpreted as demonstrating an understanding of the concept:

"No, my organization doesn't capitalize Intellectual Capital. I am not sure why not." –

SM10

"Yes, our company defines Intellectual Capital as the veiled capital" – SM2

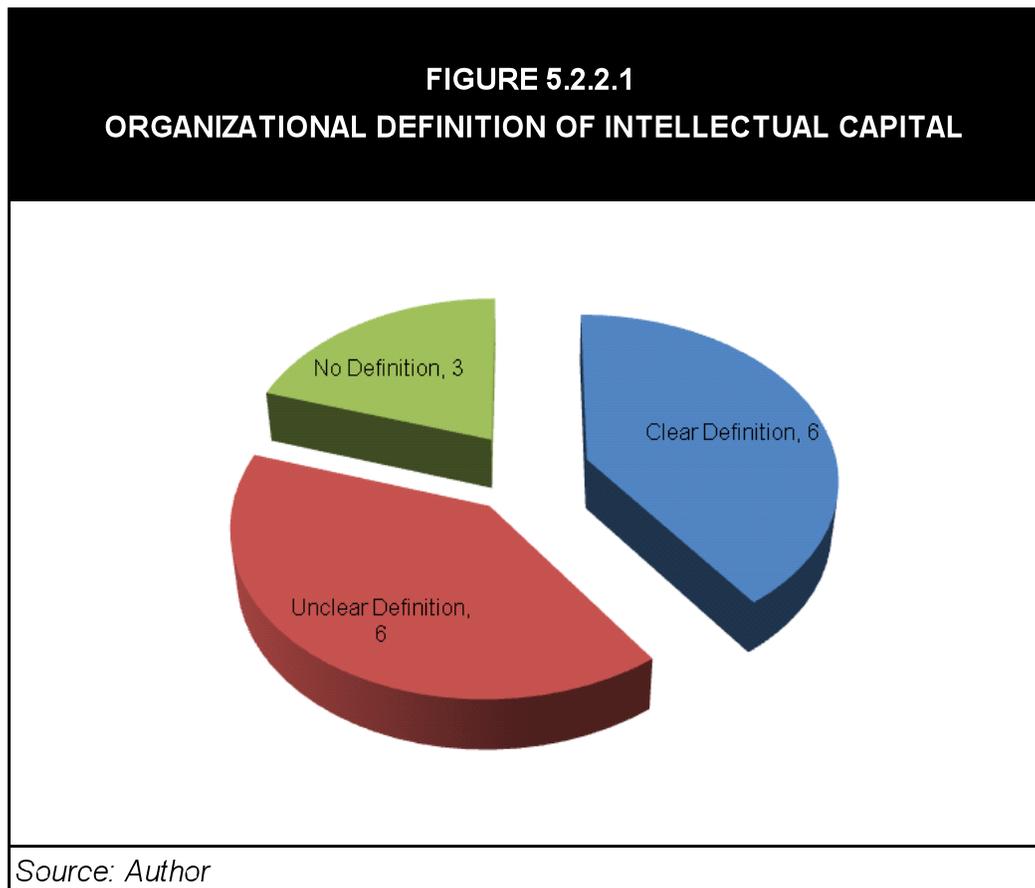
"An unconventional capital utilized to support the equity section of the balance sheet" –

SM5

Other sub-categories coded from company definitions included the following descriptive codes:

- Broadcast Rights
- Clear Definition
- Distribution Rights
- Investing through Knowledge
- No Definition
- Non-physical Resources and Commitments
- Service Delivery by Employees
- Unconventional Company's Resources
- Veiled Capital

Figure 5.2.2.1 shows this division of clear and unclear definitions as outlined:



In summary, three participant companies did not have a definition for Intellectual Capital. Six participants could offer a clear definition of Intellectual Capital, and six were unclear. Of the twelve companies that did have definitions, the most common confusion was mixing up Intellectual Capital and Intellectual Assets or narrowing the definition to Human, Structural, or Relational Capital only or in some cases further narrowing to Human, Structural, or Relational Assets only.

5.2.2.2 Examples of Intellectual Capital Definitions

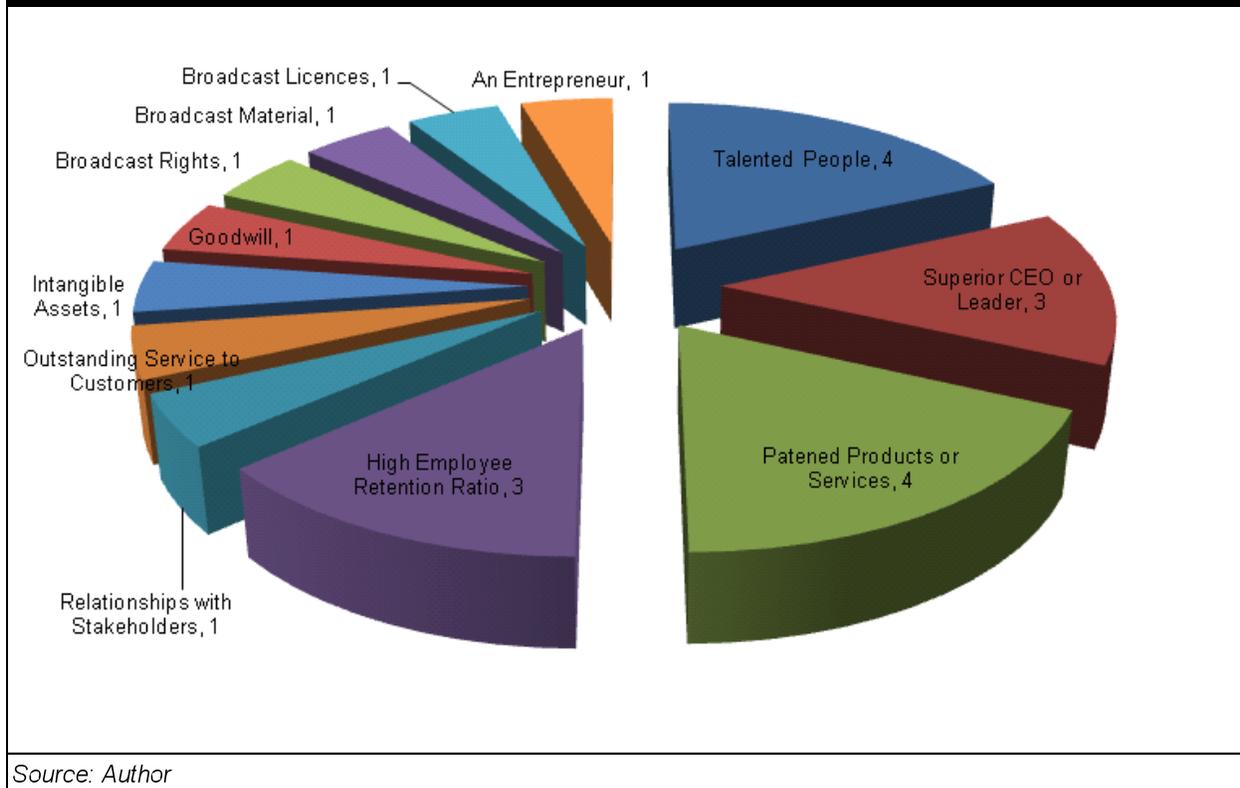
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Study participants were asked to offer examples to support their definitions. Of the twelve participants that had definitions, the following range of examples was offered and consequently coded:

- An Entrepreneur
- Broadcast Licenses
- Broadcast Material
- Broadcast Rights
- Goodwill
- High Employee Retention Ratio
- Intangible Assets
- Outstanding Service to Customers
- Patented Products or Services
- Patents
- Relationships with Stakeholders
- Superior CEO or Leader
- Talented People

Of these descriptive codes, talented people, superior CEO and high employee retention ratios pre-dominated in terms of coding coded content (units of meaning coded) as shown in Figure 5.2.2.2 A:

FIGURE 5.2.2.2 A
EXAMPLES OF ORGANIZATIONAL INTELLECTUAL CAPITAL DEFINITIONS



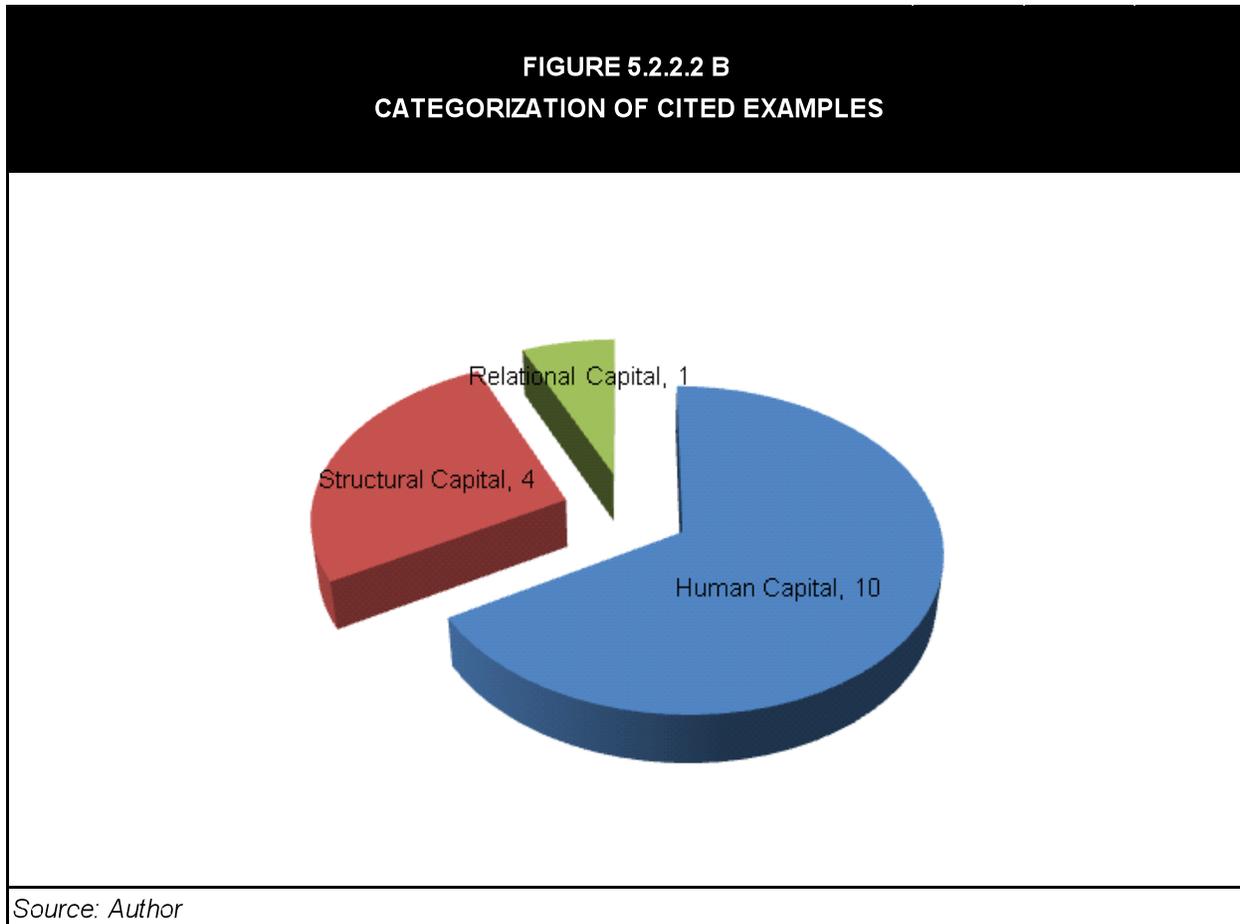
Ten of the fifteen participants gave examples of Human Capital, while four cited Structural Assets. Some participants offered multiple examples and were consequently coded to more than one sub-category.

“Yes, sure; some examples would be: goodwill and patents” – SM14

Only one participant offered an example that could be categorized as Relational Capital:

“Of course: trademarks, goodwill, motivation of employees, superior engineers, our relations with suppliers, and so on” – SM9

Figure 5.2.2.2 B sets the categorization of these codes:



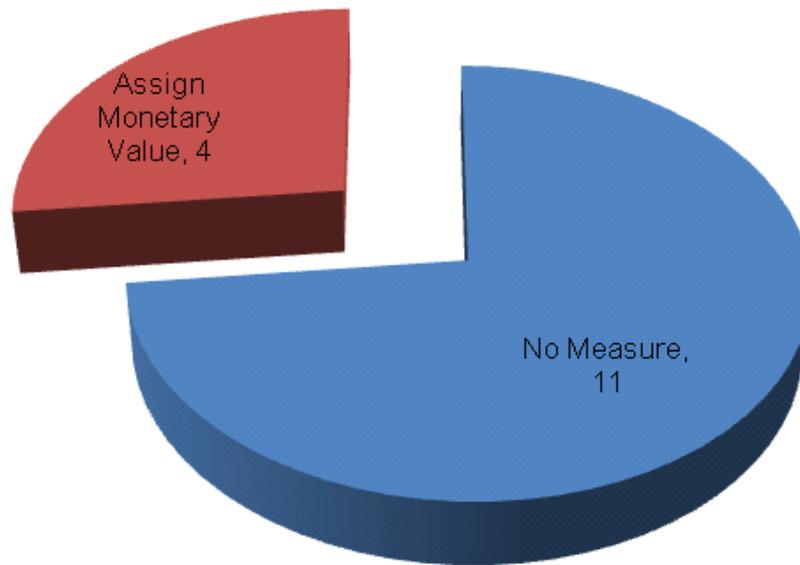
In summary, when asked for examples to support their definitions of Intellectual Capital, most participants offered examples which could be categorized as Human Capital. Ten of the fifteen examples fell into this category and were cited as talented people, superior

CEO, and high employee retention ratios. Four of the remaining references came under intangible assets but could be defined as Structural Capital. However, given the confusion between capital and assets as reported in earlier sections, it is not safe to assume that participants did mean Structural Capital but rather intangible assets as opposed to Structural Capital. Only one participant offered an example that could be categorized as Relational Capital.

5.2.2.3 Measuring Intellectual Capital

Participants were asked directly, whether or not their company measured Intellectual Capital. Eleven of the fifteen participants said their company did not measure Intellectual Capital as shown in Figure 5.2.2.3:

FIGURE 5.2.2.3
MEASURING INTELLECTUAL CAPITAL



Source: Author

Some participants mentioned that their organizations do not measure due to the absence of measurement tools:

“No, we do not measure our Intellectual Capital because we do not have a formal process to measure it.” – SM15

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“Still, no accurate measures are being followed by the company” – SM2

“We are still investigating an accurate model that can give precise measurement on Intellectual Capital. So, until now, we do not measure Intellectual Capital.” – SM3

Only four participants cited assigning a monetary value to Intellectual Capital:

“Yes, we do measure it by using the accounting standards.” – SM14

Eleven participants said they did not measure Intellectual Capital:

“My Organization doesn’t measure Intellectual Capital, because it is not within our organizational accounting system.” – SM10

However, participants did not offer principled objections to measuring Intellectual Capital. They frequently cited the lack of a uniform standard or tools that would allow a reliable model for measuring such capital:

“No, there are no accurate models that can be taken as measurement tools which we are familiar with so far.” – SM4

“No, we don’t have the necessary tools for measurement.” – SM5

“I wish if there could be an international model that unifies measurements related to Intellectual Assets, Intellectual Liabilities, and Intellectual Capital.” – SM4

“We don’t have the necessary tools for measurement.” – SM5

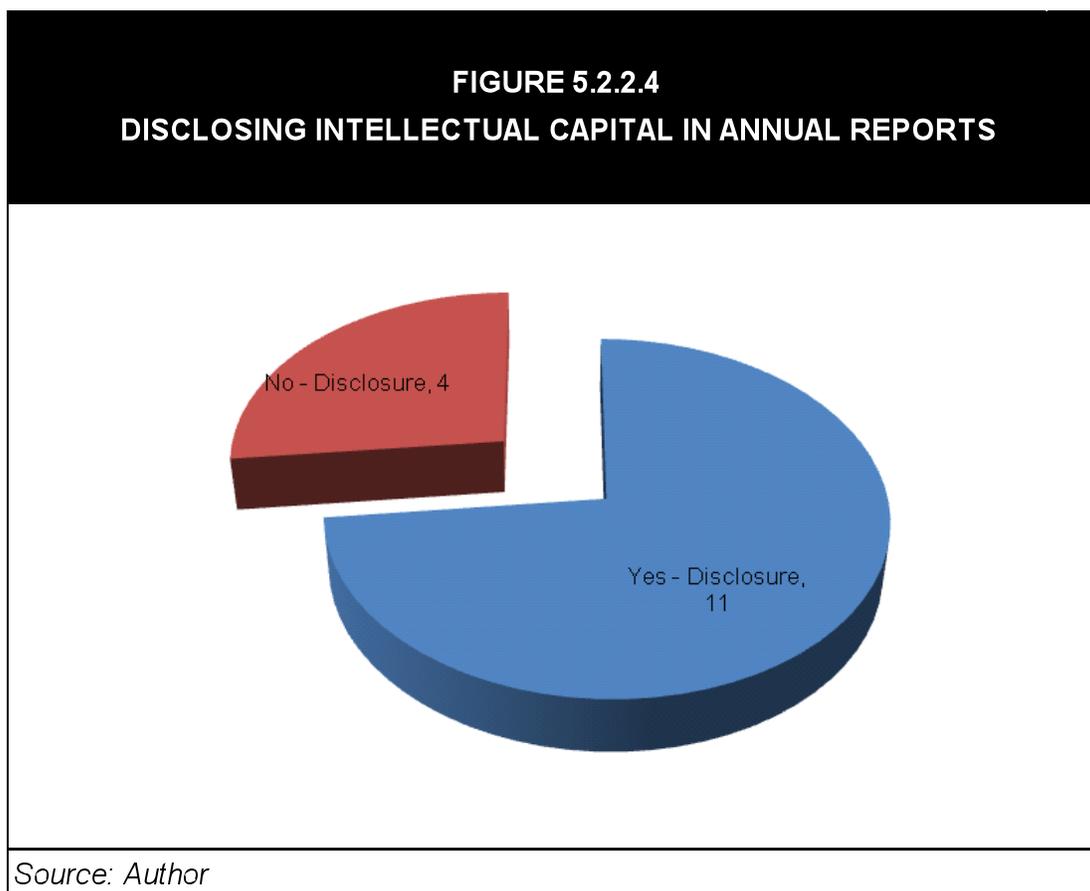
“No proper tools” – SM6

Uniform standards or tools for measuring Intellectual Capital became a ‘virus code’ as it will appear again in subsequent sections. Eight of the fifteen participants repeatedly cited not having tools to measure Intellectual Capital, Assets, or Liabilities in their respective companies.

In summary, participants were asked directly, whether or not their company measured Intellectual Capital. Eleven of the fifteen participants said their company did not measure Intellectual Capital. Only four participants cited assigning a monetary value to Intellectual Capital. Eleven participants said they did not measure Intellectual Capital. However, participants did not offer principled objections to measuring Intellectual Capital. They frequently cited the lack of uniform standards or tools that would allow a reliable model for measuring such capital.

5.2.2.4 Disclosing Intellectual Capital in Annual Reports

Participants were asked if they disclosed Intellectual Capital in annual reports. There was a contradiction in the responses relative to earlier responses. Despite the fact that only four participants claimed to measure Intellectual Capital, eleven participants claimed to disclose it as shown now in Figure 5.2.2.4:



This contradiction may be explained by two phenomena. First, the assertions in earlier sections that many participants confused Intellectual Capital with Intellectual Assets or intangible assets:

“It discloses the intangible assets.” – SM2

“Yes, it discloses the commonly known intangible assets” – SM3

Second, other participants referred to the company’s annual report where they defined qualitative references to Human or Relational Capital as disclosure of Intellectual Capital:

“We do not disclose it officially, but usually our annual reports do contain references on the importance of investing in our employees.” – SM15

“Yes, to highlight the organization’s strength” – SM7

“Yes, to highlight the company’s knowledge in the industry” – SM8

“Yes, we do disclose our superiority in our dealing with employees, clients and suppliers. We also mention the drawbacks of not maintaining and strengthening these relations.” – SM9

None of the participants from the nine companies with unclear or no definitions of Intellectual Capital or from the eleven companies with no measuring systems in place

cited any contradiction in reporting to stakeholders on capital that was ill defined or measured in any way.

In summary, participants were asked if they disclosed Intellectual Capital in annual reports. There was a contradiction in the responses relative to earlier responses. Despite the fact that only four participants claimed to measure Intellectual Capital, eleven participants claimed to disclose it.

5.2.2.5 Challenges Faced in Reporting Intellectual Capital

Participants were asked to identify challenges they faced when disclosing Intellectual Capital. Four participants cited no challenge, as they do not disclose this type of capital. Four participants who do disclose also cited no challenge. Of the remaining seven participants, the following sub-categories were coded:

- No Reporting - No Challenge
- Full Reporting - No Challenges
- Confidentiality
- How much to Report
- No Uniform Standard
- Segregating Employees' Intangible Contributions from Intangible Assets
- Valuations

Some participants cited more than one challenge. For example, the following contribution was coded to 'valuations', 'confidentiality' and 'how much to report':

“The challenge relies on being very accurate in measuring the copyrights at first then deciding what to report as sometimes we have special and exclusive rates and conditions from our suppliers or licensees and it is confidential data by its nature.” –

SM11

The two most cited challenges were ‘valuations’ with one third of all participants or almost half of those that do report claiming that reaching a valuation was the greatest challenge related to disclosing Intellectual Capital. The other most common and related challenge was having a uniform standard as even if tools did exist, stakeholders would need to know that some form of consistent accounting convention was being followed so observers can be assured that these valuations are reliable:

“It is not reported in our organization, but personally I believe a challenge can be the conversion rate and assessment of the value of such capital across organization, as the standards may differ from one organization to another.” – SM10

5.2.2.6 Quantitative versus Qualitative Intellectual Capital Disclosure

Participants were asked the extent to which those that disclosed Intellectual Capital did so in a quantitative or qualitative manner. There were some inconsistencies and contradictions in the responses by participants. Despite four participants claiming not to report Intellectual Capital, fourteen participants cited one or other method with some

claiming to use both. Only one participant, who had earlier cited no reporting, was consistent in responding to this probe:

“We do not disclose due to the same reasons I mentioned earlier.” – SM1

These phenomena may be explained by participants alluding to various reporting methods beyond the company report. Staff assessments and Key Performance Indicators (“KPI’s”) were cited as reporting mechanisms. Figure 5.2.2.6 shows the breakdown between quantitative and qualitative reporting as cited by study participants:

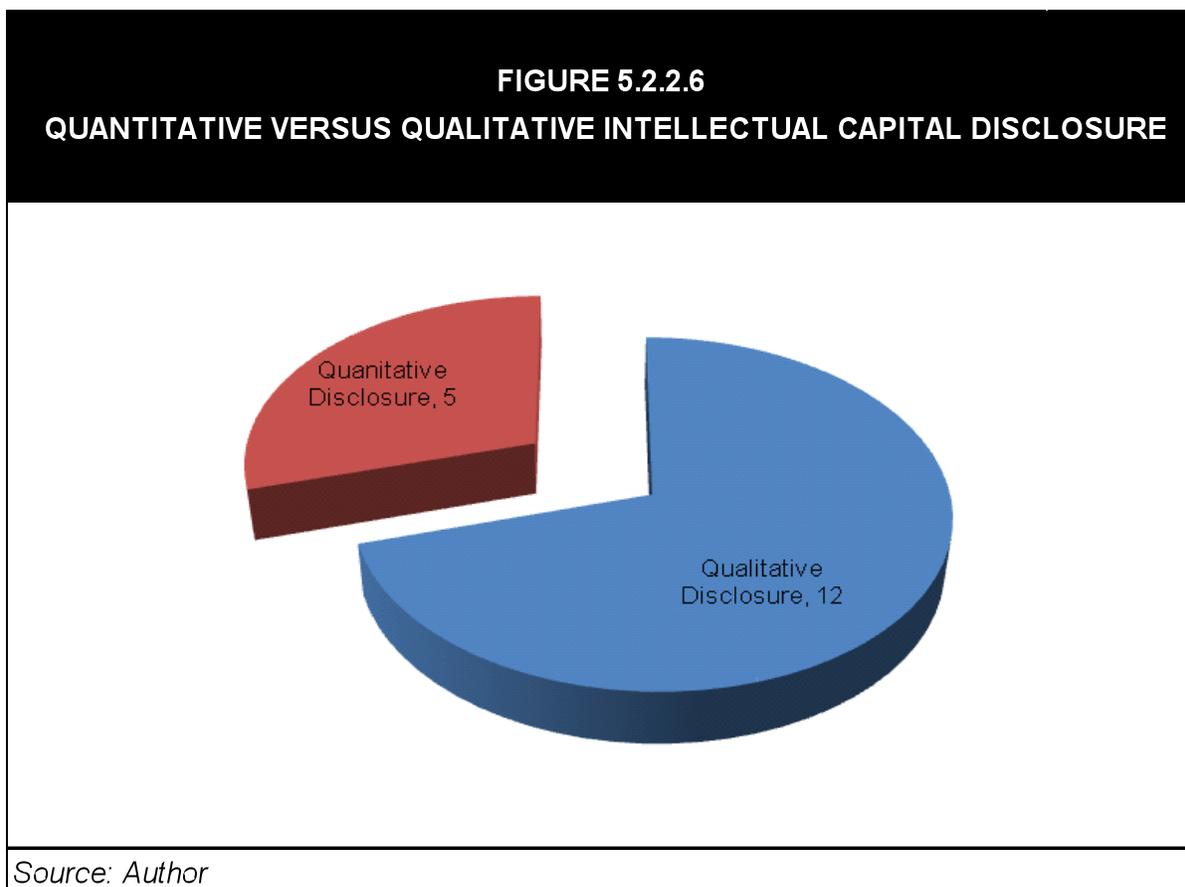


Figure 5.2.2.6 is not inconsistent with earlier charts as two participants cited both methods of reporting on Intellectual Capital and were coded to both:

“Well, both; quantitative in the financial statements and qualitatively in the annual report where there are allocated sections to talk about them.” – SM14

“Qualitatively: through the annual report, by highlighting the human elements contribution to the overall success of the business” – SM2

“Quantitatively: through the balance sheet (Goodwill, patents, trademarks, and other intangible assets)” – SM2

“It is disclosed aggregated quantitatively.” – SM11

Of the five participants who reported quantitatively, financial statements and annual reports were the method of documenting values associated with Intellectual Capital:

“Through the financial statements and through the annual reports” – SM3

In summary, participants were asked the extent to which those that disclosed Intellectual Capital did so in a quantitative or qualitative manner. There were some

inconsistencies and contradictions in the responses by participants. Despite four participants claiming not to report Intellectual Capital, fourteen participants cited quantitative or qualitative methods, with some claiming to use both.

5.2.3 Intellectual Assets

Section 5.2.1 considered personal definitions of Intellectual Capital while Section 5.2.2 looked at company definitions. Section 5.2.3 asks participants to respond to the same set of probes as set out in Section 5.2.2 but only in the context of one component of Intellectual Capital, that of Intellectual Assets.

Participants were further probed for examples to support their definitions. In addition, participants were also prompted as to the degree if any, that their companies measured Intellectual Assets, and if they disclosed the outcomes of such measurement systems and in what way. During this discourse, participants were encouraged to discuss any challenges they faced in cases where they reported Intellectual Assets, and if they used quantitative or qualitative methods to measure and report on Intellectual Assets. The same set of probes was later used to examine participants' attitudes, beliefs, and behaviors in the context of Intellectual Liabilities. Findings on Intellectual Assets are reported under the following sub-sections:

- Defining Intellectual Assets
- Examples of Intellectual Assets Definitions
- Differences between Intellectual Assets and Intellectual Capital

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- Measuring Intellectual Assets
- Disclosing Intellectual Assets
- Challenges Faced in Reporting Intellectual Assets
- Quantitative versus Qualitative Intellectual Assets Disclosure

5.2.3.1 Defining Intellectual Assets

Participants were asked an open question from the interview schedule which enquired as to whether their companies had a definition of Intellectual Assets and if so, to articulate such definitions. Only two participants claimed to have no operational definition in this category with a further one citing a definition but with the caveat that it was not “official”:

“No, because we think that Intellectual Assets are the same as Intellectual Capital” –

SM15

“We don’t have an official or an operational definition of Intellectual Assets, as I have mentioned before, because it is not in our accounting systems and culture.” – SM10

“It is not an official definition, but we consider Intellectual Assets as the assets that we have that we cannot quantify.” – SM13

Only one participant offered a clear definition of Intellectual Assets:

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“Conventionally, Assets = Liabilities + Equity. So, Intellectual Assets = Intellectual Liabilities + Intellectual Capital” – SM4

Again, there was evidence in the data that participants confused Intellectual Capital and Intellectual Assets:

“It is the same as the Intellectual Capital” – SM2

“Well, they are exactly the same as Intellectual Capital, so the same definition: intangible assets.” – SM14

The remaining responses were fragmented across several sub-categories:

- Adding Value
- Distribution Rights
- Intangible Assets
- Intellectual Capital
- Only Owned or Positive Values
- Positive and Unseen Resources and Relations
- Shared Knowledge
- Intellectual Capital + Intellectual Liabilities
- No Operational Definition

The most unified category contained five participants who defined Intellectual Assets and intangible assets:

“Any intangible asset” – SM7

“Assets that are intangible” – SM8

In summary, participants were asked as to whether their companies had a definition of Intellectual Assets. Only two participants claimed to have no operational definition in this category with a further one citing a definition but with the caveat that it was not “official”. Only one participant offered a clear definition of Intellectual Assets. Again, there was evidence in the data that participants confused Intellectual Capital and Intellectual Assets. The remaining responses were fragmented across several sub-categories.

5.2.3.2 Examples of Intellectual Assets Definitions

Study participants were asked to offer examples to support their definitions of Intellectual Assets. All participants offered examples which were then coded to the following range codes:

- Broadcast Rights
- Copyright
- Employees Training
- Exclusivity Rights
- Goodwill
- Motivated Employees
- Patented Goods or Services

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- Rerun Rights
- Trademark
- Value Chain - Employees and Suppliers

Some participants cited more than one example and were coded to several codes. Of these, ten participants cited Structural Assets among their examples:

“Copyrights, distribution rights granted to licensees” – SM11

“Broadcast Rights, Exclusivity Rights, Rerun Rights” – SM12

“A trademark” – SM3

Five participants cited Human Assets among their examples:

“Same as the example on Intellectual Capital; which is the investment we do in our employees” – SM15

“If I would define it, it would be again high quality employees.” – SM10

Two participants cited Relational Assets in their examples:

*“Yes, same as what I told you before: motivated employees, good corporate culture,
good relations with clients, etc.” – SM9*

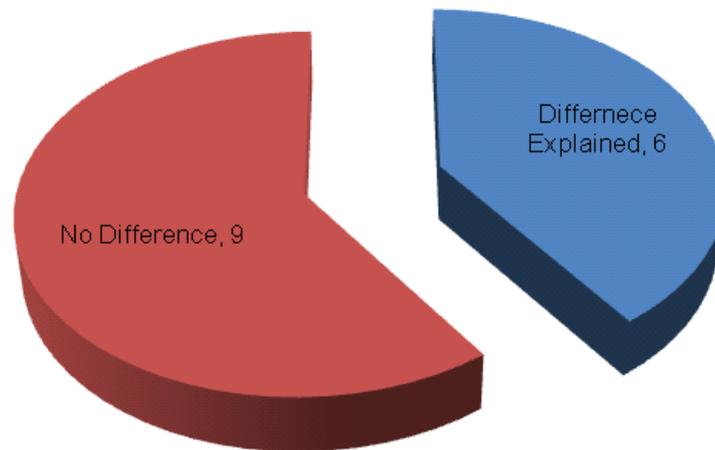
*“Yes, our extra value from the commitment our employees and the value chain with our
clients and suppliers” – SM13*

In total, ten participants thought mainly of tangible assets in their examples, while the remaining five cited intangibles.

5.2.3.3 Differences between Intellectual Assets and Intellectual Capital

Participants were asked to explain the difference between Intellectual Assets and Intellectual Capital. Figure 5.2.3.3 shows that eight of the fifteen participants were unable to cite any difference. In Sections 5.2.1 and 5.2.2, when participants were asked to define Intellectual Capital only, five participants offered a clear definition. In Section 5.2.3.3, and when directly asked to name the difference, the figure improved to by one to six participants who could offer an explanation:

FIGURE 5.2.3.3
DIFFERENCES BETWEEN INTELLECTUAL ASSETS AND INTELLECTUAL CAPITAL



Source: Author

Figure 5.2.3.3 confirms the findings reported in Section 5.2.1 and 5.2.2 that over half of all participants were confusing Intellectual Capital with Intellectual Assets:

“I believe they are extremely similar.” – SM1

“They are identical.” – SM3 and SM6

“I believe they are the same.” – SM7

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“No difference” – SM8

“No, I think they are the same.” – SM14

“I think Intellectual Assets are the same as Intellectual Capital as they mean the same thing.” – SM15

Conversely, six participants offered a clear explanation and demonstrated a good understanding of the concept:

“Yes, Intellectual Capital is Intellectual Assets minus Intellectual Liabilities” – SM4

“Yes, Intellectual Assets should equal to Intellectual Capital plus any Intellectual Liabilities” – SM5

“Yes, absolutely. Intellectual Capital includes both negative and positive resources.” –

SM9

“Intellectual Capital is the difference of Intellectual Assets & Intellectual Liabilities.” –

SM11

“Well, yes, they are different because Intellectual Assets are the positive things.” –

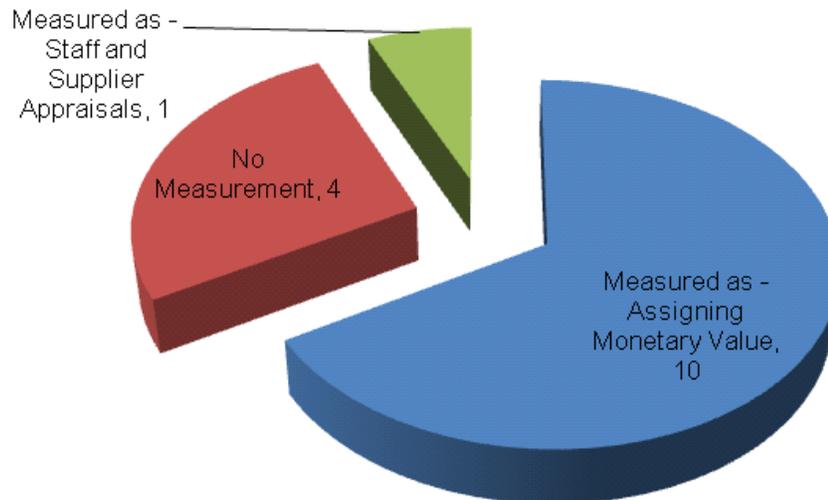
SM13

Findings from Section 5.2.3.3 confirms findings reported in Sections 5.2.1, 5.2.2, and 5.2.3.1 that for over half of all participants, Intellectual Capital was a concept that was ill defined and by extension ill measured or managed. This finding will be further reported under subsequent sections.

5.2.3.4 Measuring Intellectual Assets

Participants were asked if and how they measured Intellectual Assets. Figure 5.2.3.4 shows that 11 participants do measure Intellectual Assets in some form, and four participants do not:

FIGURE 5.2.3.4
MEASURING INTELLECTUAL ASSETS



Source: Author

Three of the four participants that do not measure cited having no tools or system for doing it.

“No, we do not measure them. As mentioned earlier, we do not have the tools to measure them.” – SM13

“No, we don’t have the required knowledge in order to measure Intellectual Assets.” – SM11

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“No, we do not measure our Intellectual Assets because we do not have a process in place that can accurately measure them.”- SM15

Of the eleven participants that do measure, ten of them assign a monetary value to intangible assets rather than Intellectual Assets:

“Yes, we take the value of each and every intangible asset.” – SM3

“Yes, through measurement of conventional intangibles” – SM4

“Yes, by taking the book values of the intangible assets” – SM5

One participant cited staff and supplier appraisals as his company’s means of measuring Intellectual Assets:

“Yes, same as Intellectual Capital; assessment of employees, clients, and suppliers” –

SM9

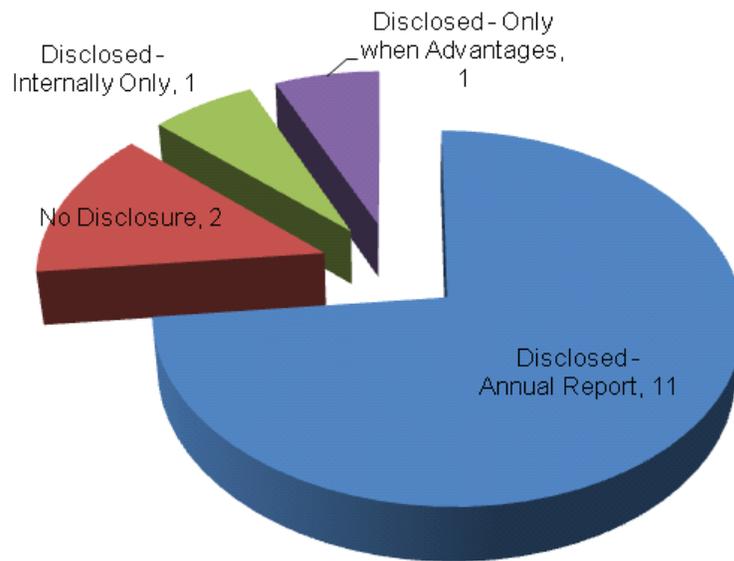
In summary, participants were asked if and how they measured their Intellectual Assets. Figure 5.2.3.4 showed that eleven participants do measure Intellectual Assets in some form and four participants do not. Three of the four participants that do not measure

cited having no tools or systems for measurement. Of the eleven that do measure, ten of these assign a monetary value, but to intangible assets.

5.2.3.5 Disclosing Intellectual Assets

Participants were asked if and how they disclosed Intellectual Assets. Figure 5.2.3.5 shows similar patterns to measuring Intellectual Assets. Eleven participants disclosed this information in their annual report, with a further one participant saying his company would only disclose if advantageous to the organization. Only two of the four participants that do not measure said they did not disclose. This may be explained by several companies using qualitative references to Intellectual Assets as their form of disclosure:

FIGURE 5.2.3.5
DISCLOSING INTELLECTUAL ASSETS



Source: Author

Seven participants specifically cited the annual report as their means of disclosure with a further four saying they disclosed, but not expanding on how they disclosed:

“Yes, simply because this increases the value of total assets” – SM5

“Yes, to support the institution’s position in the market” – SM7

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“Yes, we do. We believe that this is a strength point and we need to show case it to the public.” – SM9

One company discloses internally only:

“Internally detailed, externally aggregated due to the confidentiality of the deals” – SM12

One company only discloses when advantageous to do so:

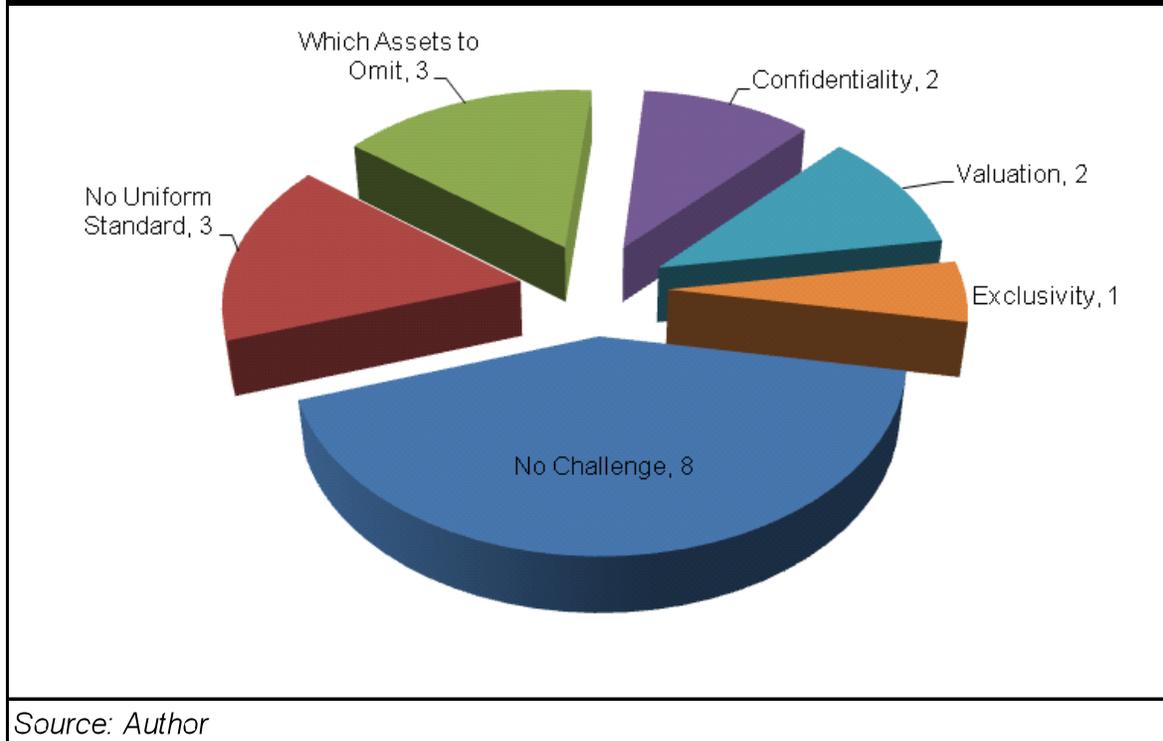
“Yes, in case it is worth to disclose a figure that enforces the company’s positioning” – SM3

All but one study participants used a variety of methods to report on Intellectual Assets. Seven reported using a monetary value, with a further four reporting, but not necessarily in quantitative terms. Four companies either did not disclose or disclosed internally only. Disclosure will be further reported in the subsequent section.

