UNIVERSITY OF HULL

A STUDY OF INTELLECTUAL CAPITAL IN THE HOSPITALITY INDUSTRY IN THE CARIBBEAN

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Table of Contents

List of figures

List of tables

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Dedication

This thesis is dedicated to the memory of my mother Wilma Eunice Mings who died on January 17, 2004.

Abstract

In today's knowledge-based economy three important factors in an organisation are human capital (HC), relational capital (RC) and structural capital (SC) which are the elements that constitute intellectual capital (IC). Proponents of IC research suggest that it is the leveraging of the three components of IC that allow an organisation to create and sustain a competitive advantage. IC research has, thus far, emphasized defining and measuring the construct and its components, and examining the impact of IC and its components on firm's performance. However, theoretical questions remain concerning the synergistic, dynamic and contextual nature of the IC construct. A better understanding of these aspects of the IC construct is needed to better argue that IC is a firm's capability that results in a sustainable competitive advantage.

Thus, while progress has been made in IC research, this study contributes to the extant IC literature and to practice within the accommodation sector of the tourism industry. The resource-based view of the firm and sensemaking are use to provide the foundation for understanding how the three components interact. Locating the research in the Caribbean hospitality industry provides literature on IC in developing micro states. The study develops and tests a theoretical model concerning the mediating effects of measurement of IC and sensemaking on the components of IC and performance linkage. The study confirms the use of structural equation modelling as an appropriate method to develop latent constructs of HC, RC, SC, measurement of IC and sensemaking in IC research.

Accordingly, this study investigated the characteristics and significance placed on the various components of IC and the measurement of IC in the hospitality industry in the Caribbean. The study also provides a critical assessment of the impact of IC information on corporate performance through the sensemaking process in the organisation. A mixed methods approach to answering the research questions, consisting of two exploratory case studies in the first phase and a survey in the second phase was used. The study confirmed the presence of IC within the hospitality industry.

The qualitative case studies reveal that there is no multi-dimensional performance framework within the industry and there is limited disclosure of IC information. The study shows that HC, RC and SC are related to sensemaking, that measurement of IC is associated with performance, that measurement of IC mediates the relationships between RC and performance and SC and performance, and it validates the relationship between HC and performance.

CHAPTER 1

Introduction and Background to the study

1.1 Introduction

Since the 1990s, the concept of intellectual capital (IC) has received attention from academic researchers, practitioners, businesses and governments. More specifically, the benefit of intellectual capital to organizations has received significant attention, though no common method for its valuation has been determined. The transition of economies from industrial base to knowledge base was the catalyst for the search for greater understanding of the intangible drivers for this new economy. Whereas, many corporate leaders understand the physical and financial assets of the organization and how to effectively manage them, they are less knowledgeable about the components of intellectual capital. This has created the impetus for research in intellectual capital.

The initial contemporary research on intellectual capital focused on defining IC and its components which resulted in simple conceptual frameworks being created (Edvinsson and Malaone, 1997; Stewart, 1997; Sveiby, 1997 and Bontis, 1998a). The initial research also reviewed the several conflicting methods proposed for measuring and evaluating intellectual capital in organizations (Sveiby 1997, Luthy 1998, Bontis et al 1999, Williams 2000, Andriessen 2004). However, a number of these measurement schemes have been criticized for not meeting the science based measurement criteria of completeness, independence, distinctness, agreeability and scaling (Pike and Roos 2004, Roos et al. 2005). The disclosure and the reporting of IC and its attributes is another area that has received significant attention in research on intellectual capital (Guthrie and Petty 2000b, Brennan 2001, Goh 2004, Bukh et al 2005, Garcia-Meca 2005, Li et al 2008). In addition, the multi-disciplinary nature of IC has resulted in researchers examining the impact of IC and its components on a firm's performance (Tsai and Ghosal, 1998, Youndt and Snell 2004, Riahi-Belkaoui 2003, Chen et al 2005, Tan et al 2007). The current IC studies have provided a foundation that has successfully furthered our understanding of IC and its components, however, some theoretical

tensions have been created concerning the synergistic, dynamic and contextual nature of IC. This gap in our knowledge is one of the areas that need to be filled in order for a clearer understanding of IC and its role as the firm's capability that results in a sustainable competitive advantage.

While most of the IC definitions have been influenced by the different theories of the firm (Johanson et al 2001) there is no universal theory underpinning IC research. A number of theories have been suggested to aid in the interpretation of IC information, for example, Abeysekera and Guthrie (2005) advocate the political economy of accounting, Firer and Williams (2003) suggest stakeholder theory, Bozzolan et al (2003) propose signalling theory, and Deegan (2000) and Rowbottom (2002) recommend legitimacy theory. Penrose's (1959) resource based view of the firm has been suggested by several authors (Riahi-Belkaoui 2003; Johnson 1999; Carlucci et al 2004, Menor et al 2007) as the theory that could be used to underpin IC research. According to the logic of the resource based view, a firm's success is largely determined by the resources that it owns and controls. These resources should be heterogeneous, immobile, imperfectly imitable, and have no strategically equivalent substitutes (Wenerfelt 1984, Peteraf 1993, Barney 1991) to offer the firm a competitive advantage. The challenge that this approach creates is the assumption that these resources are wholly contained within each firm. On the contrary there are other relationships which are not necessarily wholly contained in the firm that enable the creation of distinctive competencies. Polanyi (1957) social capital theory, which can be described as a nexus of relationships, can be used to address the perceived shortcomings of the resource based view.

The social capital theory of the firm proposes that all economic actions are embedded in social contracts centering on social rather than hierarchical structures. A process that can be subsumed into the social capital theory of the firm is sensemaking. Sensemaking is a process of making sense and assigning meaning to events in the environment by applying stored knowledge, experience, values and beliefs to new situations in an effort to understand them (Weick 1995). This process illustrates how

organizations can routinely integrate the three IC components. In light of limited research linking the resource based view with that of a social capital theory, this research combines the economic based theory resource based view of the firm with theory of sensemaking to explore IC within the hospitality industry. Combining sensemaking with the resource based view of the firm to explore IC would add to the extant literature.

Some progress has been made in IC research, with work being conducted in a number of disciplines. The focus in accounting has been in the reporting and disclosure issues using content analysis as the major methodology. In the finance area research has been conducted in the valuation of IC and estimating relationships between the IC construct and the firm's performance. The area of management accounting has attracted some attention (Roslender, 2000; Tayles et al, 2002; Tayles et al, 2007; Cleary et al, 2007; Marr, 2008; Cleary 2009). This thesis is being grounded in the management accounting area to add to the extant literature in that area. A number of questions remain unanswered as the multi-disciplinary nature of IC enables the generation of several topics. One major issue that needs to be addressed is how will information about IC and its components assist managers in their ability to measure, manage and make decisions in an organization?

With knowledge becoming the key resource in organizations, it is imperative that new measures be developed to facilitate its management. Organizations that are able to generate and apply knowledge through the combined efforts of their people, processes and technology will be greatly rewarded. Organizations seeking to be effective and grow must develop new thinking, adopt new processes and fully embrace the benefits that IC measurement and management has to offer. Organizations, such as Skandia Group (Sweden), have demonstrated how an organization can leverage knowledge as a capital resource within the company. Therefore, if companies in developing regions are to compete in this global economy they must investigate how to leverage their knowledge and competencies to enhance their organizational effectiveness.

1.2. Statement of the Problem

While IC has received increasing attention from academic researchers, practitioners, businesses and governments since the 1990s, it is not known to what extent managers of companies within the Caribbean consider IC and its attributes in their decision-making process. Their understanding of the factors involved in the measurement/valuation of IC is further unknown.

IC is important to an organisation in that it links the essential elements required for growth. Through the integration of human resources, customer and supplier relationships, business processes and systems, IC helps an organisation to create distinctive competencies through the control of its available resources, thereby enhancing its performance and overall value in the economy. IC, as a composite of the organization's human, relational and structural capitals, has a business value and an economic value. The societal perspective on the value of an organization relates to how much it is worth, but from the business perspective, value is how much a business can be worth. Managers within the Caribbean may be unaware of the significance of IC in the overall value and performance of the entity. This study places IC in the Caribbean as the central issue under investigation.

1.3. Background of the problem

The "intangible" or "new" economy has resulted in a change from tangible assets being the major driver of performance to intangibles playing a key role in that performance. Investments in tangible assets no longer produce a sustained competitive advantage. On the contrary, investments in intangibles have shown to generate future economic benefits (Lev 2001). It has been argued that intangibles, such as knowledge, are responsible for the increase in book value to market value ratio and is attributable to firms having a competitive advantage over their competitors. Knowledge is quintessential in the use and application of physical and financial capitals. Intellectual capital embodies the skills, knowledge, experience and know-how of people and organizational routines, systems and procedures.

Employee competencies, technical and administrative infrastructure and organizational processes all influence the entity's performance. The Human Resource, Marketing and Information Systems fraternities have each argued of the relationship between their component and firm's performance. Given these approaches, it is understandable why current IC researchers, have either examined the independent relationships existing between each IC component and performance, or have proposed that one component is more important than another (Huselid et al, 1997; Tsai and Ghosal, 1998; Riahi-Belkaoui, 2003; Youndt and Snell 2004). This has compounded the problem of value and valuation of intellectual capital in organizations. Many corporate leaders are left without an understanding of the importance of intellectual capital to organizational effectiveness, whereas, they understand the importance of the management of tangible and financial assets.

Intellectual capital, while not captured on the face of financial statements produced for external users, helps to explain the gap between the book value of net assets of an entity and its market value (Dzinkowski, 2000; Stoval, 1997). This is only one of the challenges for the accounting profession, that of defining and measuring intellectual capital. Several practitioners and researchers have developed methods for the evaluation of intellectual capital (Bonfour's IC-dVAL; Kaplan and Norton's Balance scorecard, Lev's Value chain and Skandia's Navigator, Wall and Doerflinger's A and P Scorecard, to name a few). Petty, Ricceri and Guthrie (2008) have argued that to date there is little evidence of broad based adoption of any of these scorecards or other evaluation methods for IC. Most of the evaluation methods tend to be customized to particular firms and this makes comparison across firms difficult and further contributes to their limited adoption. The high cost associated with the collection and collating of IC metrics, together with the challenges in their interpretation have resulted in a minimal impact on management decision making (Johanson 2003). To date, there is no universal agreement on the definition of or a valuation method for intellectual capital.

Additionally, the research in IC from a geographical perspective has focused to a large extent on European and Asian countries. Some research has been done in Australia (Guthrie and Petty, 1999; 2001), Canada (Bontis, 1998a; 2003), South Africa (April et al, 2003), Hong Kong (Guthrie et al, 2006), Singapore (Singh et al, 2008; Abeysekera, 2008; Tan et al, 2007), India (Kamath 2007; 2008) and United States of America (Riahi-Belkaoui, 2003; Chatzkel, 2003). In terms of developing countries, research has been conducted in Malaysia (Goh and Lim, 2004; Tayles et al., 2007) and Sri Lanka (Abeyesekera 2008). From an industry's perspective research has focused on high-tech and knowledge based industries. In the financial services sector a number of empirical studies have been conducted using Pulic's (2000) VAIC methodology to evaluate intellectual capital and performance (Kamath, 2008; Goh, 2005; Shui, 2006; Mavridis and Kyrmizoglon, 2005). However, to date only three studies have been conducted in the hospitality industry, one in Spain (Anton et al, 2005), one Norway (Engstrom et al, 2003) and the third study on the food service industry in the United States (Erickson and McCall 2008). Since it can be argued that there is a greater understanding of intellectual capital in these geographical areas, the ability to generalize the findings of the studies to the Caribbean is limited. To date, no work on IC has been conducted in small microstates like the Caribbean. Since the political economy of industrialized countries tends to be implicitly assumed in social accounting research, this may result in unique insights that might reside in the local/regional context being suppressed. Therefore, exploring this issue, one will make explicit the peculiarities of the Caribbean region in this investigation. The following map highlights the geographical area of interest for this study.

Figure 1: Map of the Caribbean

Finally, there is a considerable degree of concern that despite the progress taking place with regard to the design of more effective performance measurement systems, hotels are still focusing on more traditional forms of performance measures. Such measures are associated with a number of fundamental weaknesses, including limitations in their accuracy and neutrality; a dominance of lag/result over lead/determinant measures; an emphasis on the short term often at the expense of strategic issues; little appreciation of the links and relationships between key areas and aspects of an organisation and an overall lack of balance (Kaplan and Johnson 1987; Brander Brown and McDonnell 1995). The adoption of an IC measurement and management system can assist greatly in this area. This system would assist in deconstructing the complex nature of the service delivery process within hotels which is characterized by a high degree of perishability, intangibility and heterogeneity. This research will be of considerable interest to policy makers in the Caribbean and to practitioners within the hospitality industry.

1.4. Research Questions

In light of the above, it was necessary to advance the following two objectives to guide the research process for this study. The first objective is to assess the characteristics and significance of the various IC components and the measurement of IC on overall performance. The research questions relating to this objective are:

1a. What components of the intellectual capital constructs are captured in the reports of management?
1b. What mechanisms are implemented within the organization through which IC factors are integrated in order to develop capabilities?
1c. Is there a relationship between IC components and organizational performance?
1d. Does the measurement of IC assist managers in their operational decisions relating to staffing, customer and supplier relationships and enhance organizational performance?

The second objective is to investigate the impact of IC information (numbers, texts, narratives) on corporate performance through the sense-making process in organizations. The research questions relating to this objective are:

2a. Is there a relationship between IC components and sensemaking?
2b. Is there a relationship between sensemaking of IC information by managers and organizational performance?

1.5. Overview of Methodology

The basic methodology chosen for this research is positivist (Hussey and Hussey 1997). The positive economic resource based theory of the firm which provides the theoretical framework for this thesis supports such a methodology. A causal link between IC and organizational performance has been established in prior studies (Bontis 1998a; Roos et al 1997, Firer and Williams 2003, Chen et al 2005, Tan et al 2007). This research seeks to validate the established relationship among the principal elements of IC -HC, RC and SC- and performance but introduces additional elements of sensemaking and measurement of IC to the model. A causal link between

sensemaking and organizational performance has been established in prior studies by Thomas, Clark and Gioia (1993).

To assess the significance placed on IC by organizations and the impact of IC on performance in the hospitality industry, a mixed methods approach as advocated by Rocco et al (2003) was adopted. The approach used in this mixed methods study was a sequential exploratory strategy. The mixed methods approach has been used in prior IC research by Bontis and Fitzenz (2002). In addition, justification for a mixed methods approach was derived from the recommendation for its use in management accounting research made by Eisenhardt (1989) and Modell (2005). The multidisciplinary nature of IC requires an approach that captures both the mathematical aspects of the relationships under consideration using quantitative techniques and the human, behavioural and organizational issues that give rise from the relationship employing qualitative techniques.

In keeping with the empiricist objectivist framework adopted for the study, a holistic multiple case study design using Yin (2003) was used for the qualitative phase of the research. This phase enabled the researcher to understand the social and cultural context of IC within the hotel chains and how managers reacted to management accounting information. These case studies facilitated the generation of hypotheses that were empirically tested in the quantitative phase. Ryan et al (2002) assert that case studies enable positivist researchers to generate hypotheses for large scale testing.

In the quantitative phase of the research, structural equation modeling (SEM) was used to test the model and the structural relationships among the components of IC and performance mediated by sensemaking and measurement of IC. Prior studies in examining the relationship among the IC components and performance used regression analysis and principal component analysis, for example, those in Chen et al (2005) and Wang (2008). SEM has become a major statistical analysis method in much

of social science research (Hershberger 2003) but this was not the case in management accounting research with Smith and Langfield-Smith (2004) calling for greater use of the technique in management accounting. SEM enables researchers to simultaneously test the measurement model and the structural model. Figure 1.2 illustrates the model for this study. The independent variables used in the model were HC, RC and SC. The mediating variables were sensemaking and measurement of IC. The dependent variable was perceived performance which was a composite scale measuring managers' perception on relative changes of their performance of financial and non-financial measures to others. Perceived performance as a dependent variable was used in prior studies by Dess and Robinson (1984), Bontis (1998a), Khong and Nair (2006), Khong and Yap (2006) and Tayles et al. (2007).

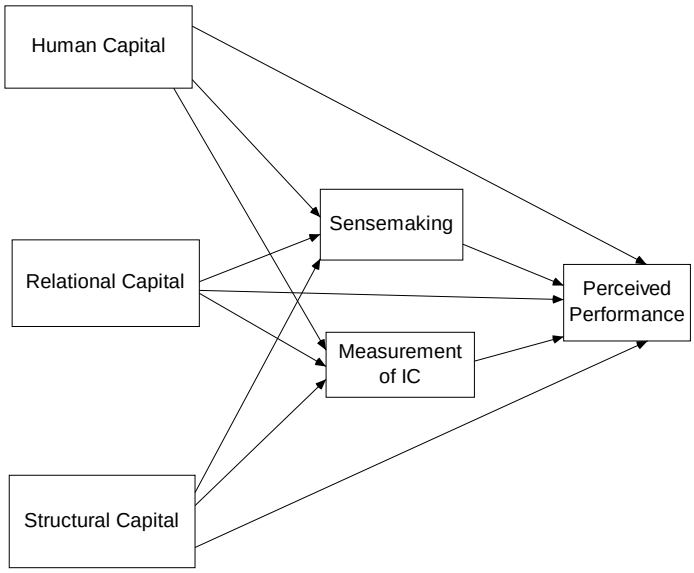


Figure 2: IC and performance Model with mediating variables

1.6. Overview of tourism in the Caribbean

Generally, the problems of declining terms of trade for agricultural products and high levels of protection against manufactured goods, in developing peripheral regions of the world (countries bordering the continents) has caused many of the countries in these regions to focus on tourism as an alternative economic activity (Sinclair 1998). Indeed, tourism has developed as the leading economic sector of many developing peripheral regions as former plantation economies are being transformed into tourist enclaves by the metropole (metropolitan areas), the Caribbean being no exception.

Demas (1965) characterized Caribbean economies as enclave economies where (a) the apparent savings and investment rates have reached 10 per cent or over but the domestic preconditions for sustained growth have not been achieved or (b) net capital exports are large. He asserted that in order for these economies to achieve self sustained growth they need two essential characteristics, (1) internal generation of sufficient domestic savings both within the public and private sectors and (2) the transformation of the structure of production. Many countries in the Caribbean have embarked upon programmes to transform their structure of production as advocated by Demas with tourism being adopted as an appropriate medium for this transformation.

Many authors have argued the importance of tourism as a development strategy. Balaguer and Cantavella-Jorda (2002) demonstrated the relevance of tourism on long-term Spanish economic growth, and in terms of developing countries, Armstrong and Read (2000) found that tourism has a strong positive relationship with growth. The literature has also highlighted the impact of tourism on small island economies (Conlin and Baum 1995) as well as the developmental relevance of tourism in the context of small size from a sustainable framework (Apostolopoulos and Gayle 2002). Vanegas and Croes (2003) discussed the suitability of tourism as a development strategy for small economies to overcome the built-in restrictions imposed by size. Traditionally, small economies have been considered in a disadvantageous position in global competition.

Hill and Lundgren (1977) assert that developing countries share about 20 per cent of total world receipts from tourism compared to 12 per cent of world exports and this proportion continues to decline. Tourism, in particular, has contributed in several important ways to the positive performance of the average small economy. The positive contributions that tourism can make to development include; the provision of foreign exchange to finance essential imports, improvement of the gross national product and personal incomes (Sinclair 1998, Kusluvan and Karamustafa 2001), increased employment, generation of tax revenues, the development of the

infrastructure of the country (Vanegas and Croes 2003, Raymond 2001), and address balance of payments deficits (Diamond 1977). In addition, the natural, cultural and social attractiveness of a country cannot be exchanged but can be valorised at a premium through tourism and locally produced products or perishable goods, which can yield higher profits to local retailers due to the reduction in transportation, marketing and insurance costs associated with exportation (Mihalic 2002). Thus, tourism has become a major economic activity within developing countries, often contributing more foreign currency than traditional commodity exports.

The Caribbean is considered as the most tourism dependent region in the world, as tourism accounts for around a quarter of its GDP (WTTC, 2005). World Tourism Organization estimates that world travel will exceed 1 billion by 2010, growing at an annual average rate of 4.1 percent per annum (WTTC 2005). The World Travel and Tourism Council (2005) argues that the Caribbean Travel and Tourism economy employment accounted for 15.5 per cent of total employment and by 2014 this should grow to 17.1 per cent. They assert that travel and tourism is a catalyst for construction and manufacturing in the Caribbean. They further add that capital investment in the industry in 2004 was 21.7 per cent of total investment. Their 2009 report states that contribution of Travel and Tourism to GDP is expected to rise from 14.5% (US$39.9bn) in 2009 to 14.8% (US$72.5bn) by 2019. Further they assert that the contribution of Travel and Tourism to employment is expected to rise from 2,052,000 jobs in 2009 (11.9% of total employment) or 1 in every 8.4 jobs to 2,544,000 which is 12.6% of total employment by 2019.

Tourism is a composite product, involving transport, accommodation, catering, recreation and other facilities and services, such as, shops and currency exchange. It is a labour intensive industry creating jobs across the employment spectrum, a major supporter of small and medium size businesses, a major exporter with international visitors injecting foreign exchange directly into the economy, and a catalyst for related activities, such as, construction, financial services and telecommunications. The WTTC recognizes this and reports on travel and tourism's direct and indirect contribution to

the GDP as well as its direct and indirect employment. Table 1 provides the 2009 estimated direct and indirect contribution of travel and tourism to the GDP, and the direct and indirect employment for the respective countries.

Table 1: Estimated Contribution of Travel and Tourism for Caribbean 2009

Country	Direct Industry GDP %	Direct Industry employment %	Total direct and Indirect contribution to GDP %	Direct and Indirect Employment %
Anguilla	17.8	20.6	65.8	67.6
Antigua and Barbuda	15.5	21.7	73.5	80.6
Bahamas	14.9	20.9	50.0	60.4
Barbados	11.9	15.0	39.0	43.7
British Virgin Islands	15.1	21.7	37.4	50.6
Cayman Islands	8.6	12.1	29.1	35.1
Dominica	8.7	8.1	24.5	22.4
Grenada	7.9	7.9	25.0	23.7
Jamaica	7.8	7.0	27.0	23.7
St. Kitts and Nevis	8.6	9.8	21.7	32.2
St. Lucia	11.9	12.6	37.4	37.1
St. Vincent and Grenadines	8.8	8.1	29.1	26.0
Trinidad and Tobago	4.6	5.8	12.8	16.2
Caribbean Region	4.3	3.8	14.5	11.9

Source: WTTC Tourism Economic Research Reports

The Caribbean Development Bank (CDB) also reports on the contribution of tourism to the national economies of their member states. The following table reports selected data extracted from their 2006 statistical report on the contribution of hotels and restaurants to the GDP of the respective territories, together with the tourism expenditure and visitor arrivals.

Table 2: Selected tourism statistics for Caribbean territories for 2006

Country	Hotels and Restaurants Contribution to GDP %	Estimate of Visitor Expenditure in US$ m	Tourist Arrivals in 000's	Latest reporting year
Anguilla	31.2	86.3	62.1	2006
Antigua and Barbuda	9.1	327.3	245.4	2006
Bahamas	12.6	2,071.7	1,608.1	2004
Barbados	11.3*	789.2	547.5	2005
British Virgin Islands		436.7	337.1	2006
Cayman islands	9.2	519	167.8	1997
Dominica	3.1	55.9	78.6	2006
Grenada	5.6	71.4	98.2	2006
Jamaica		1,545.0	1,478.7	2006
St. Kitts and Nevis	8.7	112.2	126.9	2006
St. Lucia	13.4	356.0	317.9	2006
St. Vincent and the Grenadines	2.3	100.9	95.5	2006
Trinidad and Tobago	0.3	260.3	442.6	2006
Turks and Caicos	33.5*	355.1	200.0	2006

* Countries reporting under the classification of Tourism and not hotels and restaurants
Source: CDB Country Statistics Reports – online available at www.CDB.org

These two sources highlight in economic terms the contribution of tourism to the economies of the Caribbean territories. The direct effect of tourism to GDP for most of the territories exceeds 9% and the indirect effect as highlighted in the WTTC reports in most cases exceeds 25%. In addition to the research conducted by the CDB and WTTC, several authors have argued of the importance of tourism to the development of small island economies. These factors together with the repeated cry of policy makers within the region for research relating to tourism industry makes this study an important contribution to extant literature.

Finally, with tourism being one of the major sources of foreign exchange and major source of employment for several of the countries in the Caribbean, this study is of great significance to the region as the results can assist in shaping policy in the hospitality industry. That is, this study can assist tourism managers in recognizing the value drivers in the hospitality industry. Therefore an assessment of whether managers in the hospitality industry use IC information in their decision making is

critical. Additionally, the study seeks to determine whether there is a relationship between corporate performance and IC in the hospitality sector within the Caribbean. The results of the study are important because if the effect of IC information on the corporate performance of entities in microstates can be understood, it may significantly increase the opportunity for validating the use of IC information in decision making.

1.7. Organization of the thesis

This first chapter introduces IC and provides a brief background on tourism within the Caribbean. The research problem has been identified and the research questions stated. A justification for the research has been argued from both the perspective of generating theoretical knowledge and providing a contribution to emerging business practice. The methodology has been briefly described and justified. The chapter also provides an overview of tourism in the Caribbean. On this foundation the thesis proceeds to the following chapters with a detailed description of the research conducted.

The second chapter explores the relevant literature to connect this study with the extant literature on the issues under consideration. Thus the chapter seeks to explore the tripartite conceptual framework of IC that has been developed and the reporting and disclosure of IC. The chapter also seeks to examine the methods used to measure intellectual capital and how these measures conform to the tenants of measurement theory. In addition, the chapter seeks to examine a theoretical framework for IC by focusing on the resource based view and dynamic capability framework. Literature relating to sensemaking is also examined as this has the capacity to integrate all the components of intellectual capital. The chapter concludes with a discussion of IC as it relates to the hospitality industry.