5.2.3.6 Challenges Faced in Reporting Intellectual Assets

Participants were asked what challenges if any they faced in reporting Intellectual Assets. Figure 5.2.3.6 shows that eight participants said they did not face any challenges in reporting in Intellectual Assets:

FIGURE 5.2.3.6
CHALLENGES FACED IN REPORTING INTELLECTUAL ASSETS



Some answers as quoted by some participants:

“We have not faced any challenges so far in reporting the Intellectual Assets” – SM4

“They are not really challenges; it just has to comply with accounting regulations.” –

SM14

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Five participants cited difficulty arriving at a valuation or not having a uniform standard or tool to create valuations as a challenge when reporting Intellectual Assets:

“The challenges that we face are mainly related to valuation of these Intellectual Assets.” – SM2

“As I have mentioned before, the challenge is the standardization of measuring every asset which will aggregate to the Intellectual Capital.” – SM10

“Again, same as before, no uniform measurement standard” – SM9

Three participants cited not knowing what to omit as their challenge:

“Which intangible asset to disclose and which one to be omitted” – SM3

“I think I told you before; the challenge is how much to tell to the public.” – SM13

The fear of revealing information which may benefit competitors, was also raised by two participants as an issue of confidentiality:

“The challenge lies in being very accurate in measuring the copyrights at first, and then deciding what to report, as sometimes we have special and exclusive rates and

conditions from our suppliers or licensees and it is confidential data by its nature.” –

SM11

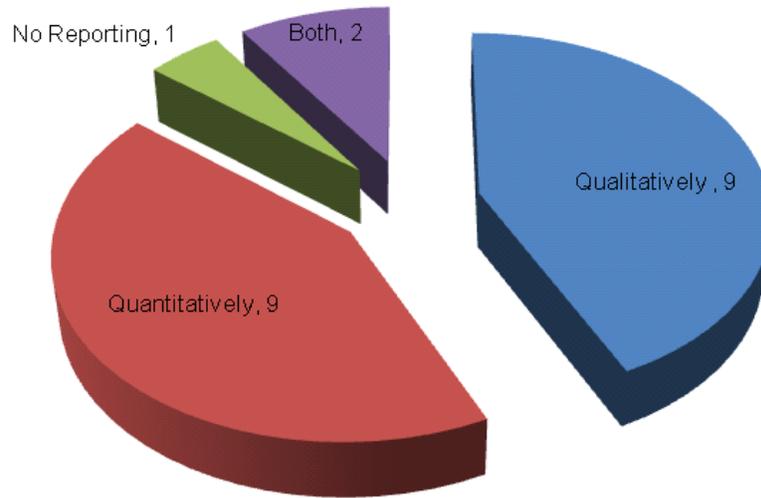
“Confidentiality and exclusivity” – SM12

For almost half of all participants, uncertainty about confidentiality, competitive advantage, and lack of internationally recognized financial instruments of reporting were the principal challenges they faced in reporting on Intellectual Assets.

5.2.3.7 Quantitative versus Qualitative Intellectual Assets Disclosure

Participants were asked whether they reported Intellectual Assets qualitatively or quantitatively. Figure 5.2.3.7 shows that participants were evenly divided on methods of reporting:

FIGURE 5.2.3.7
QUANTITATIVE VERSUS QUALITATIVE INTELLECTUAL ASSETS DISCLOSURE



Source: Author

Seven participants were recorded uniquely citing one or other option:

“Qualitatively: through the annual report” – SM2

“Quantitatively, aggregated” – SM11

Two participants cited both methods and were coded to both:

“Both: qualitatively and quantitatively” – SM14

“Both: quantitatively and qualitatively” – SM4

One company did not disclose and by extension used neither method:

“We do not disclose Intellectual Assets due to the same reasons mentioned earlier.” –

SM1

Half of all participants assigned monetary value to Intellectual Assets and reported in those terms. All of these participants reported difficulty with not having a uniform tool to reliably measure and report. Most of the remainder used the annual report to make various degrees of disclosure which were often vague and primarily a PR exercise. Some participants openly discussed concealing information regarding the value of Intellectual Assets. One company did not attempt to measure or report on Intellectual Assets.

5.2.4 Intellectual Liabilities

Section 5.2.1 considered personal definitions of Intellectual Assets, while section 5.2.2 looked at company definitions. Section 5.2.3 considered defining, measuring, and disclosing Intellectual Assets. Section 5.2.4 considers how participants define, measure and disclose Intellectual Liabilities.

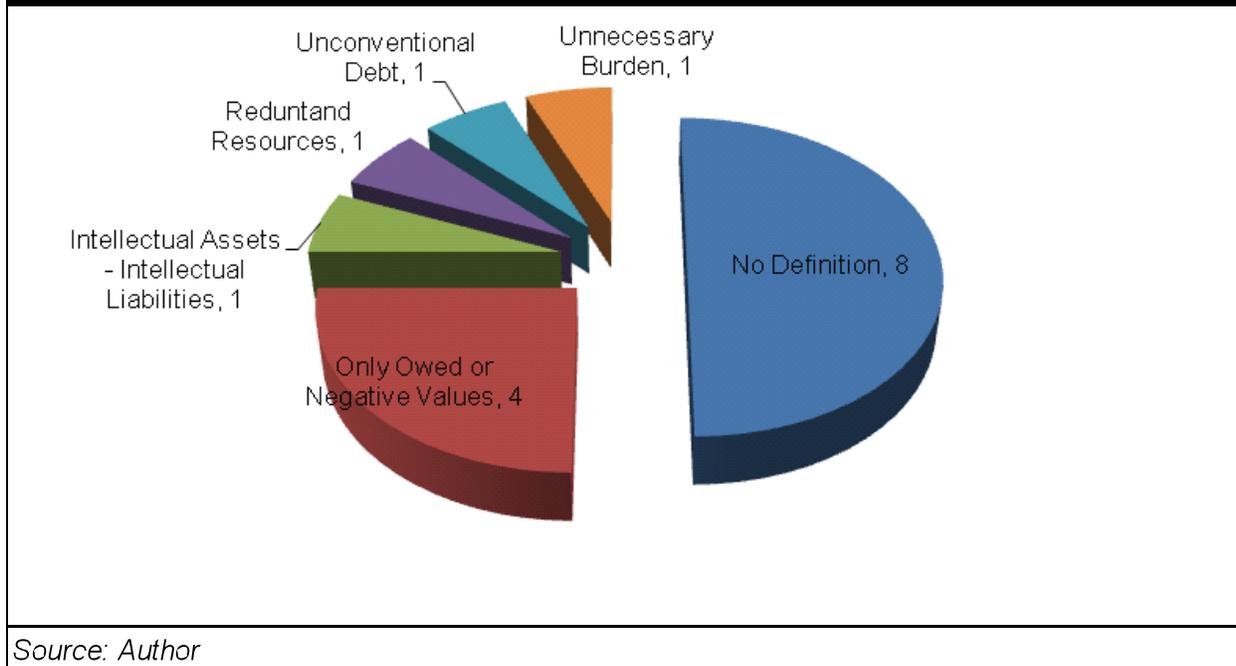
Participants were asked to define Intellectual Liabilities. They were further probed for examples to support their definitions. In addition, participants were also prompted as to the degree, if any, that their companies measured Intellectual Liabilities, and if they disclosed the outcomes of such measurement systems and in what way. During this discourse, participants were encouraged to discuss any challenges they faced in cases where they reported Intellectual Liabilities, and if they used quantitative or qualitative methods to measure and report on such liabilities. Section 5.2.4 reports under the following sub-sections:

- Defining Intellectual Liabilities
- Examples of Intellectual Liabilities Definitions
- Measuring Intellectual Liabilities
- Disclosing Intellectual Liabilities
- Challenges Faced in Reporting Intellectual Liabilities
- Quantitative versus Qualitative Intellectual Liabilities Disclosure

5.2.4.1 Defining Intellectual Liabilities

Participants were asked an open question from the interview schedule which enquired as to whether their companies had a definition of Intellectual Liabilities and if so, to articulate such definitions. Unlike Section 5.2.3.1, where only two participants cited having no operational definition for intellection assets, when it came to Intellectual Liabilities, there was more ambiguity. Figure 5.2.4.1 shows that eight participants did not have a definition for Intellectual Liabilities:

FIGURE 5.2.4.1
ORGANIZATIONAL DEFINITION OF INTELLECTUAL LIABILITIES



Some answers as quoted by some participants:

“No, there is no formal definition of Intellectual Liabilities within our organization. The reason is that this is relatively a new term which we are not yet familiar with.”- SM1

“No, we don’t have it. Our Management doesn’t account for Intellectual property of personnel.” – SM10

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“To be honest, it is the first time I hear of Intellectual Liabilities. No we do not have an official definition. As I told you, we haven’t heard of it before.” – SM14

“What are Intellectual Liabilities? No, we are not aware of the existence of Intellectual Liabilities.” – SM15

However, seven participants did offer definitions with three citing “only owed or negative values” as the most common definition amongst this group:

“Yes, same as Intellectual Capital but focusing only on what owe others” – SM12

“The difference between the Intellectual Assets and Intellectual Capital” – SM4

Other participants described Intellectual Liabilities using various terms, but where deductive reasoning would allow an interpretation that these participants could define Intellectual Liabilities:

“Yes, unconventional debt” – SM7

5.2.4.2 Examples of Intellectual Liabilities Definitions

Participants were asked if they could cite an example of Intellectual Liabilities.

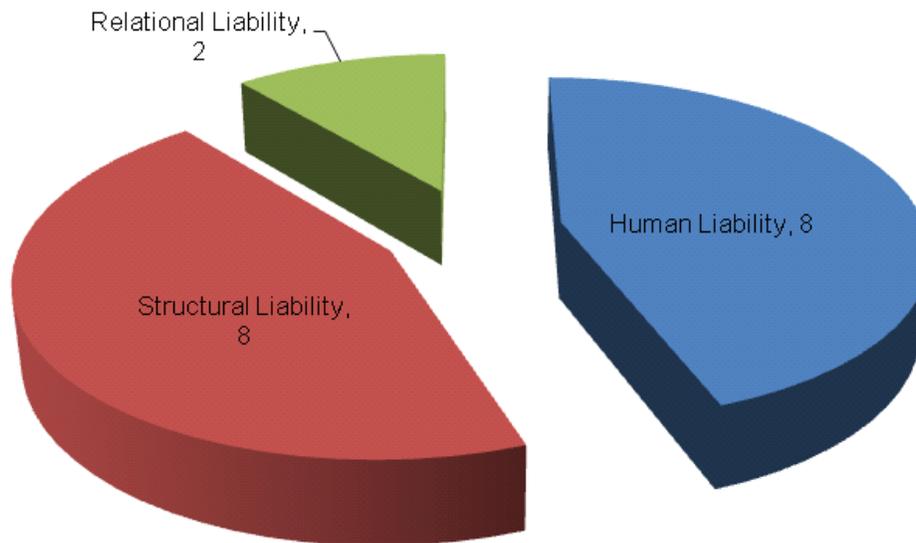
Participants’ responses were coded on to the following range of codes:

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- Lazy Employees
- Negative Resources
- Outdated Services
- Overstaffing
- Poor Culture
- Poor Motivation from Employees
- Poor Organizational Structure
- Poor Relations with Stakeholders
- Sub-licensing
- Syndicated Contracts
- Wrong Strategic Direction

Some participants gave more than one example and were coded to several codes as a consequence. Figure 5.2.4.2 shows the weighting of these codes when clustered into Human, Structural, and Relational Liabilities:

FIGURE 5.2.4.2
EXAMPLES OF INTELLECTUAL LIABILITIES DEFINITIONS



Source: Author

Participants' respondents were divided equally between Structural and Human Liabilities:

"I think a lazy employee may be an Intellectual Liability" – SM1

"An employee who causes losses to the company due to operational inefficiency" – SM5

"Like Licenses that we owe to our suppliers" – SM11

“Syndication contracts and sublicensing” – SM12

Just two participants cited Relational Liabilities as their example:

“Of course: lack of motivation; poor culture and poor relations with third parties” – SM9

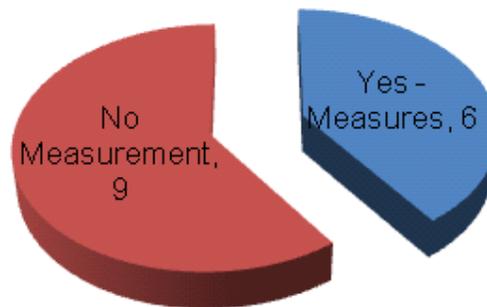
“I would say they are the opposite of the Intellectual Assets. So, poor performing employees, poor relations with clients and suppliers” – SM13

In general, when participants thought of Intellectual Liabilities, they most commonly thought in Human and Structural Liabilities terms in equal proportions.

5.2.4.3 Measuring Intellectual Liabilities

Participants were asked if they measured Intellectual Liabilities. Figure 5.2.4.3 shows that nine participants said they had no measurement systems in place:

FIGURE 5.2.4.3
MEASURING INTELLECTUAL LIABILITIES



Source: Author

Of the nine participants that did not measure Intellectual Liabilities, the principal reason cited was lack of tools or uniform standards:

“No, we don’t have the required knowledge in order to measure Intellectual Liabilities.” –

SM1

“No, no proper tools” – SM6 and SM8

“No, it is not in our accounting system.” – SM10

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It was clear from responses from some of the six participants that claim to measure Intellectual Liabilities that there was no consistency in measuring criteria; some companies only measured Intellectual Liabilities in vague terms, such as employee appraisals:

“The savings that the company generate from laying-off non-potential employees” –

SM2

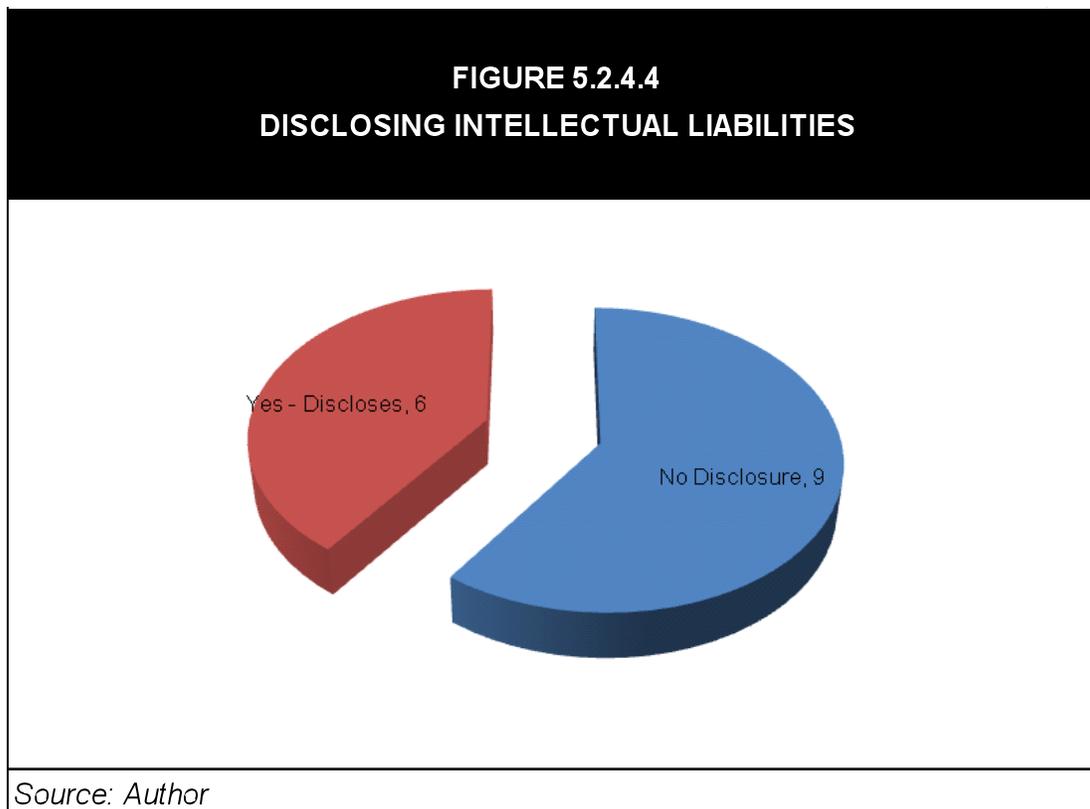
Others did not expand on how they might measure such Intellectual Liabilities:

“Yes” – SM11 and SM12

Most companies did not measure Intellectual Liabilities; of those that did, it was difficult to discern the reliability of those measurements in quantitative or even qualitative terms. Given that only just over one third of all participant companies measured Intellectual Liabilities, it is only possible for this amount at a maximum to capitalize them. Participant’s capacity and willingness to measure Intellectual Liabilities will be further reported in subsequent sections.

5.2.4.4 Disclosing Intellectual Liabilities

Participants were asked if and how they disclosed their Intellectual Liabilities. This category was identical in dimensions to Section 5.2.4.3 in that nine companies disclosed and six did not, as shown in Figure 5.2.4.4:



Of the nine companies that do not disclose information on Intellectual Liabilities, their reasons could be divided into three discrete areas: security, lack of awareness, and principally, lack of tools. There was a fear amongst some participants that reporting information of this nature could expose their organization to risk from competitors knowing too much, or cause reputational damage:

“No, we prefer not to disclose Intellectual Liabilities, as this may ruin the reputation of the company.” – SM2

“No, we believe that this is not of interest to the public.” – SM3

“No, we do not because we cannot disclose something that we are not aware of” – SM15

“No, we do not report because it is the first time I hear about it from you.” – SM14

“No, since, we do not have tools for measuring Intellectual Liabilities; then obviously, we will not be able to disclose Intellectual Liabilities in our annual reports.” – SM1

“No, because we don’t possess the right tools in measuring Intellectual Liabilities” – SM6

“No, because we don’t possess the right tools in measuring Intellectual Liabilities” – SM7

“No, due to the unavailability of precise measurement tools” – SM8

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Of the six companies that did disclose Intellectual Liabilities, the principal reason cited was for ethical transparency and credibility with stakeholders:

“Yes, the reason is transparency. We appreciate being transparent with all our stakeholders.” – SM4

“Yes, conventionally liabilities are reported in the balance sheet. So, it won’t harm disclosing Intellectual Liabilities as well.” – SM5

“Yes, we do, but we are cautious; we do so because it shows that we are aware of such dangers; this improves our public image.” – SM9

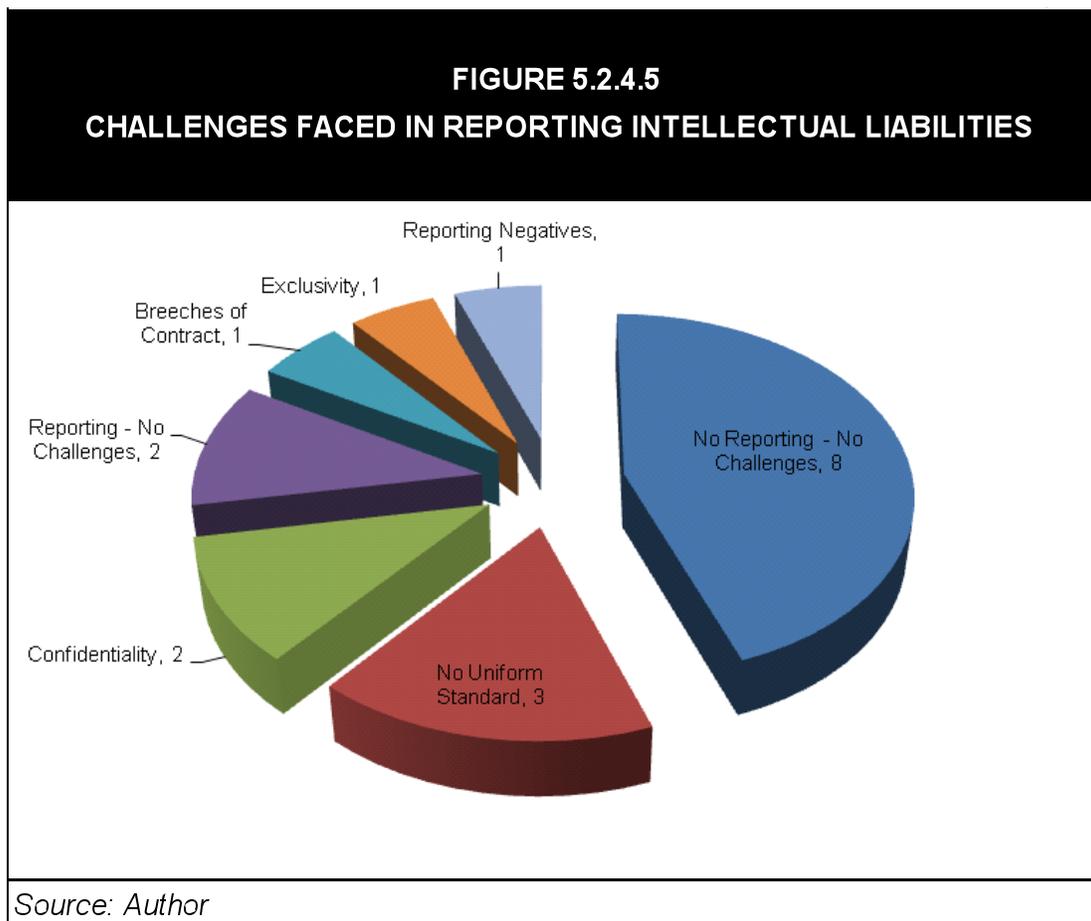
“We do mention them in the sense that we say that they are hazards which much be avoided. It is like giving attention to avoid them.” – SM13

One reporting company cited the ability to identify profit and loss as the reason for disclosing:

“Yes, to be able to deduce the profit from the syndication business line.” – SM12

5.2.4.5 Challenges Faced in Reporting Intellectual Liabilities

Participants were asked what challenges, if any, they faced when reporting Intellectual Liabilities. Given the lack of measuring and reporting tools, it was not surprising that participants did not report many challenges in this category; those that were reported mirrored challenges identified in earlier sections.



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Eight of the nine companies who did not disclose in section 5.2.4.4 clearly could not report challenges in this context. One company who did not report cited lack of uniform standard as a challenge:

“I believe that in a similar fashion to my earlier response, the challenge can be how each organization measures its intellectual property.” – SM10

“Same as Intellectual Assets; no uniform standard” – SM9

One non-reporting participant openly discussed hiding Intellectual Liabilities:

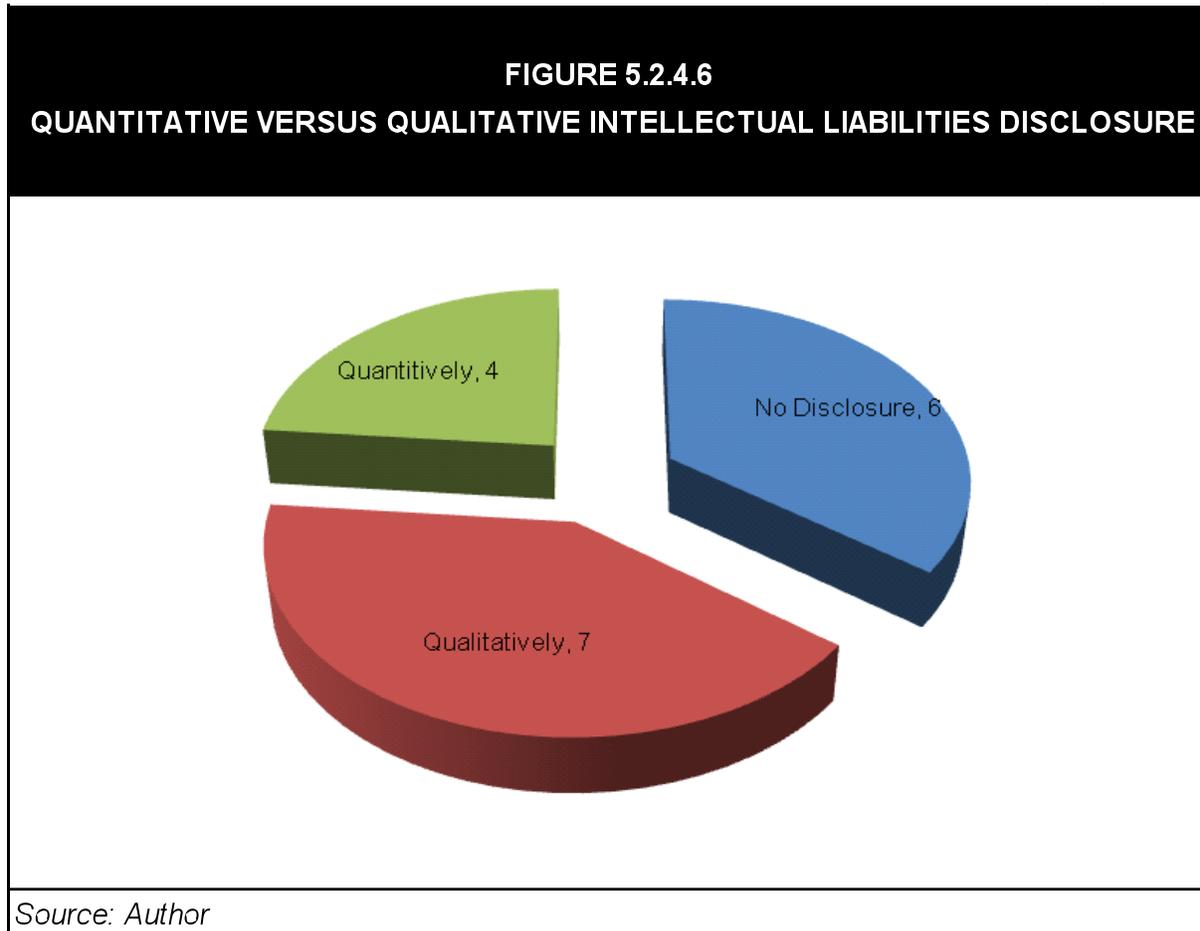
“We make sure not to talk a lot about them because they are negative things, and we do not want to be negative in our reports.” – SM13

None of the non-reporting participants raised any ethical concerns with hiding Intellectual Liabilities from stakeholders.

5.2.4.6 Quantitative versus Qualitative Intellectual Liabilities Disclosure

Participants were asked if they disclosed information about their Intellectual Liabilities qualitatively or quantitatively. Six participants said they make no references to them in any form; seven participants used quantitative methods, and four used qualitative

methods. However, two companies used both methods and were consequently coded to both as shown in Figure 5.2.4.6:



Eight participants said they did not report Intellectual Liabilities in Section 5.2.4.5, while only six participants cited the same outcome in Section 5.2.4.6 when asked if they reported qualitatively or quantitatively. Participants did not elaborate under this section, so it can only be assumed that while eight companies do not report, they may insert a qualitative comment in the annual report which they do not consider to be disclosure:

“Quantitatively and qualitatively” – SM4 and SM5

“No disclosure due to the same reason mentioned above” – SM1

“Our company does not disclose its Intellectual Liabilities.” – SM2

None of the non-reporting participants raised ethical concerns with not reporting Intellectual Liabilities. Given that only six of all participant companies measured Intellectual Liabilities, and by extension, have the capacity to capitalize them, and only four of those six companies reported those measurements to stakeholders, it is reasonable to deduce that no more than four of the fifteen companies have appraised stakeholders with regard to Intellectual Liabilities arising in their companies. Given the repeated references to lack of tools to measure and report on Intellectual Liabilities, it is safe to assume that more than four of the companies contributing to the research have a tendency to capitalize and disclose intellectual Liabilities but have no means of realizing this tendency.

5.2.5 Impact of Intellectual Assets Disclosure on Firm Financial Performance

This section considers participants' perspectives, attitudes, and beliefs as to whether the measurement and disclosure of Intellectual Assets impact the financial performance of companies. Participants were asked if they believed measuring and disclosing

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Intellectual Assets impacted companies' performance and the reasons of such impact.

Section 5.2.5 reports under the following sub-sections:

- Impact of Intellectual Assets Measurement and Disclosure on Firm Financial Performance
- Reasons of the Impact of Intellectual Assets Measurement and Disclosure on Firm Financial Performance

5.2.5.1 Do Intellectual Assets Measurement and Disclosure affect Firm Financial Performance?

Notwithstanding the fact that not all participants measure and disclose Intellectual Assets, all fifteen study participants without exception agreed that the measurement and disclosure of Intellectual Assets impact Firm Financial Performance:

“Yes, I believe this will have an impact on the Firm Financial Performance” – SM1

“Of course; this will affect the financial performance of the company.” – SM2

“From my experience, I believe that the disclosure of Intellectual Assets affects the company's financial performance.” – SM3

“Yes, it does indeed.” – SM4

“Yes, of course” – SM9

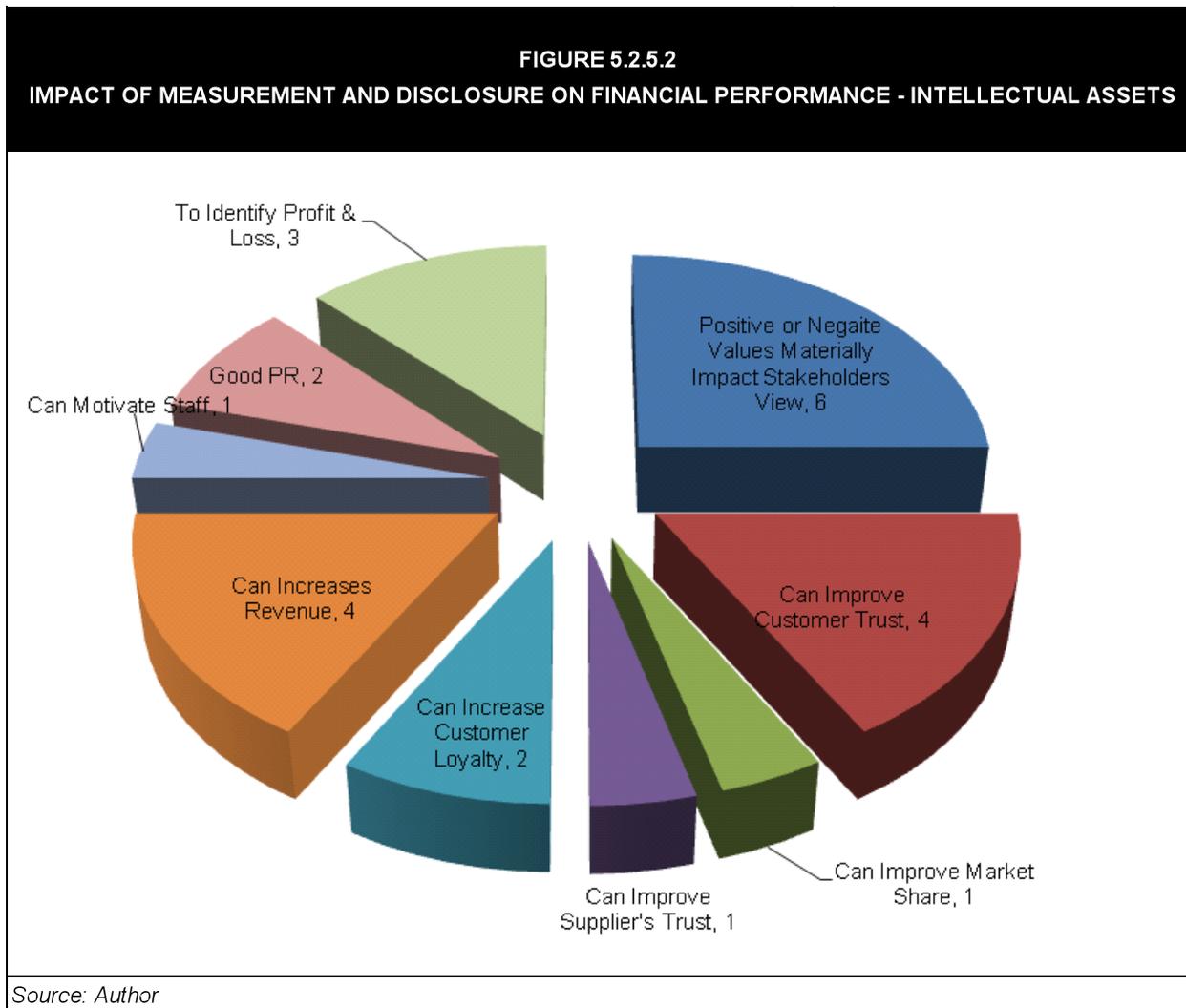
“Yes, they will affect the financial performance as they are elements in the Balance Sheet and the financial reporting system.” – SM10

“Yes, of course. These are things of value and will increase value if reported.” – SM13

5.2.5.2 Reasons of the Impact of Intellectual Assets Measurement and Disclosure on Firm Financial Performance

Participants were further probed under this category to explain why they believed the measurement and disclosure of Intellectual Assets impacted Firm Financial

Performance. Figure 5.2.5.2 shows the range of reasons cited by all fifteen participants:



Participants did not appear to be aware of the contradictory nature of their responses relative to their earlier assertions that so many of them did not measure or report on Intellectual Assets; yet, they believed that there was no question as to their certainty that these values impacted on Firm Financial Performance, especially where they were under or over represented:

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“Over representation or under representation can influence the financial statements and thus affect the financial performance.” – SM11

“I believe that good news positively affect the financial performance, while bad news negatively affect the financial performance. Disclosing Intellectual Assets is considered as good news for the public. So, the financial performance would be positively impacted.” – SM3

“As Long as Intellectual Property is reported in Assets, Liabilities, and Capital, the dollar value of each element and the variation in the subjective assessment of the latter will affect the overall performance positively or negatively. I also believe that maneuvering can occur quite with a high magnitude to under represent or over represent some elements.” – SM10

“Well, the higher the Intellectual Assets, the higher is the goodwill of the company, so yes, in this sense it affects positively.” – SM14

“All our business is about buying, broadcasting and selling content, it is our stock (airtime), and reporting it marks our profit or loss.” – SM12

Apart from market perceptions and valuations, participants saw a more qualitative impact that measurement and disclosure could have on Firm Financial Performance

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with regard to stakeholders' perceptions of transparency and honesty in the form of trust, loyalty, and motivation:

"I believe that consumers will have more trust in the company." – SM1

"Well, let's think of a loyal customer to a particular company. The more the company is transparent, the more the loyalty. This is from my experience within our industry. Yes, I also believe that big brands have earned customers' and suppliers' trust due to transparency and disclosure." – SM2

"Yes, I think this affects the performance of the company in one way or another because employees will be more motivated when they know that we value them, and they will start producing more. I think this improves the overall performance of the organization."

– SM15

Participants also saw a benefit in cash terms as they believed that being seen as trustworthy has positive implications for revenues:

"It plays an important role in increasing revenue." – SM6

"It is imperative in revenue maximization." – SM7

*“Measurement and disclosure of Intellectual Assets can support the management in
earning extra market share.” – SM8*

5.2.6 Impact of Intellectual Liabilities Disclosure on Firm Financial Performance

Section 5.2.5 considered participants’ perspectives, attitudes, and beliefs as to whether the measurement and disclosure of Intellectual Assets impact Firm Financial Performance. Section 5.2.6 considers participants’ perspectives, attitudes, and beliefs as to whether the measurement and disclosure of Intellectual Liabilities impact the Firm Financial Performance.

Participants were asked if they believed measuring and disclosing Intellectual Liabilities impacted companies’ performance and the reasons of such impact. They were further probed as to their beliefs regarding the importance of including Intellectual Capital in the financial statements of companies. Section 5.2.6 reports under the following sub-sections:

- Impact of Intellectual Liabilities Measurement and Disclosure on Firm Financial Performance
- Reasons of the Impact of Intellectual Liabilities Measurement and Disclosure on Firm Financial Performance
- Importance of Inclusion of Intellectual Capital in Financial Statements

5.2.6.1 Do Intellectual Liabilities Measurement and Disclosure affect Firm Financial Performance?

Notwithstanding the fact that not all participants measure and disclose Intellectual Liabilities, fourteen of the fifteen study participants agreed that the measurement and disclosure of Intellectual Liabilities impact Firm Financial Performance. However, it was also clear that most participants believed this impact would be negative and whilst some participants believed that the company would gain much respect for acknowledging liabilities of this kind, this view was not shared by all. Some participants advocated holding back this information from stakeholders:

“I believe that revenues will decrease in case the company discloses high levels of Intellectual Liabilities.” – SM1

“Customers should not get involved in the ‘burdens’ of the business. This is the management’s task, and the customer should always view the positive side of the company. So, if those are not reported, then the firm’s financial performance will not be affected. This is my opinion.” – SM2

“Yes, the company should be transparent with its customers in all good news, but should avoid revealing the bad news, in case of any, to the public.” – SM3

“Depending on how much; if you disclose it, it will affect negatively.” – SM13

“Yes, they will affect Financial Performance as they are elements in the Balance Sheet and the financial reporting system.” – SM10

Other participants believed that acknowledging Intellectual Liabilities raises management awareness and credibility:

“Because it shows the public that we are transparent and aware of potential deficiencies. It gives a good image of the company.” – SM9

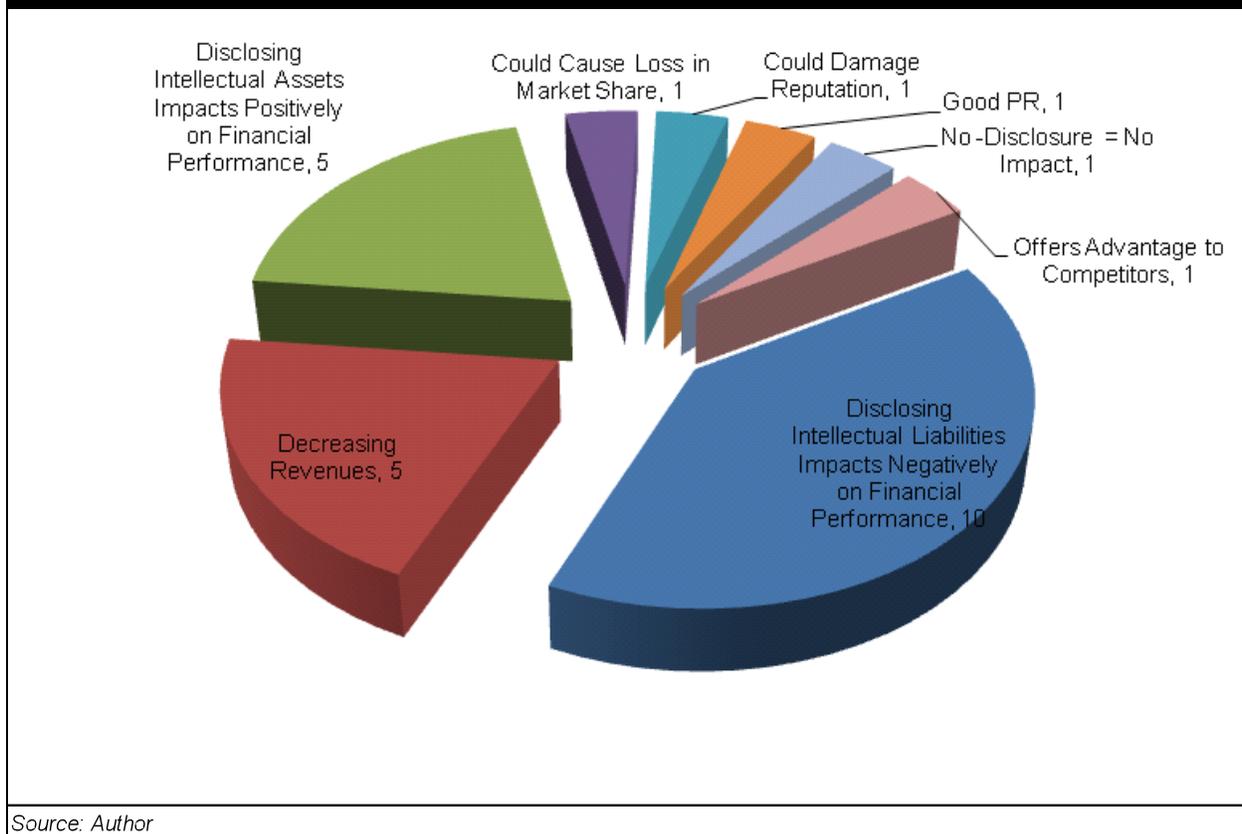
In general, sentiment was negative towards the impact that measurement and disclosure of Intellectual Liabilities would have on Firm Financial Performance.

5.2.6.2 Reasons of the Impact of Intellectual Liabilities Measurement and Disclosure on Firm Financial Performance

Participants cited a range of reasons for their negativity towards disclosing Intellectual Liabilities to stakeholders. Figure 5.2.6.2 shows this range of reasons weighted by participants' responses:

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FIGURE 5.2.6.2
IMPACT OF MEASUREMENT AND DISCLOSURE ON FINANCIAL PERFORMANCE - INTELLECTUAL LIABILITIES



Principally, amongst objections to Intellectual Liabilities disclosure by participants was the negative impact this disclosure could have on Firm Financial Performance, realized in the form of decreasing revenues, loss of market share, reputational damage, as well as competitive disadvantage:

“It may give a competitive edge to rivals; hence, losing market share.” – SM8

“It may diminish sales opportunities.” – SM7

“Because investors look at the financial statements, and they are affected by whether we disclose bad news and bad figures as well.” – SM14

“Poor revenue generation may lead to net losses.” – SM5

One participant saw a positive element to the impact that measurement and disclosure of Intellectual Liabilities could have on Firm Financial Performance:

“Because it shows the public that we are transparent and aware of potential deficiencies.” – SM9

None of the participants raised ethical concerns about withholding information about Intellectual Liabilities from stakeholders.