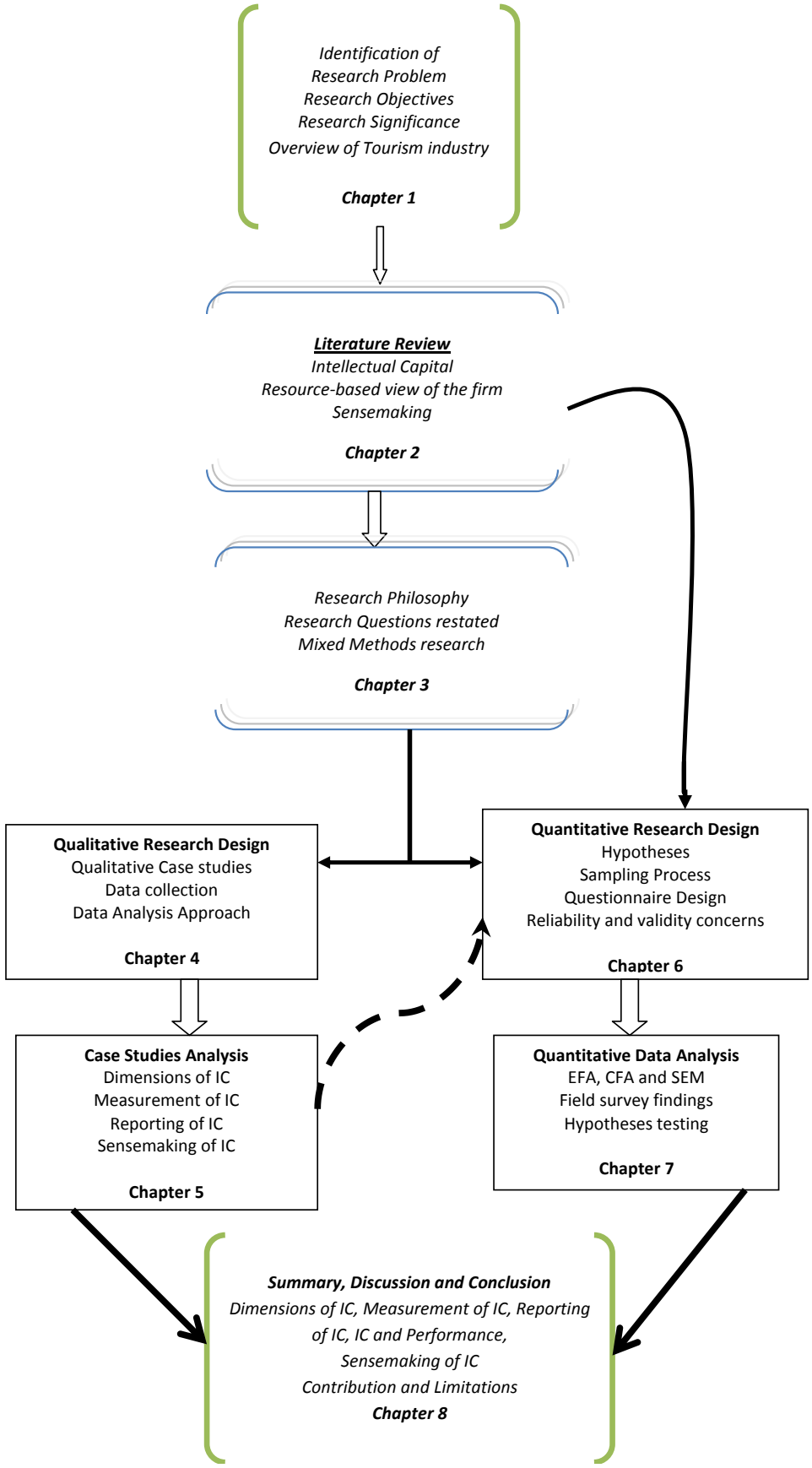
The third chapter addresses the methodological issues, dealing specifically with the epistemological, ontological and axiological considerations in research, which are appropriate for this study. The chapter further outlines the mixed methods approach used to investigate the phenomena.

The fourth and fifth chapters deal with the qualitative phase of the thesis. Chapter four describes the qualitative research design and the data collection procedures. This chapter addresses the design and implementation of the case study protocol used in the study. In addition, the chapter highlights the data collection methods used, the methods implemented to analyze the data and the justification for the methods selected. Chapter five documents the analysis of the data and presents the results of the content analysis including the findings of the case studies.

The sixth and seventh chapters of this thesis deal with the quantitative phase of the thesis. In chapter six the quantitative research design and data collection procedures are presented. The chapter also presents the hypotheses to be tested and outlines the methods that would be used to analyze the data and test the proposed hypotheses. In addition, a justification of the multivariate data analysis methods used in the study is provided. Chapter seven documents the analysis of the quantitative phase by presenting both univariate and multivariate analysis of the data. The chapter reports on the structural model and the measurement model used and the results of the hypotheses tested.

Chapter eight, the final chapter of the thesis, discusses the qualitative and quantitative findings of the research in relation to the extant literature. Thus the contributions of the thesis to the extant literature are identified in addition to the practical implications of the research to the hospitality industry. Finally, the chapter presents a conclusion for the study, limitations of the research, and opportunities for further research. The following diagram outlines the research process.

Figure 3: Outline of Thesis



CHAPTER 2

Literature Review

2.1. Introduction

A new phase in economic development characterized by continuous innovation, the spread of digital communications technology, the relevance of network forms of organisations, and the prevalence of soft, intangible and human factors have created a "new" or "intangible" economy (Lev and Zambon 2003). This intangible economy has created a new reporting paradigm for businesses. In this new economy the construct of intangible assets is in constant revision and being extended beyond the traditional goodwill and patents to include concepts such as company brand, staff competencies, and business models. These intangibles often constitute the majority of assets within services and knowledge-based companies. The traditional accounting methods provided for the measurement and reporting of the intangible asset goodwill, however it has been argued that these methods are inadequate in catering to the companies operating in this knowledge-based economy.

The deficiencies identified in the traditional accounting methods has led to a plethora of research aimed at generating more appropriate methods of accounting and valuation for intangible assets (Bontis et al 1999; Lev, 2001). Alternative reporting schemas for balance sheet reporting such as Sveiby (1997) "invisible balance sheet" have been designed and used to highlight the importance of intangible assets within the organisation. The various forms of IC statements currently being used in some companies highlight to investors and company executives the intangible value drivers within the business entity. The new/intangible economy has also warranted changes in the area of performance measurement. Performance measurement systems, such as Kaplan and Norton (1992) "Balance Scorecard", have also been developed to assess performance of company using both traditional financial measures and non-traditional measures. These new financial and non-financial indices that have been derived is an attempt to correlate intangible performance with market performance (Lev, 1999). However, despite the efforts made during the past decade in advancing the discourse

on the measurement, recording and management of intangible assets, there is still a large degree of uncertainty among capital market actors on published IC indicators. This has resulted in a limited degree of success in penetrating mainstream management thinking (Holland 2006; Mourtisen, 2003).

From a literature review of business and scholarly works, the selection of the hospitality sector to undertake the empirical research provides the opportunity to add to the currently sparse scholarly literature on intellectual capital in this sector. The hospitality sector in the Caribbean is one of the networked sectors which has benefited from building value through intangibles. Its presence as the leader of economic growth in the Caribbean justifies research to explore the presence of IC. In addition, the Caribbean as the geographical area of interest provides a great opportunity to contribute to the extant literature on IC in small microstates. The practical significance of this research becomes evident when one considers the amount of literature pertaining to corporate failure in recent years. The use of financial information only has become a less effective forecasting tool for future value and the market will therefore rely on other tools which should include IC as businesses move from a purely physical asset structure to one which is more intangible intensive. Chatzkel (2003) has asserted that the lack of an identifiable value creation path from intangible assets use and financial performance leaves room for inappropriate external reporting.

This literature review is divided into three major sections. The first section provides a broad contextual overview of the relevant literature on the conceptual framework of IC, management, measurement and reporting of intellectual capital and its constructs. In addition, aspects of the literature on measurement theory, and how this area can be applied to the methods and techniques advanced so far for the evaluation of intellectual capital, are highlighted. The second section delves deeper into the foundation literature, exploring the various theoretical foundations of theory of the firm and linking them back to the core research topic. In this light, it has been argued that the intellectual capital perspective has some foundation in the resource-based view of the firm. This section will also explore the relationship among the IC

components and how managers attempt to make decisions using IC information through an examination of the literature relating to sensemaking in organisations. The final section focuses on the IC within the hospitality industry.

2.2. The Conceptual Framework of Intellectual Capital

Intellectual Capital represents the resources of an organisation that have been formalized, captured and leveraged to create assets of a higher value (Bontis 1999, Sveiby 1997). The concept of intellectual capital emerged from the discussion of goodwill and the difference between book value and current market value of assets (Lynn, 1998). According to Roos (2005), the intellectual capital perspective was initially developed as a framework for analyzing the value contribution of intangible assets in an organisation. Roos et al (1997) trace the theoretical roots of intellectual capital to two different streams. The first one studies the development and leveraging of knowledge and the second one focuses on the development of new information systems that measure and value knowledge. Petty and Guthrie (2000) in the review of the IC literature also identified two stages in the development of the research. They posit that the first stage focused largely on the presentation of models and the development of IC frameworks, while the second stage focused on the impact of IC on the behaviour of markets and labour. Zambon et al (2003) focused their review on European management and reporting practices with emphasis on voluntary disclosure of IC elements and standard forms of IC reporting and concluded that there is still some way to go in this process. This section provides a contextual overview of the research topic. The overview draws from the major themes in the extant IC literature. In addition, the contribution of each theme to the overall objectives of researching the linkage between IC and the firm's performance will be highlighted.

2.2.1. Defining Intellectual Capital

The early research focused on defining intellectual capital and on methods of classification. In 1993 Leif Edvinsson, in a supplement to Skandia AFS's annual report, used, for the first time, the term "intellectual capital" instead of the accounting term

"intangible assets" (Edvinsson and Malone, 1997). Skandia, a Swedish financial services company, was also one of the first companies to report the "hidden" intellectual capital assets of the business which created a stimulus in research to find an appropriate definition for intellectual capital, and measures for its evaluation.

Some authors in defining IC approached it from an asset perspective. They sought to define IC using the accounting concept of asset. The Organisation for Economic Co-operation and Development (OECD, 1999) defines intellectual capital as the economic value of two categories of intangible assets of a company, Organisational ("structural") capital and Human capital. Edvisson and Malone (1997) also used this definition but Saint-Onge (1996), Bontis (1999), Sveiby (1998) and Bassi (1997) split the organisational capital into structural capital and relational/customer capital. Roos and Roos (1997) defined intellectual capital as the hidden assets of the company not fully captured on the balance sheet; while Brennan (2001) defines it as the intangibles such as patents, intellectual property rights, copyrights and franchises. Other authors defined intellectual capital as a residual being the difference between book value of the firm and its market value (Holland 2006, Lovingsson 2000, Dzinkowski 1999, Moore 1996).

Other early writers on intellectual capital use management processes terms as their approach to defining the construct. Stewart (1997) asserts that intellectual capital is "the intellectual material – knowledge, information, intellectual property, experience – that can be put to use to create wealth", while Lynn (1998) states that "Intellectual capital represents knowledge transformed to something of value to the organisation". Booth (1998) argues that intellectual capital is the ability to translate new ideas into products or services and it comprises people related assets, non-people related (market assets) and internal assets. It can be argued, therefore, that intellectual capital represents an intangible resource that has been created or acquired by the firm and can be used to provide future economic benefits to the entity.

The debate continues pertaining to defining IC and to date no clear definition of IC has been agreed. This lack of consensus on an agreed taxonomy of terms associated with IC has resulted in IC research being mixed or poorly defined. Kaufmann et al. (2004) in the review of literature post 1997 posit that the field of IC research is still struggling with an ambiguity of terms and definitions. They argue that a variety of views and interpretations are being used and to date no dominant schools of thought have emerged.

2.2.2. Components of Intellectual Capital:

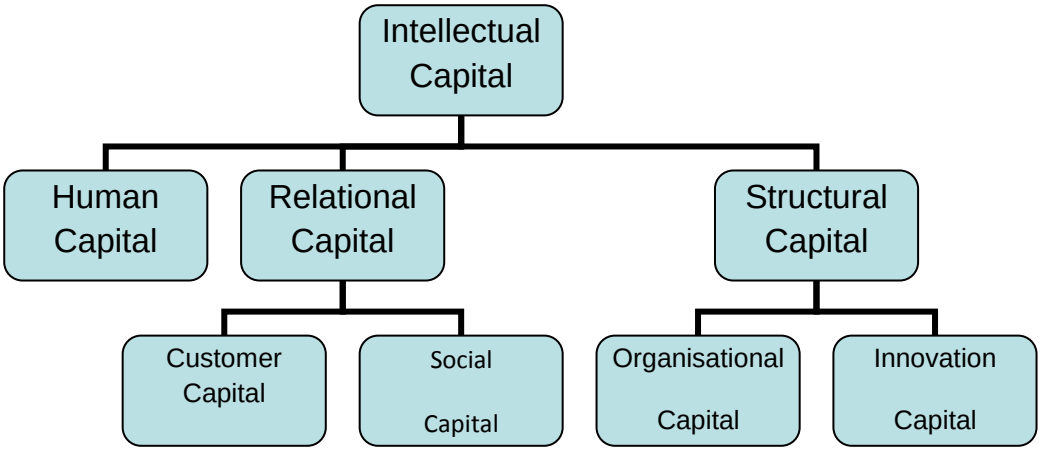
In seeking to develop a definition of IC a deconstruction of the complex concept to aid understanding and analysis has resulted in a three factor conceptual framework for IC. This conceptual framework has three essential components, human capital, relational (customer) capital and structural capital. This classification is consistent with Sveiby (1997) who divided intellectual capital into three areas, namely, employee competence, internal structure and external structure, Stewart's (1997) human capital, structural capital and customer capital, and Edvinsson's (1997) human capital and structural capital subdivided into organisational capital and customer capital. The following table illustrates conceptual frameworks for intellectual capital.