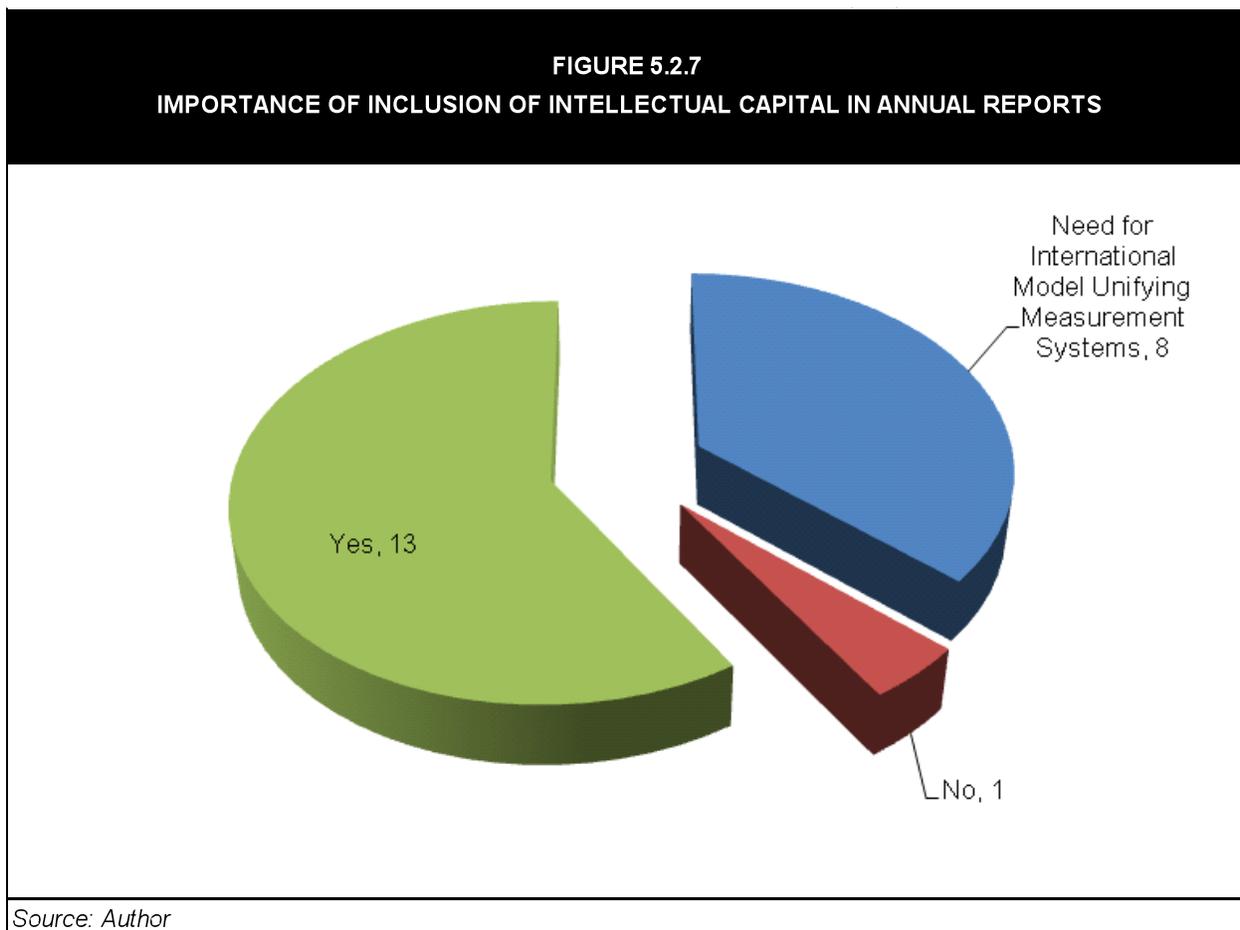
5.2.7 Importance of Inclusion of Intellectual Capital in Annual Reports

Participants were asked they if they believed it were important to include Intellectual Capital in the annual reports of the firm. It is important to bear in mind the findings from previous sections when drawing conclusions from the responses to section 5.2.7.

Previous sections reported that only one in five companies could define Intellectual Capital and many participants confused Intellectual Assets with Intellectual Capital.

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Thirteen of the fifteen participants believed information concerning Intellectual Capital should be included in the annual reports of the firm. One participant thought it should not and one had no opinion. However, eight companies qualified their response with citing a need for a financial accounting instrument that would be internationally recognized as shown now in Figure 5.2.7:



Some answers as quoted by some participants:

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“Absolutely correct; this will highlight other intangibles for the investors, and all stakeholders.” – SM2

“Yes, provided that the company enjoys high levels of Intellectual Capital” – SM3

“Yes, especially if the company employs high-caliber employees that can contribute in increasing the Intellectual Assets” – SM4

“It is important as long as there are standards for measuring it.” – SM10

“Yes, absolutely; not only important, but also mandatory” – SM14

“No, we do not measure them. As mentioned earlier, we do not have the tools to measure them.” – SM13

Findings from semi-structured interviews will be integrated with the findings from content analysis in earlier sections, and with the findings of follow-up interviews in order to triangulate the findings and arrive at a new model for the relationship between Intellectual Capital Disclosure and Firm Financial Performance.

5.3 IDENTIFICATION OF FINDINGS FROM FOLLOW-UP INTERVIEWS

Section 5.3 provides the results of five follow-up interviews selected from the original fifteen participants, based on their approval and availability to conduct a second round of interviews to expand further on the subject under study. The follow-up participants were: SM1, SM2, SM9, SM10, and SM11.

Participants in the second round of interviews were asked six questions. However, before being asked to respond, a detailed explanation of Intellectual Assets and Intellectual Liabilities defined as Human, Relational, and Structural was set out in each case. The purpose of these interviews was to consider the extent to which the removal of ignorance changed attitudes and beliefs concerning the measurement, disclosure, and impact of Intellectual Capital disclosure on Firm Financial Performance.

Section 5.3 reports under the following sub-sections:

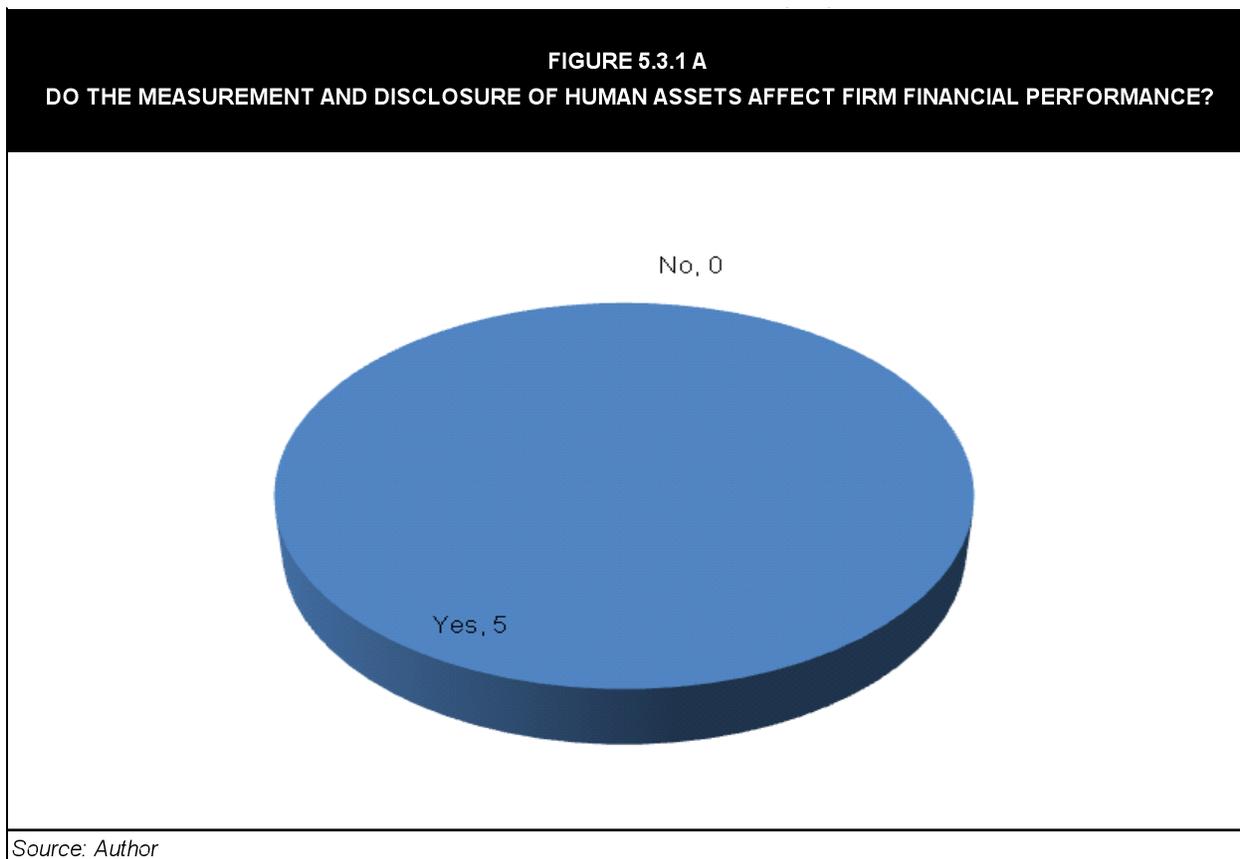
- Impact of Human Assets Measurement and Disclosure on Firm Financial Performance
- Impact of Relational Assets Measurement and Disclosure on Firm Financial Performance
- Impact of Structural Assets Measurement and Disclosure on Firm Financial Performance
- Impact of Human Liabilities Measurement and Disclosure on Firm Financial Performance

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- Impact of Relational Liabilities Measurement and Disclosure on Firm Financial Performance
- Impact of Structural Liabilities Measurement and Disclosure on Firm Financial Performance

5.3.1 Impact of Human Assets Measurement and Disclosure on Firm Financial Performance

Four of the five participants believed that the measurement and disclosure of Human Assets affect Firm Financial Performance as shown in Figure 5.3.1 A:



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All of the five participants believed measurement and disclosure of Human Assets as likely to have a positive impact on Firm Financial Performance, with four believing that they added value and built confidence and trustworthiness:

“It affects performance positively. It shows that the company is transparent and is doing complete disclosure. This increases the trust in the company.” – SM9

“Well, from the definition of Human Assets, I believe that yes, disclosure of these elements should have an impact on performance in a positive way, because this will show to the public that the company making this disclosure have the needed human elements to perform the job and provide a good service to clients.” – SM1

However, one participant believed that whilst there was an impact, it was negative in nature:

“I think if you disclose too much, it will affect negatively. This is my perception. I think this will lead to leakage of the human element from the company. For example, if you disclose a lot about how good your employees are and how hard working they are all the competitors will try to steal your employees. So, a lot of disclosure about the Human Assets will lead to loss of key employees, and as a result, affect negatively the performance.” – SM11

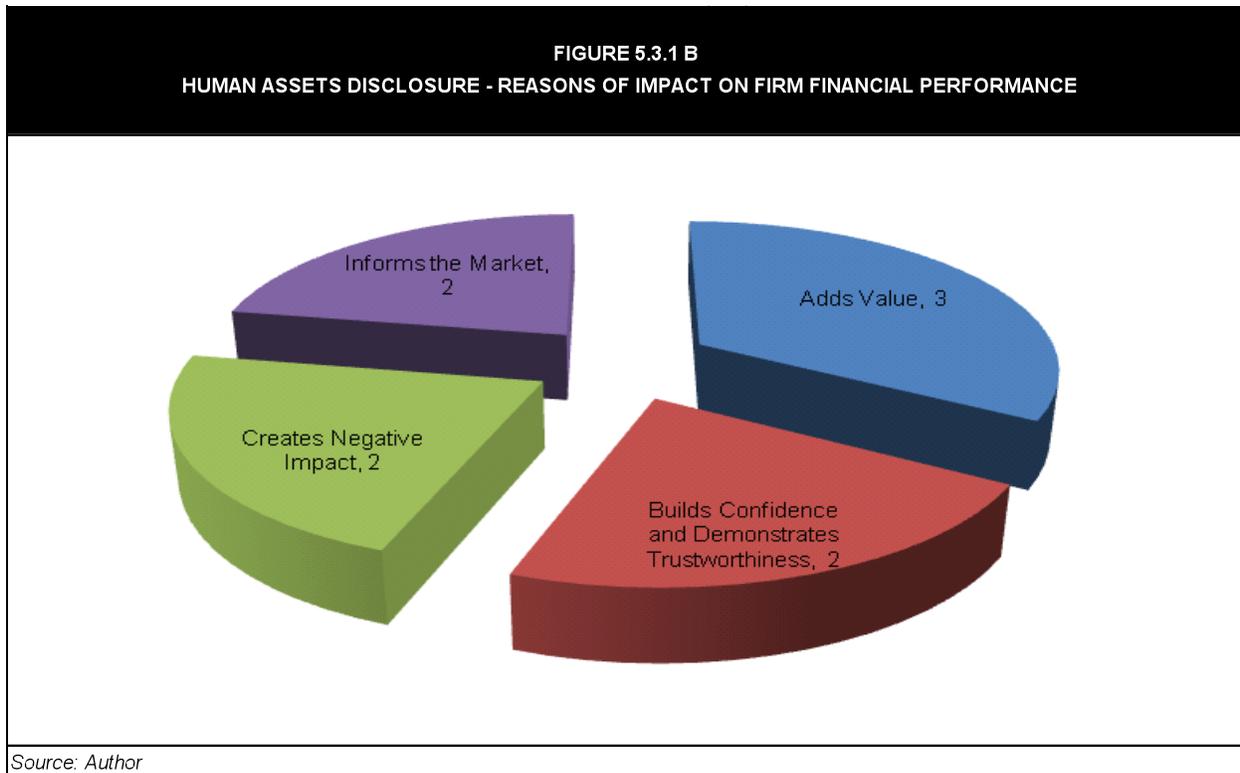
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One participant believed that disclosing to markets would only have a mildly positive impact, because he did not believe that market analysts in his trading environment and culture actually conducted the kind of rigorous analysis of companies that more traditional market analysts might deploy:

“Partial positive effect; it may help in improving the reputation of the company, but because our market is not that efficient, I don’t think that it will directly have an impact on financial performance. Profits and revenues here are a function of connections and whom do you know, rather than investors making proper analysis of the company’s financials.” – SM2

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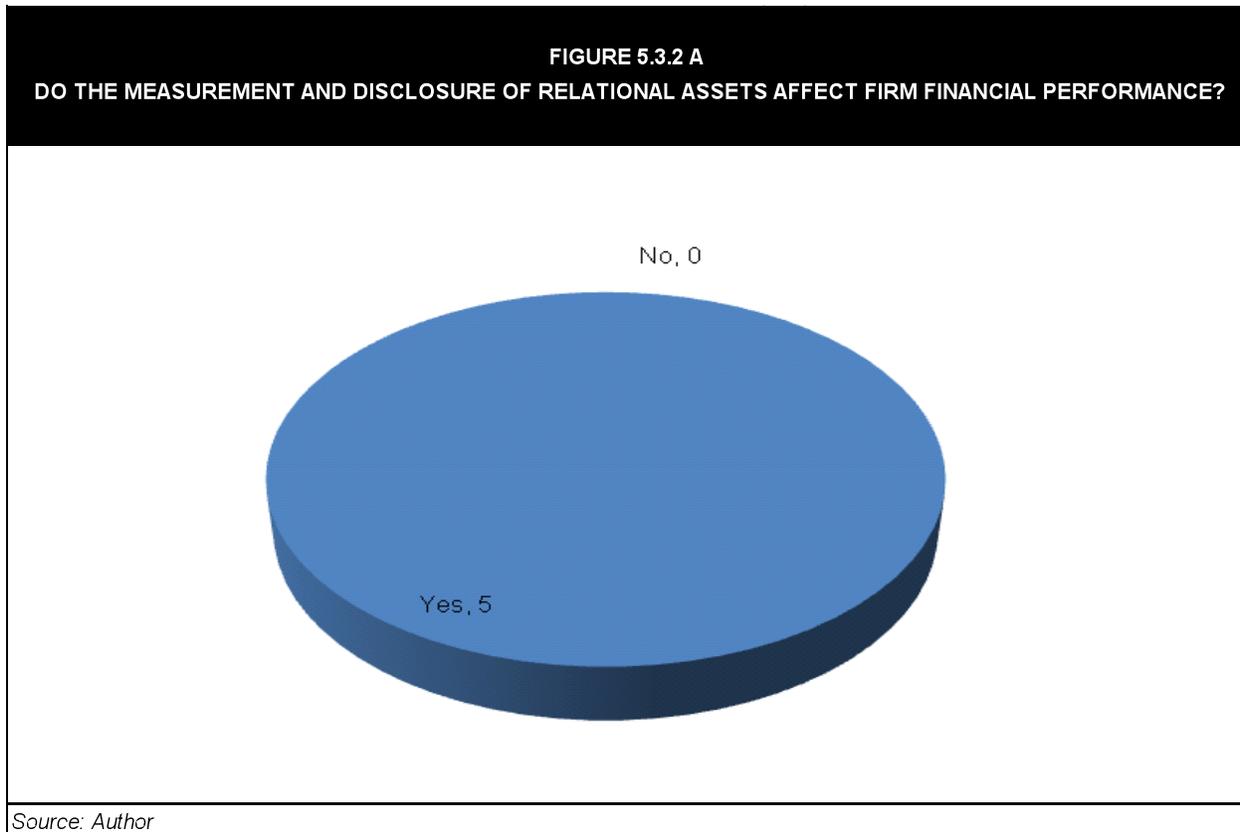
Figure 5.3.1 B shows the weighting of the participants' responses:



Therefore, Human Assets disclosure was generally seen as positive with four of five participants agreeing on this point. One participant disagreed and one participant, whilst agreeing there was minor impact, felt it was somewhat irrelevant citing the way the UAE market operates in an ad-hoc fashion, because the kind of market analyses, which operates in other countries and cultures, was not relevant in the local context.

5.3.2 Impact of Relational Assets Measurement and Disclosure on Firm Financial Performance

All of the five participants saw measurement and disclosure of Relational Assets as likely to have to impact on Firm Financial Performance, as shown in Figure 5.3.2 A:



Three participants believed that Relational Assets measurement and disclosure build confidence and trust:

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“To be honest, this term was somehow new to me, but as from the definition given, I think it definitely has a positive impact on financial performance. The reason is that the more we show to the public the strength of our relationships with our suppliers, clients, governments, and third parties, the higher will be the trust in the company. This will show those who deal with the company that it has the proper supply chain networks to get the job done on time and at the correct price.” – SM1

“Positive effect of course; the market is thirsty for more disclosure and more information. Investors will look positively on companies that do more disclosure.” – SM9

As with Section 5.3.1, one participant disagreed and believed that disclosing information about Relational Assets would negatively impact Firm Financial Performance by damaging competitiveness:

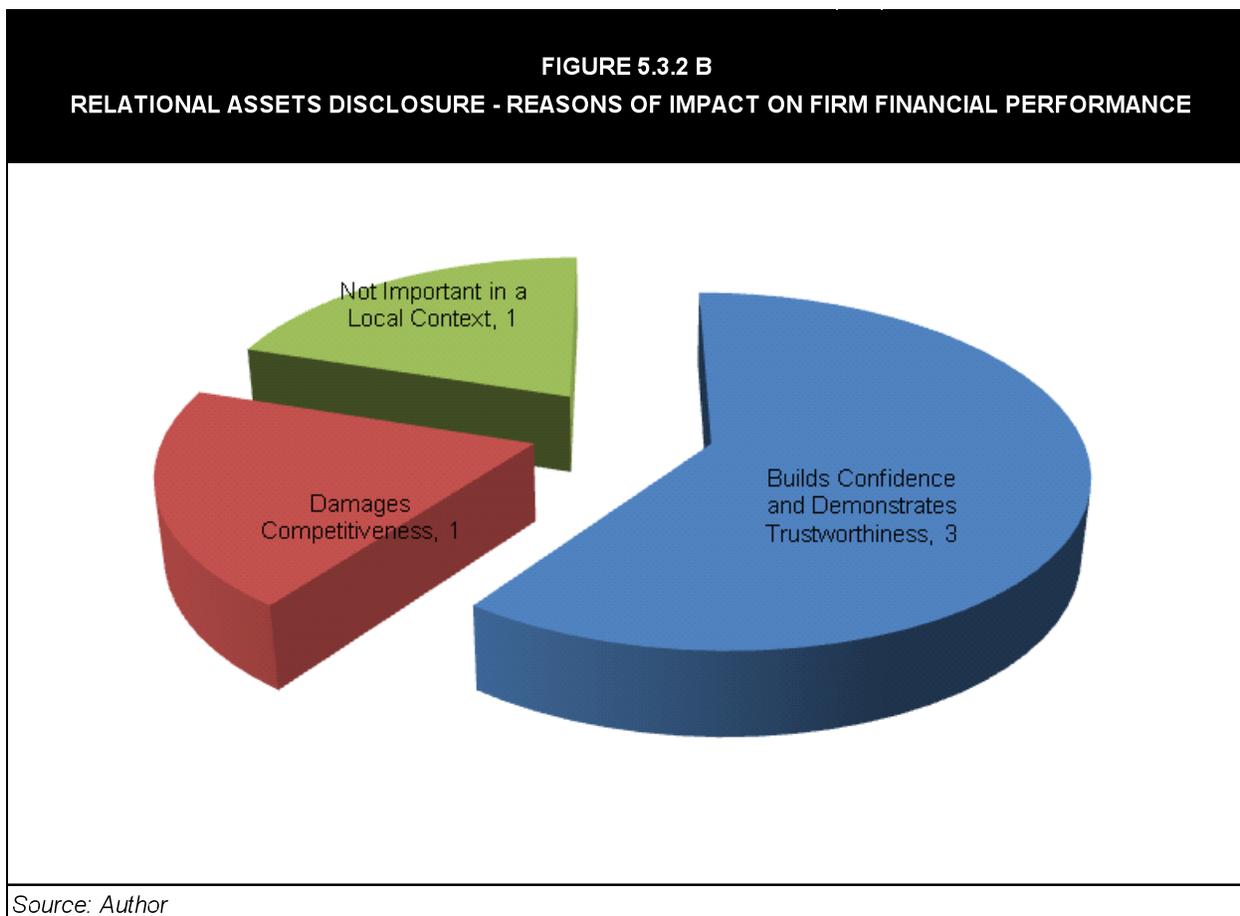
“Same as Human Assets; say, for example, you fully disclose your strength points in terms of relationships with third parties. It is as if you are giving your secret recipe to competitors. They will catch up and the competition will be fiercer. So, negative effect if too much is said about these competitive points.” – SM11

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One participant believed Relational Assets disclosure was not important in his local context:

“Same as Human Assets; it will have a marginal positive effect, but again, we are not in the USA or UK where companies’ performance goes up or down because a few statements here and there.” – SM2

Figure 5.3.2 B shows the weighting of the participants’ responses:

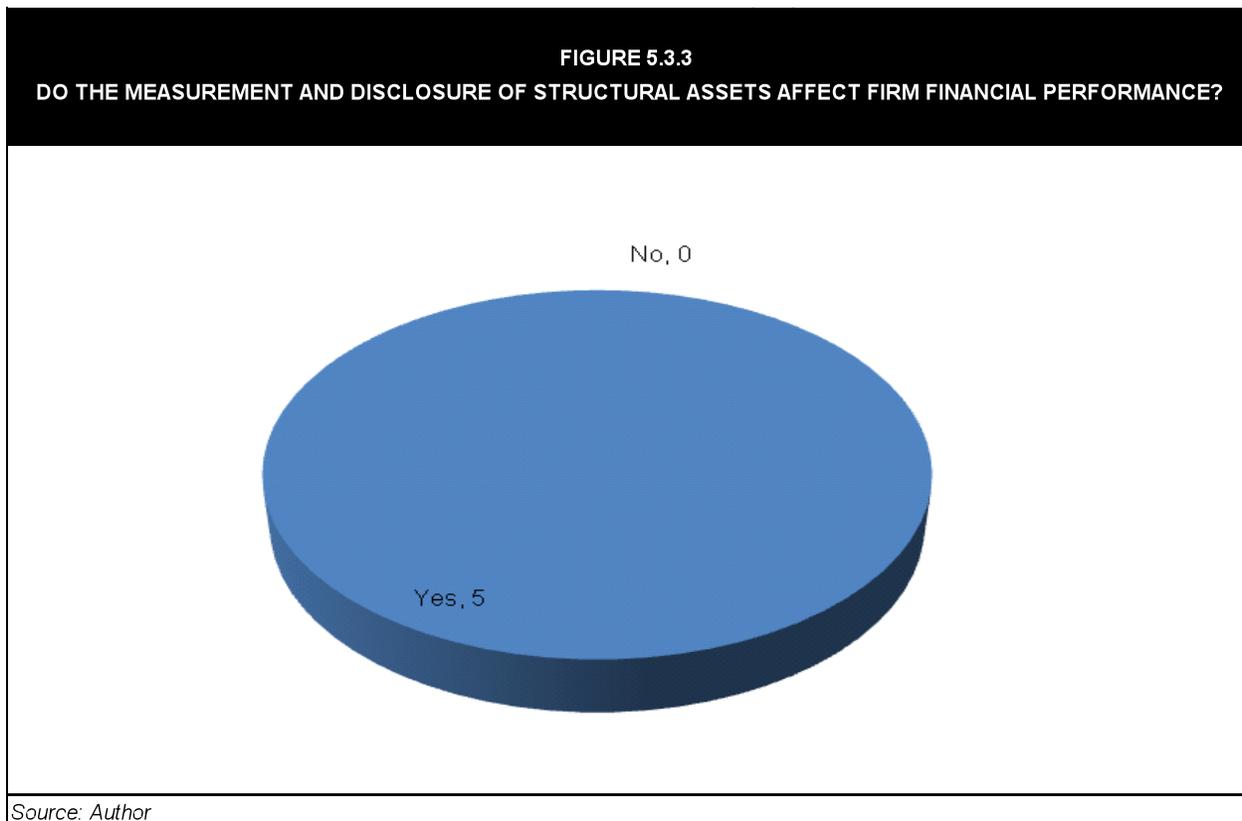


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Therefore, all five participants believed the measurement and disclosure of Relational Assets impact Firm Financial Performance, with three believing that the impact was positive, and one believing it to be negative, and one thinking that market analyses did not apply in the local context.

5.3.3 Impact of Structural Assets Measurement and Disclosure on Firm Financial Performance

All of the five participants saw measurement disclosure of Structural Assets as likely to have to impact on Firm Financial Performance, as shown in Figure 5.3.3:



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Three participants saw this impact as positive:

“From my perspective, it does impact financial performance because it signals to the markets the investments that a company makes in its structure, culture, and reputation.”

– SM1

“It has a positive impact; your stakeholders want to know that you have a proper structure in place before they work with you. They want to know about your systems, data security, loss recovery, and issue like that. So, the more you give confidence that you have everything set in place, the better will be perception of the market about your company.” – SM10

One participant believed the impact would be negative, as it would damage competitiveness:

“This is the most dangerous if you disclose it a lot. This is the structure of the company and it’s very serious. This is supposed to be hidden from the outside, not disclosed. The more you make it public, the more outsiders will be able to “spy” on your inner strengths. So, more disclosure will eventually affect the company in a negative way.” –

SM11

One participant believed the impact would be marginal and was not relevant in the local market/context:

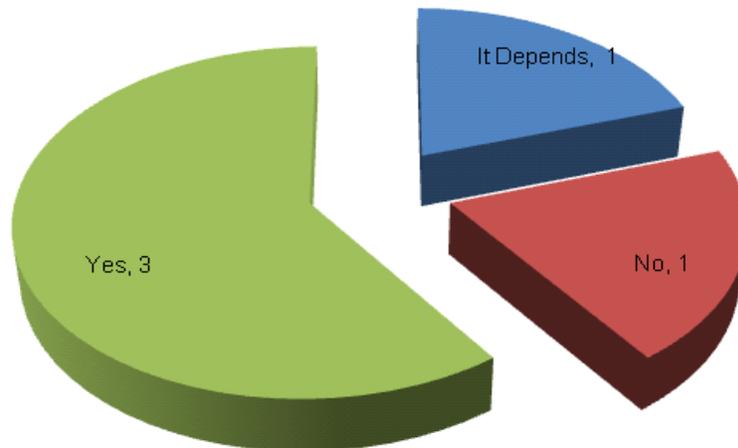
“Partial improvement; I don’t think transparency is a big thing in UAE; they only care here about how big is each project you are winning, even if you have the best or poorest structure; this is the reality; unfortunately.” – SM2

Therefore, all of the five participants thought the measurement and disclosure of Structural Assets impacted Firm Financial Performance, with three believing that impact was positive, and one believing it to be negative, and one thinking that market analyses did not apply in the local context.

5.3.4 Impact of Human Liabilities Measurement and Disclosure on Firm Financial Performance

Three participants believed that disclosing Human Liabilities impacted Firm Financial Performance. One participant believed that the impact was dependent on how and why it was reported, and if the report included corrective action; a further one participant believed such disclosure did not impact as shown in Figure 5.3.4 A:

FIGURE 5.3.4 A
DO THE MEASUREMENT AND DISCLOSURE OF HUMAN LIABILITIES AFFECT FIRM FINANCIAL PERFORMANCE?



Source: Author

Only two participants saw the impact of Human Liabilities disclosure in positive terms, citing confidence and trust as the reasons:

“I think it has a positive impact. I know what I am saying may seem counter intuitive, but I am a big advocate of transparency. Even if you disclose some of your weaknesses, the market will take it as a positive move.” – SM9

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One participant believed the impact would be exclusively negative, citing loss of competitiveness as the principal concern:

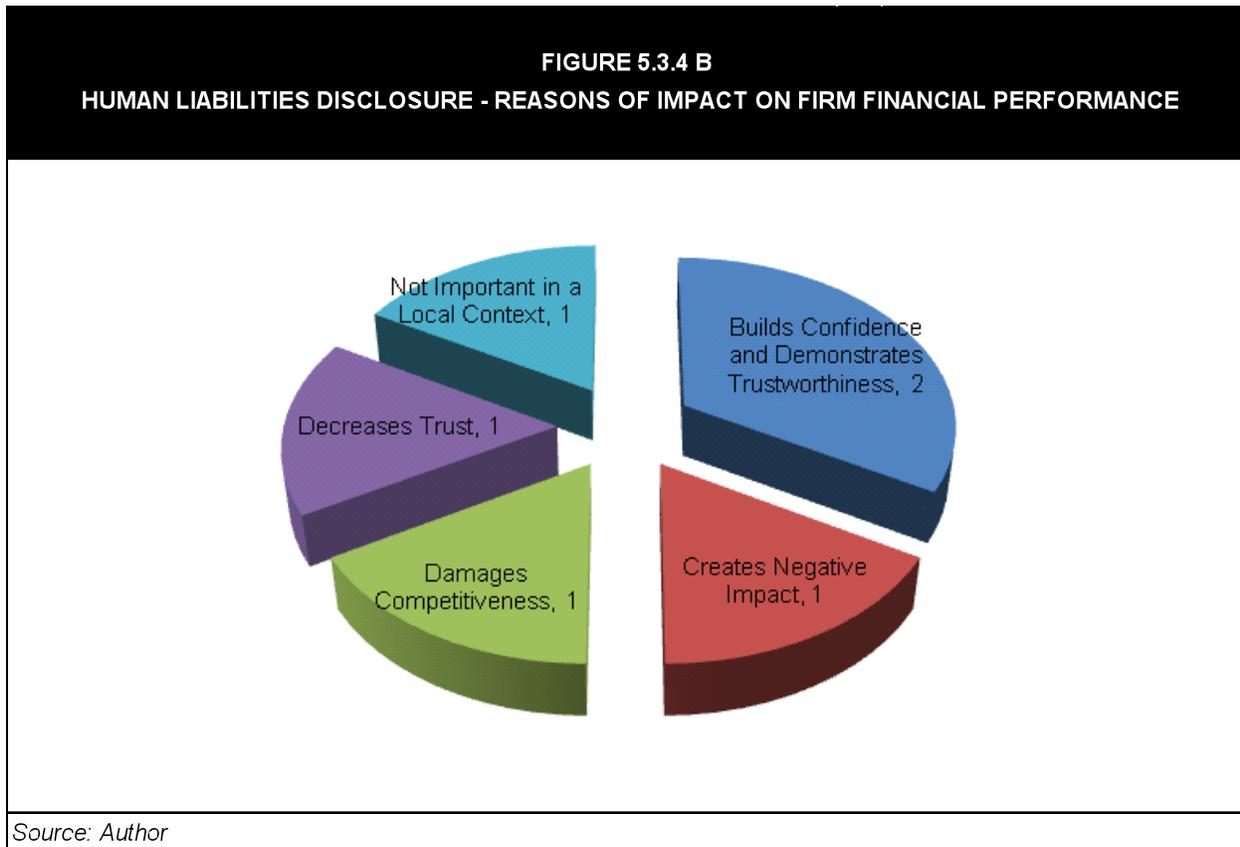
“Here we are talking about negative impact right away. Once you start disclosing your weak points in your human factor, competitors will jump on it and start using it against you.” – SM11

One participant did not believe there would be an impact, citing lack of market analyses as the reason:

“It will have a marginal positive effect, but again, we are not in the USA or UK where companies go up or down because a few statements here and there. Nobody looks at these reports, to be honest with you. Nobody cares.” – SM2

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Figure 5.3.4 B shows that apart from two companies, sentiment amongst participants was negative towards disclosing Human Liabilities:

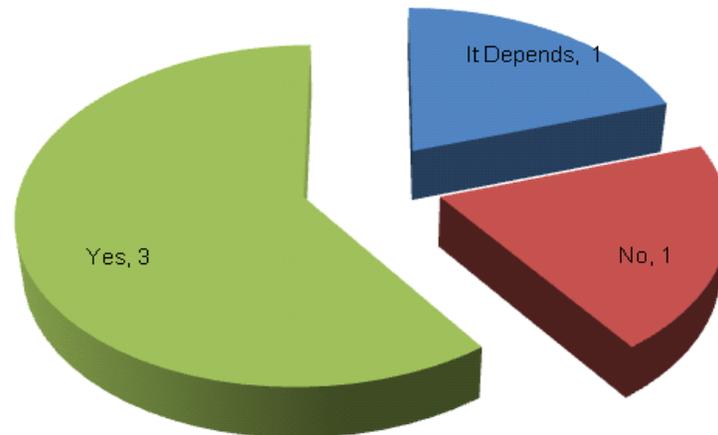


5.3.5 Impact of Relational Liabilities Measurement and Disclosure on Firm Financial Performance

Participants were asked the extent to which they believed the measurement and disclosure of Relational Liabilities impact Firm Financial Performance. The nature of responses was identical to Section 5.3.4, as shown in Figure 5.3.5 A:

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FIGURE 5.3.5 A
DO THE MEASUREMENT AND DISCLOSURE OF RELATIONAL LIABILITIES AFFECT FIRM FINANCIAL PERFORMANCE?



Source: Author

Only two participants saw the impact of Relational Liabilities disclosure in positive terms, citing confidence and trust as the reasons:

“The concept is exactly the same as Human Liabilities. Talking is not enough. If you just tell the public that you have some weaknesses in your relational aspects in the company, you will start losing. But if you show that action points and how you are mitigating these deficiencies, this will improve your transparency and as a result your performance.” – SM10

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“Same opinion as Human Liabilities: positive impact; investors will take it positively because this will show how truthful and transparent the company is. Everybody knows that every company has weaknesses. So, when a company is brave enough to disclose some of its weakness, the stock market will appreciate it. It shows that the company is aware of where the improvement needs to be done.” – SM9

Two participants believed the impact would be exclusively negative, citing loss of competitiveness as the principal concern:

“Same story as the Human Liabilities: negative effect. Imagine me telling you that I have bad relations with clients and suppliers. What would you think? Definitely you will pull your business out of my company because you will lose the trust. This will drive my performance downwards.” – SM1

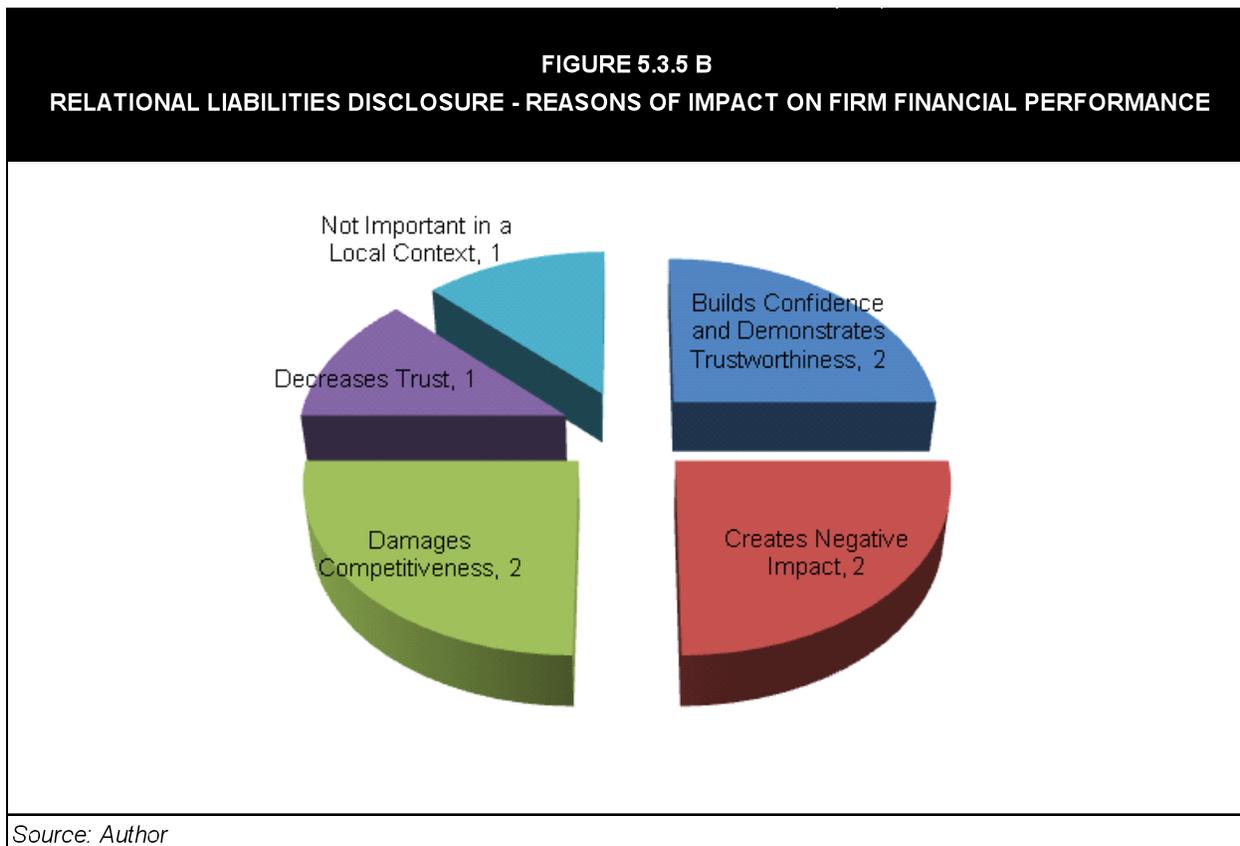
“It has a negative impact. Your competitors will start stealing your contracts with customers by building on your weaknesses that you are disclosing.” – SM11

One participant did not believe there would be an impact, citing lack of interest amongst stakeholders as the reason:

“No one appreciates honesty here; so, it won't affect on performance.” – SM2

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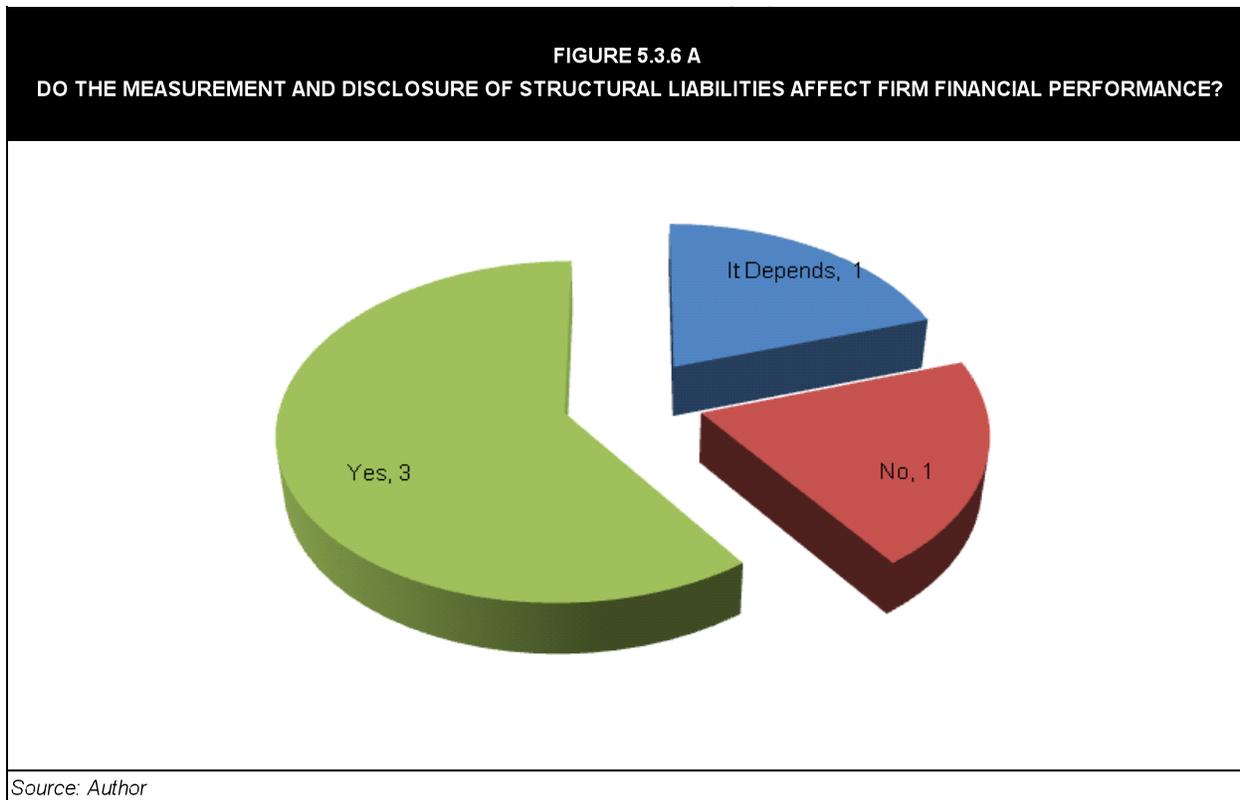
Figure 5.3.5 B shows that apart from two companies, sentiment amongst participants was negative towards disclosing Relational Liabilities:



5.3.6 Impact of Structural Liabilities Measurement and Disclosure on Firm Financial Performance

Participants were asked the extent to which they believed the measurement and disclosure of Structural Liabilities impact Firm Financial Performance. The nature of responses was identical to Sections 5.3.4 and Section 5.3.5, shown in Figure 5.3.6 A:

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One participant believed the impact was dependent on how and why it was reported, and if the report included corrective action; a further one participant believed such disclosure did not impact, while three companies believed that the measurement and disclosure of Structural Liabilities do indeed have an impact on Firm Financial Performance.

Only two participants saw the impact of disclosure of Structural Liabilities in positive terms, citing confidence and trust as the reasons:

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“Positive impact; reasons are same as what I told you for Human and Relational Liabilities: increased transparency, increase trust, increased confidence, and as a result, higher performance.” – SM9

“Similar to Human and Relational Liabilities; disclosure by itself will cause negative performance. Disclosure with action and prevention notes will improve performance.” –

SM10

Two participants believed the impact would be exclusively negative, citing loss of competitiveness as the principal concern:

“I think any disclosure of bad news sends a bad signal to the market, and this is no different here. Investors and stakeholders are very sensitive to what we say, and therefore, it’s important not to show our weaknesses.” – SM1

“Negative impact as well; we should be very careful in these issues. This will be used by market entrants and competitors either to spread a bad reputation about the company, or by using these weak points in the structure in order to gain a competitive advantage.”