Table 3: IC conceptual Frameworks

Sveiby	Stewart	Edvinsson
Employee Competence Internal Structure External Structure	Human Capital Structural Capital Customer Capital	Human Capital Structural Capital (Organisational and Customer capital)

Some authors have sought to further deconstruct the components into sub-components to provide a more comprehensive understanding of the concept. The following chart illustrates the components of intellectual capital using concepts from Sveiby (1997), Stewart (1997), Edvinsson (1997), Bontis (1998) and Martin-de-Castro (2006).

Figure 4: Components of Intellectual Capital



The literature has also documented the importance each of the three components of IC has on a firm's performance. However, it becomes evident in reviewing the literature that each component is related to and reliant upon the others. Several authors have argued that the act of deconstruction in fact hides the integrative power of the three components HC, RC and SC, which in itself is the power and value of IC (Andriessen 2001; Sanchez et al 2000). Therefore attempts to build a theory of IC have been somewhat preliminary.

2.2.2.1. Human capital

A firm's human capital is not a physical asset of the organisation measured by the number of employees but it relates to employees' education, skills, training, experience, attitudes about life and business, genetic inheritance and values (Edvinsson and Malone 1997; Hutson 1993, Roos and Roos 1997, Litschker et al., 2006). Human capital is a multi-dimensional construct encompassing tangible and intangible aspects which serves as one of the inputs into the productive process. Martin-de-Castro et al (2006) in defining human capital speaks to an aspect of its intangibility as they assert that human capital refers to the tacit or explicit knowledge which people possess, as well as their ability to generate it, which is useful for the mission of the organisation and includes values and attitudes, aptitudes and know-how.

It is apparent that the intangible aspects of human capital are necessary for the development of relational and structural capitals. Organisations hire individuals with the requisite skills necessary for their development. However, it is the intangible component of human capital, which they seek to understand and control through their human resource practices. According to Arthur (1994) the human resources practices that focused on enhancing employee commitment such as decentralized decision making, comprehensive training and employee participation result in higher performance. Conversely, human resource practices that focused on control, efficiency and the reduction of employee skills and discretion results in increased turnover and poor performance. Huselid (1995) in his study on high performance work practices found that investments in human resources activities such as incentive compensation, selective staffing techniques and employee participation resulted in lower staff turnover, greater productivity and increased organisational performance through their impact on employee skill development. Support was found for Huselid's 1995 thesis by Youndt et al (1996) in that they found that human resource practices designed to professionalize employees and create an egalitarian work environment positively influenced operational performance; and the human resource system that focused on human capital enhancement was directly related to multiple dimensions of operational performance. These high performance work practices would develop the human capital within an organisation.

The strategic human resource management literature is replete with studies that demonstrate that an organisation's performance is enhanced as its human capital is developed through the implementation of high performance work practices (Jackson and Schieler 1995; Schuler and Jackson 1987; Huselid 1995; Preffer 1998; Becker and Huselid 1998; Becker et al 1997; Becker and Gerhart 1996). Combs et al (2006) argue that high performance work practices improve organisational performance through the interaction and overlapping of employees' knowledge, skills and abilities needed to perform job tasks. They further argued that the internal social structure within organisations which facilitates communications and cooperation among employees which results in increased job satisfaction, reduced employee turnover and increased productivity.

It can therefore be argued that people provide organisations with an important source of competitive advantage (Prahalad 1983) and the effective management of human capital not the physical capital may be the ultimate determinant of organisational performance (Reich 1991). This logic connecting human capital and firm performance is intuitively appealing and supported by theoretical arguments from a number of disciplines. The micro economic perspective of human capital theory suggests that people possess skills, knowledge and abilities that provide economic value to firms. Therefore investments in activities designed to increase employees' skills; knowledge and abilities can be justified as such investments produce future returns. The strategic management and organisational economics theorists, through the use of the resource based theory of the firm posit that internal resources such as employees play an integral role in developing and maintaining a firm's competitive capabilities (Barney 1991; Youndt et al 1996).

Human capital is perhaps the most important element of intellectual capital because people are primarily responsible for the firm's structural and customer capital. Thus, in a learning organisation employees are considered one of the most important corporate assets. However, they are not owned by the organisation. The challenge for the accounting fraternity is how to capture the intangibility relating to human capital that is owned by the firm. Human resource accounting was developed during the early and mid 1960's as accountants became concerned at the potential impact of ignoring human capital as a resource in making financial decisions. According to Hermanson (1964) human resource accounting focused on three broad areas, identifying valid and reliable methods for measuring cost and value of people in organisations; application of the measurement models to organisations; and determining the cognitive and behavioural responses to the application of these measures on employees' attitudes within the organisation. The debate continues on the merits and demerits of Human Resource Accounting within the organisation. To date, there is no agreement on methods for valuing human capital within the organisation.

In summary, human capital is a complex concept, a tangible and an intangible input into the production process, but the stock of human capital in not as directly observable as that of physical capital. Although there have been several attempts at providing a financial value for human capital in organisations, there is no agreed accounting method. Litschker et al (2006) argue that human capital is the combined knowledge, skills and abilities of an individual which cannot be owned by the organisation. Human capital is used to combine information, ideas and innovations creatively to serve the organisation's clients and it is this entrepreneurial activity that generates the primary value to the organisation today. Human capital is the source of innovation and renewal within organisations (Stewart 1997; Bontis 1999) and the firm's collective capability to extract the best solutions from the knowledge of its individuals (Bontis 1998).

2.2.2.2 Relational Capital

The relational capital component of IC resides in social relations and networks (Tsai and Ghosal 1998). According to Cohen and Kaimenakis (2007) relational capital represents the potential an organisation has due to extraneous intangible assets. IC researchers refer to relational capital as either relationships existing between employees and external economic actors (Edvinsson and Malone, 1997; Stewart, 1997), or relationships existing among employees and other departments within the organisation (Tsai and Ghoshal 1998). According to Martin-de-Castro et al. (2006) relational capital is divided into social and business capital.

Social capital has it roots in the field of sociology where it was largely used to describe organisational effects developed through socially derived connections in broader communities, societies and cultures (Nahapiet & Ghoshal 1998; Baker 2001). Bourdieu (1986, p. 248) defined social capital as " The aggregate of actual or potential resources which are linked to possessions of durable networks of more or less institutionalized relationships of mutual acquaintances and recognition." Coleman (1988) supports the position of social capital as an economic resource and identified obligations and expectation, social norms and information channels as three forms of

social capital. Business capital on the other hand, according to Martin-de-Castro et al. (2006) refers to the value of relationships which the firms maintain with customers and suppliers. In their earlier writings they split relational capital into direct relationships with suppliers, customers, partners and shareholders and indirect relationships with the community, government, trade unions and the mass media (Martin de Castro et al. 2004). Pomeda et al. (2002) sought to use a collective term that being business social capital, which they argue includes productive infrastructure, productive behaviour, and international commercial exchanges.

An alternative term, customer capital, was posited by Bontis (2002) to refer to the relationships between firms and their customers. Bontis (2002) argues that customer capital is a subset of relational capital, in that knowledge embedded in customers is an important element of the integrated value chain. Customers, using the great deal of information available to them, will search out businesses that provide them with customized goods and services, delivered quickly in an immediately useable form. The main theme of customer capital is the knowledge embedded in the marketing channels and customer relationships that an organisation develops through the course of conducting business. This includes customer contracts, relationships, loyalty, satisfaction, market share, image, reputation, brands, distribution networks and channels (Mayo, 2001). It is obvious that due to the external nature of customer capital it cannot be easily developed or codified and is reliant upon its interaction with human capital and structural capital. Skandia in their 1996 report states that customer capital represents the present value of customer relationships and is refined and transformed into financial value through interaction with human and structural capital. Customer capital represents the potential an organisation has due to ex-firm intangibles; which include the knowledge embedded in customers, suppliers, the government or related industry associations (Bontis, 1998). Although originally conceptualized by Hubert Saint-Onge (1996), recent definitions have broadened the category to include relational capital which, in effect, encompasses the knowledge embedded in all the relationships an organisation develops whether it is from customers, competitors, suppliers, associations or from the government (Bontis, 1999, 2002).

Brooking's (1996) concept of market assets incorporates several of the attributes contained in the construct of relational capital. She identified brands, customer type and loyalty, corporate image, collaborative agreements and distribution as market assets. In the extant marketing literature empirical studies have documented the relationship between such market assets and firm's performance. Hancock (2005) and Allee (2000) have posited that good corporate citizenship contributes to improved business performance. Fombrun and Shanley (1990) maintain that a good reputation is important to obtain competitive advantage in that it allows a surge of cross selling that increases the number of loyal customers or that it makes customers more willing to pay a premium to acquire products or services from firms with high corporate reputations. Gatewood et al. (1993) argue that corporate reputation enables companies to attract and maintain talented people. This view is supported by Roberts and Dowling (2002) who state that a firm with a positive managerial reputation attracts better trained professionals thus improving their organisational success level.

In summary, relational capital can be defined as the value of the relations that an organisation maintains with its various stakeholders. Table 4 identifies and summarizes the various components of relational capital found in the literature.

Table 4: Prior studies on Relational Capital

Kaplan and Norton (1992) Customer perspective	Edvisson and Malone (1997) Customer capital	Sveiby (1997) External structure	Martin de Castro et al (2006)	Brooking (1996) Market assets
Market share Customer loyalty Customer satisfaction Image and reputation	Customer type Customer support Success with customers	Customer base growth and stability Customer segmentation Customer efficiency	Customers Suppliers Allies Shareholders Government agencies and market regulators Trade Unions Community based agents Mass Media	Brands Corporate image Collaborative agreements Distribution networks Customer type Customer loyalty

2.2.2.3. Structural Capital

The third attribute of IC is structural capital, another multi-dimensional construct. This embodies both tangible and intangible, static and dynamic aspects, as well as firm-specific attributes. Structural capital includes all the non-human storehouses of knowledge in organisations, such as databases, organisational charts, process manuals, strategies, routines, and anything whose value to the company is higher than its tangible value (Bontis, 1999; Roos *et al*. 1997). The concept of SC also incorporates the organisational structure, legal parameters, patents, trademarks, culture, manual systems, research and development, software systems, and informal ways of doing things (Edvinsson and Malone, 1997; Nelson and Winter, 1982). SC has been argued as being responsible for the company's renewal and value creating processes.

It is apparent that in the conceptualization of IC, the structural capital component has caused a bit of confusion in the literature. Some authors combine intellectual property and the RC attribute of corporate reputation as the structural capital attribute (Edvinsson and Malone 1998; Roos et al 1998) while others combine administrative systems with intellectual property which they call internal capital or organisational capital (Sveiby 1997 and Youndt 1998). A narrower definition was provided by Brooking (1996) as organisational structure, culture and communications. This definition however, limits structural capital to a capability rather than a resource as it represents those activities directed at integrating knowledge within the organisation. This argument runs counter to Stewart's (1997) position that structural capital enables the organisation to leverage individuals' knowledge and make it organisational.

The systems and procedures that are embodied in the structural capital construct create a link with the other components of IC to enable the organisation to reach its fullest potential. Bontis (1998) asserts that, without structural capital being optimum, intellectual performance of employees cannot be achieved. He contends that it is the structural capital, in the form of systems and procedures, which enables the organisation to track the actions of the other IC components. Bontis (1998) argues that organisations with strong structural capital will have a supportive culture that allows

individuals to try new things and learn, thereby converting individual tacit knowledge into a group property. The structural capital within the organisation enables intellectual capital to grow, but if there is no structural capital, intellectual capital will be equivalent to human capital (Bontis 1998). The structural capital arises from external and internal processes, plus renewal and development value.

Structural capital is also the organisation's static information storage device. This enables the organisation to keep track of its memory. Structural capital, in this form of information technology, can be used to store and transmit exemplars, which can be used to facilitate organisational learning. Youndt and Snell (2004) assert that structural capital eliminates the redundancy in information capture that usually occurs in human capital. Within the human capital construct, it can be argued that individuals can forget or selectively filter their tacit knowledge, but with explicit knowledge captured in databases, manuals as part of the structural capital processes can be used and reused.

Finally, structural capital may be subdivided into organisational and technological capital. Organisational capital includes all aspects that are related with the organisation of the company and its decision making process, such as organisational culture, structural design, coordinating mechanisms, organisational routines, planning and control systems and many more. Technological capital on the other hand includes all technical and industrial knowledge like results from research and development and from process engineering. These two components when used in concert with human capital and relational capital enable the intellectual capital of the organisation to grow.

What is apparent from a review of both conceptual and empirical studies on IC is that there are essentially three components of IC. The disaggregation of IC into human capital, relational capital and structural capital has resulted in the IC research being multi-disciplined. Depending on the researcher's background, more emphasis may be placed on one of the components, but very little attention has been paid to the integrative nature of the three components. The exploratory nature of the empirical

research would indicate that researchers are currently building a broad base of research experience with IC, which will form the basis for more focused research as the critical theoretic and practical issues of the importance of IC emerge.

2.2.3. Intellectual capital Measurement

One area that has attracted significant empirical research is measurement of IC. A plethora of literature has been published in support of methods for measuring and managing intellectual capital (Edvisson and Malone 1997, Lev 2001, Sveiby 1997). The literature presents a range of "whys" to measure intellectual capital. The Danish Trade and Industry Development Council's (1998) study of ten firms, working on measuring intellectual capital, reported that measuring and actively managing intellectual capital was important for a company's long-term success. The council reported that companies measuring and managing their intellectual capital clearly outperformed other companies. Bontis' (1998) empirical study, examining the relationship between a company's investments in intellectual capital and its performance, revealed a significant causal link between dimensions of intellectual capital and business performance. These widely referenced studies have provided the catalyst for researchers to test hypotheses relating to intellectual capital and business performance in several companies.

Measurement of intellectual capital has spawned a large number of articles in various academic streams of literature. Measurement has always been important for organisations, in that organisations use it to assess their performance in areas, such as, growth, profits, quality improvement, customer satisfaction, sales and efficiency. Kaplan and Norton (1996) support the use of measurement in organisations and argue that financial measures have been used since ancient Babylon to measure growth, and during the industrial revolution financial measures were used as tools for monitoring efficiency. Boudreau and Ramstad (1997) argued that each economic stage (agricultural, trade, capital) was characterized by certain constrained resources which made certain assets critical, which in turn drove the development of measurement

systems. Measurement systems evolved to optimize any critical assets required to support any constrained resource.

The table below illustrates the constrained resource and the measurement system that evolved to provide the necessary information.

Table 5: Measurement Systems and Associated Constrained Resource

TABLE I **Measurement Systems Evolved to Optimize the Critical Asset Required to Produce the Constrained Resource Associated with Each Economic Phase.**

Economic Phase	*Constrained Resource*	*Critical Asset*	*Measurement/ Information Systems*
Agricultural economy	Food	Crop land	Weather records, land surveys, agricultural universities
Trade economy	Distribution	Transportation systems	Road maps, railroad timetables, time zones
Capital economy	Tangible goods	Capital	Security and Exchange Commission/ Financial Accounting Standards Board, Moodys/Standard & Poors, Stock exchanges
Information/services/ intangible economy	Intellectual capital	People	The next generation of management information systems will meet this emerging need

Source: Boudreau J and Ramstad P (1997) Human Resource Management Vol.36 Iss. 3

The table indicates that as economies moved from agrarian through the industrial and into knowledge, an appropriate measurement system evolved. During the industrial economy, which formed the major part of the last century, businesses generally were managed as though capital was the most significant constrained resource. This required companies to make significant capital investments in order to achieve economies of scale resulting in efficient operations. Boudreau and Ramstad (1997) asserted that capital markets and the systems that supported their development were created to meet the demand of these capital intensive industries. During this period, business information and measurement systems focused on some form of capital return. They argued that many sophisticated measurement models, such as, IRR were developed to allow managers to maximize returns on capital.

Boudreau and Ramstad (1997) theorized that, as intellectual capital and human capital become the constrained resources in this intangible economy where people become the critical asset, other performance measures would evolve. They argue that the failure of Human Resource Accounting was due to the tendency to frame human resources measures too much in terms of financial measurement systems and not enough in terms of their ultimate purpose. They assert that a measurement system should reveal value linkages by demonstrating how activities lead to immediate effects on people and then how these immediate outcomes combine to produce financial results. Such a system would provide managers with continuous leading indicators to determine how human capital was being improved by human resource activities and how these improvements lead to organisational success. Boudreau and Ramstad (1997) reiterated that the evolution of financial measurement and marketing measurement would show that they began with imperfect data but with very coherent models of value linkage which guided the data gathering. The refinement process continued through the collection of additional data which made the models more precise and credible.

2.2.3.1 Measurement Theory and IC

Measurement is the core of accounting and without an understanding of what is measured and how it is measured proper comprehension of accounting is totally impossible (Ijiri 1967). A number of models have been developed over the years to measure IC and its constructs. However, as argued by Ijiri (1967) a useful accounting measurement system can never be developed unless efforts are made to comprehend the underlying relations among business phenomena. It is imperative that the attributes identified in measurement theory be applied to IC models to ensure that they meet the criteria established. This would require an understanding of what is meant by the construct measurement from a measurement perspective. The literature on measurement theory is replete with definitions of measurement. Some authors argue that measurement is an empirical, objective process of assigning symbols to objects and events of the real world (Mari, 2003; Finkelstein, 2005). Others see it more as a special language that represents real-world phenomena by means of numbers and relations among numbers that are predetermined within the number system (Ijiri,

1967). It is apparent that measurement deals with the correspondence between a set of objects and events of the real world and the relationships between them.

Measurement theory, in its most basic form, is about the systematic assignment of numbers to represent some attributes of an object or an event of interest (Mock and Grove 1979). Salterio (1998), on the other hand, contends that measurement is not only about the measurement assignment process, which he terms, the factual level but also incorporates a purposive level, which deals with the relevance of measures. In taking this two-tier approach to measurement as advocated by Salterio (1998) in relation to IC, consideration should be given to the behavioural characteristics of the users as well as the process of assigning numerical values (or qualitative descriptors) to intellectual capital attributes.

The systematic assignment of numerical values or qualitative descriptors to IC attributes must be in keeping with the tenets of measurement theory. The literature has identified some conditions that must be met in order for measures to be considered useful. M'Pherson and Pike (2001) contend that in order to measure IC within an organisation the measures used should be unambiguous, proper and meaningful and guard against subjectivity and subterfuge. The failure of a measurement system to incorporate these conditions would result in a weakly defined "measurand", which would not be in keeping with the science-based system from which measurement theory takes it origin. Finkelstein (2005) argues that any measurement that constitutes representation by symbols of properties of entities of the real world based on an objective empirical process but which lack some or all of the distinctive characteristics of measurement in the physical sciences is a weakly defined measurement.

There are other issues to consider in determining the validity of a measurement system. Pike and Roos (2004) identified five conditions from measurement theory that should be present in any model proposing to measure business performance. They

identified conditions of completeness, distinctness, independence, agreeability and commensurability. The challenge for IC is the interrelatedness of its components, which would affect the measurement characteristics of distinctness and independence. Commensurability would also be affected if one sought to aggregate the human capital and structural capital with financial capital. M'Pherson and Pike (2001) assert that IC is a composite of the scales of human capital and structural capital and these scales are not commensurate with financial capital which is reported in the ratio scale. They concluded that to combine intangible elements of intellectual capital with financial capital to derive an organisation's value would be difficult.

In assessing the validity of measurement in the intellectual capital arena, we can look at measurement from another perspective, its ability to affect behaviour rather than to represent properties of objects in numerical terms. Flamholtz (1980) asserted that the principle purpose of measurement in organisations is to influence the behaviour of people, their perceptions, motivation, decisions and actions. He argued that prior attempts to examine measurement have focused extensively upon the system's output (numbers produced) and have not explicitly examined the nature and functions of the process or act of accounting measurement. Flamholtz (1980), in describing his "psycho-technical systems model of measurement", argues that measurement is intended to perform certain predefined psychological functions through its process and its output. The output function, which is the numbers produced by the act of measurement, is used as an input signal to facilitate decisions and actions. The process function on the other hand, according to Flamholtz (1980), serves as a catalyst for systematic planning, establishes an operational criterion, and motivates the decision-makers.

In support of Flamholtz's (1980) notion of the dual role of measurement within the organisation, intellectual capital can be approached from an internal focus as well as an external focus. The internal focus of measuring intellectual capital will address the issues raised about behavoiural changes within the organisation with measurement focusing on such. However an external focus of measurement of IC requires that the

properties outlined in the scientific approach to measurement must be adhered to. The measurement of IC from an internal focus and the resulting behavioural implication of such has not received much attention in the literature pertaining to the measurement of IC. On the other hand, research pertaining to the scientific approach to measurement which is quite appropriate for those measures that have an external focus, has attracted a fleeting glance in the literature. This thesis will seek to make a contribution to the measurement theory and IC literature by focusing on the behavioural changes that occur due to measurement rather than an external focus of measurement where the properties outlined in measurement theory must be followed. The next section will provide an overview of intellectual capital measurement.

2.2.3.2. Methods used to measure Intellectual Capital

There are various components of intellectual capital (patents, copyrights) that are valued and reported in the financial statements. However, the overall value of intellectual capital for any organisation has not been agreed. Over the years a number of metrics have been devised to capture the value of intellectual capital within the firm. Sveiby (2005) has identified 34 such measurement techniques and Andreissen (2004) has identified 24. This section will discuss some of the more popular methods that have been developed to measure the intellectual capital construct.

Sveiby (2005), based on the work of Luthy (1998) and Williams (2000), suggests four categories of intellectual capital measurement techniques, direct intellectual capital methods, scorecard methods, market capitalization methods and return on assets methods. Other researchers, who sought to evaluate the various methods for evaluating intellectual capital, have derived other categorizations. Luthy (1998) argues that there are two general methods for measuring intellectual capital, they are component-by-component evaluation and measuring the value of intellectual assets in financial terms at the organisation level without reference to individual components of intellectual capital. Sudarsanam et al (2005) divided the valuation models into two groups; models that estimate the aggregate value of intellectual capital at a point in

time, and models that value the investment in intangibles each at a time. It is apparent from the categorization of the models that some models are geared towards the management accounting function while others the financial accounting function.

The following table identifies some of the models that were developed to evaluate intellectual capital within the organisation. The models were allocated to the functional areas of accounting.

Table 6: Selected IC Measurement Models
Their primary focus, audience and functional area of accounting

Type of Accounting	Financial Accounting	Management Accounting
Primary Focus	External	Internal
Audience	Shareholders, external users	Managers and other internal users
Measurement Criteria	Validity Reliability Objectivity	Efficiency Usability Strategic relevance
IC measurement models	▪ Tobin Q ▪ Economic Value Added ▪ Value Added Intellectual Coefficient ▪ Calculated Intangible Value ▪ Market-to-book value	▪ Skandia Navigator ▪ Value Chain Scoreboard ▪ Intangible Asset Monitor ▪ Balance Score Card ▪ Technology Broker ▪ Citation-Weighted Patents ▪ Intellectual Asset Valuation ▪ The Value Explorer ▪ IC-dVAL ▪ Value Creation Index ▪ Human Resource costing and accounting

The IC measurement models that have been allocated to the management accounting area are classified according to Svieby (2005) as being either a direct intellectual capital method or a scorecard method. These methods have an internal focus and are measured using criteria of efficiency, usability and strategic reference. Luthy (1998) classifies such methods as component by component. Alternatively, the methods that have been allocated to the financial accounting area where the primary focus is

external have been classified by Sveiby (2005) as either falling into a market capitalization method or a return on asset method, while Luthy (1998) classified such IC measurement methods as organisational.

Sveiby's (2005) direct intellectual capital methods are based on an estimation of the monetary value of intangible assets by identifying its components. He argues that once these components have been identified, they can be directly valued and then aggregated. Sveiby (2005) identified technology broker, citation-weighted patents, inclusive valuation methodology, total value creation, intellectual asset valuation, accounting for the future, and Human Resource costing and accounting as direct intellectual capital methods.

Scorecard methods, according to Svieby (2005), identify the various components of intellectual capital, generate indices and indicators, and report these in scorecards or as graphs. The scorecard method is one of the first tools that aims to create an integral vision of measurement systems for management, including not only financial elements but those non financial elements (market, internal processes and learning) that influence organisational performance. This method may or may not generate a composite index. Sveiby (2005) identified 14 scorecard methods that have been used to measure components of intellectual capital. Kaplan and Norton's balance scorecard, Bonfour's IC-dVAL, Lev's Value chain scorecard, Baum et al Value Creation Index, Edvinson and Malone Skandia Navigator and his own Intangible Asset Monitor are the more popular methods.

The advantages of using IC measurement methods that fall into Sveiby's (2005) classification of Direct Intellectual Capital Methods and Scorecard Methods are that they can create a more comprehensive picture of an organisation's health than financial metrics and that they can be easily applied at any level of an organisation (Sveiby, 2001). These methods are more in keeping with an internal management

focus and geared towards functional managers to assist them in their decision making. This broad based approach to IC measurement is not only about the measurement assigning process but incorporates a purposeful level as several of the measures have relevance for functional managers (Salterio 1998). Pike and Roos (2004), on the other hand, contend that the measures used in these categories tended to be inconsistent with the tenants of measurement theory which is more science based.