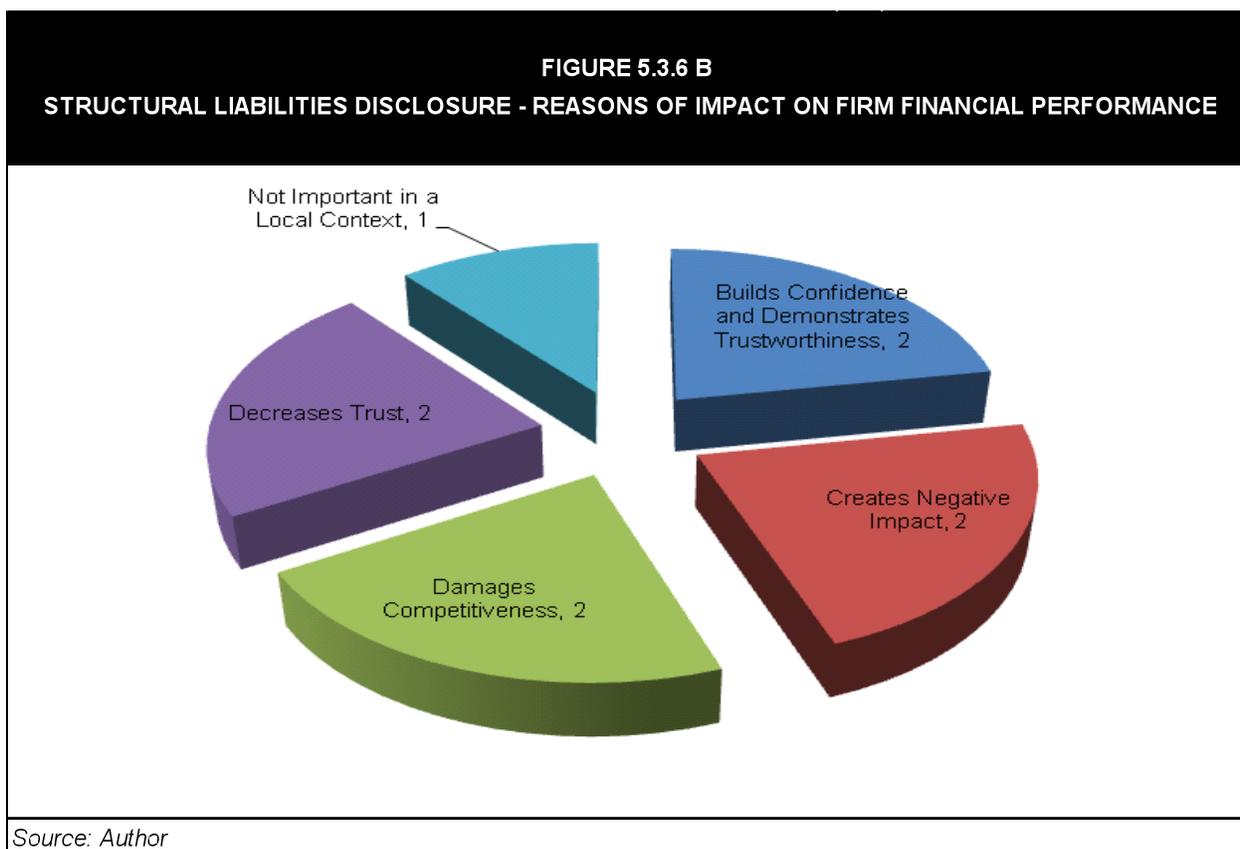
– SM11

One participant did not believe there would be an impact, citing lack of interest amongst stakeholders as the reason:

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“Same story: no impact; this is not an efficient market, and therefore these disclosures do not have impact.” – SM2

Figure 5.3.6 B shows the weighting of the participants’ concerns:



5.4 TRIANGULATION OF FINDINGS AND MODEL DEVELOPMENT

A firm's capacity to capitalize Intellectual Capital begins with its people. The semi-structured interviews focused initially on personal and company definitions of Intellectual Capital. It was clear from the findings that only six participants could offer a clear definition which immediately limits capacity to just over one in three participant companies who could ever measure or disclose Intellectual Capital. It is a moot point as to the division of Intellectual Capital between Human, Structural, and Relational Capital, given the mass confusion amongst two thirds of participants between Intellectual Assets and Intellectual Capital. It is safe to assume that six companies who had capacity could differentiate between them, although the propensity was for Human and Structural Capital, rather than Relational Capital being defined. It should be noted that of the six companies with capacity, only four of them were measuring and disclosing, meaning that it could be as low as four companies with real capacity to capitalize Intellectual Capital.

However, the biggest single barrier to the measurement and disclosure of Intellectual Capital, as shown in the present research, was companies' inability to use any kind of internationally recognized financial accounting instrument to measure their Intellectual Assets and Intellectual Liabilities, leading to measurement and disclosure. Even if we accept a general figure of one in three companies with capacity, the results of those

disclosures would be unreliable because there is no consistency between measuring and reporting protocols.

There were some confusions and contradictions in the participants' responses. Given the dearth of capacity amongst participants to capitalize Intellectual Capital, it was surprising that participants were almost unanimous in their belief that measuring and disclosing Intellectual Assets and Intellectual Liabilities profoundly impacted Firm Financial Performance and should be included in annual reports. This confusion was compounded by another phenomenon which could be borne of company culture, fear, or ignorance.

Although participants were willing to measure and disclose Intellectual Assets, some of them were not enthusiastic to disclose corresponding Intellectual Liabilities. Quite apart from crippling any possibility of capitalizing their Intellectual Capital was the worrying finding that participants saw no ethical dilemmas with withholding Intellectual Liabilities from stakeholders, despite their belief that this information most definitely impacted Firm Financial Performance. This stark finding was further tested and validated in the follow-up interviews where the ignorance factor was removed for one third of all participants, yet the willingness to hide what participants perceived as bad news from stakeholders remained almost unchanged. This fear and ignorance can only be addressed through education. Furthermore, one of the interesting findings regarding the disclosure of Intellectual Liabilities is their dual impact on Firm Financial Performance. As stated by

some participants, disclosure of Intellectual Liabilities can have either a positive or a negative impact on Firm Financial Performance depending on disclosure methods. According to some participants, Intellectual Liabilities can have a positive impact on Firm Financial Performance if disclosed in a manner that shows the firm's awareness of such threats and the actions taken to warn against and mitigate them; however, negative impact can occur on Firm Financial Performance if disclosure is intended to show the weak points of the firm. This finding sheds light on a new perspective of the relationship between Intellectual Liabilities disclosure and Firm Financial Performance, and as such, will be integrated in the model developed earlier based on content analysis findings in Figure 5.1.9.

Thus, in addition to the findings derived from content analysis, the analysis of semi-structured and follow-up interviews has yielded the following findings which will be discussed in subsequent sections:

- The Need for Intellectual Capital Education
- The Need for Uniform Intellectual Capital Measurements Standards
- The Need for Uniform Intellectual Capital Reporting Standards
- The need for ethical standards for Intellectual Capital Measurement and Disclosure

5.4.1 The Need for Intellectual Capital Education

Academically, the Intellectual Capital field is still in its embryonic phase; as such, it has faced a lot of criticism from the academic community, according to whom Intellectual

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Capital is just a management trend (Bontis, 1998). The current education system lacks focus on long-term thinking and growth, while viewing management as a concept that is taught and measured using short-term financial metrics (Edvinsson and Malone, 1997; Bontis, 1998). Therefore, the current business education and practices reflect a basic manufacturing model which views competitive advantage as a mix of the traditional sources of physical capital: money, raw material, and labor (Edvinsson and Malone, 1997; Bontis, 1998). Consequently, very little attention is given to intangible and Intellectual Capital; specifically, Intellectual Liabilities where there is dearth of research and publications touching on the subject matter.

Based on the findings of the current research, it is the view of the author that any subsequent measurement, disclosure, and benefit of Intellectual Capital components (Intellectual Assets and Intellectual Liabilities and their respective subcomponents) should start with the adoption of new cultures, rules, and mindsets which in turn should be integrated into the curricula of educational systems. The present research has clearly highlighted, quantitatively and qualitatively, the importance of Intellectual Capital measurement and disclosure to Firm Financial Performance, and by extension, wealth creation. In addition, the present research has highlighted an extremely important finding which is the dearth in understanding the true meanings and values of Intellectual Capital by senior managers who play strategic, pivotal roles in their respective firms. Knowledge-intensive companies are gradually replacing manufacturing firms in terms of financial performance, wealth creation, and employment (Edvinsson and Malone, 1997;

Bontis, 1998). However, the current mindset in the education systems is not equipped to upgrade and update outdated teaching methods to cope with these changes. In line of the RBV, KBV, and IBV, the author suggests, based on the findings of the present research, that competitive advantage depends on an organization's ability to expand, manage, measure, and control the flow of knowledge stocks in the current knowledge economy; furthermore, the author extends this reasoning to encompass Intellectual Liabilities, stating that the measurement, management, and disclosure of the threats to a firm's resources play an equally important role in creating and sustaining a firm's competition advantage. However, this can only be achieved by tracing back the deficiencies of mindsets to their root cause, the education system. Once an Intellectual Capital mindset is integrated in the education system, the elements of fear and ignorance of Intellectual Capital can be overcome.

Based on the fact that the needed changes in the education system will be slowly implemented, it is the view of the author of the present research that executive and operational training programs should be set up, refined, introduced, and implemented to enable organizations to initiate the process of efficient and effective exploration of the strategic wealth creating characteristics of Intellectual Capital. Executive training programs should be focused on changing the traditional perspectives on wealth creation and divert the focus towards the importance of measurement, management, and disclosure of Intellectual Capital as a means of increasing competitive advantage, and by extension, earnings, growth, and profitability. Most importantly, executive training

programs should aim to adjust the strategic focus of executive management teams into intangibles and Intellectual Capital, by helping them understand the importance of investing in their employees, customers, suppliers, and their hidden resources.

Furthermore, executive training programs should aim to shedding the light on the importance of recognition, measurement, management, and disclosure of the threats to these intellectual investments. Of equal importance, operational training programs should be directed towards operational employees to help them understand their input and value in the wealth creation process, using Intellectual Capital. Besides, operational training programs should align individual knowledge with organizational processes to create and manage Intellectual Capital. Once executive and operational Intellectual training programs are setup and implemented, the firm can start knowledge management initiatives to expand on and benefit from the wealth creating opportunities of the recognition, measurement, management, and disclosure of Intellectual Capital.

5.4.2 The Need for Uniform Intellectual Capital Measurements Standards

As noted in earlier sections, one of the biggest barriers to the measurement of Intellectual Assets and Intellectual Liabilities is the absence of an internationally recognized uniform instrument that would encourage companies to measure and disclose their Intellectual Capital on one hand, while providing a common ground for Intellectual Capital comparisons across firms on the other hand.

However, Intellectual Capital is intangible in nature which makes the use of standard, historical cost account principles useless for intellectual measurements (Johanson, 1999). Therefore, and based on the findings of the present research, the author highlights the needs for standard measurement criteria, not only for Intellectual Assets, but also Intellectual Liabilities. However, regardless of the specificities of the required measurement criteria, the starting point is to divide Intellectual Capital into standard categories that can be applied consistently across firms. The author highlighted in earlier sections the complete omission of Intellectual Liabilities from most Intellectual Capital models; thus, the starting point is to establish fixed categories of Intellectual Capital that would include Human Assets, Relational Assets, Structural Assets, Human Liabilities, Relational Liabilities, and Structural Liabilities. The diversity of classification models used is another hinder to measurement initiatives; thus, it is the view of the author that firms need detailed classification criteria of Intellectual Capital, allowing them to properly articulate and communicate their visions and strategies.

Existing approaches for Intellectual Capital measurement revolve around four, non-mutually exclusive principles (Guthrie, 1999; Marr et al., 2003):

- Valuation of knowledge as an asset that can be traded;
- Valuation of knowledge through highlighting the benefits of Knowledge Management programs;
- Valuation of knowledge by studying the impact of Knowledge Management effectiveness; and

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- Valuation of knowledge by focusing on performance measurement of Intellectual Assets.

It can be clearly noted from the above principles the complete exclusion of Intellectual Liabilities from existing measurement models; hence, the justification of the scarcity of research on Intellectual Liabilities on one hand, and the shortage of knowledge surrounding the subject area as compared to Intellectual Assets, on the other hand.

The need for uniform Intellectual Capital measurements criteria, as suggested by the findings and the author of the present research, serves the following purposes:

- Improvements in internal firm management;
- Improvements in external reporting;
- Assistance in providing information for vision and strategy formulation;
- Development of performance indicators to evaluate strategies, tactics, and actions;
- Assistance in calculating the true value of the firm which is not properly measured by using book values only;
- Assistance in the development of fair internal and external incentive and compensation plans;
- Improving measurement and management of a firm's competitive advantage factors;
- Providing insight into the true drivers of sustainable performance;
- Providing investors and analysts with less subjective and more robust information for companies' valuations; and
- Laying the proper foundation for uniform Intellectual Capital reporting standards.

However, development of measurement criteria before understanding the fundamentals of Intellectual Assets and Intellectual Liabilities will be counterproductive; hence, the need for upgraded education systems and executive and operational training programs, as outlined in Section 5.4.1.

5.4.3 The need for uniform Intellectual Capital reporting standards

According to Lev and Zarowin (1999), the values of financial statements and annual reports have significantly deteriorated, due to the fast changing environment and increase in intellectual values which are not captured or reported to date. Furthermore, according to Mouritsen et al. (2004), there is a worldwide dissatisfaction with traditional financial reporting standards due to their incapability of capturing and explaining knowledge resources, such as Human, Relational, and Structural Assets; in addition, companies report only traditional assets which account for a small fraction of their market value. Based on the findings presented earlier, the author of the present research extends this argument to claim that the traditional reporting systems fail also to explain the threats to knowledge resources and the means to mitigate them, including Human, Relational, and Structural Liabilities.

Therefore, as a solution to the lack of Intellectual Capital reporting standards, the author suggests the adoption of Intellectual Capital statements that should be added to annual reports, where the firm's strategy for managing knowledge and mitigating threats is outlined. The Intellectual Capital statement should also include the efforts to manage,

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enhance, and control knowledge activities, as well as organize them in financial terms. It attempts to show that a firm has the capacity to manage its knowledge resources on one hand, and mitigate the threats to its intellectual capacities on the other hand. Furthermore, the new standards governing Intellectual Capital disclosure should be systematically and continuously updated and modified to ensure their ability to capture the changes in the continuously evolving economies. In addition, the frequency of disclosure and publication is of paramount importance due to the time adequacy of Intellectual Capital disclosures and the need to capture events which influence the estimated true value of the firm.

The intended benefits of Intellectual Capital reporting standards are expected to be numerous, including:

- Showcasing the firm's ability to properly utilize Intellectual Assets and adequately mitigate Intellectual Liabilities;
- Supplementing the standard financial statements;
- Providing additional useful information to analysts and investors;
- Reflecting the true value of a firm with better accuracy;
- Proving a framework for effective governance of intangible and intellectual elements;
- Retaining existing customers and attracting new ones;
- Improving relationships with existing and potential suppliers;
- Showcasing the flexibility and innovation of the firm;
- Improving the reputation and public image of the firm;
- Improving competitive advantage of the firm;

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- Enhancing shareholder value;
- Decreasing information asymmetry and lowering agency costs;
- Increasing stock market liquidity; and
- Improving Firm Financial Performance and wealth creation.

Therefore, Intellectual Capital reporting serves a dual role: internal and external. From an internal perspective, it serves as a management tool to improve the effectiveness and efficiency of the firm in the management of intellectual capacities. From an external perspective, it serves as a communication tool to inform the market about intellectual management activities of the firm. However, development of uniform Intellectual Capital reporting standards before the development of uniform Intellectual Capital measurement criteria and before understanding the fundamentals of Intellectual Assets and Intellectual Liabilities will be counterproductive; hence, the need for standardized measurement criteria, in addition to upgraded education systems and executive and operational training programs, as outlined in Sections 5.4.1 and 5.4.2.

5.4.4 The Need for Ethical Standards for Intellectual Capital Disclosures

According to Yaghinlou et al. (2003), ethical standards are considered one of the most important policies in any profession; they encompass the main attributes of every profession, relationships of the profession's members with each other, and the relationships between the profession's member and the society. As stated earlier, it was noted in the findings that participants saw no ethical dilemmas with withholding Intellectual Liabilities from stakeholders, despite their belief that this information most

definitely impacted on Firm Financial Performance; hence, the need to identify the contribution and importance of ethics in the development of an Intellectual Capital system that governs the education, measurement, and disclosure of Intellectual Capital. The author of the present research opines that ethical dimensions have been largely unexplored in Intellectual Capital research; as a result, this is hindering key firm employees from translating ideas and principles into sustainable actions that bring benefit at the individual, corporate, and community level, as highlighted in earlier sections.

It can be argued that stakeholders have the right to be treated fairly and ethically by organizations; thus, it is the author's view that in order to maintain adequate standards of ethical conduct in the field of measurement and disclosure of Intellectual Capital, it should be governed by the principles of honesty, objectivity, fairness, and responsibility. Moreover, firms, investors, analysts, and individuals rely on reported financial information in order to make financial decisions; therefore, to ensure that these decisions are based on solid grounds, there is a need for ethical standards to ensure that the measurement and disclosure of Intellectual Capital are performed and reported in a competent, unbiased, and accurate manner.

In particular, ethical standards related to the measurement and disclosure of Intellectual Capital should safeguard against the following threats:

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- Self-interest threats: which may occur because of the financial interests of firms or employees measuring and reporting Intellectual Capital;
- Advocacy threats: which may occur when firms promote positions or opinions that compromise objectivity in measurement and disclosure;
- Intimidation threats: which may occur when firms intimidate their employees to deter them from objectively measuring and disclosing Intellectual Capital; and
- Familiarity threats: which may occur when close relationships exist between Intellectual Capital professionals and their firms.

Thus, the safeguards of Intellectual Capital measurement and disclosure ethical standards should include at least the following:

- Professional standards;
- Corporate governance regulations related to Intellectual Capital measurement and disclosure;
- Education, training, and experience minimum requirements for Intellectual Capital professionals;
- Continuous professional education requirements for professionals dealing with measurement and disclosure of Intellectual Capital;
- Regulatory monitoring and non-compliance disciplinary procedures; and
- External review by legally empowered third parties of Intellectual Capital measurement techniques, as well as all Intellectual Capital reports.

The circumstances in which Intellectual Capital professionals function may trigger specific threats to compliance with the yet to be crafted Intellectual Capital fundamental principles. Therefore, ethical standards should guide the development of uniform Intellectual Capital reporting standards and measurement criteria, as well as serve as

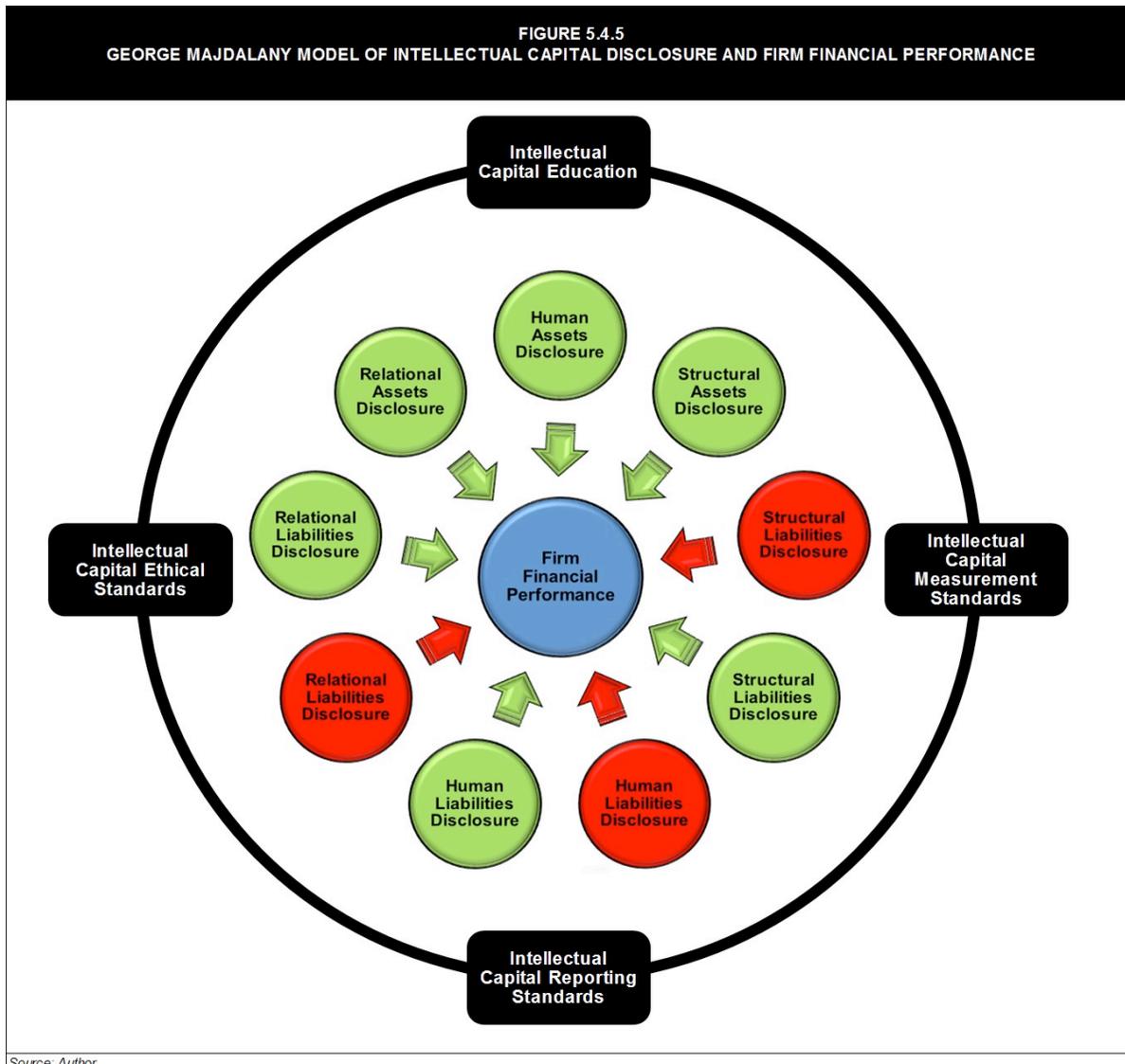
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an integral part of executive and operational training programs of Intellectual Assets and Intellectual Liabilities, as outlined in Sections 5.4.1, 5.4.2, and 5.4.3.

5.4.5 Contribution to Knowledge

The integration of the findings of content analysis (Figure 5.1.9) and findings from semi-structured and follow-up interviews (Sections 5.4.1, 5.4.2, 5.4.3, and 5.4.4) have led to the generation of the George Majdalany Model of Intellectual Capital Disclosure and Firm Financial Performance (“GMMICDFFP[®]”) as illustrated in Figure 5.4.5.

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The GMMICDFFP[®] closes the gaps in existing Intellectual Capital systems by suggesting an Intellectual Capital education system, Intellectual Capital measurement standards, Intellectual Capital reporting standards, and Intellectual Capital ethical standards. The rings of supporting standards support the relationship between the disclosure of the various components of Intellectual Capital and Firm Financial Performance. It is to be noted in Figure 5.4.5 the positive relationship between

Intellectual Assets disclosure and Firm Financial Performance. Besides, the impact of Intellectual Liabilities disclosure on Firm Financial Performance can be either positive or negative, depending on the manner in which they are disclosed.

5.5 SUMMARY OF CHAPTER FIVE

After a comprehensive analysis of the research findings, the results have revealed that there is a positive relationship between Intellectual Capital disclosure and Firm Financial Performance through the six components of Intellectual Capital: Human Assets, Relational Assets, Structural Assets, Human Liabilities, Relational Liabilities, and Structural Liabilities. Furthermore, the results also revealed considerable deficits in measuring and disclosing Intellectual Capital based on fear, ignorance, and lack of an internationally recognized financial accounting instrument for measuring and reporting Intellectual Capital. Besides, the research showed the lack of ethical barriers that can prohibit firms from withholding Intellectual Capital information from stakeholders. Moreover, results revealed that Intellectual Liabilities disclosure may have a dual impact on Firm Financial Performance, depending on the manner of disclosure.

To the best knowledge of the author gained through a thorough investigation of the literature it is believed that the present research is the first detailed research focused on testing the interactive effects of Intellectual Capital elements (Intellectual Assets and Intellectual Liabilities) on Firm Financial Performance in publicly listed companies in the

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UAE. In addition, by incorporating Intellectual Liabilities in the framework, the present research brings a more refined, theoretically and empirically based conceptualization of Intellectual Capital than those provided so far, aiding in the development of a more robust theory of Intellectual Capital disclosure and its correlation with Firm Financial Performance. Moreover, the present research develops a new conceptual framework that not only addresses the underlying relationships between the Intellectual Capital and Firm Financial Performance, but also details the required standards to support the education, uniformity, and integrity of Intellectual Capital disclosure.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

CHAPTER SIX – CONCLUSION AND RECOMMENDATIONS

6.0 REVIEW OF INTELLECTUAL CAPITAL DISCLOSURE AND FIRM FINANCIAL PERFORMANCE

For summary purposes, the main research question is restated below:

“What are the characteristics of a new conceptual model that assists in explaining the relationships between Intellectual Capital disclosure and Firm Financial Performance for companies listed on the UAE stock exchanges?”

There is an undeniable increasing demand for more extensive corporate disclosures regarding Intellectual Capital matters amongst handlers of financial accounting information (Powell, 2003; Clacher, 2010). There is a large body of literature regarding Intellectual Capital disclosure as an asset to the firm. However, it seems that most studies have ignored Intellectual Liabilities (Stam, 2009). The major gap in understanding of Intellectual Capital is the complete misunderstanding of net intellectual worth which in reality equals Intellectual Assets minus Intellectual Liabilities (Stam, 2009). The reasons why emphasis has not been placed on the existence of Intellectual Liabilities in previous studies on Intellectual Capital include:

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- Absence of regulatory framework for Intellectual Capital disclosure (Abeysekera, 2003); and
- Poor understanding, inadequate identification, inefficient management, and inconsistent disclosure of key Intellectual Capital components (Brennan, 2001).

According to Harvey and Lusch (1999), Caddy (2000), and Abeysekera (2003), revealing a firm's true hidden values includes Intellectual Capital measurement practice that should account for both Intellectual Assets and Intellectual Liabilities. Considering that the current understanding of Intellectual has practically failed to incorporate Intellectual Liabilities, exploring a more holistic approach of Intellectual Capital research is the next logical step (Stam, 2009).

The present research has investigated theoretically and empirically Intellectual Assets and Intellectual Liabilities disclosure and their impact on Firm Financial Performance in publicly listed companies in the UAE. Through a thorough review of the literature, content analysis of annual reports, semi-structured interviews, and follow-up interviews, several findings are revealed. For example, disclosure of all Intellectual Capital components (Human Assets, Relational Assets, Structural Assets, Human Liabilities, Relational Liabilities, and Structural Liabilities) is positively correlated with Firm Financial Performance. In addition, the findings include the need for Intellectual Capital education, measurement standards, reporting standards, and ethical standards.

6.1 THE SIGNIFICANCE BEHIND THE RESEARCH FINDINGS

When compared to existing Intellectual Capital literature, the significance of the findings of the present research shed the light on a comprehensive Intellectual Capital framework which if adopted can explain the difference between the success and the demise of firms. The present research has uncovered ten main findings:

1. Statistical significance of the positive relationship between Human Assets disclosure and Firm Financial Performance which agrees in part and disagrees in another with previous studies which show contradicting findings regarding this relationship;
2. Statistical significance of the positive relationship between Relational Assets disclosure and Firm Financial Performance which agrees in part and disagrees in another with previous studies which show contradicting findings regarding this relationship;
3. Statistical significance of the positive relationship between Structural Assets disclosure and Firm Financial Performance which agrees in part and disagrees in another with previous studies which show contradicting findings regarding this relationship;
4. Statistical significance of the positive relationship between Human Liabilities disclosure and Firm Financial Performance which agrees in part and disagrees in another with previous studies which show contradicting findings regarding this relationship;
5. Statistical significance of the positive relationship between Relational Liabilities disclosure and Firm Financial Performance which agrees in part and disagrees in another with previous studies which show contradicting findings regarding this relationship;

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6. Statistical significance of the positive relationship between Structural Liabilities disclosure and Firm Financial Performance which agrees in part and disagrees in another with previous studies which show contradicting findings regarding this relationship;
7. The need to introduce executive and operational trainings of Intellectual Assets and Intellectual Liabilities to increase the awareness of Intellectual Capital recognition, measurement, management, and disclosure;
8. The need to introduce uniform Intellectual Assets and Intellectual Liabilities measurement standards to encourage firms to measure their Intellectual Capital on one hand, and to provide common ground for Intellectual Capital comparisons across firms on the other hand;
9. The need to introduce uniform Intellectual Assets and Intellectual Liabilities reporting standards to encourage firms to disclose their Intellectual Capital and resolve the issue of continuous deterioration of the usefulness of standard financial statements and annual reports; and
10. The need to introduce Intellectual Capital ethical standards to resolve the ethical dilemmas surrounding the withholding of Intellectual Capital information, and specifically Intellectual Liabilities, from stakeholders.

It is hoped that the research findings can aid firms with the following:

1. Understanding the importance and sensitivity of the recognition, measurement, management, and disclosure of Intellectual Capital related information and the impact on Firm Financial Performance;
2. Improving internal firm management;
3. Understanding and calculating the true value of the firm;
4. Improving measurement and management of a firm's competitive advantage factors;
5. Providing insight into the true drivers of sustainable performance; and

6. Proving a framework for effective governance of intangible and intellectual elements.

6.2 CONTRIBUTION TO INTELLECTUAL CAPITAL KNOWLEDGE

Any company's capacity to capitalize on Intellectual Capital begins with its people. As the present research has shown, there is a lack of clear definition of Intellectual Capital and its components. However, the biggest single barrier to the capitalization on Intellectual Capital, as shown in the present research, is companies' inability to use any kind of internationally recognized financial accounting instrument to measure and disclose their Intellectual Assets and Intellectual Liabilities.

Given the dearth of capacity amongst participants to properly define, measure, and disclose Intellectual Capital, the findings surprisingly show a unanimous response in the belief that measuring and disclosing Intellectual Assets and Intellectual Liabilities profoundly affects Firm Financial Performance. This finding is supported by the statistical analysis done on the contents of the companies' annual reports. This contradiction is compounded by another phenomenon which could be borne of company culture, fear, or ignorance. Moreover, the present research has shown that while companies are content in measuring and disclosing Intellectual Assets, they are not willing to measure or disclose corresponding Intellectual Liabilities. However, the statistical analysis has shown that Intellectual Liabilities disclosure has a positive impact on Firm Financial Performance. Furthermore, the present research has shed the light on

the absence of any ethical dilemma with withholding Intellectual Liabilities from stakeholders, despite the belief that this information most definitely affects Firm Financial Performance. To further test this finding, the present research has isolated the ignorance impact in follow-up interviews, and yet, there remained the persistence in the willingness to withhold Intellectual Liabilities from stakeholders.

It is through the GMMICDFFP[®] that the present research closes these gaps in Intellectual Capital research by suggesting an Intellectual Capital education system, Intellectual Capital measurement standards, Intellectual Capital reporting standards, and Intellectual Capital ethical standards. These standards support the relationship between the disclosure of the various components of Intellectual Capital and Firm Financial Performance.

6.3 RESEARCH VALIDITY AND RELIABILITY

As stated in Chapter Three – Section 3.3, validity in mixed-method research is used for verifying the data quality as well as results (Creswell and Plano Clark, 2007), and reliability refers to the degree to which a study can be replicated (Milne and Adler, 1999). Validity is related to the accuracy of research findings, while reliability refers to the repeatability of the research findings (LeCompte and Goetz, 1982). As such, the present research has identified and mitigated the threats associated with validity and

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reliability concerning the use of content analysis and interview methods. Threats to interview method include:

- Observer-caused effects;
- Effects of interviewer's bias;
- Limitations of data access;
- Human mind complexities and limitations; and
- Low objectivity.

The present research has mitigated these threats through:

- Maintaining professional interpersonal behavior throughout the research;
- Careful selection of respondents;
- Adoption of active control for interview format;
- Adoption of semi-structured and follow-up interviews format; and
- Observation and note taking.

Threats to content analysis method include:

- Sample size threat;
- Established information threat;
- Coding information process threat; and
- Data coding and interpretation threat.

The present research has mitigated these threats through:

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- Formulation of research questions and hypotheses;
- Determination of sampling unit;
- Establishment of various categories of coding (context unit);
- Defining recording unit;
- Pre-testing the coding on a selected text and reliability and validity assessment by adjusting the rule of coding and repeating pre-testing until satisfactory reliability was achieved;
- Coding of all the texts and assessing the achieved reliability and validity; and
- Analyzing, interpreting, and reporting the results.

In addition to the above, and in order to secure the reliability and validity of the research findings, the present research has ensured compliance to the four categories of trustworthiness: credibility, transferability, dependability, and confirmability. Each of these categories will be discussed in the subsequent paragraphs.

Credibility deals with the causal link between variables and/or events (Yin, 2003; Modell, 2005). Credibility can be ensured once the researcher has the confidence that generated groupings, relationships, and interpretations accurately represent the reality (Tashakkori and Teddlie, 1998). In the present research, the relationship between dependent and independent variables are validated using findings from theoretical and empirical analyses. SPSS was used to check the internal validity of quantitative findings. In the qualitative analysis, the author has applied certain tactics, like observation, to carefully examine inferences drawn from the qualitative data. To this end, the author has seriously considered and without biases any unexpected concepts,

extraneous variables, or controversial issues encountered during the course of research. Furthermore, the author has examined in the interviews any unexpected or unsteady results originating from the quantitative study. This has enabled the author to cross check any evidence for the unexpected or unsteady results, as well examine any possible explanation for them.

Transferability refers to generalization of findings, articulated in external validity (Bryman, 2004). In the present research, the author has enhanced external validity through the following methods:

- Using a 100% sample size for quantitative analysis;
- Investigation of multiple cases gathered from different firms;
- Investigation of the same phenomenon using two sets of interviewees;
- Triangulation, using mixed-method research.

Dependability means the degree to which a study can be replicated; it requires that either the same research at different times or different researchers using the same methods are able to get results that are similar to those of the previously conducted studies (Scott, 1955; Milne and Adler, 1999; Johnson et al., 2006). In the present research, the author has ensured the dependability of content analysis findings using instruments that allow replicability and validity of inferences to be drawn from all the data obtained. As for interviews, where dependability remains a subject of controversy among scholars, the author has handled dependability through the accurate

documentation of research procedures and by complementing the qualitative findings from semi-structured interviews with follow-up interviews and quantitative analysis.

Confirmability refers to objectivity which is an indispensable foundation of any good research (Onwuegbuzie and Johnson, 2006). In the present research, the author has addressed confirmability concerns by modifying the existing Intellectual Capital framework to incorporate all the relevant Intellectual Capital items in the equity market into the framework. Furthermore, semantic content analysis has been used based on the understanding that the aim of the analysis is to add up pre-determined Intellectual Capital items that appear in the annual reports of the sample companies. This method has been used because semantic content analysis has the ability to classify annual reports content according to lexical meanings.

6.4 FUTURE RECOMMENDATIONS

Intellectual Capital measurement, management, disclosure, and governance are indicators of Firm Financial Performance; however, as shown in the present research, there is ample room for future research on Intellectual Capital. In light of the findings, scope, and limitations of the present research, it is recommended for future Intellectual Capital research to focus on:

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Multi-Countries Analysis of Intellectual Capital Disclosure: The scope of the present research is the UAE only; future research may expand the scope to include all GCC countries to examine whether the findings can be generalized into other Arab countries.

Multi-Periods Analysis of Intellectual Capital Disclosure: The present research has examined the relationship between Intellectual Capital Disclosure and Firm Financial Performance across the years 2010 and 2011; therefore, it is preferable for future research to expand the analysis to include multiple years to examine whether the findings are consistent over time.

Impact of Intellectual Capital Disclosure on other Factors: The present research has examined the impact of Intellectual Capital disclosure on Firm Financial Performance only; however, it is believed that such disclosure may have an impact on other variables, such as supply chain effectiveness and efficiency, employees' motivation, reputation, and others. As such, future research can study the impact of disclosure on these variables.

Impact of Intellectual Capital on Sustainable Performance: While the present research focused on the impact of Intellectual Capital Disclosure on Firm Financial Performance, it will be interesting to explore in future studies if Intellectual Capital has an impact on sustainable performance.

Impact of Intellectual Capital on Transformation: It is quite remarkable for future research to examine if Intellectual Capital plays a part in the transformation of firms from good to great in terms of performance.

Relationship between Intellectual Capital and Corporate Social Responsibility: It is recommended for future research to examine the relationship between Intellectual Capital and Corporate Social Responsibility to discover if the relationship of a cause-and-effect type, tangential, or other type.

Relationship between Intellectual Capital Disclosure and Corporate Governance: Since there are several interrelations between Corporate Governance and Intellectual Capital, future research may examine the relationship between both, in attempt to understand the nature of the relationship between Intellectual Capital and Corporate Governance.

Interviewing Middle and Lower Level Managers: The present research examined interviews with senior managers at executive levels in their respective organizations which may have left a gap in the full understanding of the issues at hand. Therefore, it is desirable for future research to include interviews with middle and first level managers, in addition to the senior managers, to examine whether a deeper understanding of the topic of Intellectual Capital disclosure and Firm Financial Performance can be obtained, at least at an operational level.

Analyzing other Corporate Media: The present research has measured the disclosure of Intellectual Assets and Intellectual Liabilities using published corporate annual reports. However, firms might use other modern information sources to reveal Intellectual Capital information, such as web sites, press releases, Twitter, or internal memoranda. Therefore, future research may expand the analysis to include the aforementioned media to examine whether firms do really disclose their Intellectual Capital outside their annual reports, and if this disclosure is significantly different from disclosure in standard financial statements and annual reports.

Isolating the Ignorance Factor: The present research has highlighted the ignorance surrounding the knowledge of Intellectual Assets and Intellectual Liabilities among firms. Therefore, it will be interesting if future research can isolate the ignorance factor by testing the impact of Intellectual Capital executive and operational training programs on few firms, by examining their perceptions, management, measurement, and disclosure of Intellectual Capital before and after the introduction of training programs.

6.5 SUMMARY OF CHAPTER SIX

Taken as a whole, the present research contributes to the discipline of Intellectual Capital. Specifically, it makes a notable contribution by explaining the impact of disclosure of Intellectual Assets and Intellectual Liabilities disclosure on Firm Financial Performance in publicly listed firms in the UAE. Furthermore, the present research

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contributes to the Intellectual Capital discipline by suggesting standards that support the relationship between Intellectual Capital disclosure and Firm Financial Performance, including: the need for Intellectual Capital education systems, Intellectual Capital measurement standards, reporting standards, and ethical standards.

Keeping in mind the above findings and conclusions, it is hoped that the field of Intellectual Capital will develop further into a unique domain of study in academia and practice. This step, if successful, will be the most important contribution of this research to the academic and professional communities.

APPENDICES

APPENDIX A: SEMI-STRUCTURED INTERVIEW QUESTIONS

PART A: OPENING DIALOGUE

Initial greeting: Good morning / Good afternoon

I would like thank you for your time in answering a few questions. The interview will take approximately 30 to 45 minutes, and it will be carried out according to the research ethics standards; therefore, all information collected will remain anonymous and confidential at all times.

The purpose of this interview is to consolidate and analyze the feedback of all the interviewees, in order to propose a new/modified model of Intellectual Capital, which will be of great benefit for practitioners and academics.

In order to ensure a complete word-by-word transcription of the interview and to avoid the risk of lost meanings in paraphrasing, I kindly request your consent to use an audio recording device. The recordings will be exclusively coded and handled by myself and will be destroyed upon the successful completion of the study. Are you comfortable with audio recording this interview?

If at any point during the interview, you feel offended or uncomfortable with any of the questions, please feel free not to answer.

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PART B: PARTICIPANT PROFILE

| |
|--|
| First Name: |
| Family Name: |
| Age: |
| Gender: |
| Nationality: |
| Educational Level: High School Undergraduate Masters Doctoral |
| Position: |
| Organization: |
| Years of Experience in Current Organization: |
| Years of Experience in Current Industry/Sector: |
| Years of Experience in the United Arab Emirates: |
| Address: |
| Telephone Number: |
| E-mail Address: |
| Date: |
| Time: |

1. Please provide your own personally held definition for "Intellectual Capital".

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| |
|--|
| 2. Does your organization have an official or operational definition of Intellectual Capital? What is it? If not, why not? |
| a. Can you give me some examples? |
| b. Does your organization measure its Intellectual Capital? How? If not, why not? |
| c. Does your organization disclose its Intellectual Capital in Annual Reports? Why/Why Not? |
| d. In reporting Intellectual Capital what are the challenges faced by your organization? |
| e. How does your organization disclose its Intellectual Capital (quantitatively, qualitatively)? |

| |
|---|
| 3. Does your organization have an official or operational definition of Intellectual Assets? What is it? If not, why not? |
| a. Can you give me some examples? |
| b. Do you think Intellectual Assets are different from Intellectual Capital? Why/Why Not? |
| c. Does your organization measure its Intellectual Assets? How? If not, why not? |
| d. Does your organization disclose its Intellectual Assets in Annual Reports? Why? If Not, Why Not? |
| e. In reporting Intellectual Assets what are the challenges faced by your organization? |
| f. How does your organization disclose its Intellectual Assets (quantitatively, qualitatively)? |

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| |
|--|
| 4. Does your organization have an official or operational definition of Intellectual Liabilities? What is it? If not, why not? |
| a. Can you give me some examples? |
| b. Does your organization measure its Intellectual Liabilities? If not, why not? |
| c. Does your organization measure its Intellectual Liabilities? How? If Not, Why Not? |
| d. Does your organization disclose its Intellectual Liabilities in Annual Reports? Why/Why Not? |
| e. In reporting Intellectual Liabilities what are the challenges faced by your organization? |
| f. How does your organization disclose its Intellectual Liabilities (quantitatively, qualitatively)? |

| |
|--|
| 5. From your experience, does the measurement and disclosure of Intellectual Assets affect Firm's Financial Performance? |
| a. Why do you think it affects (or doesn't affect) Firm's Financial Performance? |
| b. Can you tell me anything else? |

| |
|---|
| 6. From your experience, does the measurement and disclosure of Intellectual Liabilities affect Firm's Financial Performance? |
| a. Why do you think it affects (or doesn't affect) Firm's Financial Performance? |
| b. Do you believe that the inclusion of Intellectual Capital within the financial statements of the corporation is important? |

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7. Is there anything else you would like to tell me?

8. We will be conducting a second shorter interview with few selected respondents in order to inquire about additional information. The second interview will last around 20 minutes, and you will get the chance to get the results and the analysis of the current study. Would you be interested in a second interview?

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APPENDIX B: FOLLOW-UP INTERVIEW QUESTIONS

PART A: OPENING DIALOGUE

Initial greeting: Good morning / Good afternoon

I would like thank you for your agreement for a follow-up interview. The interview will take approximately 30 minutes, and it will be carried out according to the research ethics standards; therefore, all information collected will remain anonymous and confidential at all times.

As discussed in the first interview, a second shorter interview is conducted with few selected respondents in order to inquire about additional information. The purpose of this follow-up interview is to provide a deeper understanding of the relationship between Intellectual Capital and Firm Financial Performance.

In order to ensure a complete word-by-word transcription of the interview and to avoid the risk of lost meanings in paraphrasing, I kindly request your consent to use an audio recording device. The recordings will be exclusively coded and handled by myself and will be destroyed upon the successful completion of the study. Are you comfortable with audio recording this interview?

If at any point during the interview, you feel offended or uncomfortable with any of the questions, please feel free not to answer.

Intellectual Capital is grouped into Intellectual Assets and Intellectual Liabilities. Intellectual Assets are generally sub-grouped into Human Assets, Relational Assets, and Structural Assets. Intellectual Liabilities are generally sub-grouped into Human Liabilities, Relational Liabilities, and Structural Liabilities.

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PART B: PARTICIPANT PROFILE *(To be completed only if there are any changes from previous interview)*

| |
|---|
| First Name: |
| Family Name: |
| Age: |
| Gender: |
| Nationality: |
| Educational Level: High School Undergraduate Masters Doctoral |
| Position: |
| Organization: |
| Years of Experience in Current Organization: |
| Years of Experience in Current Industry/Sector: |
| Years of Experience in the United Arab Emirates: |
| Address: |
| Telephone Number: |
| E-mail Address: |
| Date: |
| Time: |

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PART C: INTERVIEW QUESTIONS

| |
|---|
| 1. Does the measurement and disclosure of Human Assets affect Firm's Financial Performance? |
| a. How? |

| |
|--|
| 2. Does the measurement and disclosure of Relational Assets affect Firm's Financial Performance? |
| a. How? Why? |

| |
|--|
| 3. Does the measurement and disclosure of Structural Assets affect Firm's Financial Performance? |
| a. How? Why? |

| |
|--|
| 4. Does the measurement and disclosure of Human Liabilities affect Firm's Financial Performance? |
| a. How? Why? |

| |
|---|
| 5. Does the measurement and disclosure of Relational Liabilities affect Firm's Financial Performance? |
| a. How? Why? |

| |
|---|
| 6. Does the measurement and disclosure of Structural Liabilities affect Firm's Financial Performance? |
| a. How? Why? |

APPENDIX C: INTRODUCTORY E-MAIL AND APPOINTMENT SETUP

Dear Dr./Mr./Mrs. XYZ,

I have received your contact information from Dr./Mr./Mrs. ABC concerning my research dissertation. I am pursuing my PhD in Finance. My topic of interest is "Intellectual Capital Disclosure and Financial Performance".

I have selected your company because it is listed in the Abu Dhabi Stock Exchange / Dubai Financial Market which is of particular interest to this study.

It would consist of an anonymous volunteer interview lasting approximately 30-45 minutes of time to answer approximately 10-12 questions pertaining to the study.

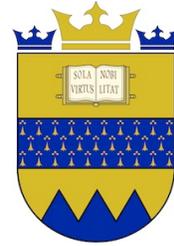
Please let me know if this would be of interest to your knowledge and we will discuss further the next steps. Thank you very much for your time.

Yours truly,

George Majdalany, CMA, MBA

Monarch Business School - Ph.D. candidate

APPENDIX D: DOCTORAL DISSERTATION FIELD WORK
LETTER



CONSENT TO PARTICPATE IN RESEARCH STUDY

TITLE OF RESEARCH: The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance: An Empirical Analysis of Publicly Listed Companies in the United Arab Emirates.

INVESTIGATOR: Mr. George Majdalany, CMA, MBA

PURPOSE OF STUDY:

To study the characteristics of a new conceptual model that assists in explaining the relationships between Intellectual Capital disclosure and Firm Financial Performance for companies listed on the UAE stock exchanges.

PROCEDURES:

30-45 minutes email or one on one interview and follow up interviews in person or by telephone for further clarification. A one on one interview will be held if the participants prefer this method.

RISKS AND BENEFITS:

The questionnaires pose no potential risk to the subjects. After the session is finished, participants will receive a description of the objectives and procedures, and can request a copy of the data analysis. This experience will be of great educational and practical value to Intellectual Capital studies and industry practitioners. It will help professionals identify intellectual drives that impact financial performance. Also, it will encourage others to amass knowledge on this currently underdeveloped research sphere.

CONFIDENTIALITY:

All information collected will remain anonymous and confidential at all times and remain solely the property of the University.

RIGHT TO REFUSE:

At any point in the study, participants may refuse to continue. Participants may quit or change their mind about being in the study even after it has commenced.

QUESTIONS:

At any point in time should you have questions please do not hesitate to ask. If at a later time any questions should arise. The principal investigator can be reached at 00971501889312 (mobile) or by email at george.asaad.majdalany@ugsm-monarch.ch. You will be given a copy of this form.

Date

Signature of Participant

Signature of Researcher

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APPENDIX E: INTELLECTUAL CAPITAL TERMS

| Human Capital | | | |
|-------------------------|---------------------------------------|-------------------------|---------------------------|
| Abilities | Employee Competences | Expertise | Professional Training |
| Ability | Employee Development | Flextime | Professional Trainings |
| Absence | Employee Developments | Flextimes | Reactive Abilities |
| Absences | Employee Diversities | Friendliness | Reactive Ability |
| Adaptabilities | Employee Diversity | Further Personal | Recruitment |
| Adaptability | Employee Education | Human Asset | Reflect Experience |
| Attitude | Employee Equalities | Human Assets | Reflect Experiences |
| Attitudes | Employee Equality | Human Resource | Sensitivities |
| Brain Power | Employee Expertise | Human Resources | Sensitivity |
| Capabilities | Employee Flexibilities | Human Value | Skill |
| Capability | Employee Flexibility | Human Values | Skills |
| Changeabilities | Employee Involvement With Communities | Identification | Social Competence |
| Changeability | Employee Involvement With Community | Identifications | Specialist |
| Commitment | Employee Know-How | Innovative Capacities | Specialists |
| Commitments | Employee Knowledge | Innovative Capacity | Staff Profile |
| Communicative Abilit | Employee Motivation | Innovativeness | Staff Profiles |
| Communicative Abilities | Employee Productivity | Intangible Skill | Staff Turnover |
| Competence | Employee Relationship | Intangible Skills | Structural Knowledge |
| Competences | Employee Relationships | Intelligence | Taking Responsibilities |
| Computer Literacy | Employee Retention | Intelligences | Taking Responsibility |
| Creativity | Employee Satisfaction | Juristic Competence | Teamwork Capacities |
| Development | Employee Skill | Juristic Competences | Teamwork Capacity |
| Developments | Employee Skills | Know-How | Telecommuting |
| Education | Employee Teamwork | Knowledge | Tolerance For Ambiguities |
| Employee | Employee Training | Learning Capacities | Tolerance For Ambiguity |
| Employees Expertise | Employee Trainings | Learning Capacity | Training |
| Employees Know-How | Employee Value | Loyalty To Organisation | Trainings |
| Employees Knowledge | Employee Values | Motivation | Up-To-Date Competence |
| Employees Productivity | Employee Work-Related Competence | Motivations | Up-To-Date Competences |
| Employees Retention | Employee Work-Related Competences | Number Of Employees | Vocational Qualification |
| Employees Satisfaction | Employee Work-Related Knowledge | Other Employee Features | Vocational Qualifications |
| Employee Age | Employees | Perception | Work-Related Competence |
| Employee Attitude | Employees Age | Perceptions | Work-Related Competencies |
| Employee Attitudes | Empowerment | Personal Abilities | Work-Related Knowledge |
| Employee Behaviour | Empowerments | Personal Ability | Work-Related Competency |
| Employee Behaviours | Entrepreneurial Spirit | Personalexperience | |
| Employee Capabilities | Entrepreneurial Spirits | Personal Experience | |
| Employee Capability | Equality | Personnel | |
| Employee Commitment | Expert Networks | Proactive Abilities | |
| Employee Commitments | Expert Team | Proactive Ability | |
| Employee Competence | Expert Teams | Professional Experience | |

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| Relational Capital | | | |
|-------------------------------|--------------------------|--|-----------------------------|
| Acquaintance With Communities | Customer | Financial Contacts | Relationship With Suppliers |
| Acquaintance With Community | Customers Base | Financial Contract | Reputation |
| Acquaintance With Government | Customers Involvement | Financial Contracts | Reputations |
| Acquaintance With Governments | Customers Knowledge | Franchising Agreements | Research Collaboration |
| Acquaintance With Supplier | Customers Loyalty | Goodwill | Research Collaborations |
| Acquaintance With Suppliers | Customers Recognition | Goodwills | Stakeholder |
| Basic Marketing Capabilities | Customers Reputation | Human Capital | Stakeholders |
| Basic Marketing Capability | Customers Retention | Image | Suppliers Knowledge |
| Brand | Customers Satisfaction | Images | Supplier Knowledge |
| Brands Development | Customers Training | Intensities | Trademark |
| Brands Recognition | Customer Acquisition | Intensity | |
| Brand Development | Customer Acquisitions | Joint Venture | |
| Brand Recognition | Customer Base | Joint Ventures | |
| Business Agreement | Customer Bases | Knowledge With Communities | |
| Business Agreements | Customer Capital | Knowledge With Community | |
| Business Collaboration | Customer Involvement | Knowledge With Government | |
| Business Collaborations | Customer Knowledge | Knowledge With Governments | |
| Business Partnership | Customer Loyalty | Knowledge With Supplier | |
| Business Partnerships | Customer Name | Knowledge With Suppliers | |
| Capital Brand | Customer Names | Licensing Agreements | |
| Capital Brands | Customer Recognition | Links With Supplier | |
| Client Profile | Customer Relationship | Links With Suppliers | |
| Client Profiles | Customer Relationships | Market Intensities | |
| Collaboration | Customer Reputation | Market Intensity | |
| Collaborations | Customer Retention | Market Leadership | |
| Commercial Power | Customer Retentions | Market Presence | |
| Commercial Powers | Customer Satisfaction | Market Share | |
| Company Award | Customer Service | Marketing | |
| Company Awards | Customer Training And | Market Shares | |
| Company Image | Customers | Negotiating Capacity With Financial Entities | |
| Company Images | Diffusion | Negotiating Capacity With Financial Entity | |
| Company Name | Diffusions | New Strategic Customer | |
| Company Names | Diffusion And Networking | New Strategic Customers | |
| Company Reputation | Distribution Channels | Partnership | |
| Company Reputations | Distribution Network | Partnerships | |
| Competitive Intelligence | Environmental Activities | Public Relation | |
| Competitive Intelligences | Environmental Activity | Public Relations | |
| Competitor | External Capital | Relational Capital | |
| Competitors | Favourable Contract | Relationship With Stakeholder | |
| Connectivities | Favourable Contracts | Relationship With Stakeholders | |
| Connectivity | Financial Contact | Relationship With Supplier | |

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| Structural Capital | | | |
|---------------------------------|--------------------------------|-------------------------------|-------------------------------------|
| Accreditation | Information System | Operation Process | Quality Management And Improvement |
| Accreditations | Information Systems | Operation Processes | Quality Management And Improvements |
| Achieving Mechanism Culture | Information Technologies | Organisational Adaptabilities | R&D |
| Achieving Mechanism Cultures | Information Technology | Organisational Adaptability | Research And Development |
| Administrative Process | Infrastructure | Organisational Culture | Research Project |
| Administrative Processes | Infrastructures | Organisational Cultures | Research Projects |
| Brands | Infrastructure Asset | Organisational Flexibilities | Soft Assets |
| Communication | Infrastructure Assets | Organisational Flexibility | Specialised Software |
| Communication System | Innovation | Organisational Learning | Specialised Softwares |
| Communication Systems | Innovations | Organisational Routine | Specialized Softwares |
| Competitive And Market Channel | Innovative | Organisational Routines | Structural Capital |
| Competitive And Market Channels | Intangibles | Organisational Structure | Structural Capitals |
| Computer Software | Intellectual Properties | Organisational Structures | Systems Information |
| Copyright | Intellectual Property | Organizational Adaptabilities | Systems Network |
| Copyrights | Intellectual Resource | Organizational Adaptability | Systems Networks |
| Corporate Culture | Intellectual Resources | Organizational Capital | Technologies |
| Corporate Cultures | Internal Capital | Organizational Culture | Technology |
| Corporate Learning | Internal Structure | Organizational Cultures | Telecommunication |
| Corporate Universities | Knowledge-Based Infrastructure | Organizational Flexibilities | Trade Marks |
| Corporate University | Knowledge Centre | Organizational Flexibility | Trade Secrets |
| Cultural Diversities | Knowledge Centres | Organizational Learning | Trademarks |
| Cultural Diversity | Knowledge Management | Organizational Routine | Trade-Marks |
| Culture | Knowledge Sharing | Organizational Routines | Value Added |
| Cultures | Knowledge-Based Infrastructure | Organizational Structure | |
| Customers Support | Laboratories | Organizational Structures | |
| Customer Support | Laboratory | Overall Capabilities | |
| Customer Support Function | Leadership | Overall Capability | |
| Customer-Centered | Licensing Agreement | Overall Infrastructure | |
| Customer Support Functions | Management Philosophies | Overall Infrastructures | |
| Database | Management Philosophy | Patent | |
| Databases | Management Process | Patents | |
| Distribution Channel | Management Processes | Procedure | |
| Distribution Networks | Management Qualities | Procedures | |
| Documentation Service | Management Quality | Process | |
| Documentation Services | Methodologies | Processes | |
| Electronic Data Interchange | Network | Process Capabilities | |
| Expert Network | Networking | Process Capability | |
| Financial Relation | Networkings | Proprietary Process | |
| Financial Relations | Networking System | Quality Improvement | |
| Franchising Agreement | Networking Systems | Quality Improvements | |
| I.T | Operating Systems | Quality Management | |

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| Human Liabilities | Relatioanl Liabilities | Structural Liabilities |
|------------------------------|-------------------------------|-----------------------------------|
| High Employees Turnover | Bad Word Of Mouth | Complex Organisational Structure |
| High Employee Turnover | High Relational Turnover | Complex Organisational Structures |
| Human Liabilities | Lack of Strategic Alliance | Complex Organizational Structure |
| Inadequate Development | Lack of Strategic Alliances | Complex Organizational Structures |
| Inadequate Developments | Liability Suit | Cost of Ignorance |
| Inadequate Training | Liability Suits | Group Think |
| Inadequate Trainings | Poor Corporate Reputation | Knowing-Doing Gap |
| Internal Competition | Poor Corporate Reputations | Knowledge-Unfriendly Culture |
| Internal Competitions | Poor Product Qualities | Knowledge-Unfriendly Cultures |
| Not-Invented-Here Syndrome | Poor Product Quality | Liabilities of Newness |
| Not-Invented-Here Syndromes | Poor Service Qualities | Liabilities of Smallness |
| Risk of Losing Key Employees | Poor Service Quality | Liability of Newness |
| Risk of Losing Key Employee | Potential Product | Liability of Smallness |
| | Potential Products | Long Management Tenure |
| | Relational Complexities | Long Management Tenures |
| | Relational Complexity | Organisational Inertia |
| | Relational Liabilities | Organisational Sclerosis |
| | | Organizational Inertia |
| | | Organizational Sclerosis |
| | | Orphan Knowledge |
| | | Past Performance |
| | | Past Performances |
| | | Poor Information Or Knowledge |
| | | Poor Infrastructure |
| | | Poor Infrastructures |
| | | Poor Knowledge |
| | | Structural Liabilities |
| | | Struggle for Power |
| | | Top Management Homogeneity |
| | | Weak Strategic Planning Process |
| | | Weak Strategic Planning Processes |

APPENDIX F: Z-SCORES OF DEPENDENT AND INDEPENDENT VARIABLES

| Z-SCORES FOR ROE | | | | | | | |
|------------------|----------------|---------|----------------|---------|----------------|----------|----------------|
| Case | Standard Score | Case | Standard Score | Case | Standard Score | Case | Standard Score |
| Case 1 | 1.058 | Case 32 | 0.236 | Case 63 | (0.030) | Case 94 | (1.154) |
| Case 2 | 0.927 | Case 33 | 0.510 | Case 64 | (1.626) | Case 95 | 1.268 |
| Case 3 | 1.926 | Case 34 | 0.768 | Case 65 | (1.318) | Case 96 | (0.776) |
| Case 4 | (0.862) | Case 35 | (0.429) | Case 66 | (0.066) | Case 97 | (2.530) |
| Case 5 | 0.815 | Case 36 | 0.042 | Case 67 | (0.250) | Case 98 | 0.193 |
| Case 6 | (0.231) | Case 37 | (0.171) | Case 68 | (0.099) | Case 99 | 1.081 |
| Case 7 | 0.229 | Case 38 | 0.810 | Case 69 | (0.971) | Case 100 | (0.233) |
| Case 8 | 1.262 | Case 39 | 0.079 | Case 70 | (0.536) | Case 101 | (0.826) |
| Case 9 | 0.258 | Case 40 | (0.458) | Case 71 | (0.250) | Case 102 | 0.458 |
| Case 10 | (0.249) | Case 41 | 0.246 | Case 72 | (1.410) | Case 103 | (0.586) |
| Case 11 | (0.210) | Case 42 | (0.487) | Case 73 | 0.613 | Case 104 | 0.381 |
| Case 12 | 0.310 | Case 43 | (0.578) | Case 74 | (1.117) | Case 105 | 0.587 |
| Case 13 | (0.035) | Case 44 | 0.387 | Case 75 | 0.563 | Case 106 | (0.902) |
| Case 14 | (0.488) | Case 45 | (0.382) | Case 76 | 0.385 | Case 107 | (0.131) |
| Case 15 | (0.010) | Case 46 | 0.490 | Case 77 | (0.819) | Case 108 | 0.025 |
| Case 16 | (0.137) | Case 47 | (1.489) | Case 78 | (0.770) | Case 109 | (2.813) |
| Case 17 | 0.969 | Case 48 | 0.898 | Case 79 | (2.119) | Case 110 | 0.053 |
| Case 18 | (0.514) | Case 49 | 2.619 | Case 80 | (0.237) | Case 111 | (0.247) |
| Case 19 | (0.364) | Case 50 | 2.713 | Case 81 | (0.026) | Case 112 | (2.070) |
| Case 20 | (2.718) | Case 51 | 0.061 | Case 82 | 1.001 | Case 113 | (1.792) |
| Case 21 | (0.387) | Case 52 | 1.411 | Case 83 | (0.176) | Case 114 | (0.100) |
| Case 22 | (0.533) | Case 53 | 0.780 | Case 84 | 0.136 | Case 115 | (0.362) |
| Case 23 | 0.524 | Case 54 | 0.827 | Case 85 | (0.099) | Case 116 | (0.665) |
| Case 24 | (0.185) | Case 55 | 0.596 | Case 86 | 0.932 | Case 117 | (2.015) |
| Case 25 | 0.592 | Case 56 | 2.204 | Case 87 | 0.900 | Case 118 | 0.660 |
| Case 26 | 0.796 | Case 57 | 0.176 | Case 88 | 2.345 | Case 119 | (0.250) |
| Case 27 | (0.911) | Case 58 | 0.277 | Case 89 | 0.440 | Case 120 | 1.169 |
| Case 28 | (0.776) | Case 59 | (0.569) | Case 90 | 0.265 | Case 121 | 0.868 |
| Case 29 | 0.768 | Case 60 | 0.552 | Case 91 | 0.113 | Case 122 | (1.655) |
| Case 30 | (1.274) | Case 61 | 0.632 | Case 92 | 1.268 | Case 123 | (0.980) |
| Case 31 | 1.626 | Case 62 | 0.905 | Case 93 | 0.318 | Case 124 | 0.163 |

Source: Author

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| Z-SCORES FOR HA | | | | | | | |
|------------------------|-----------------------|-------------|-----------------------|-------------|-----------------------|-------------|-----------------------|
| Case | Standard Score | Case | Standard Score | Case | Standard Score | Case | Standard Score |
| Case 1 | 1.175 | Case 32 | 0.128 | Case 63 | (0.369) | Case 94 | (0.305) |
| Case 2 | 1.035 | Case 33 | 0.534 | Case 64 | (0.745) | Case 95 | 1.380 |
| Case 3 | 1.939 | Case 34 | 0.858 | Case 65 | (0.305) | Case 96 | 0.045 |
| Case 4 | 0.045 | Case 35 | (1.650) | Case 66 | (0.449) | Case 97 | (1.372) |
| Case 5 | 0.912 | Case 36 | (0.220) | Case 67 | (0.932) | Case 98 | 0.057 |
| Case 6 | (0.874) | Case 37 | (0.706) | Case 68 | (0.525) | Case 99 | 1.198 |
| Case 7 | 0.117 | Case 38 | 0.906 | Case 69 | 0.045 | Case 100 | (0.880) |
| Case 8 | 1.376 | Case 39 | (0.148) | Case 70 | (2.594) | Case 101 | 0.045 |
| Case 9 | 0.164 | Case 40 | (1.826) | Case 71 | (0.932) | Case 102 | 0.463 |
| Case 10 | (0.930) | Case 41 | 0.144 | Case 72 | (0.305) | Case 103 | 0.045 |
| Case 11 | (0.812) | Case 42 | (2.034) | Case 73 | 0.669 | Case 104 | 0.353 |
| Case 12 | 0.246 | Case 43 | 0.045 | Case 74 | (0.305) | Case 105 | 0.636 |
| Case 13 | (0.380) | Case 44 | 0.362 | Case 75 | 0.605 | Case 106 | 0.045 |
| Case 14 | (2.043) | Case 45 | (1.419) | Case 76 | 0.359 | Case 107 | (0.602) |
| Case 15 | (0.327) | Case 46 | 0.508 | Case 77 | 0.045 | Case 108 | (0.256) |
| Case 16 | (0.617) | Case 47 | (0.305) | Case 78 | 0.045 | Case 109 | (1.372) |
| Case 17 | 1.082 | Case 48 | 1.005 | Case 79 | (1.372) | Case 110 | (0.199) |
| Case 18 | (2.296) | Case 49 | 2.428 | Case 80 | (0.893) | Case 111 | (0.923) |
| Case 19 | (1.340) | Case 50 | 2.488 | Case 81 | (0.361) | Case 112 | (0.745) |
| Case 20 | (1.372) | Case 51 | (0.184) | Case 82 | 1.115 | Case 113 | (0.745) |
| Case 21 | (1.441) | Case 52 | 1.511 | Case 83 | (0.719) | Case 114 | (0.528) |
| Case 22 | (2.542) | Case 53 | 0.873 | Case 84 | (0.043) | Case 115 | (1.330) |
| Case 23 | 0.553 | Case 54 | 0.926 | Case 85 | (0.525) | Case 116 | 0.045 |
| Case 24 | (0.741) | Case 55 | 0.647 | Case 86 | 1.041 | Case 117 | (0.745) |
| Case 25 | 0.642 | Case 56 | 2.144 | Case 87 | 1.007 | Case 118 | 0.728 |
| Case 26 | 0.890 | Case 57 | 0.027 | Case 88 | 2.243 | Case 119 | (0.932) |
| Case 27 | 0.045 | Case 58 | 0.195 | Case 89 | 0.438 | Case 120 | 1.285 |
| Case 28 | 0.045 | Case 59 | 0.045 | Case 90 | 0.176 | Case 121 | 0.971 |
| Case 29 | 0.858 | Case 60 | 0.591 | Case 91 | (0.085) | Case 122 | (0.745) |
| Case 30 | (0.305) | Case 61 | 0.694 | Case 92 | 1.380 | Case 123 | 0.045 |
| Case 31 | 1.698 | Case 62 | 1.012 | Case 93 | 0.258 | Case 124 | 0.004 |

Source: Author

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| Z-SCORES FOR RA | | | | | | | |
|------------------------|-----------------------|-------------|-----------------------|-------------|-----------------------|-------------|-----------------------|
| Case | Standard Score | Case | Standard Score | Case | Standard Score | Case | Standard Score |
| Case 1 | 0.243 | Case 32 | 0.476 | Case 63 | 0.980 | Case 94 | (1.656) |
| Case 2 | 0.706 | Case 33 | 1.105 | Case 64 | (1.776) | Case 95 | 0.456 |
| Case 3 | (0.325) | Case 34 | 0.910 | Case 65 | (0.797) | Case 96 | (0.751) |
| Case 4 | 1.131 | Case 35 | (0.078) | Case 66 | 0.418 | Case 97 | (2.193) |
| Case 5 | 0.980 | Case 36 | (1.144) | Case 67 | (0.069) | Case 98 | 0.167 |
| Case 6 | 0.764 | Case 37 | (0.127) | Case 68 | 0.106 | Case 99 | (0.025) |
| Case 7 | (1.100) | Case 38 | 1.376 | Case 69 | (0.060) | Case 100 | 1.606 |
| Case 8 | (0.392) | Case 39 | 0.461 | Case 70 | 0.916 | Case 101 | 0.208 |
| Case 9 | (0.037) | Case 40 | 1.761 | Case 71 | (0.663) | Case 102 | 1.501 |
| Case 10 | (1.916) | Case 41 | (0.016) | Case 72 | (1.004) | Case 103 | (0.509) |
| Case 11 | (0.771) | Case 42 | 2.326 | Case 73 | 1.169 | Case 104 | 1.892 |
| Case 12 | 0.051 | Case 43 | 0.004 | Case 74 | (0.541) | Case 105 | 0.665 |
| Case 13 | (0.200) | Case 44 | 0.840 | Case 75 | (0.115) | Case 106 | 0.648 |
| Case 14 | 1.160 | Case 45 | 0.141 | Case 76 | 0.056 | Case 107 | 0.916 |
| Case 15 | 1.443 | Case 46 | 0.645 | Case 77 | (0.657) | Case 108 | 1.361 |
| Case 16 | (0.459) | Case 47 | (1.691) | Case 78 | (0.721) | Case 109 | (1.892) |
| Case 17 | 1.615 | Case 48 | 1.309 | Case 79 | (2.187) | Case 110 | (0.398) |
| Case 18 | (0.468) | Case 49 | (1.027) | Case 80 | (0.247) | Case 111 | (1.616) |
| Case 19 | (1.120) | Case 50 | 0.211 | Case 81 | 0.968 | Case 112 | (1.691) |
| Case 20 | (1.718) | Case 51 | (0.401) | Case 82 | (1.103) | Case 113 | (1.723) |
| Case 21 | (0.191) | Case 52 | 0.668 | Case 83 | 0.811 | Case 114 | (0.162) |
| Case 22 | 0.423 | Case 53 | 0.243 | Case 84 | 1.143 | Case 115 | 0.435 |
| Case 23 | 0.368 | Case 54 | 1.146 | Case 85 | 1.434 | Case 116 | (1.418) |
| Case 24 | (0.762) | Case 55 | (0.934) | Case 86 | 0.100 | Case 117 | (2.190) |
| Case 25 | 0.071 | Case 56 | (0.113) | Case 87 | 1.385 | Case 118 | (0.602) |
| Case 26 | (0.022) | Case 57 | (0.302) | Case 88 | 1.443 | Case 119 | 0.770 |
| Case 27 | (0.153) | Case 58 | (0.337) | Case 89 | 0.386 | Case 120 | (0.063) |
| Case 28 | (0.978) | Case 59 | (1.723) | Case 90 | 0.639 | Case 121 | (0.046) |
| Case 29 | 0.648 | Case 60 | (0.526) | Case 91 | 0.444 | Case 122 | (2.041) |
| Case 30 | (0.815) | Case 61 | 0.831 | Case 92 | 0.068 | Case 123 | (0.293) |
| Case 31 | (0.037) | Case 62 | 0.444 | Case 93 | 0.994 | Case 124 | 0.508 |

Source: Author

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
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| Z-SCORES FOR SA | | | | | | | |
|------------------------|-----------------------|-------------|-----------------------|-------------|-----------------------|-------------|-----------------------|
| Case | Standard Score | Case | Standard Score | Case | Standard Score | Case | Standard Score |
| Case 1 | 1.217 | Case 32 | 0.307 | Case 63 | (0.127) | Case 94 | (0.868) |
| Case 2 | 1.097 | Case 33 | 0.660 | Case 64 | (0.544) | Case 95 | 1.395 |
| Case 3 | 1.882 | Case 34 | 0.943 | Case 65 | (0.868) | Case 96 | (1.327) |
| Case 4 | (1.327) | Case 35 | (1.240) | Case 66 | (0.194) | Case 97 | (0.286) |
| Case 5 | 0.989 | Case 36 | 0.003 | Case 67 | (0.616) | Case 98 | 0.245 |
| Case 6 | (0.564) | Case 37 | (0.418) | Case 68 | (0.262) | Case 99 | 1.238 |
| Case 7 | 0.298 | Case 38 | 0.984 | Case 69 | (1.327) | Case 100 | (0.569) |
| Case 8 | 1.392 | Case 39 | 0.067 | Case 70 | (2.061) | Case 101 | (1.327) |
| Case 9 | 0.338 | Case 40 | (1.394) | Case 71 | (0.616) | Case 102 | 0.598 |
| Case 10 | (0.612) | Case 41 | 0.320 | Case 72 | (0.868) | Case 103 | (1.327) |
| Case 11 | (0.511) | Case 42 | (1.574) | Case 73 | 0.778 | Case 104 | 0.502 |
| Case 12 | 0.410 | Case 43 | (1.327) | Case 74 | (0.868) | Case 105 | 0.749 |
| Case 13 | (0.136) | Case 44 | 0.511 | Case 75 | 0.722 | Case 106 | (1.327) |
| Case 14 | (1.581) | Case 45 | (1.039) | Case 76 | 0.507 | Case 107 | (0.328) |
| Case 15 | (0.089) | Case 46 | 0.638 | Case 77 | (1.327) | Case 108 | (0.028) |
| Case 16 | (0.341) | Case 47 | (0.868) | Case 78 | (1.327) | Case 109 | (0.286) |
| Case 17 | 1.137 | Case 48 | 1.070 | Case 79 | (0.286) | Case 110 | 0.022 |
| Case 18 | (1.802) | Case 49 | 2.307 | Case 80 | (0.581) | Case 111 | (0.607) |
| Case 19 | (0.969) | Case 50 | 2.361 | Case 81 | (0.118) | Case 112 | (0.544) |
| Case 20 | (0.286) | Case 51 | 0.036 | Case 82 | 1.166 | Case 113 | (0.544) |
| Case 21 | (1.058) | Case 52 | 1.510 | Case 83 | (0.430) | Case 114 | (0.264) |
| Case 22 | (2.016) | Case 53 | 0.955 | Case 84 | 0.158 | Case 115 | (0.962) |
| Case 23 | 0.677 | Case 54 | 1.001 | Case 85 | (0.262) | Case 116 | (1.327) |
| Case 24 | (0.449) | Case 55 | 0.759 | Case 86 | 1.102 | Case 117 | (0.544) |
| Case 25 | 0.754 | Case 56 | 2.061 | Case 87 | 1.071 | Case 118 | 0.828 |
| Case 26 | 0.970 | Case 57 | 0.219 | Case 88 | 2.146 | Case 119 | (0.616) |
| Case 27 | (1.327) | Case 58 | 0.365 | Case 89 | 0.576 | Case 120 | 1.313 |
| Case 28 | (1.327) | Case 59 | (1.327) | Case 90 | 0.348 | Case 121 | 1.041 |
| Case 29 | 0.943 | Case 60 | 0.710 | Case 91 | 0.122 | Case 122 | (0.544) |
| Case 30 | (0.868) | Case 61 | 0.799 | Case 92 | 1.395 | Case 123 | (1.327) |
| Case 31 | 1.673 | Case 62 | 1.077 | Case 93 | 0.420 | Case 124 | 0.199 |

Source: Author

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| Z-SCORES FOR HL | | | | | | | |
|------------------------|-----------------------|-------------|-----------------------|-------------|-----------------------|-------------|-----------------------|
| Case | Standard Score | Case | Standard Score | Case | Standard Score | Case | Standard Score |
| Case 1 | 0.769 | Case 32 | 1.537 | Case 63 | (0.679) | Case 94 | (1.467) |
| Case 2 | 1.301 | Case 33 | (0.937) | Case 64 | (0.590) | Case 95 | (0.498) |
| Case 3 | 0.134 | Case 34 | 0.758 | Case 65 | (1.029) | Case 96 | (1.374) |
| Case 4 | (1.424) | Case 35 | (0.363) | Case 66 | 0.206 | Case 97 | (0.469) |
| Case 5 | 1.418 | Case 36 | (0.599) | Case 67 | 1.659 | Case 98 | (0.667) |
| Case 6 | (0.068) | Case 37 | (0.742) | Case 68 | 0.601 | Case 99 | 1.039 |
| Case 7 | 1.465 | Case 38 | 0.818 | Case 69 | (1.437) | Case 100 | 0.732 |
| Case 8 | 0.214 | Case 39 | (0.795) | Case 70 | 0.565 | Case 101 | (0.707) |
| Case 9 | (0.037) | Case 40 | 0.429 | Case 71 | (0.301) | Case 102 | (1.502) |
| Case 10 | 0.863 | Case 41 | 0.270 | Case 72 | (1.337) | Case 103 | (0.608) |
| Case 11 | 0.870 | Case 42 | 0.322 | Case 73 | (0.754) | Case 104 | (0.083) |
| Case 12 | 0.250 | Case 43 | (0.439) | Case 74 | (1.555) | Case 105 | 1.132 |
| Case 13 | 0.534 | Case 44 | 0.343 | Case 75 | 0.513 | Case 106 | (1.370) |
| Case 14 | (0.001) | Case 45 | (0.014) | Case 76 | 0.953 | Case 107 | (1.235) |
| Case 15 | (0.828) | Case 46 | 2.053 | Case 77 | (0.991) | Case 108 | (0.733) |
| Case 16 | 1.033 | Case 47 | (2.029) | Case 78 | (0.189) | Case 109 | (1.361) |
| Case 17 | 0.091 | Case 48 | 0.642 | Case 79 | (0.943) | Case 110 | 0.642 |
| Case 18 | 0.510 | Case 49 | 0.813 | Case 80 | 1.646 | Case 111 | 2.789 |
| Case 19 | (0.077) | Case 50 | 1.685 | Case 81 | 1.262 | Case 112 | (0.213) |
| Case 20 | (0.274) | Case 51 | 0.069 | Case 82 | 0.500 | Case 113 | (2.193) |
| Case 21 | (0.404) | Case 52 | (0.749) | Case 83 | 0.798 | Case 114 | (0.092) |
| Case 22 | (0.376) | Case 53 | (2.205) | Case 84 | 1.076 | Case 115 | (0.282) |
| Case 23 | 1.408 | Case 54 | 1.088 | Case 85 | (0.675) | Case 116 | (0.278) |
| Case 24 | 0.675 | Case 55 | 0.684 | Case 86 | (2.205) | Case 117 | (0.423) |
| Case 25 | (1.095) | Case 56 | 0.835 | Case 87 | 0.822 | Case 118 | 1.039 |
| Case 26 | 1.194 | Case 57 | 0.252 | Case 88 | (0.008) | Case 119 | 0.064 |
| Case 27 | (1.463) | Case 58 | (0.876) | Case 89 | 1.686 | Case 120 | 0.866 |
| Case 28 | (1.190) | Case 59 | (0.806) | Case 90 | 1.355 | Case 121 | 0.098 |
| Case 29 | (0.704) | Case 60 | 1.061 | Case 91 | (0.111) | Case 122 | (1.718) |
| Case 30 | (0.752) | Case 61 | (0.582) | Case 92 | 0.801 | Case 123 | (0.849) |
| Case 31 | 0.048 | Case 62 | 1.416 | Case 93 | (0.076) | Case 124 | 0.139 |

Source: Author

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| Z-SCORES FOR RL | | | | | | | |
|------------------------|-----------------------|-------------|-----------------------|-------------|-----------------------|-------------|-----------------------|
| Case | Standard Score | Case | Standard Score | Case | Standard Score | Case | Standard Score |
| Case 1 | 0.099 | Case 32 | 0.595 | Case 63 | (0.596) | Case 94 | 0.045 |
| Case 2 | (0.034) | Case 33 | (0.481) | Case 64 | (2.193) | Case 95 | (0.245) |
| Case 3 | 0.982 | Case 34 | 1.176 | Case 65 | (0.010) | Case 96 | (1.546) |
| Case 4 | (1.038) | Case 35 | (0.802) | Case 66 | 1.514 | Case 97 | (2.060) |
| Case 5 | 1.436 | Case 36 | (0.276) | Case 67 | 1.121 | Case 98 | 0.220 |
| Case 6 | (0.397) | Case 37 | (0.282) | Case 68 | (3.571) | Case 99 | 1.091 |
| Case 7 | 0.758 | Case 38 | 1.647 | Case 69 | 0.389 | Case 100 | 0.117 |
| Case 8 | 0.728 | Case 39 | 1.980 | Case 70 | (0.221) | Case 101 | (2.283) |
| Case 9 | (0.022) | Case 40 | 0.595 | Case 71 | (0.705) | Case 102 | 0.958 |
| Case 10 | 1.224 | Case 41 | 0.825 | Case 72 | (0.856) | Case 103 | (1.098) |
| Case 11 | 0.958 | Case 42 | 0.607 | Case 73 | 1.043 | Case 104 | 0.631 |
| Case 12 | 1.085 | Case 43 | (0.179) | Case 74 | (1.582) | Case 105 | (1.455) |
| Case 13 | (0.040) | Case 44 | (0.197) | Case 75 | 0.619 | Case 106 | (0.209) |
| Case 14 | (0.663) | Case 45 | 1.363 | Case 76 | 0.432 | Case 107 | (0.276) |
| Case 15 | 0.649 | Case 46 | (0.578) | Case 77 | (0.336) | Case 108 | 0.468 |
| Case 16 | 0.008 | Case 47 | (0.324) | Case 78 | (1.951) | Case 109 | (1.213) |
| Case 17 | (0.445) | Case 48 | 0.389 | Case 79 | (0.717) | Case 110 | 0.002 |
| Case 18 | 0.377 | Case 49 | 0.897 | Case 80 | (0.070) | Case 111 | 1.290 |
| Case 19 | 0.613 | Case 50 | 0.807 | Case 81 | (0.028) | Case 112 | (1.461) |
| Case 20 | (0.149) | Case 51 | 0.813 | Case 82 | 1.049 | Case 113 | (0.959) |
| Case 21 | 1.103 | Case 52 | 0.008 | Case 83 | (0.566) | Case 114 | (0.433) |
| Case 22 | 1.067 | Case 53 | 0.389 | Case 84 | 0.027 | Case 115 | (0.342) |
| Case 23 | 0.595 | Case 54 | 0.686 | Case 85 | (2.132) | Case 116 | (0.766) |
| Case 24 | 1.593 | Case 55 | 0.704 | Case 86 | (0.379) | Case 117 | (0.463) |
| Case 25 | 1.200 | Case 56 | 0.789 | Case 87 | 0.389 | Case 118 | (0.300) |
| Case 26 | 0.982 | Case 57 | 0.323 | Case 88 | 0.770 | Case 119 | 0.166 |
| Case 27 | (0.197) | Case 58 | 0.728 | Case 89 | (0.675) | Case 120 | 0.129 |
| Case 28 | 0.184 | Case 59 | (0.983) | Case 90 | 1.091 | Case 121 | (1.195) |
| Case 29 | (2.610) | Case 60 | (1.455) | Case 91 | 1.030 | Case 122 | (1.328) |
| Case 30 | (1.739) | Case 61 | 0.529 | Case 92 | (0.651) | Case 123 | 0.051 |
| Case 31 | (0.318) | Case 62 | (0.536) | Case 93 | 1.248 | Case 124 | 1.230 |

Source: Author

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
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| Z-SCORES FOR SL | | | | | | | |
|------------------------|-----------------------|-------------|-----------------------|-------------|-----------------------|-------------|-----------------------|
| Case | Standard Score | Case | Standard Score | Case | Standard Score | Case | Standard Score |
| Case 1 | 1.310 | Case 32 | (0.810) | Case 63 | (0.324) | Case 94 | (0.832) |
| Case 2 | 0.256 | Case 33 | 0.624 | Case 64 | (1.147) | Case 95 | (0.444) |
| Case 3 | (1.493) | Case 34 | 0.381 | Case 65 | (0.865) | Case 96 | (0.490) |
| Case 4 | (0.827) | Case 35 | (1.238) | Case 66 | 0.198 | Case 97 | (0.374) |
| Case 5 | (0.187) | Case 36 | 0.549 | Case 67 | 0.415 | Case 98 | 1.233 |
| Case 6 | 0.039 | Case 37 | (0.892) | Case 68 | 1.302 | Case 99 | (0.863) |
| Case 7 | (1.094) | Case 38 | (0.047) | Case 69 | (1.460) | Case 100 | 1.663 |
| Case 8 | (1.462) | Case 39 | 1.485 | Case 70 | 1.098 | Case 101 | (0.384) |
| Case 9 | 0.684 | Case 40 | (0.204) | Case 71 | 0.780 | Case 102 | 0.492 |
| Case 10 | 0.925 | Case 41 | 1.488 | Case 72 | (1.000) | Case 103 | (1.657) |
| Case 11 | (0.091) | Case 42 | 1.247 | Case 73 | 2.758 | Case 104 | (1.082) |
| Case 12 | 1.047 | Case 43 | (0.589) | Case 74 | (0.177) | Case 105 | 0.078 |
| Case 13 | 1.153 | Case 44 | 0.537 | Case 75 | (0.134) | Case 106 | (0.483) |
| Case 14 | (1.147) | Case 45 | 0.715 | Case 76 | 0.268 | Case 107 | 1.680 |
| Case 15 | 1.603 | Case 46 | 0.886 | Case 77 | (0.476) | Case 108 | (0.935) |
| Case 16 | 0.027 | Case 47 | (1.224) | Case 78 | (1.705) | Case 109 | (0.812) |
| Case 17 | (2.150) | Case 48 | 0.054 | Case 79 | (1.334) | Case 110 | (0.387) |
| Case 18 | 2.212 | Case 49 | (0.168) | Case 80 | 0.150 | Case 111 | (0.598) |
| Case 19 | 0.172 | Case 50 | (0.038) | Case 81 | 0.508 | Case 112 | (1.248) |
| Case 20 | (1.178) | Case 51 | 0.097 | Case 82 | 1.507 | Case 113 | (0.531) |
| Case 21 | (0.086) | Case 52 | 0.121 | Case 83 | (0.196) | Case 114 | 1.033 |
| Case 22 | 1.461 | Case 53 | (1.948) | Case 84 | (0.781) | Case 115 | 0.395 |
| Case 23 | 0.179 | Case 54 | 0.905 | Case 85 | 2.650 | Case 116 | (1.180) |
| Case 24 | 0.407 | Case 55 | (0.346) | Case 86 | 0.030 | Case 117 | (0.598) |
| Case 25 | (0.204) | Case 56 | 1.817 | Case 87 | (0.644) | Case 118 | 0.819 |
| Case 26 | 1.168 | Case 57 | (0.461) | Case 88 | 0.143 | Case 119 | 1.428 |
| Case 27 | (0.423) | Case 58 | (1.967) | Case 89 | (0.233) | Case 120 | (0.317) |
| Case 28 | (0.062) | Case 59 | (0.870) | Case 90 | 1.541 | Case 121 | (0.230) |
| Case 29 | 1.124 | Case 60 | (0.399) | Case 91 | 0.003 | Case 122 | (0.928) |
| Case 30 | 0.299 | Case 61 | (0.384) | Case 92 | (0.146) | Case 123 | (0.858) |
| Case 31 | (0.192) | Case 62 | (1.387) | Case 93 | 1.507 | Case 124 | 0.764 |