The market capitalization methods and return on asset methods fall into the category of intellectual capital measurement techniques with an external focus. The market capitalization methods essentially calculate the difference between the company's market capitalization and its shareholders' equity as the intellectual capital of the firm. Many researchers have argued that market to book value ratios have increased significantly due to the presence of non-material assets, such as, intellectual capital not captured in financial accounting reports (Stewart 1997; Edvisson 1997; Dzinkowski 2000; Stoval 1997; Moore 1996). Empirical studies have sought to explain the reason for the difference between corporate market value and book value. Amir and Lev (1996) posit that the telecommunications, biotechnology, and software industries invested substantial amounts of money in intangible assets. However, they regarded these investments as expenses or as deferred charges with the earnings and book values of the corporations being seriously underestimated and bearing no resemblance to the corporate market value. Ittner and Larcker's (1999) study of 73 retail banks in the western United States of America revealed that customer satisfaction was significantly positively correlated with the corporate stock price but was not completely reflected on the corporate book value. Deng, Lev and Narain (1999) analyzed the correlation between patents and corporate stock prices and market-to-book ratio. Using a sample of 388 enterprises in the chemical, electricity, and other industries from 1985 to 1995, their results indicated that the number of patents, the impact of these patents, and their scientific connection were significantly positively correlated with the market-to-book ratio. The empirical studies have demonstrated that there is a difference between book value and market value which can be explained by intangible assets. Dzinkowski (2000, p. 3) asserts that " The best known indicator of intellectual capital is the market to book value. The underlying assumption

is that a firm's intellectual capital will be fairly represented by the difference between the book value and its market value."

As early as 1969, J. Tobin developed the "Q" ratio that measures the relationship of a firm's market value to the replacement cost of its physical assets. This ratio was developed to predict corporate investment decisions independent of macroeconomic factors, such as, interest rates. A "Q" ratio greater than 1 indicates that the market is placing a greater value on the intangible assets, including intellectual capital of the firm. Dzinkowski (2000) asserts that firms with high "Q" ratios are receiving higher than normal returns on their investment. She further suggests, though without empirical evidence, "that technology and human capital assets are typically associated with these high "Q" values" (Dzinkowski 2000 p3).

The Calculated Intangible Value (CIV) created by the NCI Research, an affiliate of the Kellogg School of Business at Northwestern University, is an example of the return on assets method. The researchers argue that "the market value of a company reflects not only tangible physical assets but a component attributable to the company's intangible assets." To calculate the firm's CIV of its intellectual capital, the premium which is the excess of the firm's pretax income less the pretax income attributable to a firm in the same industry, is multiplied by the after tax rate and the firm's cost of capital. Other notable models in the return of assets classification include Economic Value Added (EVA) advocated by Stewart, Pulic (1997) Value Added Intellectual Coefficient and Lev (1999) Knowledge Capital Earnings.

Intellectual capital measurement is a logical extension to human resource accounting developed during the 1960s. Hermanson's (1964) paper is credited for creating the impetus in this area of accounting. Hermanson et al (1973) argued that one of the three major objectives of human resource accounting is to develop valid and reliable models and methods for measuring cost and value of people to organisations. This chartered the course for a long string of articles and methods for the valuation of human capital within the organisation. The methods that were subsequently

developed can be classified as either cost based or value based measurements. The three main models developed by the advocates of cost based measurements are historical cost (Brummet 1968), replacement cost (Flamholtz 1974) and opportunity cost (Hekimian and Jones 1967). The development of value-based methods is rooted in the economic concept of value. This concept of economic value of human capital has been the basis for the formulation of Hermanson's (1964) model and Lev and Schwartz's (1971) discounted future wages model. These models focused on determining a value to the organisation of the human resources employed in it.

The literature has identified a series of methods each with its own merits and demerits for evaluating IC. Pike and Ross (2004), in their assessment of intellectual capital measurement models concluded that none of the methods currently being used to measure intellectual capital is compliant with measurement theory. They argue that some of the methodologies provide useful guidance for managers, but the failure to agree on terminology and defining attributes impacts on the measurement characteristics of distinctiveness, agreeability and independence. These characteristics are extremely important and must be adhered to if IC measurement is being used for external purposes. In the case of using IC measurement from an internal focus perspective, the rudiments of measurement theory as postulated by Pike and Roos (2004) may be relaxed if one takes the position advocated by Flamholtz (1980) that measurement also serves a process function. That is, the very act of measuring IC will result in some behavioural change within the organisation.

Finally, although there have been several published articles both in practitioner and academic journals outlining the merits and demerits of the various methods for measuring IC, to date there has been no agreement on an acceptable measurement system. However, one can take comfort in the position advocated by Boudreau and Ramstad (1997) that as this knowledge based economy continues to develop and the critical resources continue to be intellectual capital and human capital, more refined measurement systems would emerge and be consistent with the tenants of measurement theory. Pike and Roos (2005) remind us that the lack of agreement on

definitions and terms continues to hinder this development. So as new methods for measurement continue to come on stream, researchers are reminded of the need to ensure that the tenants of measurement theory are adhered to if there is to be universal acceptance of the IC measurement system.

2.2.4 Intellectual Capital Reporting

A body of literature pertaining to the reporting and disclosure of IC exists and this literature tends to differ based on whether the focus is on internal management or external shareholder issues (Kaufmann et. al 2004). IC reporting can be deconstructed into an internal aspect, focused on internal managers, which seeks to extend the management accounting literature, or an external aspect involving financial accounting perspective. Both aspects of IC reporting have a direct influence on the primary independent variables for this research. The literature pertaining to external reporting and disclosure issues is much more pronounced. One of the major factors that may have contributed to the increase in the research agenda pertaining to the external reporting and disclosure of IC could be attributed to increased demand for IC information. This increased demand for information may have contributed to the increase in both required and voluntary disclosure of intangibles and the changes in the accounting standards over the years. In addition, several European nations have developed guidelines for IC reporting (Bukh et al 2001) and it is apparent that firms are beginning to launch projects, encouraged by governments to measure and report on IC.

Following the pioneering study of the disclosure of IC in Australian annual reports by Guthrie et al (1999), several studies have been published replicating this study throughout Europe and Asia. The studies that have made a notable contribution to the intellectual capital literature in this regard are Bontis (2003) on Canada, Brennan (2001) on Ireland, Bozzolan (2006) on Italy and the UK, April et al, (2003) on South Africa, Abeysekera and Guthrie (2005) and Abeysekera (2006) on Sri Lanka, Guthrie et al (2006) on Hong Kong and the UK, Oliveira et al (2006) on Portugal, Vandemaele et al (2005) on The Netherlands, Sweden and UK, Bukh et al (2005) on Denmark, Goh and Lim (2004) on Malaysia, Oliveras et al (2008) on Spain, Kamath (2008) on India. The

extant literature shows this financial accounting approach where the emphasis is on financial reporting to be a fairly dominant research stream in Europe, Asia, Canada, Australia and New Zealand. In the United States attention has been paid to the disclosure of intangibles and a significant body of knowledge exists in this area. The Caribbean continues to be an under researched area and to date no published material on intellectual capital in the Caribbean has been found despite several of the companies operating in this area are subsidiaries of multinational corporations.

Research has indicated that market analysts are hungry for information and insights into firms' operations and future prospects; and this is where IC reporting can make a contribution. However, despite significant efforts in promoting its value, IC reporting has yet to engage with the broader business community. Johanson (2003) has argued market analysts are typically ambivalent to IC reporting in that IC reports are not being fully embraced by them. Skandia's pioneering effort in 1994 to produce the first IC report has met with limited success. The adoption rate of such a report has been minimal although there has been an increase in IC reporting in the annual reports of companies. Some researchers argue that the individual metrics in IC reports tend to be highly inter-related which present difficulties in developing an overall measure or index for IC performance and thus these reports still struggle to convey the value creation story to external shareholders (Bukh et al 2001, Roos and Roos 1997). Additionally, according to Lev (2001) the reporting rules for intangibles are inadequate and lead to a gross understatement of their value.

In terms of internal reporting the literature is not as copious. A critique of the literature is the apparent lack of research on impact of internal reporting relating specifically to IC on the firm's performance. Some of the internal reporting and measurement systems such as the balance scorecard and intangible asset monitor provide support for effective management decision making (Kaplan and Norton 1992, Sveiby 1997). However, such reports tend to contain metrics which are typically only of value to the internal management in that such metrics are not comparable between entities. External agents may gain some insight into the internal performance as seen

by management, but have no means of comparing measures between companies and this has further contributed to limited adoption of reports.

In summary, it is now generally accepted that current traditional financial accounting based reports are an insufficient means for informing the investment community and other stakeholders on a firm's overall performance and prospects. The Intangible Asset Monitor and the Balance Scorecard are only two examples of attempts to address the shortcomings in current internal accounting reports. Researchers are now considering both complementary and alternative means for disclosing future value creation information to the marketplace. However, challenges still remain from an accounting perspective, as the current reporting rules for intangibles are inadequate and lead to a gross understatement of their value (Lev 2001). In addition, the continual lack of IC disclosure can be seen as facilitating insider trading through privileged access to information by some market actors (Holland 1999; Lev 2001), while others continue to argue that what IC is suppose to disclose is somewhat problematic. There is, however, general agreement that IC reporting should take some narrative form and describe the firm's value creation story. IC reports are now looking to lead with the value creation story supported by IC metrics, which is contra to the current balance sheet and accompanying notes (Bukh 2003, Mouritson Bukh et al 2002).

2.3. Theoretical Foundations

IC has experienced significant attention in recent years, largely driven by management or business consultants, in part looking for solutions to the growth in the impact of intangibles on firm's performance. Many of these initiatives have been criticized by scholars for lacking rigorous theoretical foundations. IC academics have recently begun to explore potential theoretical connections (Andriessen 2001, Petty & Guthrie 1999, Sanchez et al 2000). An underpinning theory that has been identified in the initial research is the resource based view of the firm (Menor et al 2007; Carlucci et al 2004; Ordenez de Pablos 2003; Sanchez et al., 2000). The resource based view of the firm and the two schools that have emerged independently from its base and their reliance on intangibles as drivers of performance will provide the framework for this study.

This economic base framework will be used in concert with the social capital based sensemaking to provide the theoretical framework.

2.3.1. The resource-based view of the firm

The resource-based view of the firm conceptualizes firms as bundles of resources that are heterogeneously distributed across firms (Penrose 1959). These resources cannot be transferred among firms without cost, so a firm's resources and differences in them will persist over time. The ideas relating to the role of resources and capabilities as the principal basis for organisational performance coalesced into what has become known as the resource-based view of the firm. This framework, which emerged during the 1980's, was seen as an alternative to the more dominant model of competitive force analysis of the firm's strategy (Porter, 1980) and to a lesser extent the strategic conflict (Sharpiro, 1989). These models emerged as a medium that would explain the growth or changes in a firm and industry. Porter's (1980) research on industrial organisations focuses on the industry and argues that profitability of an industry was a result of the interaction of five forces, namely, the power of suppliers, the power of buyers, the availability of substitutes, the ease of entry and the existing competition. He contends that firms in the same industry can alter their profitability by the use of mobility barriers which prevents other firms from imitating their strategy. Sharpiro's (1989) theory of business strategy, termed the strategic conflict approach, asserts that methodologies in game theory can be used to analyze competitive interactions within an industry and to identify behavioural regularities that apply across industries. These industry approaches focused on the earning of monopoly rents as a result of erecting entry barriers. The resource-based view is an alternative approach which focuses at the level of the firm instead of at the level of the industry. In this approach, resource position barriers are created (Wernerfelt, 1984) and the firm earns Ricardian rents due to natural permanent or temporary scarcities of resources and capabilities (Peteraf, 1993). Penrose (1959) 'Theory of growth of the firm' has been credited by many as the seminal work for this framework,(Peteraf, 1993, Barney, 1991, Lockett, 2005, Kor and Mahoney, 2004, Lockett and Thompson, 2004, Wernerfelt, 1984, Conner, 1991). However, others have argued that these "economists-turned strategy scholars" have misinterpreted Penrose's 1959 work (Foss, 1999, Rugman and Verbeke, 2004, Rugman

and Verbeke, 2002). Today, despite the views on the origin of the resource based view and counter arguments, this approach has become a major perspective for evaluating a firm's performance in terms of its competitive advantage.

The resource-based view is a theory that asserts that the firm is a pool of resources (Penrose 1959, Barney 1991, Wernerfelt 1984), capabilities (Hitt et al., 2001) and competencies (Prahalad and Hamel, 1990), and that these resources, capabilities and competencies are the primary determinants of its performance. It is important to distinguish between resources and capabilities of the firm. Resources are the productive assets of the firm, such as, land and capital, and individually they do not confer competitive advantage, capabilities on the other hand refer to the firm's capacity to deploy and combine resources using organisational processes to achieve a desired end (Grant, 2005). Capabilities are information-based tangible or intangible processes that are firm-specific and developed over time through complex interactions among the firm's resources (Amit and Schoemaker, 1993). The resources of the firm can be classified as either tangible or intangible (Barney, 2001a, Michalisin et al., 1997, Wernerfelt, 1984); physical and human (Penrose, 1959), tradable and non-tradable assets (Dierickx and Cool, 1989, Ratnatunga, 2002), or strategic assets and non strategic assets (Meso and Smith, 2000). Some researchers are of the view that resources are all the firms input factors of production (Fahy, 2000). This is in contradiction to the position posited by Penrose (1959) who asserts that resources themselves are not the inputs of the production process. They are rather the services that the resources can render as resources consist of a bundle of potential services.