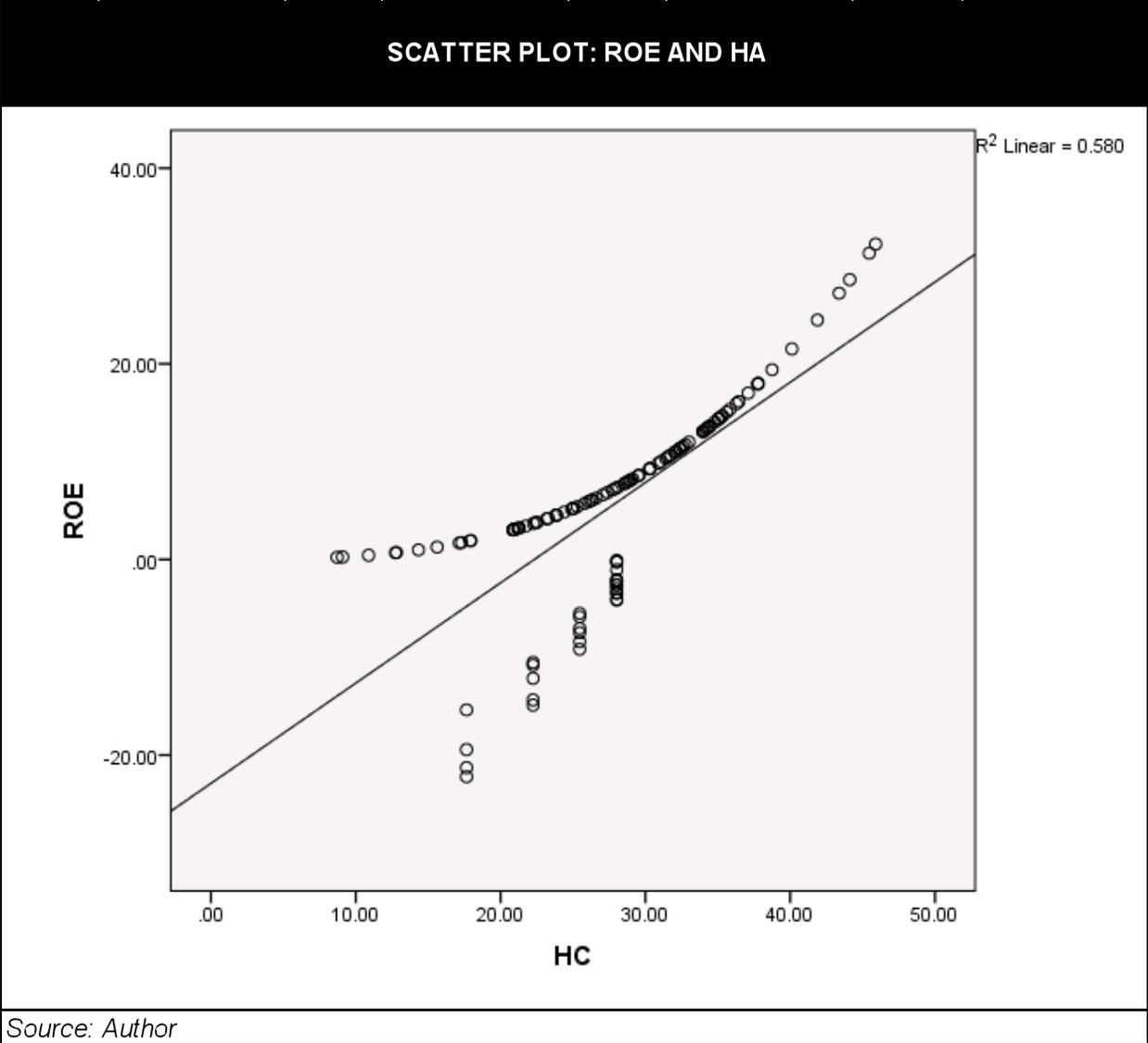
Source: Author

APPENDIX G: PROBABILITIES OF D2

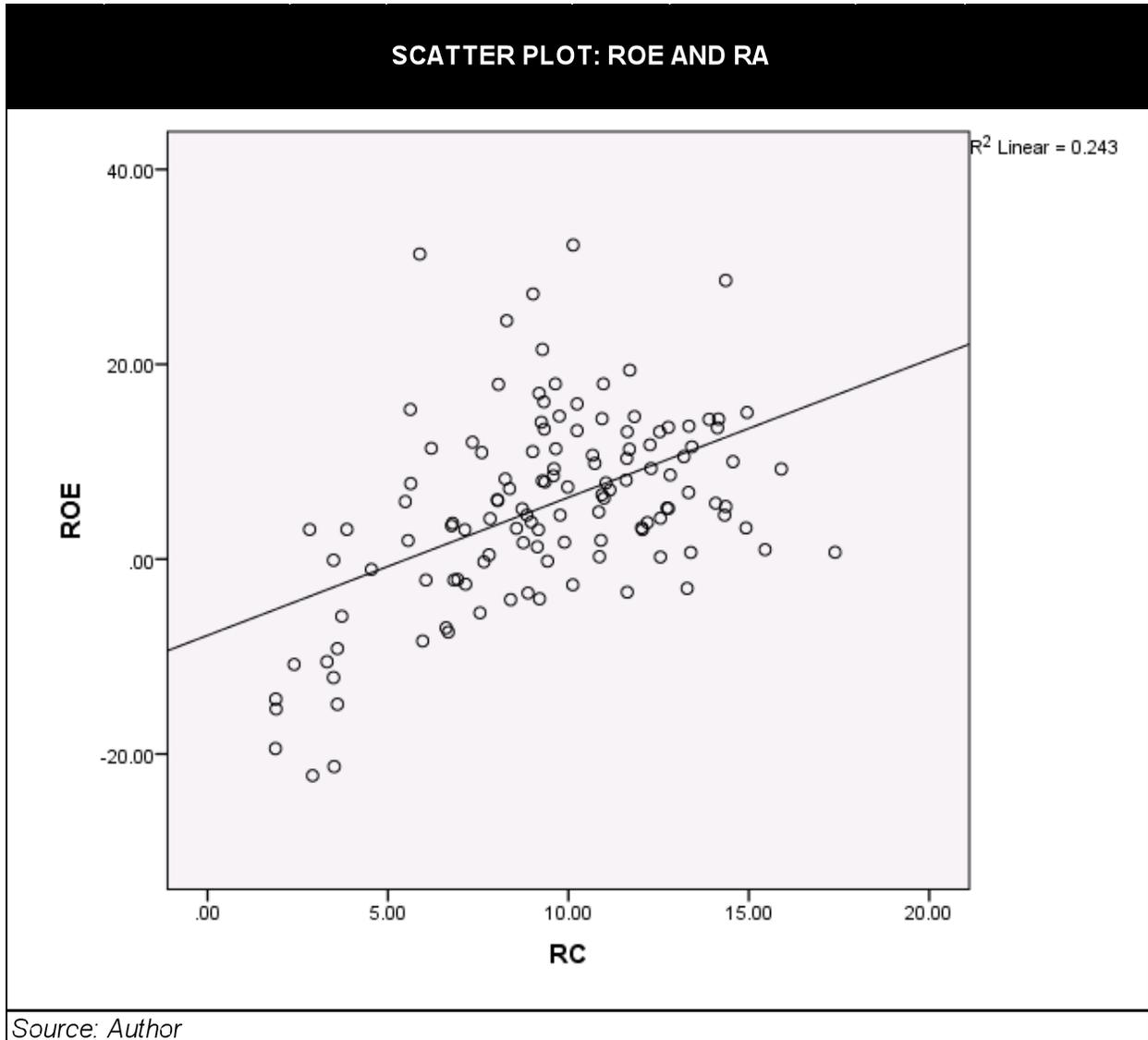
| PROBABILITIES OF D ² | | | | | | | |
|---------------------------------|----------------------------|---------|----------------------------|---------|----------------------------|----------|----------------------------|
| Case | Probability D ² | Case | Probability D ² | Case | Probability D ² | Case | Probability D ² |
| Case 1 | 0.310 | Case 32 | 0.358 | Case 63 | 0.219 | Case 94 | 0.478 |
| Case 2 | 0.175 | Case 33 | 0.334 | Case 64 | 0.736 | Case 95 | 0.256 |
| Case 3 | 0.703 | Case 34 | 0.104 | Case 65 | 0.135 | Case 96 | 0.742 |
| Case 4 | 0.869 | Case 35 | 0.573 | Case 66 | 0.176 | Case 97 | 0.967 |
| Case 5 | 0.361 | Case 36 | 0.179 | Case 67 | 0.495 | Case 98 | 0.164 |
| Case 6 | 0.093 | Case 37 | 0.125 | Case 68 | 0.996 | Case 99 | 0.320 |
| Case 7 | 0.553 | Case 38 | 0.389 | Case 69 | 0.839 | Case 100 | 0.519 |
| Case 8 | 0.455 | Case 39 | 0.759 | Case 70 | 0.859 | Case 101 | 0.901 |
| Case 9 | 0.007 | Case 40 | 0.871 | Case 71 | 0.135 | Case 102 | 0.737 |
| Case 10 | 0.857 | Case 41 | 0.198 | Case 72 | 0.188 | Case 103 | 0.762 |
| Case 11 | 0.247 | Case 42 | 0.935 | Case 73 | 0.926 | Case 104 | 0.725 |
| Case 12 | 0.105 | Case 43 | 0.688 | Case 74 | 0.342 | Case 105 | 0.565 |
| Case 13 | 0.076 | Case 44 | 0.023 | Case 75 | 0.013 | Case 106 | 0.762 |
| Case 14 | 0.922 | Case 45 | 0.418 | Case 76 | 0.015 | Case 107 | 0.602 |
| Case 15 | 0.540 | Case 46 | 0.639 | Case 77 | 0.669 | Case 108 | 0.574 |
| Case 16 | 0.084 | Case 47 | 0.634 | Case 78 | 0.901 | Case 109 | 0.947 |
| Case 17 | 0.941 | Case 48 | 0.140 | Case 79 | 0.951 | Case 110 | 0.014 |
| Case 18 | 0.900 | Case 49 | 0.846 | Case 80 | 0.398 | Case 111 | 0.987 |
| Case 19 | 0.288 | Case 50 | 0.769 | Case 81 | 0.185 | Case 112 | 0.506 |
| Case 20 | 0.857 | Case 51 | 0.020 | Case 82 | 0.807 | Case 113 | 0.771 |
| Case 21 | 0.378 | Case 52 | 0.385 | Case 83 | 0.242 | Case 114 | 0.062 |
| Case 22 | 0.875 | Case 53 | 0.960 | Case 84 | 0.392 | Case 115 | 0.128 |
| Case 23 | 0.095 | Case 54 | 0.168 | Case 85 | 0.987 | Case 116 | 0.805 |
| Case 24 | 0.443 | Case 55 | 0.153 | Case 86 | 0.844 | Case 117 | 0.476 |
| Case 25 | 0.429 | Case 56 | 0.891 | Case 87 | 0.345 | Case 118 | 0.292 |
| Case 26 | 0.310 | Case 57 | 0.005 | Case 88 | 0.668 | Case 119 | 0.189 |
| Case 27 | 0.701 | Case 58 | 0.675 | Case 89 | 0.428 | Case 120 | 0.125 |
| Case 28 | 0.819 | Case 59 | 0.813 | Case 90 | 0.333 | Case 121 | 0.245 |
| Case 29 | 0.960 | Case 60 | 0.505 | Case 91 | 0.043 | Case 122 | 0.734 |
| Case 30 | 0.415 | Case 61 | 0.158 | Case 92 | 0.266 | Case 123 | 0.692 |
| Case 31 | 0.292 | Case 62 | 0.652 | Case 93 | 0.314 | Case 124 | 0.073 |

Source: Author

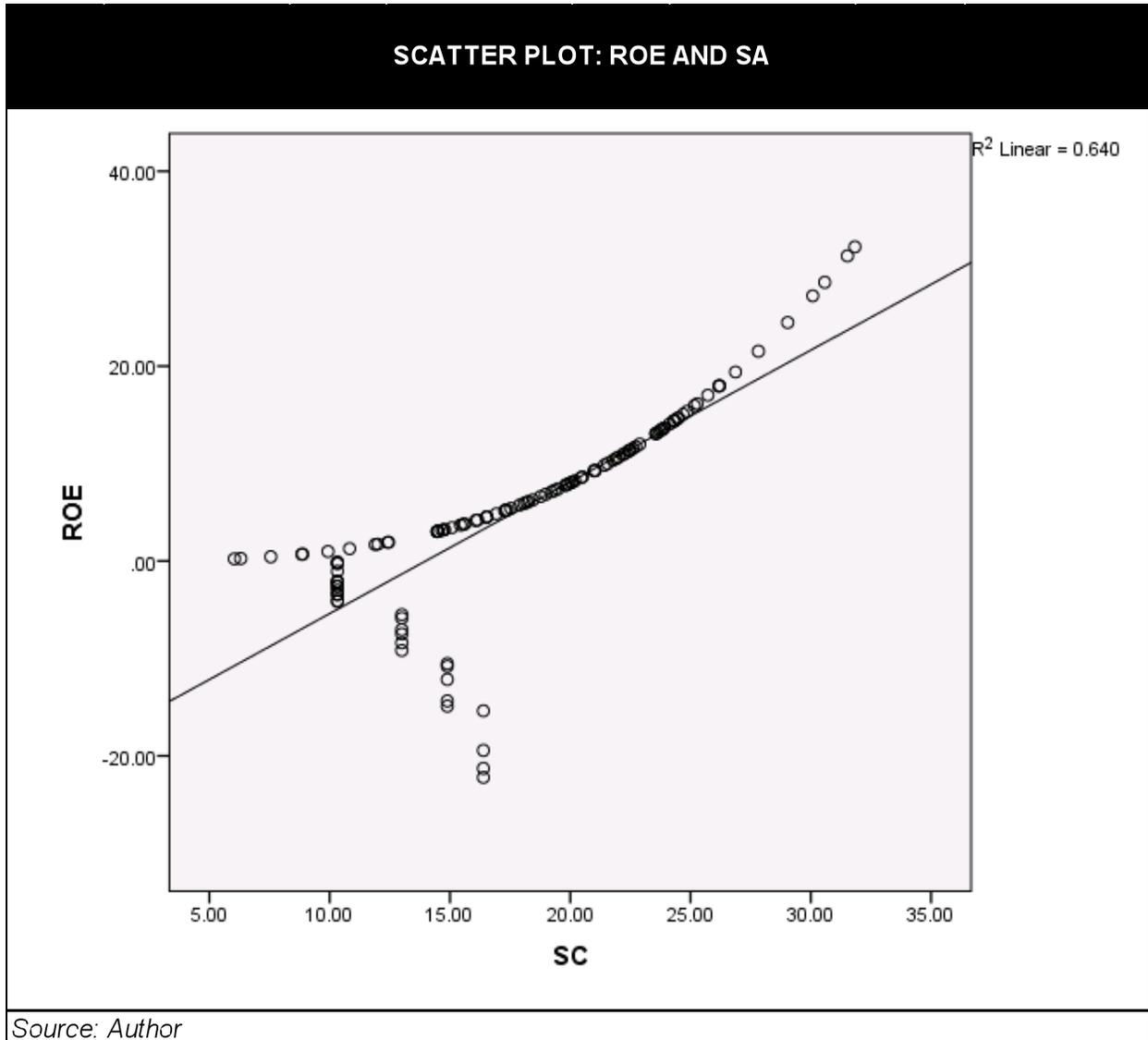
APPENDIX H: SCATTER PLOTS



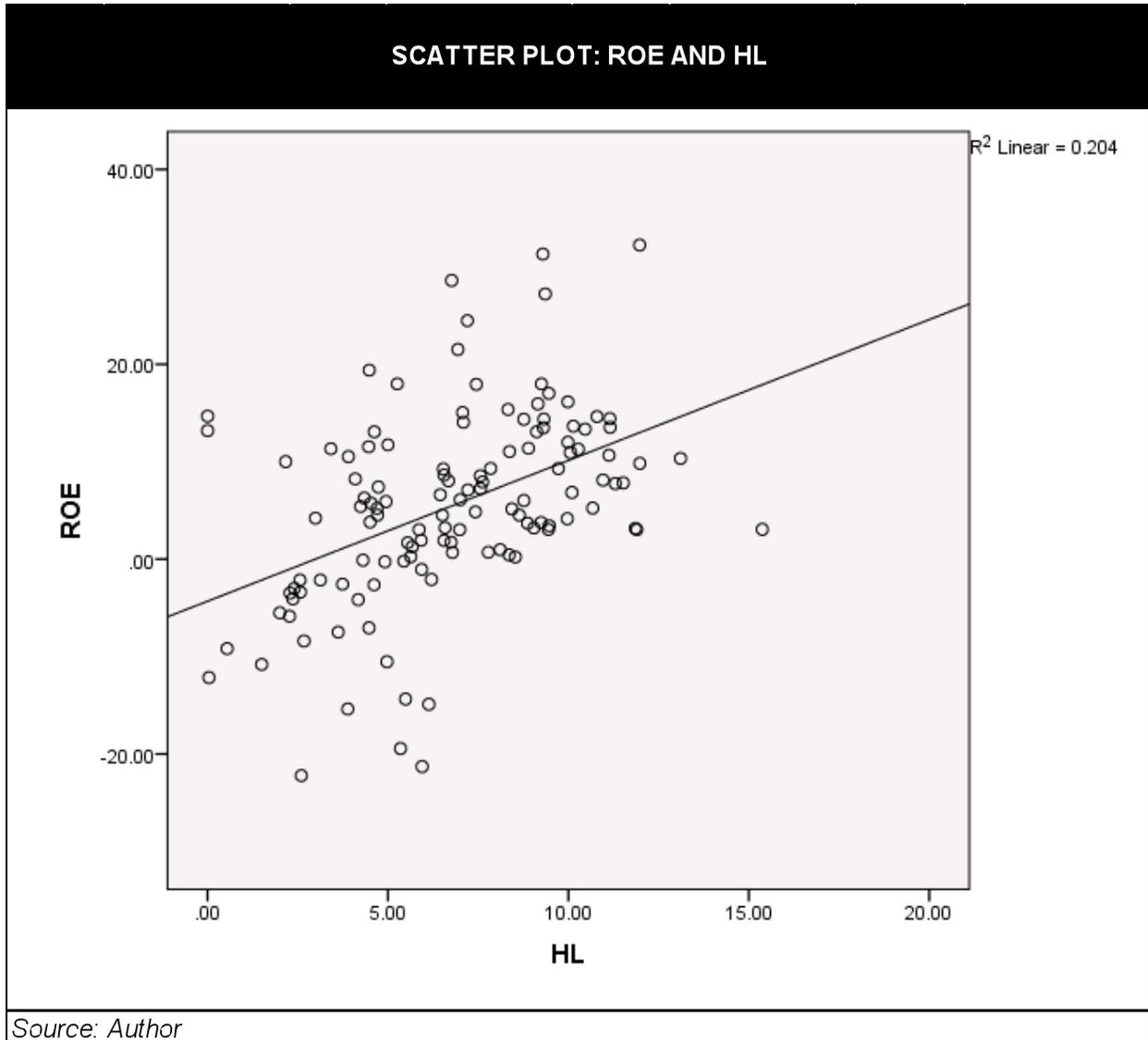
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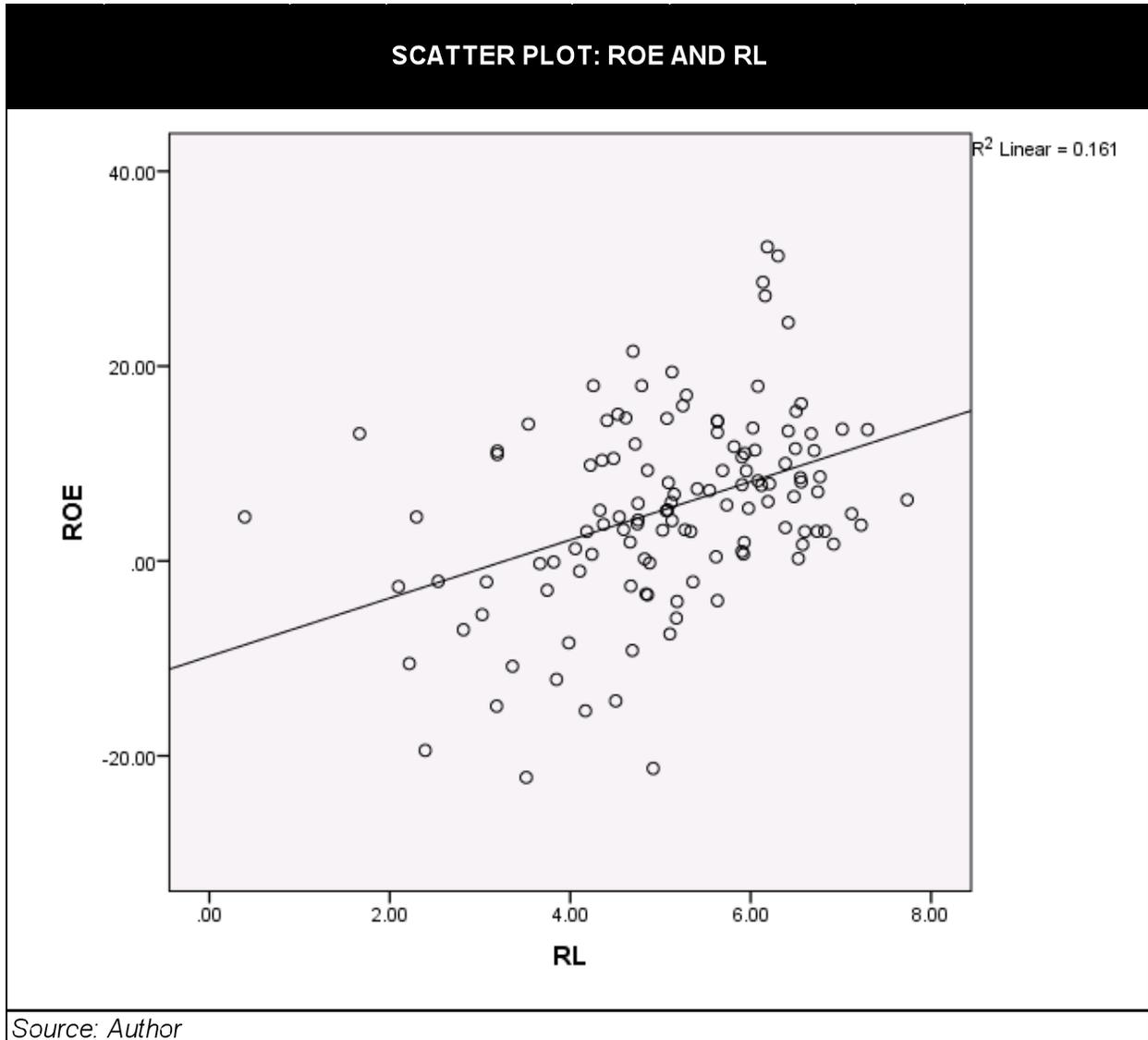
The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
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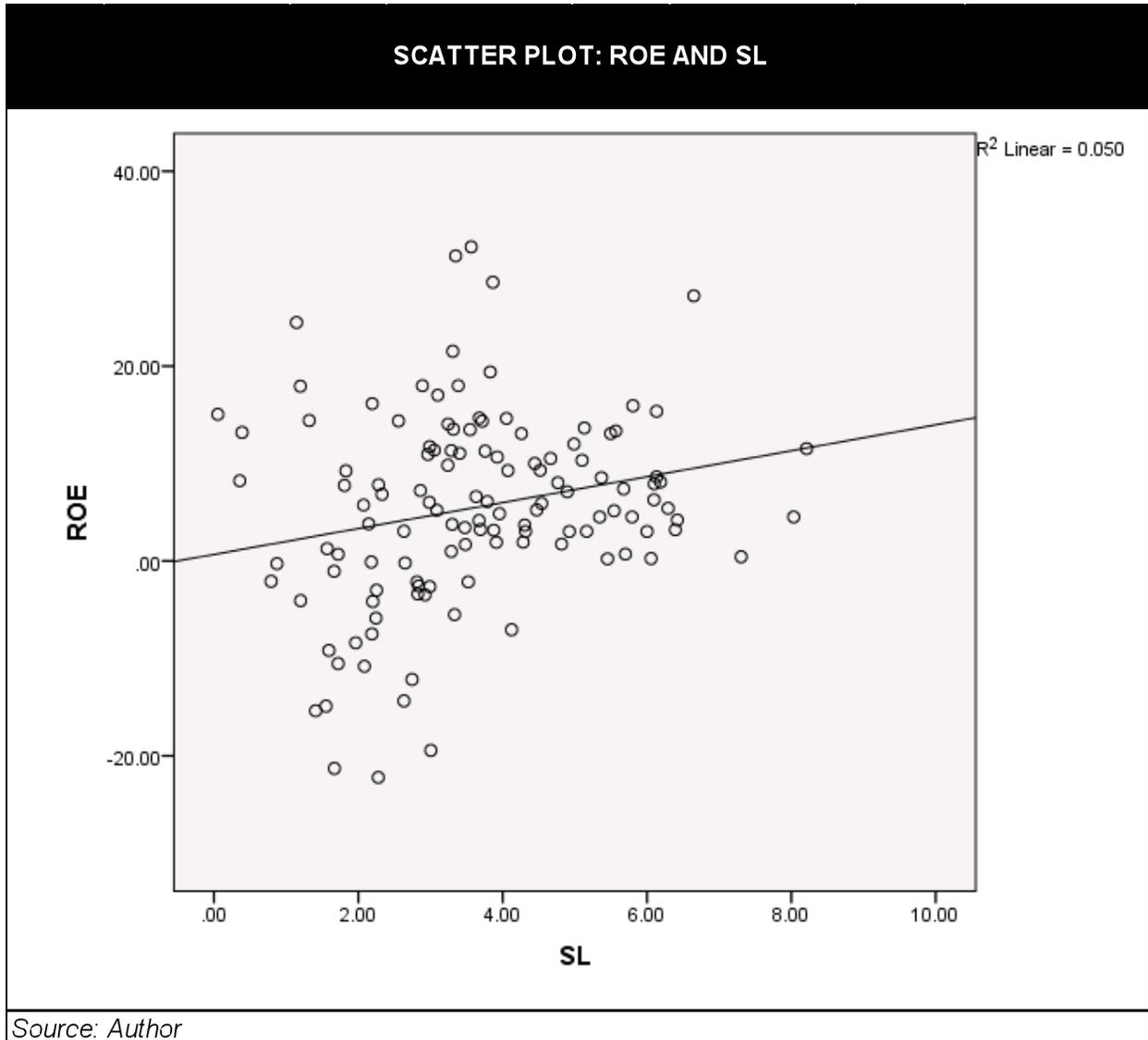
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The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
An Empirical Analysis of Publicly Listed Companies in the United Arab Emirates



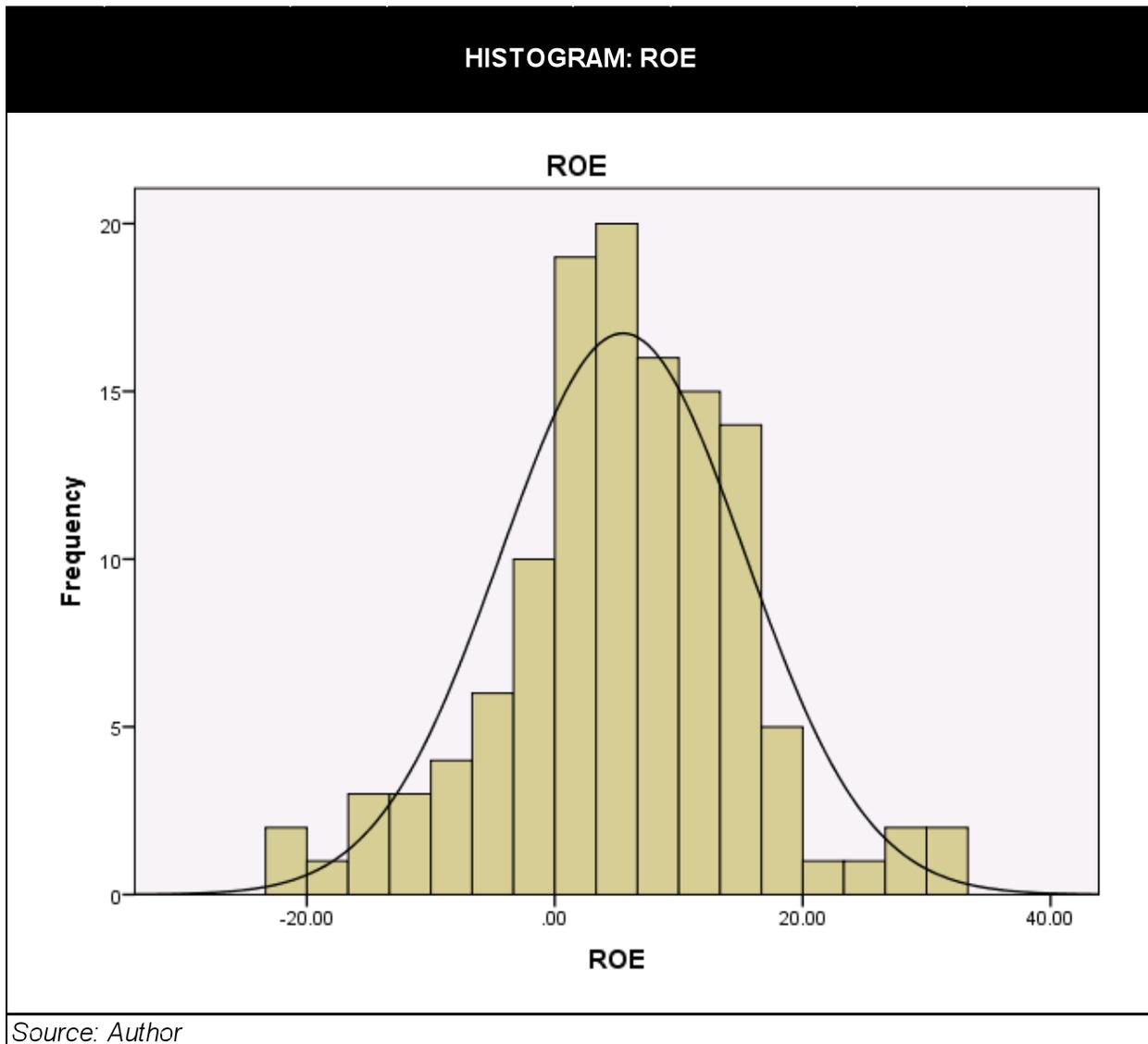
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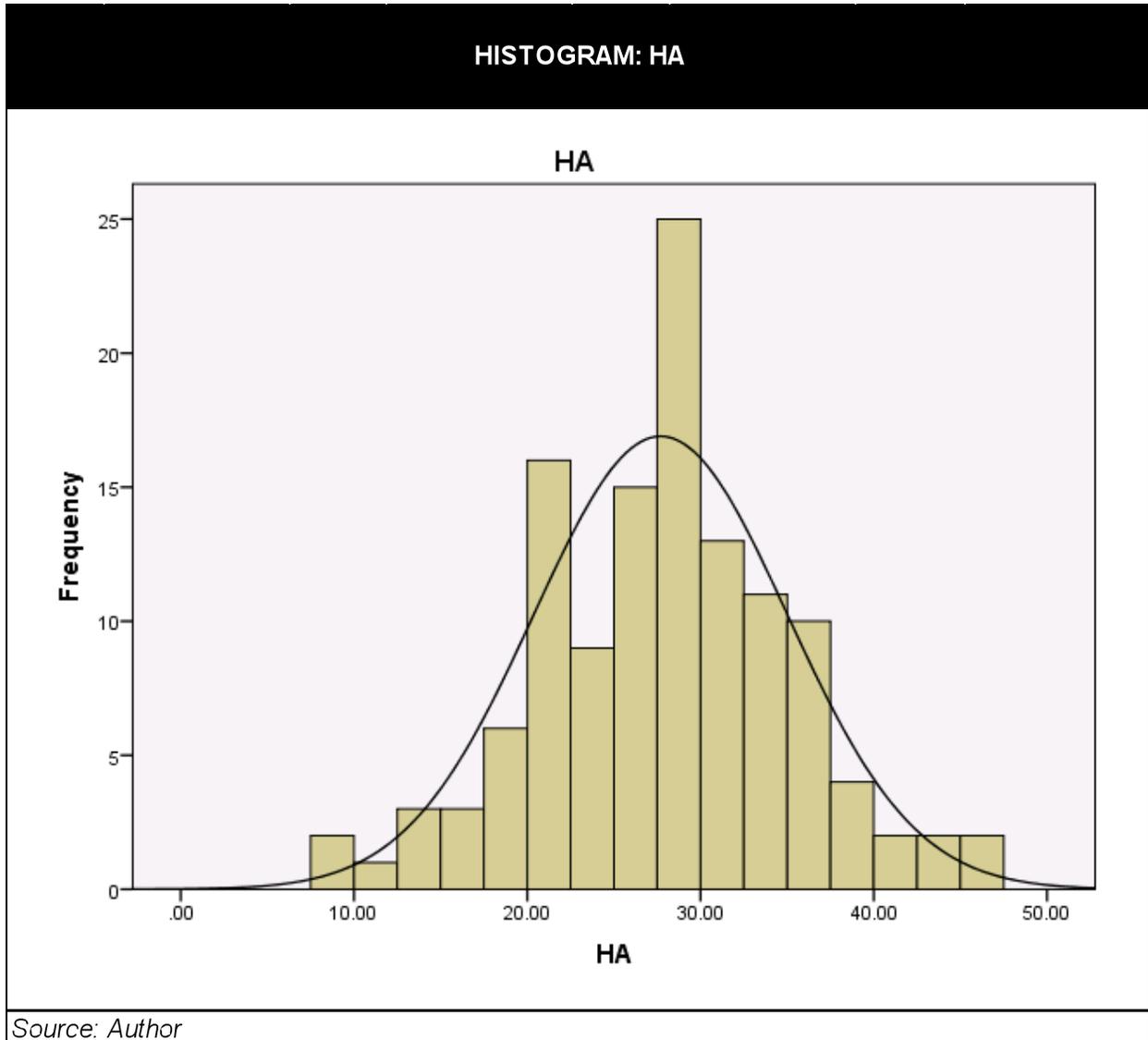


APPENDIX I: CORRELATIONS

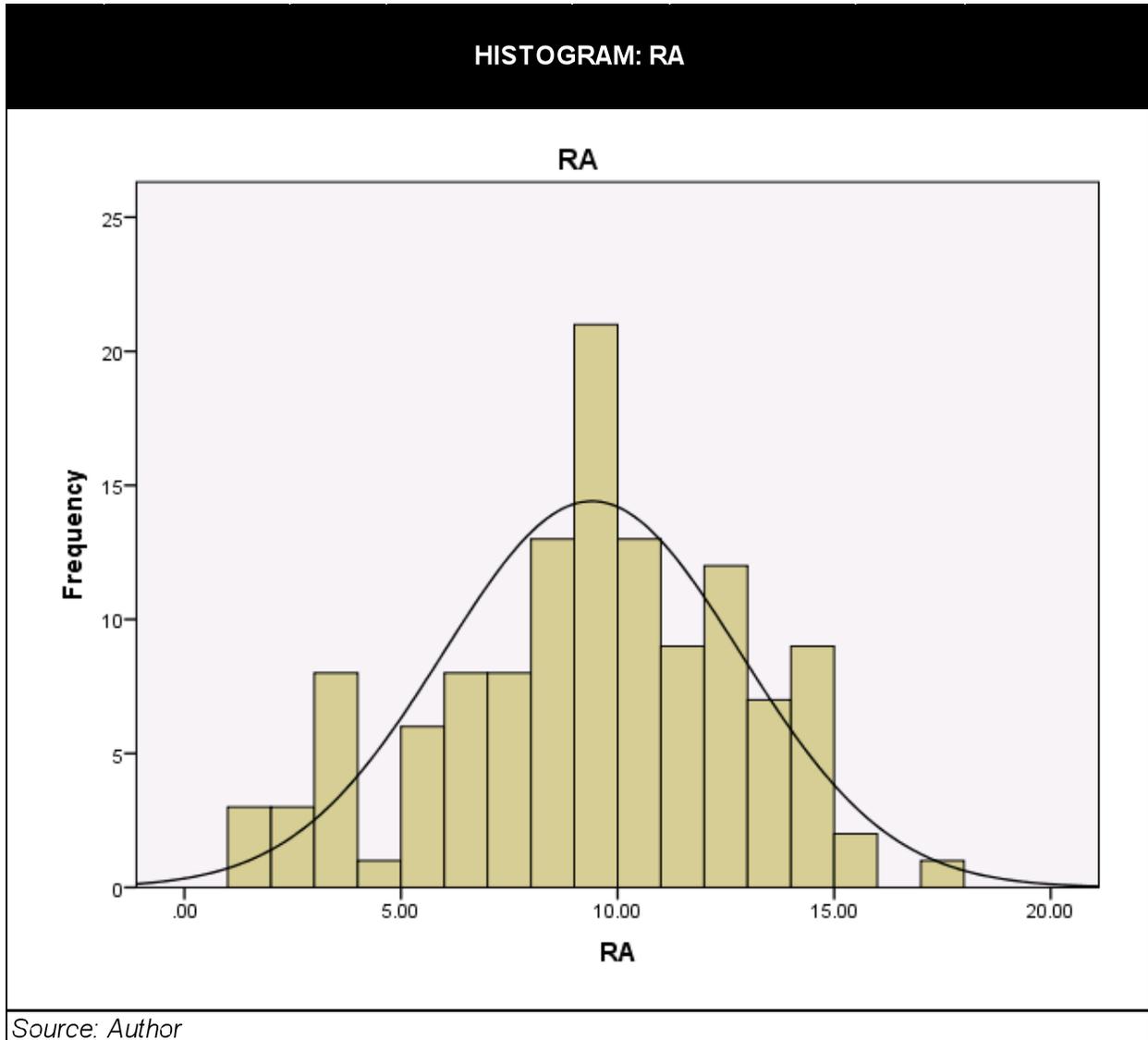
| CORRELATIONS | | | | | | | | |
|---|---------------------|--------|---------|--------|--------|--------|-------|----|
| | | ROE | HA | RA | SA | HL | RL | SL |
| ROE | Pearson Correlation | 1 | | | | | | |
| | Sig. (2-tailed) | | | | | | | |
| HA | Pearson Correlation | .761** | 1 | | | | | |
| | Sig. (2-tailed) | 0.000 | | | | | | |
| RA | Pearson Correlation | .493** | .182* | 1 | | | | |
| | Sig. (2-tailed) | 0.000 | .043 | | | | | |
| SA | Pearson Correlation | .800** | .845** | .228* | 1 | | | |
| | Sig. (2-tailed) | 0.000 | 0.000 | 0.011 | | | | |
| HL | Pearson Correlation | .451** | .165 | .188* | .349** | 1 | | |
| | Sig. (2-tailed) | 0.000 | 0.067 | 0.036 | 0.000 | | | |
| RL | Pearson Correlation | .401** | .149 | .234** | .266** | .301** | 1 | |
| | Sig. (2-tailed) | 0.000 | 0.100 | 0.009 | 0.003 | 0.001 | | |
| SL | Pearson Correlation | .224* | (0.088) | .325** | 0.075 | .211* | .200* | 1 |
| | Sig. (2-tailed) | 0.012 | 0.330 | 0.000 | 0.406 | 0.018 | 0.026 | |
| ** . Correlation is significant at the 0.01 level (2-tailed). | | | | | | | | |
| * . Correlation is significant at the 0.05 level (2-tailed). | | | | | | | | |
| <i>Source: Author</i> | | | | | | | | |

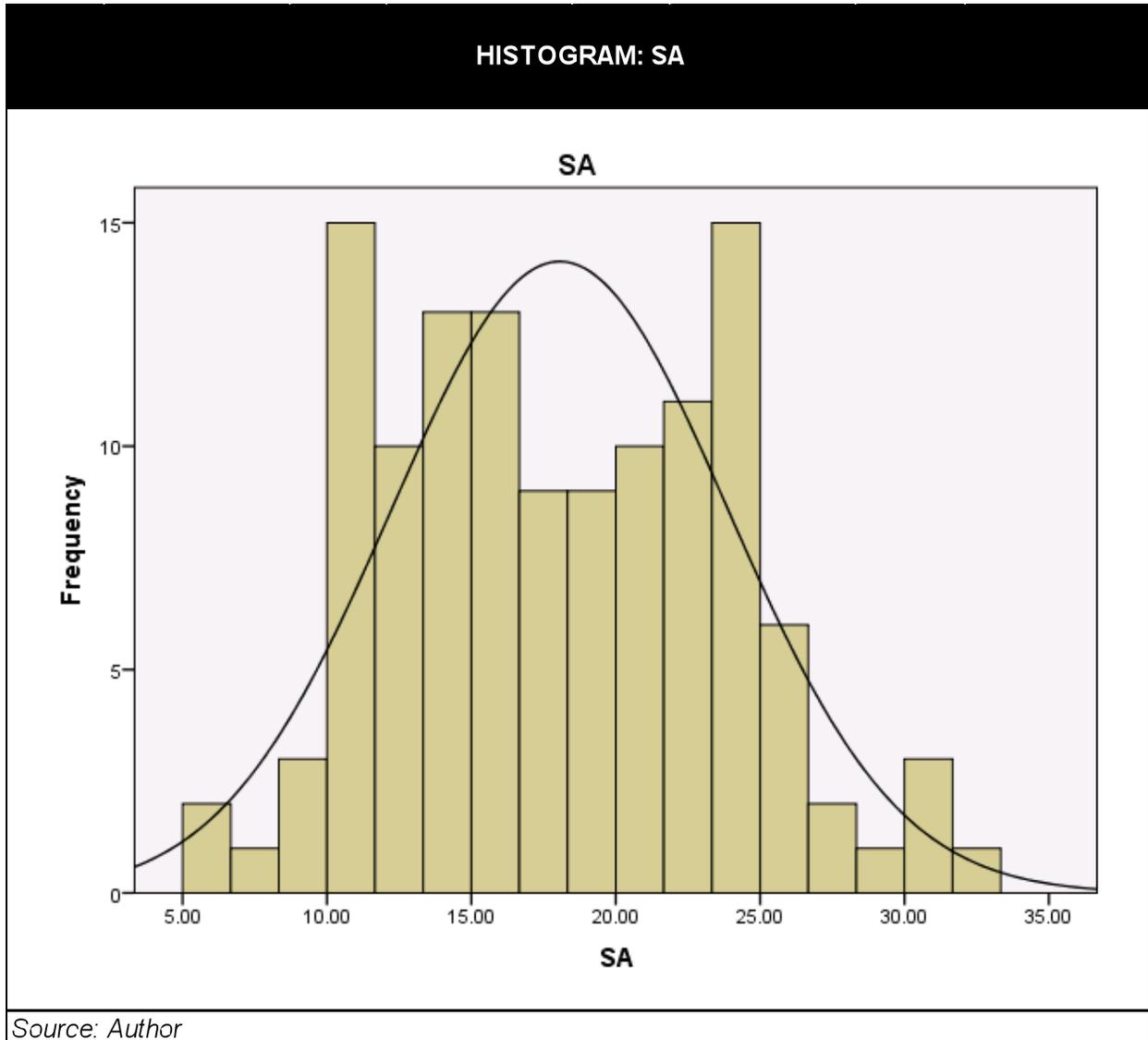
APPENDIX J: HISTOGRAMS OF DEPENDENT AND INDEPENDENT VARIABLES



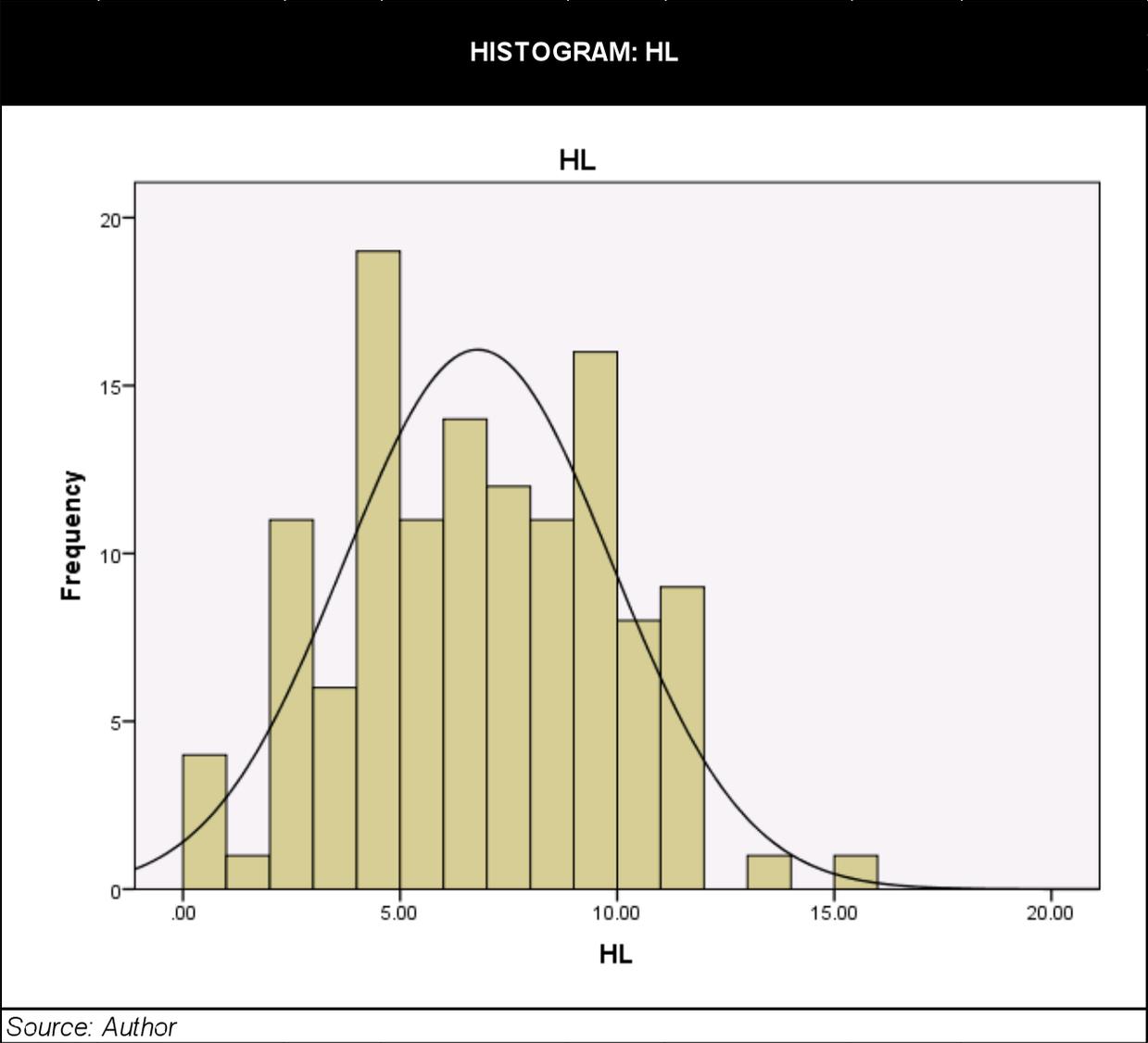


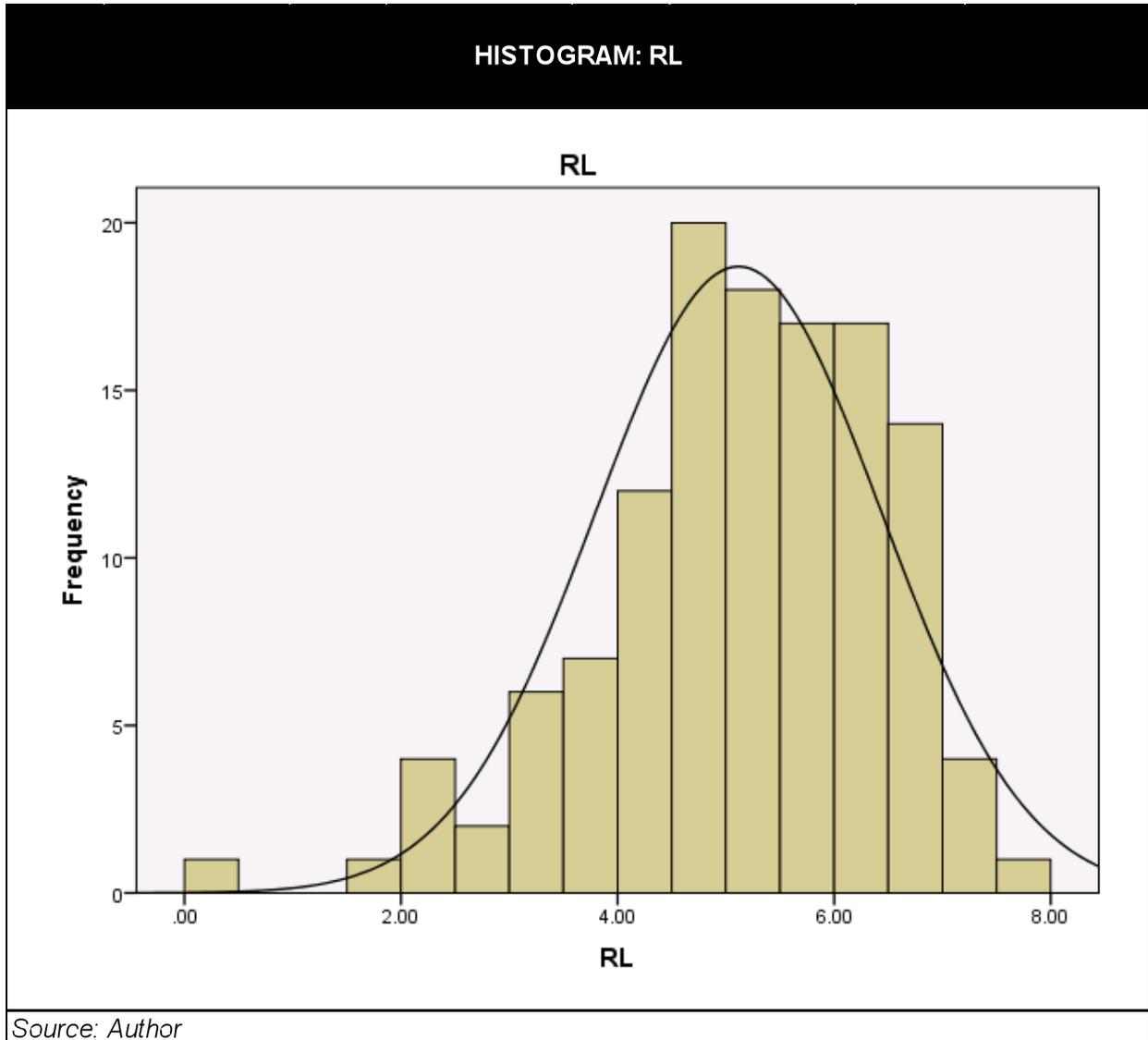
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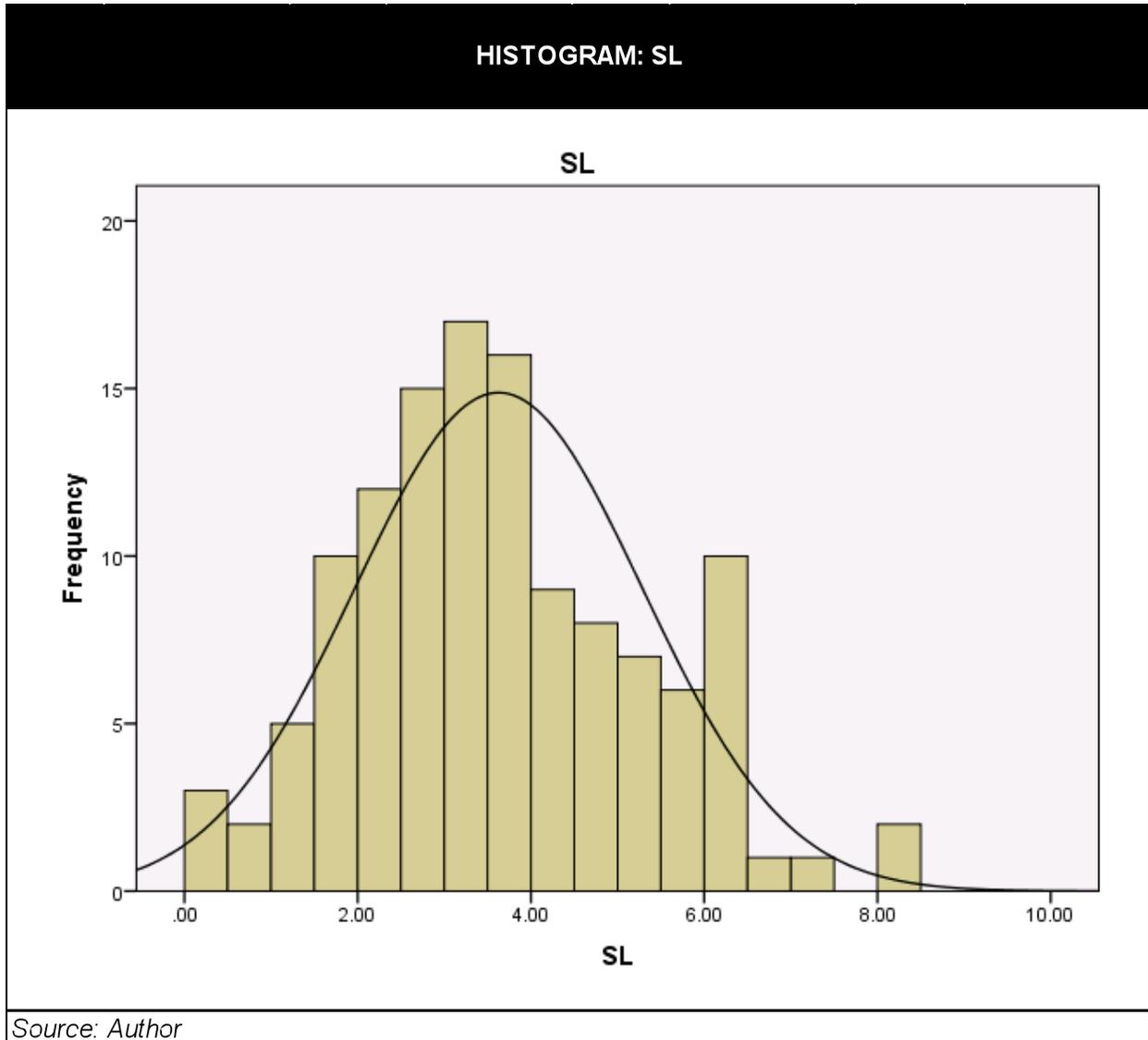




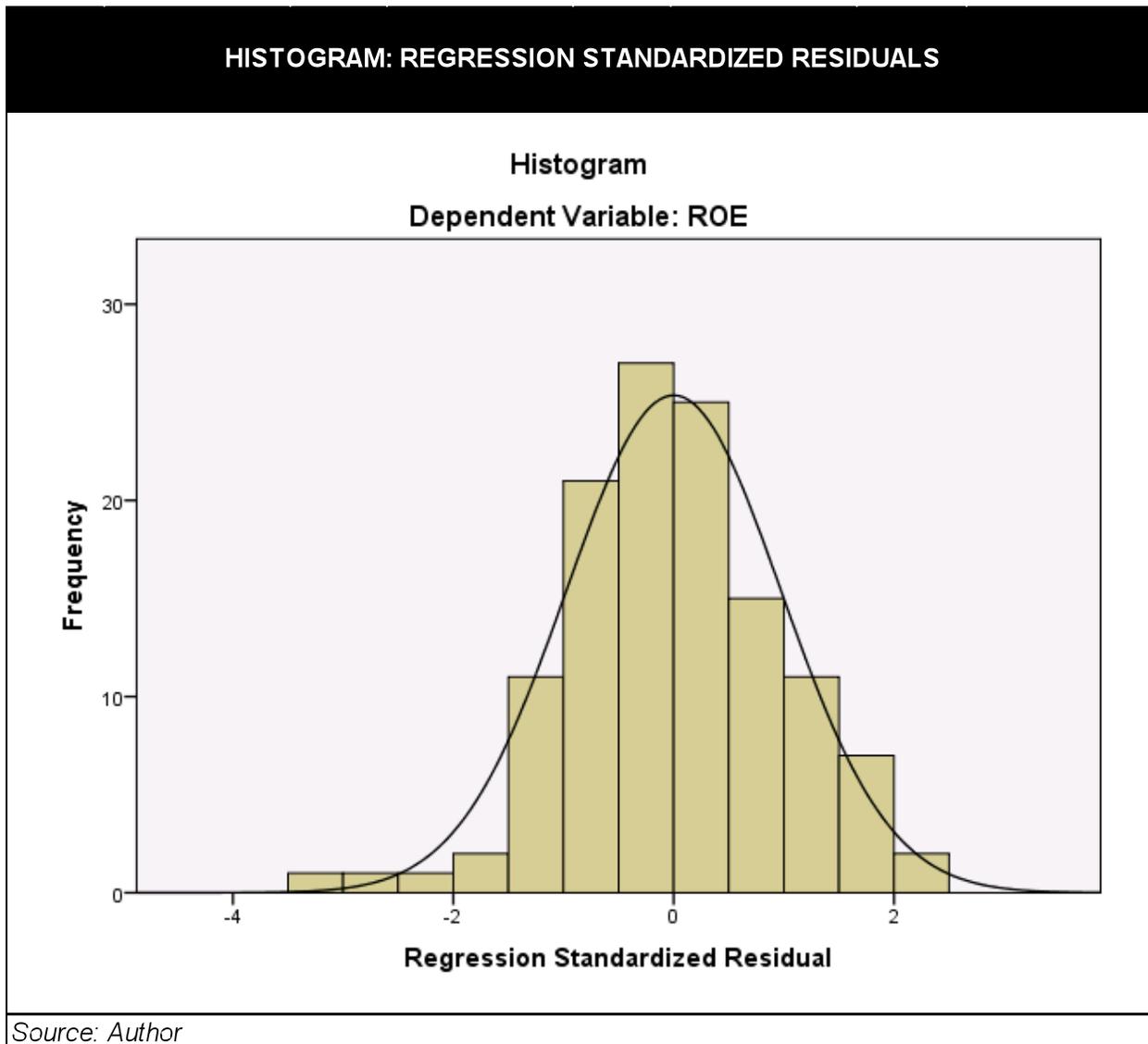
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APPENDIX K: HISTOGRAM OF THE REGRESSION STANDARDIZED RESIDUALS



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APPENDIX L: PARTICIPANT PROFILES

| PARTICIPANT PROFILES - PART ONE | | | | | |
|--|------------|------------|------------------------------------|---------------|---------------|
| | SM1 | SM2 | SM3 | SM4 | SM5 |
| Age | 45 | 51 | 48 | 43 | 38 |
| Gender | Male | Male | Male | Male | Male |
| Nationality | Emirati | Lebanese | Lebanese | British | Syrian |
| Education | Masters | Masters | Masters | Undergraduate | Undergraduate |
| Position | FD | RFC | CFO | FD | RFM |
| Years of Experience in Current Organization | 4 | 3 | 3 | 5 | 2 |
| Years of Experience in Current Industry/Sector | 9 | 7 | 11 | 9 | 8 |
| Years of Experience in the UAE | 9 | 5 | 10 | 5 | 8 |
| Address | Dubai | Abu Dhabi | Sharjah | Dubai | Sharjah |
| LEGEND | | | | | |
| 1. FD = Finance Director | | | 4. RFD = Regional Finance Director | | |
| 2. RFC = Regional Financial Controller | | | 5. RFM = Regional Finance Manager | | |
| 3. CFO = Chief Financial Officer | | | 6. VFP = Vice President Finance | | |
| <i>Source: Author</i> | | | | | |

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
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| PARTICIPANT PROFILES - PART TWO | | | | | |
|--|---------------|------------|------------------------------------|------------|---------------|
| | SM6 | SM7 | SM8 | SM9 | SM10 |
| Age | 41 | 44 | 50 | 37 | 39 |
| Gender | Male | Male | Male | Male | Male |
| Nationality | Jordanian | British | American | British | Lebanese |
| Education | Masters | Masters | Masters | Masters | Undergraduate |
| Postion | FD | VPF | RFD | CFO | RFM |
| Years of Experience in Current Organization | 3 | 4 | 3 | 4 | 5 |
| Years of Experience in Current Industry/Sector | 11 | 10 | 12 | 9 | 8 |
| Years of Experience in the UAE | 10 | 8 | 11 | 6 | 4 |
| Address | Ras Al Khaima | Dubai | Dubai | Abu Dhabi | Dubai |
| LEGEND | | | | | |
| 1. FD = Finance Director | | | 4. RFD = Regional Finance Director | | |
| 2. RFC = Regional Financial Controller | | | 5. RFM = Regional Finance Manager | | |
| 3. CFO = Chief Financial Officer | | | 6. VFP = Vice President Finance | | |
| <i>Source: Author</i> | | | | | |

| PARTICIPANT PROFILES - PART THREE | | | | | |
|--|-------------|-------------|------------------------------------|-------------|-------------|
| | SM11 | SM12 | SM13 | SM14 | SM15 |
| Age | 55 | 42 | 45 | 50 | 43 |
| Gender | Male | Male | Male | Male | Male |
| Nationality | British | Emirati | Palestenian | Australian | French |
| Education | Masters | Doctoral | Undergraduate | Masters | Masters |
| Postion | RFC | VPF | RFM | VPF | CFO |
| Years of Experience in Current Organization | 4 | 5 | 2 | 4 | 3 |
| Years of Experience in Current Industry/Sector | 7 | 13 | 8 | 12 | 10 |
| Years of Experience in the UAE | 4 | 13 | 8 | 10 | 9 |
| Address | Abu Dhabi | Abu Dhabi | Abu Dhabi | Abu Dhabi | Dubai |
| LEGEND | | | | | |
| 1. FD = Finance Director | | | 4. RFD = Regional Finance Director | | |
| 2. RFC = Regional Financial Controller | | | 5. RFM = Regional Finance Manager | | |
| 3. CFO = Chief Financial Officer | | | 6. VFP = Vice President Finance | | |
| <i>Source: Author</i> | | | | | |

APPENDIX M: PERSONAL DEFINITION OF INTELLECTUAL CAPITAL

| PERSONAL DEFINITION OF INTELLECTUAL CAPITAL | |
|--|--|
| 1. Extra value of the organization | 8. Intelligent capital |
| 2. Assessing, evaluating, and assigning a dollar value to intellectual value | 9. Intellectual abilities of the employees of the firm |
| 3. Broadcast rights owned and owed to others | 10. Intangible capabilities of the organization |
| 4. Resources Owned | 11. Non-monetary capital deployed |
| 5. Rights of publication and distribution of Books, Magazines, & Newspapers | 12. Rational capital |
| 6. Cannot be touched, kicked or felt | 13. Not similar to the physical resources |
| 7. Unseen resources of the firm that contribute to its success or failure | 14. Human capital in the organization |
| <i>Source: Author</i> | |

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
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| TALLY CHART - PERSONAL DEFINITION OF INTELLECTUAL CAPITAL | | | | | | | | | | |
|--|--------------------------|--------------------------|----------------------|--------------------------------|--------------------------------------|--------------------|--|-------------------------|-----------------------|--|
| SM # | Cannot be Touched | Concealed Capital | Human Capital | Intangible Capabilities | Non-monetary Capital Deployed | Added Value | Assessing and Assigning Dollar Values to Intellectual Intangibles | Broadcast Rights | Owned Resource | Publication and Distribution Rights |
| 1 | √ | | | | | | | | | |
| 2 | | | | | | √ | | | | √ |
| 3 | √ | √ | | | | | | | | |
| 4 | √ | | | √ | | | | | | |
| 5 | √ | | | | | | | | | |
| 6 | √ | | | √ | | | | | | |
| 7 | √ | | | | | | | | | |
| 8 | √ | | √ | | | | | | | |
| 9 | √ | | √ | | | | | | | |
| 10 | | | | | | √ | | √ | | |
| 11 | | | | | | √ | | | | |
| 12 | | | | | | √ | | | √ | |
| 13 | | | | | | √ | √ | | | |
| 14 | √ | | | | √ | | | | | |
| 15 | √ | | | √ | | | | | | |
| Total # | 10 | 1 | 2 | 3 | 1 | 5 | 1 | 1 | 1 | 1 |

Source: Author

APPENDIX N: ORGANIZATIONAL DEFINITION OF INTELLECTUAL
 CAPITAL

| ORGANIZATIONAL DEFINITION OF INTELLECTUAL CAPITAL | |
|---|---|
| 1. Right of broadcast | 11. Investing in outstanding / extraordinary knowledge |
| 2. Exclusivity rights | 12. Intangible and non-physical resources and commitments |
| 3. Sublicensed rights | 13. Organization doesn't capitalize Intellectual Capital |
| 4. Veiled capital | 14. Investment to acquire licenses of printed material |
| 5. Undercover capital | 15. Investment to distribute licenses of printed material |
| 6. Unconventional capital | 16. No formal definition of Intellectual Capital |
| 7. Support the equity section of the balance sheet | 17. Doesn't capitalize Intellectual Capital |
| 8. Unconventional company's resources | 18. No official definition of Intellectual Capital |
| 9. Extra value of the bank | 19. Nonphysical and intangible assets |
| 10. Intelligent resources complementing the firm's operations | 20. Positive contribution in delivering optimal services by the employees |
| <i>Source: Author</i> | |

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
An Empirical Analysis of Publicly Listed Companies in the United Arab Emirates

| TALLY CHART - ORGANIZATIONAL DEFINITION OF INTELLECTUAL CAPITAL | | | | | | | | | |
|--|-------------------------|-------------------------|----------------------------|------------------------------------|----------------------|---|--------------------------------------|---|-----------------------|
| SM # | Broadcast Rights | Clear Definition | Distribution Rights | Investing through Knowledge | No Definition | Non-physical Resources and Commitments | Service Delivery by Employees | Unconventional Company's Resources | Veiled Capital |
| 1 | | | | | √ | | | | |
| 2 | | √ | | | | | | | √ |
| 3 | | √ | | | | | | | √ |
| 4 | | | | | | | √ | | |
| 5 | | √ | | | | | | | √ |
| 6 | | | | | | | √ | | |
| 7 | | | | | | | | √ | |
| 8 | | √ | | √ | | | | | |
| 9 | | √ | | | | √ | | | |
| 10 | | √ | | | √ | | | | |
| 11 | | | √ | | | | | | |
| 12 | √ | | | | | | | | |
| 13 | | | | | | | | | √ |
| 14 | | | | | | √ | | | |
| 15 | | | | | √ | | | | |
| Total # | 1 | 6 | 1 | 1 | 3 | 2 | 2 | 1 | 4 |
| <i>Source: Author</i> | | | | | | | | | |

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
 An Empirical Analysis of Publicly Listed Companies in the United Arab Emirates

APPENDIX O: EXAMPLES OF ORGANIZATIONAL DEFINITION OF
 INTELLECTUAL CAPITAL

| EXAMPLES OF ORGANIZATIONAL DEFINITION OF INTELLECTUAL CAPITAL | |
|---|--|
| 1. Broadcast material | 11. Relations with suppliers |
| 2. Exclusivity rights | 12. Superiority in things that are intangible and cannot be seen |
| 3. Licenses | 13. Outstanding service and after sale service |
| 4. An entrepreneur | 14. A new patent |
| 5. Goodwill | 15. Copyrights |
| 6. Patents | 16. Superior CEO |
| 7. High employee retention ratio | 17. True leader |
| 8. Trademarks | 18. Brilliant director of operations |
| 9. Motivation of employees | 19. Talented engineer who develops a product |
| 10. Superior engineers | 20. Superior employees who go beyond their regular duties |
| <i>Source: Author</i> | |

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
An Empirical Analysis of Publicly Listed Companies in the United Arab Emirates

| TALLY CHART - EXAMPLES OF ORGANIZATIONAL DEFINITION OF INTELLECTUAL CAPITAL | | | | | | | | | | | | | |
|---|-----------------|--------------------|--------------------|------------------|----------|-------------------------------|-------------------|----------------------------------|-------------------------------|---------|---------------------------------|------------------------|-----------------|
| SM # | An Entrepreneur | Broadcast Licences | Broadcast Material | Broadcast Rights | Goodwill | High Employee Retention Ratio | Intangible Assets | Outstanding Service to Customers | Patented Products or Services | Patents | Relationships with Stakeholders | Superior CEO or Leader | Talented People |
| 1 | | | | | | √ | | | | | | | |
| 2 | | | | | | | | | | | | | √ |
| 3 | | | | | | | | | √ | | | | |
| 4 | | | | | | | | √ | | | | | |
| 5 | | | | | | | | | | | | √ | √ |
| 6 | | | | | | | | | | | | √ | |
| 7 | | | | | | | | | | | | √ | |
| 8 | √ | | | | | | | | | | | | |
| 9 | | | | | | √ | | | √ | | √ | | √ |
| 10 | | | | | | | | | | | | | √ |
| 11 | | | | | | | | | √ | | | | |
| 12 | | √ | √ | √ | | √ | | | | | | | |
| 13 | | | | | | | √ | | | | | | |
| 14 | | | | | √ | | | | | √ | | | |
| 15 | | | | | | | | | | | | | |
| Total # | 1 | 1 | 1 | 1 | 1 | 3 | 1 | 1 | 3 | 1 | 1 | 3 | 4 |

Source: Author

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
 An Empirical Analysis of Publicly Listed Companies in the United Arab Emirates

APPENDIX P: MEASUREMENT OF INTELLECTUAL CAPITAL

| MEASUREMENT OF INTELLECTUAL CAPITAL | |
|--|---|
| 1. Aggregation of the sum of the dollar value of copyrights | 11. No familiar models |
| 2. Assigning a dollar value to library contents | 12. Measurement by highlighting potential investors that act as leaders |
| 3. Assigning a dollar value to new acquisitions and syndications | 13. No tools for measurement |
| 4. No measurement due to lack of expertise | 14. No explicit ways of measurement |
| 5. No measurement due to the complexity of the process | 15. No measurement because it's not in the accounting system |
| 6. Measurement by using accounting standards | 16. No formal process of measurement |
| 7. No, due to no reliance on long-term employee commitment | 17. Regular assessment of employees |
| 8. No accurate measures are being followed | 18. Regular assessment of clients |
| 9. Still investigating an accurate model of measurement | 19. Regular assessment of suppliers |
| 10. No accurate models for measurement | |
| <i>Source: Author</i> | |

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
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| TALLY CHART - MEASUREMENT OF INTELLECTUAL CAPITAL | | |
|--|------------------------------|-------------------|
| SM # | Assign Monetary Value | No Measure |
| 1 | | √ |
| 2 | | √ |
| 3 | | √ |
| 4 | | √ |
| 5 | | √ |
| 6 | | √ |
| 7 | | √ |
| 8 | | √ |
| 9 | | √ |
| 10 | | √ |
| 11 | √ | |
| 12 | √ | |
| 13 | √ | |
| 14 | √ | |
| 15 | | √ |
| Total # | 4 | 11 |
| <i>Source: Author</i> | | |

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
 An Empirical Analysis of Publicly Listed Companies in the United Arab Emirates

APPENDIX Q: DISCLOSURE OF INTELLECTUAL CAPITAL

| DISCLOSURE OF INTELLECTUAL CAPITAL | |
|---|---|
| 1. No, due to high employee turnover | 11. Disclosure to highlight the company's knowledge in the industry |
| 2. No, due to inability to quantify the company's intellectual capital | 12. Disclose of superiority in dealing with employees |
| 3. No | 13. Disclose of superiority in dealing with clients |
| 4. No official disclosure | 14. Disclose of superiority in dealing with suppliers |
| 5. Annual reports contain references on the importance of investing in em | 15. Disclosure of drawbacks of not maintaining good relations |
| 6. Disclosure of intangible assets | 16. Internal disclosure to management |
| 7. Disclosure of commonly known intangible assets | 17. External disclosure to suppliers and licensees |
| 8. No disclosure, waiting for accurate measurement tools | 18. Disclosure because it's in the nature of the business |
| 9. Leaders positively inspire depositors | 19. Disclosure to increase transparency |
| 10. Disclosure to highlight the organization's strength | 20. Disclosure to comply with accounting standards |
| <i>Source: Author</i> | |

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
An Empirical Analysis of Publicly Listed Companies in the United Arab Emirates

| TALLY CHART - DISCLOSURE OF INTELLECTUAL CAPITAL | | |
|---|------------------------|-------------------------|
| SM # | No - Disclosure | Yes - Disclosure |
| 1 | √ | |
| 2 | | √ |
| 3 | | √ |
| 4 | √ | |
| 5 | | √ |
| 6 | | √ |
| 7 | | √ |
| 8 | | √ |
| 9 | | √ |
| 10 | √ | |
| 11 | | √ |
| 12 | | √ |
| 13 | | √ |
| 14 | | √ |
| 15 | √ | |
| Total # | 4 | 11 |
| <i>Source: Author</i> | | |

APPENDIX R: CHALLENGES FACED IN INTELLECTUAL CAPITAL
 REPORTING

| CHALLENGES FACED IN INTELLECTUAL CAPITAL REPORTING | |
|---|--|
| 1. Confidentiality challenges | 9. Assessment of the value of such capital across organization |
| 2. Challenges in accurate measurement of copyrights | 10. Standards may differ from one organization to another |
| 3. Challenges in deciding what to report | 11. There isn't a uniform standard |
| 4. Special conditions from suppliers or licensees that prohibit reporting | 12. We just make assessment the way we think it's best |
| 5. No challenges | 13. Identifying and segregating individual employee's intangible contributions |
| 6. No challenges due to advice from specialized audit firm | 14. Valuations |
| 7. No challenges since no reporting takes place | 15. Challenges in determining the value of Intellectual Capital |
| 8. Conversion rate | 16. Not reported in the organization |
| <i>Source: Author</i> | |

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
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| TALLY CHART - CHALLENGES FACED IN INTELLECTUAL CAPITAL REPORTING | | | | | | | |
|---|------------------------|---------------------------------------|---------------------------|------------------------------------|----------------------------|---|-------------------|
| SM # | Confidentiality | Full Reporting - No Challenges | How much to Report | No Reporting - No Challenge | No Uniform Standard | Segregating Employees' Intangible Contributions from Intangible Assets | Valuations |
| 1 | | | | √ | | | |
| 2 | | | | | | √ | |
| 3 | | | | | | | √ |
| 4 | | | | √ | | | |
| 5 | | | | | | | √ |
| 6 | | √ | | | | | |
| 7 | | √ | | | | | |
| 8 | | √ | | | | | |
| 9 | | | | | √ | | √ |
| 10 | | | | √ | √ | | √ |
| 11 | √ | | | | | | √ |
| 12 | √ | | | | | | |
| 13 | | | √ | | √ | | |
| 14 | | √ | | | | | |
| 15 | | | | √ | | | |
| Total # | 2 | 4 | 1 | 4 | 3 | 1 | 5 |
| <i>Source: Author</i> | | | | | | | |

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
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APPENDIX S: METHODS OF INTELLECTUAL CAPITAL DISCLOSURE

| METHODS OF INTELLECTUAL CAPITAL DISCLOSURE | |
|--|---|
| 1. No Disclosure | 8. Qualitatively, about investments in employees |
| 2. Qualitatively through the annual report | 9. Quantitatively, through the balance sheet |
| 3. Qualitatively, by highlighting the human elements' contribution to success | 10. Quantitatively, by only stating the number of leaders |
| 4. Qualitatively, in case of something of vital importance that should be made known to the public | 11. Disclosed and aggregated quantitatively |
| 5. Qualitatively | 12. Quantitatively |
| 6. Qualitatively, by highlighting the strengths of the leaders | 13. Both: quantitative in the financial statements and qualitatively in the annual report |
| 7. Representation in the KPI's of each employee in my organization | |

Source: Author

| TALLY CHART - METHODS OF INTELLECTUAL CAPITAL DISCLOSURE | | | |
|--|---------------|---------------|----------------|
| SM # | No Disclosure | Qualitatively | Quantitatively |
| 1 | √ | | |
| 2 | | √ | √ |
| 3 | | √ | √ |
| 4 | | √ | |
| 5 | | √ | |
| 6 | | √ | √ |
| 7 | | √ | |
| 8 | | √ | |
| 9 | | √ | |
| 10 | | √ | |
| 11 | | | √ |
| 12 | | | √ |
| 13 | | √ | |
| 14 | | √ | √ |
| 15 | | √ | |
| Total # | 1 | 12 | 6 |

Source: Author

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
 An Empirical Analysis of Publicly Listed Companies in the United Arab Emirates

APPENDIX T: ORGANIZATIONAL DEFINITION OF INTELLECTUAL
 ASSETS

| ORGANIZATIONAL DEFINITION OF INTELLECTUAL ASSETS | |
|--|---|
| 1. Any intangible asset that adds value to the company | 10. Same as Intellectual Capital but focusing only on what we own |
| 2. Rights | 11. Positive unseen resources and relations |
| 3. Copyrights | 12. Shared knowledge among individuals in any organization |
| 4. Distribution rights owed to other suppliers | 13. Summation of Intellectual Capital and Intellectual Liabilities |
| 5. Distribution rights owed to licensees | 14. Intellectual assets = Intellectual Liabilities + Intellectual Capital |
| 6. Intangible assets | 15. No official or operational definition |
| 7. Assets that are intangible | 16. Not in our accounting systems and culture |
| 8. Assets that we have that we cannot quantify | 17. Intellectual Capital |
| 9. Exactly the same as Intellectual Capital | |
| <i>Source: Author</i> | |

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
An Empirical Analysis of Publicly Listed Companies in the United Arab Emirates

| TALLY CHART - ORGANIZATIONAL DEFINITION OF INTELLECTUAL ASSETS | | | | | | | | | |
|---|---------------------|----------------------------|--------------------------|-----------------------------|--------------------------------------|--|-------------------------|---|----------------------------------|
| SM # | Adding Value | Distribution Rights | Intangible Assets | Intellectual Capital | Only Owned or Positive Values | Positive and Unseen Resources and Relations | Shared Knowledge | Defined as Intellectual Capital + Intellectual Liabilities | No Operational Definition |
| 1 | | | | | | | √ | | |
| 2 | | | | √ | | | | | |
| 3 | | | | √ | | | | | |
| 4 | | | | | | | | √ | |
| 5 | √ | | | | | | | | |
| 6 | | | √ | | | | | | |
| 7 | | | √ | | | | | | |
| 8 | | | √ | | | | | | |
| 9 | | | | | | √ | | | |
| 10 | | | | | | | | | √ |
| 11 | | √ | | | | | | | |
| 12 | | | | | √ | | | | |
| 13 | | | | | | | | | √ |
| 14 | | | √ | | | | | | |
| 15 | | | | | | | | | √ |
| Total # | 1 | 1 | 4 | 2 | 1 | 1 | 1 | 1 | 3 |
| <i>Source: Author</i> | | | | | | | | | |

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
An Empirical Analysis of Publicly Listed Companies in the United Arab Emirates

APPENDIX U: EXAMPLES OF ORGANIZATIONAL DEFINITION OF
INTELLECTUAL ASSETS

| EXAMPLES OF ORGANIZATIONAL DEFINITION OF INTELLECTUAL ASSETS | |
|--|---|
| 1. Broadcast Rights | 10. Good relations with clients |
| 2. Exclusivity Rights | 11. Patents |
| 3. Rerun Rights | 12. High quality employees |
| 4. Copyright | 13. Extra value from the commitment our employees |
| 5. Distribution rights granted to licensees | 14. Value chain with clients and suppliers |
| 6. Experienced employees | 15. Investments in employees |
| 7. Training to employees of less experience | 16. A newly invented product |
| 8. Goodwill | 17. Trademarks |
| 9. Motivated employees | 18. Good corporate culture |
| <i>Source: Author</i> | |

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
An Empirical Analysis of Publicly Listed Companies in the United Arab Emirates

| TALLY CHART - EXAMPLES OF ORGANIZATIONAL DEFINITION OF INTELLECTUAL ASSETS | | | | | | | | | | |
|--|------------------|-----------|------------------------------|--------------------|----------|---------------------|----------------------------|-------------|-----------|---------------------------------------|
| SM # | Broadcast Rights | Copyright | Employees Training Employees | Exclusivity Rights | Goodwill | Motivated Employees | Patented Goods or Services | Reun Rights | Trademark | Value Chain - Employees and Suppliers |
| 1 | | | √ | | | | | | | |
| 2 | | | | | | | √ | | | |
| 3 | | | | | | | | | √ | |
| 4 | | | | | | | | | | |
| 5 | | | | | √ | | | | | |
| 6 | | | | | | | | | √ | |
| 7 | | √ | | | | | | | | |
| 8 | | | | | | | √ | | | |
| 9 | | | | | √ | √ | | | | |
| 10 | | | | | | √ | | | | |
| 11 | | √ | | | | | | | | |
| 12 | √ | | | √ | | | | √ | | |
| 13 | | | | | | √ | | | | √ |
| 14 | | | | | √ | | √ | | | |
| 15 | | | | | | √ | | | | |
| Total # | 1 | 2 | 1 | 1 | 3 | 4 | 3 | 1 | 2 | 1 |

Source: Author

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
An Empirical Analysis of Publicly Listed Companies in the United Arab Emirates

APPENDIX V: DIFFERENCES BETWEEN INTELLECTUAL CAPITAL AND
INTELLECTUAL ASSETS

| DIFFERENCES BETWEEN INTELLECTUAL CAPITAL AND INTELLECTUAL ASSETS | |
|--|--|
| 1. Intellectual capital is Intellectual Assets minus Intellectual Liabilities | 6. Intellectual Capital and Intellectual Assets mean the same thing |
| 2. Intellectual Assets equal to Intellectual Capital plus Intellectual Liabilities | 7. They are extremely similar |
| 3. Intellectual capital includes both negative and positive resources | 8. No, Intellectual Capital and Intellectual Assets are not different |
| 4. Assets = Liabilities plus Capital | 9. Intellectual Capital and Intellectual Assets are identical |
| 5. They are different because intellectual assets are the positive things | 10. No difference between Intellectual Capital and Intellectual Assets |
| <i>Source: Author</i> | |

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
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| TALLY CHART - DIFFERENCES BETWEEN INTELLECTUAL CAPITAL AND INTELLECTUAL ASSETS | | |
|---|-----------------------------|----------------------|
| SM # | Difference Explained | No Difference |
| 1 | | √ |
| 2 | | √ |
| 3 | | √ |
| 4 | √ | |
| 5 | √ | |
| 6 | | √ |
| 7 | | √ |
| 8 | | √ |
| 9 | √ | |
| 10 | | √ |
| 11 | √ | |
| 12 | √ | |
| 13 | √ | |
| 14 | | √ |
| 15 | | √ |
| Total # | 6 | 9 |
| <i>Source: Author</i> | | |

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
 An Empirical Analysis of Publicly Listed Companies in the United Arab Emirates

APPENDIX W: MEASUREMENT OF INTELLECTUAL ASSETS

| MEASUREMENT OF INTELLECTUAL ASSETS | |
|--|--|
| 1. Take the value of each and every intangible asset | 10. Assessment of suppliers |
| 2. Measurement of conventional intangibles | 11. Difference between the total assets and tangible assets |
| 3. Measurement by taking the book values of the intangible assets | 12. Measurement by taking the book values of the intangible assets |
| 4. Measurement by stating the values of the intangibles | 13. No measurement due to lack of knowledge |
| 5. Measurement by estimating the value of intangible assets | 14. No measurement, but no specific reason |
| 6. Accounting for the assets parts of the company's rights | 15. No tools for measurement |
| 7. Measurement by aggregating the dollar value of rights' acquisitions | 16. No accurate measurement tool available |
| 8. No measurement; no accounting Standards | 17. Assessment of clients |
| 9. Assessment of employees | |
| <i>Source: Author</i> | |