According to the logic of the resource-based view, a firm will have a sustained competitive advantage if it owns and controls resources that are heterogeneous, immobile, imperfectly imitable and that have no strategically equivalent substitutes (Wernerfelt, 1984, Peteraf, 1993, Penrose, 1959, Barney, 1991). Barney (1991) argues that if resources are homogenous and perfectly mobile they cannot provide a firm with a competitive advantage, in that its competitor can easily duplicate any strategy implemented. Homogenous and perfectly mobile resources can be purchased in the factor markets, but firms must combine these normal resources with intangible

resources they have developed and made firm- specific to create strategic assets which will provide them with a competitive advantage (Meso and Smith, 2000). In general, firm-specific intangibles tend to be tacit, idiosyncratic, and deeply embedded in the organisation's social fabric and history (Winter 1987). The notion that firm-specific intangibles are the source of competitive advantage has been argued by Dierickx and Cool (1989). They challenge Barney's (1991) argument and emphasize that not all resources can be acquired in factor markets, but it is the non-tradable assets, such as, corporate reputation which are highly firm-specific that are the sources of competitive advantage. Dierickx and Cool (1989) assert that firms do not employ generic labour but people endowed with firm-specific skills and values. They rent generic labour in the market but the firm develops the specific skills, knowledge and values through on-the-job learning and training.

A major contribution of the resource-based theory is its explicit recognition of the value of intangible organisational resources. Whether the construct used is a strategic asset, competency, capability or tradable asset, researchers have all concurred that the intangibles within these constructs are the major source of competitive advantage (Dierickx and Cool, 1989; Meso and Smith, 2000; Barney, 1990). The issue for accounting is in relation to financial statements, in that many intangible resources remain largely invisible. These intangible resources can be categorized as assets or skills. The assets include those items where the owner has legal protection and include such items as patents, copyrights, contracts and trade secrets. In other words, those items that meet the ownership, measurability and controllability criteria as provided for by the accounting standards. The skills, on the other hand, relate to employee know-how and culture which are often referred to as distinctive competencies. Several key organisational intangibles, such as, brand names, in-house knowledge of technology, employment of skilled personnel, trade contracts, efficient procedures (Wernerfelt, 1984), know-how (Teece, 1998), corporate culture (Barney 1991), corporate reputation (Vergin and Qoronfleh, 1998), and environmental orientation (Russo and Fouts, 1997) have been recognized as key drivers of superior performance. The contention of researchers, in the resource-based view framework, is that the resources, which provide the firm with a competitive advantage, must be rare,

valuable, imperfectly imitable and non-substitutable. These are not very often the tangible items which appear in corporate reports.

Resources on their own are not very productive. A group of resources must work together to provide organisational capability (Grant, 2005). Prahalad and Hamel (1990) used the term core competences to distinguish those capabilities that are fundamental to a firm's performance. They argued that the heterogeneous competencies that the firm develops are a result of collective learning in the organisation, the coordination of diverse production skills and the integration of multiple streams of technology. Amit and Schoemaker (1993) support this position. They assert that unlike resources, capabilities are based on developing, carrying and exchanging information through the firms' human capital. Hitt et al. (2001) argue that although human resources may be mobile to some degree, capabilities may not be valuable for all firms or even for their competitors. Some capabilities are based on firm-specific knowledge and others are valuable only when integrated with additional capabilities and specific firm resources that may not be mobile. Knowledge, the most critical competitive asset, resides in the human capital, thus firms create value through their selection, development and use of human capital (Hitt et al., 2001). The real sources of advantage are to be found in management's ability to consolidate corporate wide technologies and production skills into competencies that empower individual businesses to adapt quickly to changing opportunities.

Finally, as pointed out above, the literature on the resource-based view posits that a firm can have a competitive advantage if it is in possession of resources and capabilities that are rare, valuable, imperfectly imitable and non-substitutable. In fact it has been argued that only intangible resources can meet the criteria proposed by Barney (1991), therefore leaving an intangible based theory of the firm as the only viable interpretation of the resource based view of the firm (Sanchez et al 2000). On the other hand, some authors have contended that the resource based view recognizes but does not attempt to explain the nature of the isolating mechanisms that enable the firm to sustain its competitive advantage in the light of changes within

the environment (Teece et al., 1997). This may be where accounting for intellectual capital can make a contribution.

2.3.1.1. Dynamic capabilities framework:

In addition to the idea of competitive advantage of the firm is the notion that in an increasingly fast moving environment, very few competitive advantages can be sustained over time unless the firm has organisational and managerial processes termed 'dynamic capabilities' to integrate, build and reconfigure internal and external competencies (Teece et al., 1997). First outlined in Teece and Pisano (1994) and elaborated in Teece et al (1997), the dynamic capabilities framework is an emerging and potentially integrative approach to understanding the newer sources of competitive advantage. This approach examines how organisations can exploit existing internal and external firm specific competencies to address changing environments. The approach emphasizes the development of management capabilities and difficult to imitate combinations of organisational, functional and technological skills. The resource-based view does recognize the importance of these firm specific competencies but does not address the issue relating to the dynamic environment. Teece et al (1997) argued that an environment is dynamic when there are situations of rapid change in technology and market forces.

Amit and Schoemaker (1993) define capabilities as a firm's capacity to deploy resources, usually in combination using organisational processes, to effect a desired end. They are the information bases, tangible or intangible processes that are firm specific and developed over time through complex interaction among the firm's resources. Makadok (2001) adds to this definition by asserting that capabilities must be organisationally embedded, nontransferable and firm specific. The manager's role is to help the firm acquire the resources to match its capabilities. A firm may possess capabilities and resources but not all capabilities are dynamic capabilities.

Dynamic capabilities are the processes embedded in a firm that enable managers to integrate, build and reconfigure internal and external competencies to address rapidly changing environments to achieve sustained competitive advantage (Eisenhardt and Martin, 2000, Makadok, 2001). These dynamic capabilities are unique and idiosyncratic processes that emerge from path-dependent histories of individual firms (Teece et al., 1997) which enable firms to synthesize and acquire knowledge resources, thus generating new knowledge (Kogut and Zander, 1992). Dynamic capabilities are also the learned routines in the firm including well-known organisational and strategic processes like strategic decision making, knowledge creation routines, effective communication, effective product development processes, and alliances whose strategic value lies in their ability to manipulate resources into value-creating strategies. Eisenhardt and Martin (2000) argue that although dynamic capabilities are idiosyncratic they may exhibit some commonality across firms suggesting that they are more homogeneous and substitutable than it is assumed. On the other hand, Ratnatunga et al (2004) argue that if the capabilities are "context-dependent" they would incorporate unspoken, routine or tacit ingredients which competitors find hard to imitate and which provide a source of competitive advantage.

2.3.1.2. Knowledge in organisations

The transition of society from the industrial era to the knowledge era has shifted the importance from tangible assets to intangible ones. Augier and Teece (2005) argue that organisations employ knowledge as they generate and process information, formulate plans and strategies, make decisions, monitor behaviour and experiences, and learn, create and use know-how. Knowledge, one of the major intangible assets in an organisation, is paramount in the use and application of physical capital. Hall (1992) in a survey of CEOs found that employee know-how and reputation were viewed as the most critical intangible resources for the firm. However, that knowledge or know-how has to be unique, valuable, rare and not easy to replicate in order to provide the firm with a capability and a competitive advantage. Knowledge is a component of Intellectual Capital in that it is embodied in the human capital and structural capital of the organisation. To understand knowledge and its role in assisting managers in managing the Intellectual Capital of the organisation, one must examine the literature

relating to the resource-based view of the firm, dynamic capability framework and organisational learning. These three frameworks are encapsulated in the knowledge-based view of the firm.

Grant (2005), in articulating the knowledge-based view of the firm, posits that knowledge is the most important resource for generating market value and economic rent. Grant (2005) theorizes that firms exist to create conditions in which multiple individuals can integrate their specialist knowledge through integration mechanisms of rules and directions, sequencing, routines and group problem solving and decision making. Spender (1996) argues that it is the firm's knowledge and its ability to generate knowledge that lies at the core of a more epistemologically sound theory of the firm. This is supported by Grant (2005) who contends that explicit and tacit types of knowledge vary in their transferability, knowledge is subjected to economies of scale and scope, knowledge is created by humans who need to specialize to be efficient and that producing a good or service requires the application of many types of knowledge. It can, therefore, be argued that competitive advantage is more likely to arise from the intangible firm-specific knowledge which enables it to add value to the factors of production in a relatively unique manner.

Additionally, most authors in articulating their perspectives on the knowledge based view of the firm concur that it is the tacit and or implicit knowledge that defines the firm. Such knowledge may be used to generate explicit knowledge for competitive use using integrative and synthesis capabilities identified in a knowledge creation spiral (Nonaka & Takeuchi 1995). This results from the interaction of the three IC components within the firm. It is not the explicit knowledge or information ownership that defines the firm but the capabilities to generate, share, integrate and combine specialist knowledge that fundamentally defines the firm's competitive position.

In summary, a theory of the firm from the intellectual capital, knowledge and intangible assets perspective largely centres on the resource-based view of the firm.

Knowledge is seen as a competitive capability, resource and strategic asset, consistent with the resource-based view of the firm, demonstrating how and why such a strategic asset as knowledge provides the firm with a competitive advantage. Knowledge embedded in difficult to imitate networks of relationships serves to integrate and link the three IC components. The ability to form unique relationships can be viewed as a capability and a resource to be drawn on, which introduces a process view, treating knowledge as an action oriented and dynamic resource in contrast to seeing a resource as purely a tangible asset. However, differences occur in that the capabilities and resources described in the resource based view can be seen as wholly contained within each firm, but there are other relationships that are not necessarily wholly contained in the firm which may create further challenges. The social capital theory of the firm has been developed to build on these perceived shortcomings of the transaction cost based economic theories. Polanyi (1957) social capital theory postulates that all economic actions are embedded in social contracts centering on social rather than hierarchical structures. The social capitalist's view of the firm could therefore be described as a nexus of relationships. In this regard the literature on sensemaking makes an interesting contribution.

2.3.2. Sensemaking in Organisations.

A process that illustrates how organisations can routinely integrate the three intellectual capital components is sensemaking. This concept of sensemaking is defined by Weick (1995) as a process of making sense and assigning meaning to events in the environment, by applying stored knowledge, experience, values and beliefs to new situations in an effort to understand them. Thomas, Clark and Gioia (1993, p.240) describe sensemaking as "the reciprocal interaction of information seeking, meaning ascription, and action". The process of assigning meaning to organisational actions involves placing stimuli in some kind of framework to help people to comprehend, understand, explain, attribute, extrapolate and predict events (Weick 1995). He argues that whenever an incomprehensible or puzzling event is encountered, one tries, more or less consciously or subconsciously, to interpret it and to assign meaning to it, that is, to make sense of it. In the process of interpretation and explanation we typically draw from our experience and from our background knowledge of a context within which

the event occurred. This idea is supported by Parry (2003) who postulates that our beliefs, assumptions, stories and interactions with others help us to bring order to what is going on, to make sense of our own reality. Therefore one can argue that the stock of HC will play an integral role in the sensemaking process.

Sensemaking can be viewed as either a theory or a process. Sensemaking as a theory outlines the ways people generate what they interpret (Weick 1995). The theory of sensemaking includes the efforts of individuals and social groups as they seek, process and construct information to negotiate themselves through new situations. The process of sensemaking is intended to include the construction and bracketing of the text like cues that are interpreted, as well as the revision of those interpretations based on action and its consequences. Sensemaking is about authoring as well as interpretation, creation as well as discovery. According to Wiley (1988) individual sensemaking concentrates on discovering the ways individuals build or use existing knowledge structures to make sense of information and situations. People can of course make sense outside of the organisation, but Weick (1995) sees organisations as sensemaking systems in which members continually reaffirm to one another the truth of reality as they see it and thus the action required. This view is consistent with that of Allard-Poesi (2005) who argues that in organisational life, because people's individual projects and actions are dependent upon others' projects and actions, interruptions and sensemaking will mainly focus on those interdependent acts that help people to complete their various projects or hinder them from doing so. Maitlas (2005) states that organisational sensemaking is a fundamentally social process. Organisation members interpret their environment in and through interactions with others, constructing accounts that allow them to comprehend the world and act collectively. For Weick (1979), the organisation's actors are forever trying to make sense of what they have done. They are embedded in a continuous stream of experience as they interact with their environment. His view starts with interaction and moves toward its subsequent understanding by the actors. Through interaction they enact the raw data of their experience. These enactments are at first equivocal and they must make sense of them. The environment is not presented to them as objectively knowable, but is created by them through the continuous process of enactment or their stream of experience.

Weick (1995) advanced the study of sensemaking and its multidimensional process when he identified seven distinct characteristics of sensemaking. The first characteristic of sensemaking is that it is understood as a process that is grounded in identity construction where both individuals and the organisation create their identities. Secondly, it is a retrospective process where individuals are reflecting about things that have appeared, either as a concrete action or as an abstract thought. Thirdly, individuals and organisations enact their environment, meaning that they both perceive it and confront it in intentional action leading to its change. The fourth characteristic identified is that sensemaking is social, that is, it mainly appears in interaction between individuals. The fifth characteristic is that sensemaking never starts or stops but is an ongoing process. The sixth characteristic is termed "focused on and by extracted cues", meaning that sensemaking works as a "filter", finding out what to make sense about in the environment. The seventh characteristic, according to Weick, is plausibility rather than accuracy where beliefs and actions are considered its main drivers.