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
An Empirical Analysis of Publicly Listed Companies in the United Arab Emirates

| TALLY CHART - MEASUREMENT OF INTELLECTUAL ASSETS | | | | |
|---|---------------------------------|--------------------------------------|---------------------------------------|-----------------------|
| SM # | Assigning Monetary Value | Staff and Supplier Appraisals | Total Assets - Tangible Assets | No Measurement |
| 1 | | | | ✓ |
| 2 | | | ✓ | |
| 3 | ✓ | | | |
| 4 | ✓ | | | |
| 5 | ✓ | | ✓ | |
| 6 | ✓ | | | |
| 7 | ✓ | | | |
| 8 | ✓ | | | |
| 9 | | ✓ | | |
| 10 | | | | ✓ |
| 11 | ✓ | | | |
| 12 | ✓ | | | |
| 13 | | | | ✓ |
| 14 | ✓ | | | |
| 15 | | | | ✓ |
| Total # | 9 | 1 | 2 | 4 |
| <i>Source: Author</i> | | | | |

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
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APPENDIX X: DISCLOSURE OF INTELLECTUAL ASSETS

| DISCLOSURE OF INTELLECTUAL ASSETS | |
|--|--|
| 1. Disclose to highlight the strengths of the company as opposed to competitors 2. Disclose to increase the value of total assets 3. Disclose to support the institution's position in the market 4. Disclose to provide confidence to the market 5. Disclose to show case a strength point to the public 6. Disclose, same as Intellectual Capital 7. Disclose investments done in employees 8. Disclose periodically to reveal transparency 9. Disclose to reveal the value of intangible assets | 10. Disclose internally and externally 11. Disclose to add value 12. Internal detailed disclosure 13. External aggregated disclosure 14. Disclose a figure that enforces the company's positioning 15. Since no measured, no disclosure 16. No tools for measuring intellectual assets 17. Disclose to make it well known to the public |
| <i>Source: Author</i> | |

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
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| TALLY CHART - DISCLOSURE OF INTELLECTUAL ASSETS | | | | | |
|--|----------------------------------|-------------------------------------|------------------------------------|---|----------------------|
| SM # | Disclosed - Annual Report | Disclosed - but not Expanded | Disclosed - Internally Only | Disclosed - Only when Advantages | No Disclosure |
| 1 | | | | | √ |
| 2 | √ | | | | |
| 3 | | | | √ | |
| 4 | | √ | | | |
| 5 | √ | | | | |
| 6 | | √ | | | |
| 7 | √ | | | | |
| 8 | √ | | | | |
| 9 | √ | | | | |
| 10 | | | | | √ |
| 11 | | √ | | | |
| 12 | | | √ | | |
| 13 | | √ | | | |
| 14 | √ | | | | |
| 15 | √ | | | | |
| Total # | 7 | 4 | 1 | 1 | 2 |
| <i>Source: Author</i> | | | | | |

APPENDIX Y: CHALLENGES FACED IN INTELLECTUAL ASSETS
 REPORTING

| CHALLENGES FACED IN INTELLECTUAL ASSETS REPORTING | |
|---|---|
| 1. Lack of accuracy in measurement | 9. No challenges |
| 2. Challenge in deciding how much to report | 10. No challenges as Intellectual Assets are just mentioned in annual reports |
| 3. Confidentiality | 11. No uniform measurement standard |
| 4. Special and exclusive rates and conditions from suppliers or licensees | 12. Challenges related to valuation of Intellectual Assets |
| 5. Exclusivity | 13. Which intangible asset to disclose and which one to be omitted |
| 6. No reporting, no challenges | 14. The challenge is how much to tell to the public |
| 7. No challenges in reporting Intellectual Assets | 15. Challenges related to assigning dollar values |
| 8. Challenges in accounting regulations | |
| <i>Source: Author</i> | |

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
An Empirical Analysis of Publicly Listed Companies in the United Arab Emirates

| TALLY CHART - CHALLENGES FACED IN INTELLECTUAL ASSETS REPORTING | | | | | | |
|--|------------------------|--------------------|---------------------|----------------------------|------------------|-----------------------------|
| SM # | Confidentiality | Exclusivity | No Challenge | No Uniform Standard | Valuation | Which Assets to Omit |
| 1 | | | √ | | | |
| 2 | | | | | √ | |
| 3 | | | | | | √ |
| 4 | | | √ | | | |
| 5 | | | √ | | | |
| 6 | | | √ | | | |
| 7 | | | √ | | | |
| 8 | | | √ | | | |
| 9 | | | | √ | | |
| 10 | | | | √ | | |
| 11 | √ | | | √ | √ | √ |
| 12 | √ | √ | | | | |
| 13 | | | | | | √ |
| 14 | | | √ | | | |
| 15 | | | √ | | | |
| Total # | 2 | 1 | 8 | 3 | 2 | 3 |
| <i>Source: Author</i> | | | | | | |

APPENDIX Z: METHODS OF INTELLECTUAL ASSETS DISCLOSURE

| METHODS OF INTELLECTUAL ASSETS DISCLOSURE | |
|--|---|
| 1. Both quantitatively and qualitatively | 6. Quantitatively through the balance sheet |
| 2. No Disclosure | 7. Quantitatively |
| 3. Qualitatively through the annual report | 8. Quantitatively, aggregated |
| 4. Through the financial statements and annual reports | 9. Not quantitatively, but qualitatively in the KPI's |
| 5. Qualitatively | 10. Mentioned in a paragraph in the annual reports |
| <i>Source: Author</i> | |

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
An Empirical Analysis of Publicly Listed Companies in the United Arab Emirates

| TALLY CHART - METHODS OF INTELLECTUAL ASSETS DISCLOSURE | | | |
|--|----------------------|----------------------|-----------------------|
| SM # | No Disclosure | Qualitatively | Quantitatively |
| 1 | √ | | |
| 2 | | √ | √ |
| 3 | | √ | √ |
| 4 | | √ | √ |
| 5 | | | √ |
| 6 | | | √ |
| 7 | | | √ |
| 8 | | | √ |
| 9 | | √ | |
| 10 | | √ | |
| 11 | | | √ |
| 12 | | √ | |
| 13 | | √ | |
| 14 | | √ | √ |
| 15 | | √ | |
| Total # | 1 | 9 | 9 |

Source: Author

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
 An Empirical Analysis of Publicly Listed Companies in the United Arab Emirates

APPENDIX AA: ORGANIZATIONAL DEFINITION OF INTELLECTUAL
 LIABILITIES

| ORGANIZATIONAL DEFINITION OF INTELLECTUAL LIABILITIES | |
|---|---|
| 1. The difference between the Intellectual Assets and Intellectual Capital | 9. Poor resources of the business |
| 2. No formal definition of Intellectual Liabilities within the organization | 10. Liabilities parts of the company's rights |
| 3. It is relatively a new term, which is not yet familiar | 11. Same as Intellectual Capital but focusing only on what is owed others |
| 4. New / recent term that is not yet popular | 12. Any redundant resource |
| 5. No definition because it is difficult to quantify | 13. Unconventional debt |
| 6. Intellectual Liabilities are more like the opposite of Intellectual Assets | 14. Unnecessary burden on the business |
| 7. Management doesn't account for intellectual property of personnel | 15. Not aware of the existence of Intellectual Liabilities |
| 8. Haven't heard of it before | |
| <i>Source: Author</i> | |

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
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| TALLY CHART - ORGANIZATIONAL DEFINITION OF INTELLECTUAL LIABILITIES | | | | | | |
|--|---|----------------------|-------------------------------------|----------------------------|----------------------------|---------------------------|
| SM # | Intellectual Assets - Intellectual Liabilities | No Definition | Only Owed or Negative Values | Reduntand Resources | Unconventional Debt | Unnecessary Burden |
| 1 | | √ | | | | |
| 2 | | | | | | √ |
| 3 | | | | √ | | |
| 4 | √ | | | | | |
| 5 | | | √ | | | |
| 6 | | √ | | | | |
| 7 | | | | | √ | |
| 8 | | √ | | | | |
| 9 | | √ | | | | |
| 10 | | √ | | | | |
| 11 | | | √ | | | |
| 12 | | | √ | | | |
| 13 | | √ | | | | |
| 14 | | √ | | | | |
| 15 | | √ | | | | |
| Total # | 1 | 8 | 3 | 1 | 1 | 1 |
| <i>Source: Author</i> | | | | | | |

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
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APPENDIX AB: ORGANIZATIONAL DEFINITION OF INTELLECTUAL
 LIABILITIES

| EXAMPLES OF ORGANIZATIONAL DEFINITION OF INTELLECTUAL LIABILITIES | |
|--|---------------------------------------|
| 1. Lazy employee | 10. Lack of motivation |
| 2. An employee who causes losses to the company | 11. Poor culture |
| 3. Poor performance of staff | 12. Poor relations with third parties |
| 4. The opposite of the intellectual assets | 13. Wrong organizational structure |
| 5. Poor relations with clients | 14. Licenses owed to suppliers |
| 6. Poor relations with suppliers | 15. Syndication contracts |
| 7. Resource contributing negatively to the overall business of the company | 16. Sublicensing |
| 8. Outdated service | 17. Wrong strategic decision |
| 9. Two employees doing the same task that can be completed by one | |
| <i>Source: Author</i> | |

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
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| TALLY CHART - EXAMPLES OF ORGANIZATIONAL DEFINITION OF INTELLECTUAL LIABILITIES | | | | | | | | | | | |
|---|---------------|-------------------|------------------|--------------|--------------|--------------------------------|-------------------------------|----------------------------------|---------------|----------------------|---------------------------|
| SM # | Lazy Employee | Negative Resource | Outdated Service | Overstaffing | Poor Culture | Poor Motivation from Employees | Poor Organisational Structure | Poor Relations with Stakeholders | Sub-licensing | Syndicated Contracts | Wrong Strategic Direction |
| 1 | √ | | | | | | | | | | |
| 2 | √ | | | | | | | | | | |
| 3 | | | | √ | | | | | | | |
| 4 | | √ | | | | | | | | | |
| 5 | √ | | | | | | | | | | |
| 6 | | | √ | | | | | | | | |
| 7 | | | | | | | | | | | √ |
| 8 | | | | | | | √ | | | | |
| 9 | | | | | √ | √ | | √ | | | |
| 10 | √ | | | | | | | | | | |
| 11 | | | | | | | | | √ | | |
| 12 | | | | | | | | √ | | √ | |
| 13 | √ | | | | | √ | | √ | | | |
| 14 | | | | | | | | | | | |
| 15 | | | | | | | | | | | |
| Total # | 5 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 2 | 1 | 1 |

Source: Author

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
 An Empirical Analysis of Publicly Listed Companies in the United Arab Emirates

APPENDIX AC: MEASUREMENT OF INTELLECTUAL LIABILITIES

| MEASUREMENT OF INTELLECTUAL LIABILITIES | |
|---|--|
| 1. Lack of required knowledge to measure Intellectual Liabilities | 8. Measurement in order to increase transparency |
| 2. No measurement; no interest to the public | 9. Yes, measurement takes place to satisfy stakeholders |
| 3. No proper tools of measurement | 10. Measurement takes place to show that management is aware of such dangers |
| 4. Lack of accurate tools for measurement | 11. Yes, measurement takes place |
| 5. No measurement; it's not in the accounting system | 12. No measurement as this is something unheard of |
| 6. No measurement; it is something very complex | 13. Savings generated from laying-off non-potential employees |
| 7. No measurement of Intellectual Liabilities | |
| <i>Source: Author</i> | |

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
An Empirical Analysis of Publicly Listed Companies in the United Arab Emirates

| TALLY CHART - MEASUREMENT OF INTELLECTUAL LIABILITIES | | |
|--|-----------------------|-----------------------|
| SM # | No Measurement | Yes - Measures |
| 1 | √ | |
| 2 | | √ |
| 3 | √ | |
| 4 | | √ |
| 5 | | √ |
| 6 | √ | |
| 7 | √ | |
| 8 | √ | |
| 9 | | √ |
| 10 | √ | |
| 11 | | √ |
| 12 | | √ |
| 13 | √ | |
| 14 | √ | |
| 15 | √ | |
| Total # | 9 | 6 |
| <i>Source: Author</i> | | |

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
 An Empirical Analysis of Publicly Listed Companies in the United Arab Emirates

APPENDIX AD: DISCLOSURE OF INTELLECTUAL LIABILITIES

| DISCLOSURE OF INTELLECTUAL LIABILITIES | |
|--|--|
| 1. No disclosure due to lack of measurement tools | 8. Liabilities are reported in the balance sheet. So, no harm in disclosing Intellectual Liabilities |
| 2. We prefer not to disclose intellectual liabilities, as this may ruin our reputation | 9. We disclose in order to show that we are cautious of such dangers |
| 3. No disclosure as this is not of interest to the public | 10. We disclose to be able to deduce the profit from the syndication business line |
| 4. No disclosure due to lack of accurate measurement tools | 11. We disclose them by saying that they are hazards that should be avoided |
| 5. No disclosure due to lack of precise measurement tools | 12. We cannot disclose something that we are not aware of |
| 6. No disclosure as this information is not collected to be reported or disclosed | 13. Yes, we disclose to increase transparency |
| 7. No disclosure as Intellectual Liabilities are unheard of | |
| <i>Source: Author</i> | |

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
An Empirical Analysis of Publicly Listed Companies in the United Arab Emirates

| TALLY CHART - DISCLOSURE OF INTELLECTUAL LIABILITIES | | |
|---|----------------------|------------------------|
| SM # | No Disclosure | Yes - Discloses |
| 1 | √ | |
| 2 | √ | |
| 3 | √ | |
| 4 | | √ |
| 5 | | √ |
| 6 | √ | |
| 7 | √ | |
| 8 | √ | |
| 9 | | √ |
| 10 | √ | |
| 11 | | √ |
| 12 | | √ |
| 13 | | √ |
| 14 | √ | |
| 15 | √ | |
| Total # | 9 | 6 |
| <i>Source: Author</i> | | |

APPENDIX AE: CHALLENGES FACED IN INTELLECTUAL LIABILITIES
REPORTING

| CHALLENGES FACED IN INTELLECTUAL LIABILITIES REPORTING | |
|---|---|
| 1. Exclusivity | 7. No uniform reporting standard |
| 2. Breaches of contract | 8. Challenge in how each organization can measure intellectual property |
| 3. Challenge in being very accurate in measuring the copyrights | 9. No challenges faced in reporting |
| 4. Challenge in deciding what to report | 10. Unwillingness to report negative items in annual reports |
| 5. Exclusive rates from suppliers | 11. No challenges, since no reporting takes place |
| 6. Exclusive rates from licensees | |
| <i>Source: Author</i> | |

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
An Empirical Analysis of Publicly Listed Companies in the United Arab Emirates

TALLY CHART - CHALLENGES FACED IN INTELLECTUAL LIABILITIES REPORTING

| SM # | Breaches of Contract | Confidentiality | Exclusivity | No Reporting - No Challenges | No Uniform Standard | Reporting - No Challenges | Reporting Negatives |
|----------------|----------------------|-----------------|-------------|------------------------------|---------------------|---------------------------|---------------------|
| 1 | | | | √ | | | |
| 2 | | | | √ | | | |
| 3 | | | | √ | | | |
| 4 | | | | | | √ | |
| 5 | | | | | | √ | |
| 6 | | | | √ | | | |
| 7 | | | | √ | | | |
| 8 | | | | √ | | | |
| 9 | | | | | √ | | |
| 10 | | | | | √ | | |
| 11 | | √ | | | √ | | |
| 12 | √ | | √ | | | | |
| 13 | | √ | | | | | √ |
| 14 | | | | √ | | | |
| 15 | | | | √ | | | |
| Total # | 1 | 2 | 1 | 8 | 3 | 2 | 1 |

Source: Author

APPENDIX AF: METHODS OF INTELLECTUAL LIABILITIES

DISCLOSURE

| METHODS OF INTELLECTUAL LIABILITIES DISCLOSURE | |
|---|---|
| 1. | No challenges, since no reporting takes place |
| 2. | Company does not disclose its Intellectual Liabilities |
| 3. | Not disclosed to the public, since they are intangibles |
| 4. | Quantitatively and qualitatively |
| 5. | Qualitatively |
| 6. | Quantitatively |
| 7. | Quantitatively aggregated |
| <i>Source: Author</i> | |

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
An Empirical Analysis of Publicly Listed Companies in the United Arab Emirates

| TALLY CHART - METHODS OF INTELLECTUAL LIABILITIES DISCLOSURE | | | |
|---|----------------------|----------------------|-----------------------|
| SM # | No Disclosure | Qualitatively | Quantitatively |
| 1 | √ | | |
| 2 | √ | | |
| 3 | √ | | |
| 4 | | √ | √ |
| 5 | | √ | √ |
| 6 | | √ | |
| 7 | | √ | |
| 8 | | √ | |
| 9 | | √ | |
| 10 | √ | | |
| 11 | | | √ |
| 12 | | | √ |
| 13 | | √ | |
| 14 | √ | | |
| 15 | √ | | |
| Total # | 6 | 7 | 4 |

Source: Author

APPENDIX AG: IMPACT OF INTELLECTUAL ASSETS MEASUREMENT
AND DISCLOSURE ON FIRM FINANCIAL PERFORMANCE

| IMPACT OF INTELLECTUAL ASSETS MEASUREMENT AND DISCLOSURE ON FIRM FINANCIAL PERFORMANCE | |
|---|---|
| 1. | I believe this will have an impact on the firm's financial performance |
| 2. | This will affect the financial performance of the company |
| 3. | Yes, of course |
| 4. | Yes because they are elements in the Balance Sheet and the Financial reporting system |
| 5. | These are things of value, and will increase value if reported |
| 6. | Yes, maybe |
| 7. | It improves the overall performance of the organization |
| 8. | It affects performance because employees will be more motivated |
| <i>Source: Author</i> | |

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
An Empirical Analysis of Publicly Listed Companies in the United Arab Emirates

| TALLY CHART - IMPACT OF INTELLECTUAL ASSETS MEASUREMENT AND DISCLOSURE ON FIRM FINANCIAL PERFORMANCE | | |
|---|--------------------|------------------------|
| SM # | Does Impact | Does not Impact |
| 1 | √ | |
| 2 | √ | |
| 3 | √ | |
| 4 | √ | |
| 5 | √ | |
| 6 | √ | |
| 7 | √ | |
| 8 | √ | |
| 9 | √ | |
| 10 | √ | |
| 11 | √ | |
| 12 | √ | |
| 13 | √ | |
| 14 | √ | |
| 15 | √ | |
| Total # | 15 | 0 |
| <i>Source: Author</i> | | |

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
 An Empirical Analysis of Publicly Listed Companies in the United Arab Emirates

APPENDIX AH: REASONS OF IMPACT OF INTELLECTUAL ASSETS
 MEASUREMENT AND DISCLOSURE ON FIRM FINANCIAL
 PERFORMANCE

| REASONS OF IMPACT OF INTELLECTUAL ASSETS MEASUREMENT AND DISCLOSURE ON FIRM FINANCIAL PERFORMANCE | |
|---|--|
| 1. Consumers will have more trust in the company | 11. Increases customers' trust |
| 2. The more the company is transparent, the more the loyalty of customers | 12. Increases suppliers' trust |
| 3. The company should be transparent with its customers in all good news | 13. Outstanding revenue generation will lead to high incomes |
| 4. It serves as a catalyst in boosting service revenues | 14. Plays an important role in increasing revenue |
| 5. If misused, it demines potential sales opportunities | 15. It is imperative in revenue maximization |
| 6. Supports the management in earning extra market share | 16. The higher the Intellectual Assets, the higher is the goodwill of the company |
| 7. Employees will be more motivated | 17. It gives a good image of the company |
| 8. It improves the reputation of the company | 18. Bad news negatively affect the financial performance |
| 9. Good news positively affect the financial performance | 19. Over representation or under representation can influence the Financial statements |
| 10. Business is about buying, broadcasting and selling content | |
| <i>Source: Author</i> | |

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
An Empirical Analysis of Publicly Listed Companies in the United Arab Emirates

TALLY CHART - REASONS OF IMPACT OF INTELLECTUAL ASSETS MEASUREMENT AND DISCLOSURE ON FIRM FINANCIAL PERFORMANCE

| SM # | Can Improve Customer Trust | Can Improve Market Share | Can Improve Supplier's Trust | Can Increase Customer Loyalty | Can Increase Revenue | Can Motivate Staff | Good Public Relations | Positive or Negative Values Materially Impact Stakeholders' View | To Identify Profit & Loss | To Inform Financial Statements |
|----------------|----------------------------|--------------------------|------------------------------|-------------------------------|----------------------|--------------------|-----------------------|--|---------------------------|--------------------------------|
| 1 | ✓ | | | | | | | | | |
| 2 | ✓ | | ✓ | ✓ | | | | | | |
| 3 | ✓ | | | | | | | ✓ | | |
| 4 | ✓ | | | ✓ | | | | | | |
| 5 | | | | | ✓ | | | ✓ | | |
| 6 | | | | | ✓ | | | | | |
| 7 | | | | | ✓ | | | | | |
| 8 | | ✓ | | | | | | | | |
| 9 | | | | | | | ✓ | | | |
| 10 | | | | | | | | ✓ | ✓ | |
| 11 | | | | | | | | ✓ | | ✓ |
| 12 | | | | | | | | | ✓ | |
| 13 | | | | | | | ✓ | | | |
| 14 | | | | | ✓ | | | ✓ | ✓ | ✓ |
| 15 | | | | | | ✓ | | ✓ | | |
| Total # | 4 | 1 | 1 | 2 | 4 | 1 | 2 | 6 | 3 | 2 |

Source: Author

APPENDIX AI: REASONS OF IMPACT OF INTELLECTUAL LIABILITIES
MEASUREMENT AND DISCLOSURE ON FIRM FINANCIAL
PERFORMANCE

**IMPACT OF INTELLECTUAL LIABILITIES MEASUREMENT AND DISCLOSURE
ON FIRM FINANCIAL PERFORMANCE**

1. Revenues will decrease in case the company discloses high levels of Intellectual Liabilities
2. If not reported, then the firm's financial performance will not be affected
3. Bad news negatively affects the financial performance
4. Companies should avoid revealing the bad news to the public
5. This gives an immediate alert to the company to investigate the route cause and to propose corrective actions
6. Disclosing these will decrease potential sales
7. Yes, there's an impact
8. No impact

Source: Author

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
An Empirical Analysis of Publicly Listed Companies in the United Arab Emirates

| TALLY CHART - IMPACT OF INTELLECTUAL LIABILITIES MEASUREMENT AND DISCLOSURE ON FIRM FINANCIAL PERFORMANCE | | |
|--|---------------------|------------------------|
| SM # | Does Impacts | Does not Impact |
| 1 | √ | |
| 2 | | √ |
| 3 | √ | |
| 4 | √ | |
| 5 | √ | |
| 6 | √ | |
| 7 | √ | |
| 8 | √ | |
| 9 | √ | |
| 10 | √ | |
| 11 | √ | |
| 12 | √ | |
| 13 | √ | |
| 14 | √ | |
| 15 | √ | |
| Total # | 14 | 1 |
| <i>Source: Author</i> | | |

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
An Empirical Analysis of Publicly Listed Companies in the United Arab Emirates

APPENDIX AJ: REASONS OF IMPACT OF INTELLECTUAL LIABILITIES
MEASUREMENT AND DISCLOSURE ON FIRM FINANCIAL
PERFORMANCE

| REASONS OF IMPACT OF INTELLECTUAL LIABILITIES MEASUREMENT AND DISCLOSURE ON FIRM FINANCIAL PERFORMANCE | |
|--|---|
| 1. It may give a competitive edge to rivals | 10. Over representation or under representation can influence the financial statements |
| 2. It may cause loss of market share | 11. Depending on how much. If you disclose it, it will affect negatively |
| 3. It will hurt the bank's reputation | 12. Investors are affected by whether bad news and bad figures are disclosed or not |
| 4. Revenues will decrease | 13. It can show the weaknesses of the company to the outsiders |
| 5. Disclosing these will decrease potential sales | 14. Competitors can use this disclosure to attack the company |
| 6. Disclosing intellectual liabilities will serve in minimizing sales | 15. It shows the public that a company is transparent and aware of potential deficiencies |
| 7. Poor revenue generation may lead to net losses | 16. If they are not reported, then the firm's financial performance will not be affected |
| 8. It may diminish sales opportunities | 17. It may give a competitive edge to rivals |
| 9. The more the Intellectual Liabilities, the less the Intellectual Capital will be | 18. It gives a good image of the company |

Source: Author

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
An Empirical Analysis of Publicly Listed Companies in the United Arab Emirates

| TALLY CHART - REASONS OF IMPACT OF INTELLECTUAL LIABILITIES MEASUREMENT AND DISCLOSURE ON FIRM FINANCIAL PERFORMANCE | | | | | | | | |
|---|----------------------------------|-------------------------|---------------------|--|---|-----------------------|----------------------------|---------------------------------|
| SM # | Could Cause Loss in Market Share | Could Damage Reputation | Decreasing Revenues | Disclosing Intellectual Assets Impacts Positively on Financial Performance | Disclosing Intellectual Liabilities Impacts Negatively on Financial Performance | Good Public Relations | No -Disclosure = No Impact | Offers Advantage to Competitors |
| 1 | | | √ | | | | | |
| 2 | | | | | | | √ | |
| 3 | | | √ | √ | √ | | | |
| 4 | | | | √ | √ | | | |
| 5 | | | √ | | √ | | | |
| 6 | | | √ | | | | | |
| 7 | | | √ | | √ | | | |
| 8 | √ | | | | √ | | | √ |
| 9 | | | | √ | | √ | | |
| 10 | | | | √ | √ | | | |
| 11 | | | | √ | √ | | | |
| 12 | | | | | | | | |
| 13 | | √ | | | √ | | | |
| 14 | | | | | √ | | | |
| 15 | | | | | √ | | | |
| Total # | 1 | 1 | 5 | 5 | 10 | 1 | 1 | 1 |

Source: Author

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
An Empirical Analysis of Publicly Listed Companies in the United Arab Emirates

APPENDIX AK: IMPORTANCE OF INCLUSION OF INTELLECTUAL
CAPITAL IN ANNUAL REPORTS

| IMPORTANCE OF INCLUSION OF INTELLECTUAL CAPITAL IN ANNUAL REPORTS | |
|---|---|
| 1. Since no tools for measurement exist, inclusion will not take place | 7. Yes, because it shows the public that the company is transparent |
| 2. There are no accurate models that can be taken as measurement tools | 8. Definitely, yes |
| 3. No inclusion due to lack of an international model that unifies measurements | 9. Yes, absolutely; not only important, but also mandatory |
| 4. Measurement tools and models are needed | 10. Yes, especially if the company employs high-caliber employees |
| 5. It is important as long as there are standards for measuring it | 11. Yes, it is important |
| 6. Yes, this will highlight other intangibles for the investors | 12. Yes, provided that the company enjoys high levels of intellectual capital |
| <i>Source: Author</i> | |

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
An Empirical Analysis of Publicly Listed Companies in the United Arab Emirates

| TALLY CHART - IMPORTANCE OF INCLUSION OF INTELLECTUAL CAPITAL IN ANNUAL REPORTS | | | |
|--|--|-----------|------------|
| SM # | Need for International Model Unifying Measurement Systems | No | Yes |
| 1 | √ | | √ |
| 2 | | | √ |
| 3 | | | √ |
| 4 | √ | | √ |
| 5 | √ | | |
| 6 | √ | | √ |
| 7 | √ | | √ |
| 8 | √ | | √ |
| 9 | | | √ |
| 10 | √ | | √ |
| 11 | | | |
| 12 | | | √ |
| 13 | √ | √ | √ |
| 14 | | | √ |
| 15 | | | √ |
| Total # | 8 | 1 | 13 |
| <i>Source: Author</i> | | | |

APPENDIX AL: PARTICIPANT PROFILES - FOLLOW-UP INTERVIEWS

| PARTICIPANT PROFILES - FOLLOW-UP INTERVIEWS | | | | | |
|--|------------|------------|-----------------------------------|---------------|-------------|
| | SM1 | SM2 | SM9 | SM10 | SM11 |
| Age | 45 | 51 | 37 | 39 | 55 |
| Gender | Male | Male | Male | Male | Male |
| Nationality | Emirati | Lebanese | British | Lebanese | British |
| Education | Masters | Masters | Masters | Undergraduate | Masters |
| Position | FD | RFC | CFO | RFM | RFC |
| Years of Experience in Current Organization | 4 | 3 | 4 | 5 | 4 |
| Years of Experience in Current Industry/Sector | 9 | 7 | 9 | 8 | 7 |
| Years of Experience in the UAE | 9 | 5 | 6 | 4 | 4 |
| Address | Dubai | Abu Dhabi | Abu Dhabi | Dubai | Abu Dhabi |
| LEGEND | | | | | |
| 1. FD = Finance Director | | | 3. CFO = Chief Financial Officer | | |
| 2. RFC = Regional Financial Controller | | | 4. RFM = Regional Finance Manager | | |
| <i>Source: Author</i> | | | | | |

APPENDIX AM: IMPACT OF HUMAN ASSETS MEASUREMENT AND
 DISCLOSURE ON FIRM FINANCIAL PERFORMANCE

| TALLY CHART - IMPACT OF HUMAN ASSETS MEASUREMENT AND DISCLOSURE ON FIRM FINANCIAL PERFORMANCE | | |
|--|---------------------|------------------------|
| SM # | Does Impacts | Does not Impact |
| 1 | √ | |
| 2 | √ | |
| 9 | √ | |
| 10 | √ | |
| 11 | √ | |
| Total # | 5 | 0 |
| <i>Source: Author</i> | | |

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
An Empirical Analysis of Publicly Listed Companies in the United Arab Emirates

APPENDIX AN: REASONS OF IMPACT OF HUMAN ASSETS

MEASUREMENT AND DISCLOSURE ON FIRM FINANCIAL

PERFORMANCE

| REASONS OF IMPACT OF HUMAN ASSETS MEASUREMENT AND DISCLOSURE ON FIRM FINANCIAL PERFORMANCE | |
|--|---|
| 1. Disclosure should have an impact on performance in a positive way | 7. It will lead to leakage of the human element |
| 2. It will show to the public that the company have the needed human elements | 8. The competitors will try to steal your good employees |
| 3. It shows that the company is transparent | 9. No direct impact on financial performance due to market inefficiency |
| 4. This increases the trust in the company | 10. Partial positive effect |
| 5. The more you disclose, the higher will be the benefits to the company | 11. It may help in improving the reputation of the company |
| 6. It shows that the company appreciates its human assets | 12. If you disclose too much, it will affect negatively |
| Source: Author | |

| TALLY CHART - REASONS OF IMPACT OF HUMAN ASSETS MEASUREMENT AND DISCLOSURE ON FIRM FINANCIAL PERFORMANCE | | | | | |
|---|------------|--|----------------------------|--------------------|-------------------------------------|
| SM # | Adds Value | Builds Confidence and Demonstrates Trustworthiness | Creates Negative Impact | Informs the Market | Not Important in a Local Context |
| 1 | √ | | | | |
| 2 | | √ | | | √ |
| 9 | √ | √ | | √ | |
| 10 | √ | | | √ | |
| 11 | | | √ | | |
| Total # | 3 | 2 | 1 | 2 | 1 |
| Source: Author | | | | | |

APPENDIX AO: IMPACT OF RELATIONAL ASSETS MEASUREMENT
 AND DISCLOSURE ON FIRM FINANCIAL PERFORMANCE

| TALLY CHART - IMPACT OF RELATIONAL ASSETS MEASUREMENT AND DISCLOSURE ON FIRM FINANCIAL PERFORMANCE | | |
|---|-------------------------|--------------------------------|
| SM # | Does Impacts | Does not Impact |
| 1 | √ | |
| 2 | √ | |
| 9 | √ | |
| 10 | √ | |
| 11 | √ | |
| Total # | 5 | 0 |
| <i>Source: Author</i> | | |

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
An Empirical Analysis of Publicly Listed Companies in the United Arab Emirates

APPENDIX AP: REASONS OF IMPACT OF RELATIONAL ASSETS

MEASUREMENT AND DISCLOSURE ON FIRM FINANCIAL

PERFORMANCE

| REASONS OF IMPACT OF RELATIONAL ASSETS MEASUREMENT AND DISCLOSURE ON FIRM FINANCIAL PERFORMANCE | |
|---|---|
| 1. It definitely has a positive impact on financial performance | 7. Better relations with third parties directly affects your effectiveness and efficiency |
| 2. This will increase trust in the company | 8. It is as if you are giving your secret recipe to competitors |
| 3. It shows that the company has proper supply chain systems | 9. Competition will be fiercer |
| 4. It shows that the company is efficient and effective | 10. Negative effect if too much is said about these competitive points |
| 5. The market is thirsty for more disclosure and more information | 11. It will have a marginal positive effect |
| 6. It shows to the public that a company understands the basics of supply chain | 12. UAE Companies do not go up or down because of a few statements here and there |

Source: Author

| TALLY CHART - REASONS OF IMPACT OF RELATIONAL ASSETS MEASUREMENT AND DISCLOSURE ON FIRM FINANCIAL PERFORMANCE | | | |
|--|--|----------------------------|-------------------------------------|
| SM # | Builds Confidence and Demonstrates Trustworthiness | Damages Competitiveness | Not Important in a Local Context |
| 1 | √ | | |
| 2 | | | √ |
| 9 | √ | | |
| 10 | √ | | |
| 11 | | √ | |
| Total # | 3 | 1 | 1 |

Source: Author

APPENDIX AQ: IMPACT OF STRUCTURAL ASSETS MEASUREMENT
AND DISCLOSURE ON FIRM FINANCIAL PERFORMANCE

| TALLY CHART - IMPACT OF STRUCTURAL ASSETS MEASUREMENT AND DISCLOSURE ON FIRM FINANCIAL PERFORMANCE | | |
|---|-------------------------|--------------------------------|
| SM # | Does Impacts | Does not Impact |
| 1 | √ | |
| 2 | √ | |
| 9 | √ | |
| 10 | √ | |
| 11 | √ | |
| Total # | 5 | 0 |

Source: Author

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
An Empirical Analysis of Publicly Listed Companies in the United Arab Emirates

APPENDIX AR: REASONS OF IMPACT OF STRUCTURAL ASSETS
MEASUREMENT AND DISCLOSURE ON FIRM FINANCIAL
PERFORMANCE

| REASONS OF IMPACT OF STRUCTURAL ASSETS MEASUREMENT AND DISCLOSURE ON FIRM FINANCIAL PERFORMANCE | |
|---|---|
| 1. It signals to the markets the investments that a company makes | 7. It will improve the perception about the company |
| 2. The market wants to know more about the company | 8. This is the most dangerous if you disclose it a lot |
| 3. Transparency is extremely important | 9. This is the structure of the company and it's very serious and confidential |
| 4. Makes the reported financial figures more trustworthy and reliable | 10. This is supposed to be hidden from the outside, not disclosed |
| 5. Transparency is not a big thing in UAE | 11. The more you make it public, the more outsiders will be able to spy on your inner strengths |
| 6. Stakeholders want to know about your systems, data security, and loss recovery | 12. More disclosure will eventually affect the company in a negative way |
| <i>Source: Author</i> | |

| TALLY CHART - REASONS OF IMPACT OF STRUCTURAL ASSETS MEASUREMENT AND DISCLOSURE ON FIRM FINANCIAL PERFORMANCE | | | |
|--|--|----------------------------|-------------------------------------|
| SM # | Builds Confidence and Demonstrates Trustworthiness | Damages Competitiveness | Not Important in a Local Context |
| 1 | √ | | |
| 2 | | | √ |
| 9 | √ | | |
| 10 | √ | | |
| 11 | | √ | |
| Total # | 3 | 1 | 1 |
| <i>Source: Author</i> | | | |

APPENDIX AS: IMPACT OF HUMAN LIABILITIES MEASUREMENT AND
 DISCLOSURE ON FIRM FINANCIAL PERFORMANCE

| TALLY CHART - IMPACT OF HUMAN LIABILITIES MEASUREMENT AND DISCLOSURE ON FIRM FINANCIAL PERFORMANCE | | | |
|---|-------------------|------------------------|--------------------|
| SM # | It Depends | Does not Impact | Does Impact |
| 1 | | | √ |
| 2 | | √ | |
| 9 | | | √ |
| 10 | √ | | |
| 11 | | | √ |
| Total # | 1 | 1 | 3 |
| <i>Source: Author</i> | | | |

APPENDIX AT: REASONS OF IMPACT OF HUMAN LIABILITIES

MEASUREMENT AND DISCLOSURE ON FIRM FINANCIAL

PERFORMANCE

| REASONS OF IMPACT OF HUMAN LIABILITIES MEASUREMENT AND DISCLOSURE ON FIRM FINANCIAL PERFORMANCE | |
|---|---|
| 1. The market will take it as a positive move | 7. It is as if you are giving your secret recipe to competitors |
| 2. It will kill your reputation | 8. This shows a very poor image of the company |
| 3. It will cause negative performance | 9. It decreases trust in the company |
| 4. If you disclose them to prevent them, it will have a positive impact | 10. It will have a marginal positive effect |
| 5. Negative impact right away | 11. No body looks at these reports |
| 6. Provides an opportunity for competitors to use against the company | |
| <i>Source: Author</i> | |

| TALLY CHART - REASONS OF IMPACT OF HUMAN LIABILITIES MEASUREMENT AND DISCLOSURE ON FIRM FINANCIAL PERFORMANCE | | | | | |
|--|--|----------------------------|----------------------------|-----------------|-------------------------------------|
| SM # | Builds Confidence and Demonstrates Trustworthiness | Creates Negative Impact | Damages Competitiveness | Decreases Trust | Not Important in a Local Context |
| 1 | | | | √ | |
| 2 | | | | | √ |
| 9 | √ | | | | |
| 10 | √ | | | | |
| 11 | | √ | √ | | |
| Total # | 2 | 1 | 1 | 1 | 1 |
| <i>Source: Author</i> | | | | | |

APPENDIX AU: IMPACT OF RELATIONAL LIABILITIES MEASUREMENT
AND DISCLOSURE ON FIRM FINANCIAL PERFORMANCE

| TALLY CHART - IMPACT OF RELATIONAL LIABILITIES MEASUREMENT AND DISCLOSURE ON FIRM FINANCIAL PERFORMANCE | | | |
|--|----------------------------|--------------------------------|------------------------|
| SIM # | It Depend s | Does not Impact | Does Impact |
| 1 | | | √ |
| 2 | | √ | |
| 9 | | | √ |
| 10 | √ | | |
| 11 | | | √ |
| Total # | 1 | 1 | 3 |
| <i>Source: Author</i> | | | |

The Effect of Intellectual Assets and Intellectual Liabilities Disclosure on Financial Performance:
An Empirical Analysis of Publicly Listed Companies in the United Arab Emirates

APPENDIX AV: REASONS OF IMPACT OF RELATIONAL LIABILITIES

MEASUREMENT AND DISCLOSURE ON FIRM FINANCIAL

PERFORMANCE

| REASONS OF IMPACT OF RELATIONAL LIABILITIES MEASUREMENT AND DISCLOSURE ON FIRM FINANCIAL PERFORMANCE | |
|--|---|
| 1. Positive impact | 7. Negative effect |
| 2. Investors will take it positively | 8. It will decrease trust in the company |
| 3. This will show how truthful and transparent the company is | 9. This will drive performance downwards |
| 4. The stock market will appreciate it | 10. Competitors will start stealing your contracts with customers |
| 5. It shows that the company is aware of where the improvement needs to be done | 11. It will cause loss of business with clients and suppliers |
| 6. Disclosure to improve weakness helps creates a positive impact | 12. No one appreciates honesty here; so, it won't affect on performance |

Source: Author

| TALLY CHART - REASONS OF IMPACT OF RELATIONAL LIABILITIES MEASUREMENT AND DISCLOSURE ON FIRM FINANCIAL PERFORMANCE | | | | | |
|---|--|----------------------------|----------------------------|-----------------|-------------------------------------|
| SM # | Builds Confidence and Demonstrates Trustworthiness | Creates Negative Impact | Damages Competitiveness | Decreases Trust | Not Important in a Local Context |
| 1 | | √ | √ | √ | |
| 2 | | | | | √ |
| 9 | √ | | | | |
| 10 | √ | | | | |
| 11 | | √ | √ | | |
| Total # | 2 | 2 | 2 | 1 | 1 |

Source: Author

APPENDIX AW: IMPACT OF STRUCTURAL LIABILITIES

MEASUREMENT AND DISCLOSURE ON FIRM FINANCIAL

PERFORMANCE

| TALLY CHART - IMPACT OF STRUCTURAL LIABILITIES MEASUREMENT AND DISCLOSURE ON FIRM FINANCIAL PERFORMANCE | | | |
|--|--------------------|------------------------|--------------------|
| SM # | It Depend s | Does not Impact | Does Impact |
| 1 | | | √ |
| 2 | | √ | |
| 9 | | | √ |
| 10 | √ | | |
| 11 | | | √ |
| Total # | 1 | 1 | 3 |
| <i>Source: Author</i> | | | |

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APPENDIX AX: REASONS OF IMPACT OF STRUCTURAL LIABILITIES
MEASUREMENT AND DISCLOSURE ON FIRM FINANCIAL
PERFORMANCE

| REASONS OF IMPACT OF STRUCTURAL LIABILITIES MEASUREMENT AND DISCLOSURE ON FIRM FINANCIAL PERFORMANCE | |
|--|--|
| 1. Positive impact | 8. Any disclosure of bad news sends a bad signal to the market |
| 2. Increased transparency | 9. Investors and stakeholders are very sensitive to what companies say |
| 3. Increased trust | 10. It's important not to show company's weaknesses |
| 4. Increased confidence | 11. Negative impact |
| 5. Disclose by itself will cause negative performance | 12. It will be used by competitors to spread bad reputation |
| 6. Disclosure with action and prevention notes will improve performance | 13. Loss of competitive advantage |
| 7. This is not an efficient market and therefore these disclosures do not have impact | |

Source: Author

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| TALLY CHART - REASONS OF IMPACT OF STRUCTURAL LIABILITIES MEASUREMENT AND DISCLOSURE ON FIRM FINANCIAL PERFORMANCE | | | | | |
|---|---|--------------------------------|--------------------------------|------------------------|---|
| SM # | Builds Confidence and Demonstrates Trustworthiness | Creates Negative Impact | Damages Competitiveness | Decreases Trust | Not Important in a Local Context |
| 1 | | √ | √ | √ | |
| 2 | | | | | √ |
| 9 | √ | | | | |
| 10 | √ | | | | |
| 11 | | √ | √ | √ | |
| Total # | 2 | 2 | 2 | 2 | 1 |
| <i>Source: Author</i> | | | | | |

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