Sensemaking is the process of perceiving, believing, interpreting, explaining, predicting and acting both individually and collectively in a given organisation. Allard-Poesi (2005) argues that collective sensemaking and representations are in fact considered to be crucial to our understanding of decision making processes, actions, performance, change and learning in organisations. Sensemaking occurs in organisations when members confront events, issues and actions that are surprising or confusing (Gioia and Thomas, 1996, Maitlas, 2005). In the process of achieving organisation goals many events may confront employees which require interpretation. Sensemaking is a process of social construction in which individuals attempt to interpret and explain sets of cues from their environment (Weick, 1995). Theoretically, the more competent an organisation's human capital, the more effective and efficient this process will be. Human capital is the combined knowledge, skills, innovativeness and abilities of the company's individual employees (Edvisson and Malone 1997). Shariq (1998) argues that, in order to make sense or create understanding, humans bring prior knowledge and context to the information and without the human context the information by

itself will have no meaning. This is supported by Nonaka (1994) who asserts that knowledge is a dynamic process of justifying personal beliefs as part of an aspiration for the truth.

Individuals play an important role in sensemaking in that they establish that critical link between organisational and relational capitals. Social interaction between individuals provides an ontological dimension to the expansion of knowledge. Mourtissen and Larsen (2005) argue that knowledge is transferred from one individual in the organisation to other individuals. Nonaka (1994) asserts that knowledge is capital created by individuals and organisations cannot create knowledge without individuals. He posits that the creative individual is the core of production. Mourtissen and Larsen (2005) argue that the basis of an organisation's ability to act is assumed to come from and originate in individuals in what he terms the 1st wave of knowledge management. He asserts that knowledge is created through converting tacit knowledge[1] to explicit knowledge[2] and vice versa. Nonaka (1994) identified four knowledge creation processes as a result of the interactions of tacit knowledge and explicit knowledge (socialization, externalization, internalization and combination)[3]

Alternatively, in the knowledge management literature Mourtisen and Larsen (2005) have argued that the individual in not key, but there is a shift from the level of the individual to the level of knowledge resources in what they term the 2nd wave of knowledge management. They assert, that in this wave of knowledge management, the task is to make employees' skills and knowledge interact with other employees' skills and knowledge and with companies' technologies, processes and customers. This

[1] Tacit knowledge is defined by Polani (1966 in Nonaka 1994) as knowledge of a personal quality, rooted in action, commitment and involves a specific context.
[2] Explicit knowledge is defined by Polani (1966 in Nonaka 1994) as knowledge that is transmittable in formal and systematic language.
[3] Socialization refers to converting tacit knowledge to explicit knowledge resulting in the transfer of knowledge without language, this results from the interaction of individuals in situations such as on-the-job training and apprenticeship. Externalization refers to the conversion of tacit knowledge to explicit knowledge, this will result from activities involving dialogue. Internalization is where individuals convert explicit knowledge to tacit knowledge as a result of learning or experience. Combination is where explicit knowledge interacts with explicit knowledge as a result of individuals exchanging and combining knowledge through meeting, documentation and coordination (Nonaka 1994)

argument posits the integrating role of human capital with relational and organisation capitals. Mourtisen and Larsen (2005) assert that the individual is interwoven in the relations of the organisation and it is difficult to disentangle human capital from organisational and relational capitals. This augurs well for sensemaking since, according to Weick (1995, p.75), 'the social forms of organisation consist basically of patterned activity developed and maintained through continuous communication activity during which participants evolve equivalent understanding around issues of common interest". This everyday interaction enables participants to coordinate their actions.

Through discussion, grouping, sounding out, trial and error, people share perceptions among themselves and gradually define or create meaning that enables them to agree on decisions and actions to undertake and thus to coordinate their actions. As people strive to share their feelings, intentions and thinking through face to face communication, they give rise to vivid, unique inter-subjective meanings (Weick, 1995). Individual interpretations are often affected by and aided by the interpretation of others. Hence, an organisation's relational capital will play a critical role in how individuals collectively make sense of an event. This is consistent with Wiley's (1988) inter-subjective sensemaking which he asserts is the process by which two or more communicating individuals construct social reality interactively.

Weick (1995) identifies a level of sensemaking which he refers to as generic subjectivity. This he argues facilitates control through mindless application of routines independent of individuals or inter-subjectivity. It is built upon ideology, third order control, paradigms, theories of actions and traditional stories. Generic subjectivity takes the form of scripts, interpretive schemes or sensemaking resources which allow people to substitute for one another and share an understanding of a situation (Allard-Poesi, 2005). This form of sensemaking is related to the third component of intellectual capital, structural capital. Information stored in an organisation's databases, which is a component of the structural capital of the organisation, may shed light on how similar events were interpreted in the past, or at least indicate the process or method used

for interpreting new events. Shariq (1998) states that sensemaking is finding a representation that organizes information to reduce the cost of an operation in an information task. He argues that the products, processes and software developed by human effort are considered tools that embody human knowledge.

Maitlis (2005) makes an important contribution to the sensemaking literature by identifying two key dimensions that describe the social processes of organisation sensemaking which are control and animation. Controlled sensemaking tends to occur when the events are organized in a systematic fashion, through scheduled meetings, formal committees, and planned events with restricted attendance, as opposed to private conversations or informal and impromptu meetings of self-organizing groups. Animated sensegiving occurs in situations where stakeholders have access to an intense flow of information. Thus, sensemaking in animated processes tends to occur in iterative discussions as numerous stakeholders volunteer their opinions and state their demands, and leaders work to articulate their own accounts of the issues of concern (Maitlis 2005). This perspective has implications for IC, as it hypothesizes a relationship between the construct of sensemaking in terms of control and animation and the growth of IC. Maitlas (2005) identified four distinct forms of organisational sensemaking: guided form, fragmented, restricted and minimal. When a sensemaking process was controlled and animated, organisational sensemaking took on a guided form. Organisational sensemaking was fragmented when the process was animated but not controlled. When the process was controlled but not animated, sensemaking emerged in a restricted form. Processes that were neither controlled nor animated produced a minimal form of sensemaking.

Finally, one can argue that sensemaking as a social process clearly integrates the three attributes of IC. Maitlas (2005) asserts that in organisations where there is a high level of sense making by both the managers and other stakeholders a single account with internally consistent actions will emerge. On the other hand, where there are low levels of sense making by managers or stakeholders, multiple interpretations and inconsistent actions will result. These variations in sensemaking and resulting outputs

of the process have implications for IC. In that IC and its components human capital, relational capital and organisational capital can only be developed where there is evidence of managers and stakeholders engaging in high levels of sense making.

2.4. Intellectual capital in the Hospitality Industry

The hospitality industry was identified as the industry to base the research due largely to its dominant role in the social and economic development of the various island states within the Caribbean. This final section seeks to provide a review of the extant literature of IC as it relates to the broader hospitality industry. The literature addresses aspects of IC in disparate ways and to date few studies relating to IC and the hospitality industry have been reported. There has been a dearth of research articles examining the concept of intellectual capital (IC) and the hospitality industry, an industry which can be considered as labour intensive. However, if the concept of IC is used in a wider sense encapsulating its component of intangibility as it relates to the hospitality area, then the literature presents some interesting findings. The term "intangibles" is widely used in the hospitality industry whether to refer to property or other attributes of the organisation in terms of its competencies. The term intangible property as it relates to hotels has been used interchangeably with terms such as goodwill and business enterprise value (Roubi 2004, Nilsson et al 2002, O'Neil 2005), and non-realty (Kinnard et al 2001). Appraisers have been using the term "intangibles" in determining the composition of the value of a hotel.

This personal intangible property within the hospitality industry includes start up cost of purchasing licenses and assembling the workforce, management contracts, management and entrepreneurial skills, and chain affiliation (Roubi 2004, Wolverton et al 2002). Kinnard et at (2001) assert that intangible assets represent a measurable and separable portion of total property value of a hotel. The American Society of Appraisers (as cited in Wolverton et al 2002) defines intangible assets as that which arises as a result of name, reputation, customer patronage, location, products and similar factors that have not been separately identified and or valued that generate economic benefits. This definition would incorporate attributes of intangibility which can be considered personal intangible property and inherent intangibles.

Some authors make a distinction in the hospitality literature between what they term personal intangible property and inherent intangibles. The inherent intangibles refer to such things as location, construction and design characteristics (Roubi 2004). This distinction is important in the valuation of hotels. According to Nilsson et al (2002), hotel land and buildings have particular characteristics, such as, being single use properties with little or no alternative use. The personal intangible property is more in keeping with the attributes attributed to IC and it contributes significantly to the total asset value of a hotel. Kinnard et at (2001) posit that intangible property represents twenty-one per cent of the total asset value, Roubi (2004), on the other hand, reported a twenty-seven to thirty percent of the hotel value.

The literature identifies some components of intangible personal property within the hospitality industry which can be construed as components of relational capital, a subset of IC. One such intangible asset, which has been highlighted in the literature as making a significant contribution to the total asset value and profitability of the entity, is the flag (brand name). O'Neill (2005) posits that a large part of a hotel's value is intangible and based on the goodwill of its brand name in the market. O'Neill and Belfrage (2005) argue that the use of a recognized brand name generally increases a hotel's revenue-generating ability and enhances its value. In their study they reported that affiliation with the Hyatt brand, hotels using the "Spirit" system ("spirit" is Hyatt's proprietary central reservation system) accounted for approximately thirty four per cent of room revenues. Kinnard et al (2001, p. 76) assert "Several recent studies have shown quite clearly that name recognition and good reputation for high-quality service ('name brand'), plus affiliation ('flag'), can add as much as 20% to 25% to the value of a successfully operating hotel." Nilsson et al (2002) assert that the strength of the parent brand adds weight to its price.

Kinnard et al (2001) argue that measurable elements of non-realty at a hotel property, (which is separate and distinct from the realty), include its name, reputation and

affiliation with a chain or an association of independent hotels. They contend that affiliation with a chain or an association can provide a reservation system, a referral system for members or affiliates, group advertising, and frequently identifiable and recognized name/flag. Ailawadi et al (2003) emphasized the importance of reliable and accurate valuation of the contribution of flags (hotel brands) to net operating income and total value of assets. They posit that this contribution should be used in guiding marketing strategy and tactical decisions, assessing brand extendibility, evaluating the effectiveness of marketing decisions, tracking brand health against competitors over time, and assigning financial value to the brand in balance sheets and financial transactions.

While there appears to be general agreement that a large portion of a hotel's total intangible asset value is derived from its brand or franchise affiliation, the value contribution from franchise affiliation can vary widely despite relative uniformity in hotel franchise fees among similar brands (O'Neil and Belfrage 2005). They assert that intangible asset value is generated only when demand, as defined by room sales, attributable to the franchise/brand distribution channels, exceeds the relative ongoing cost of affiliation. Conversely, when sales attributable to the franchisor are less than the cost of affiliation, intangible asset value may be minimal or nonexistent.

The literature relating to the valuation of hotels is replete with the term "work force" as one of the intangible assets. According to Ross et al (2004) human resources include the knowledge, competence, intellectual agility, relationship ability and attitude of employees. Wolverton et al (2002), Kinnard et al (2002), O'Neill and Belfrage (2005) have all identified work force as one of the components of the intangible asset value within the hospitality industry. Kinnard et al (2002), in deriving a value of a hotel, argue that a portion of any purchase price of an operating hotel is the opportunity cost of assembling and training the required work force. They contend that a skilled work force would have to be assembled and trained by a purchaser of the real estate only. Therefore, an average period of six weeks of training is reportedly appropriate and reasonable for staff to be assembled and prepared to operate a first class full service

hotel. Kinnard et al (2001, p. 75) report “That payroll expenses at the top 25% full service hotels range between 33.8 and 35.3 percent of total revenues from 1992 through 1996 averaging 34.5%.” They conclude that a reasonable estimate of the value of an assembled, trained and skilled work force would be 11.5% (6/52) of the annual payroll.

Another one of the components of IC is structural capital which looks at the internal structure of the organisation. Tseng and Goo (2005) divided their structural capital into innovation capital and organisational capital. They defined innovation capital as the ability to build on previous knowledge and generate new knowledge. In their study of IC, in the Taiwan manufacturing sector, they found a direct relationship between innovative capital and corporate value. Hjalager (2002), in her study on innovation in the tourism sector, identified five categories of innovation within the industry. According to Hjalager (2002), the five such categories are product innovation, process innovation, management innovations, logistics innovation and institutional innovations. Product innovation incorporates constructs, such as, loyalty programmes and environmentally sustainable accommodation facilities, whilst process innovation relates to areas such as computerized management and monitoring systems. Management innovations incorporate such things as new job profiles, collective structures and authority systems. Logistics innovation involves the vertical linkages in the food and restaurant industries and integrated destination information systems and institutional innovations represent the collaborative and regulatory structures aimed at reforming the financial systems to meet the needs of the tourism industry. Hjalager (2002) contends that new knowledge must be generated and used to feed this innovation and product development which is critical for competitiveness of both tourism destinations and enterprises.

The linkage between human capital, innovation and knowledge management is critical within any organisation. According to Cooper (2006), knowledge management is critical for tourism organisations to respond, adapt, survive and compete in the face of increasingly discontinuous environmental changes. The environmental changes are

brought about both from the supply side and as a result of the changing nature of consumer behaviour. In addition, contends Cooper (2006) a lot of the changes are brought about by technology. Given the fluid state of technology, human capital is critical for the management of knowledge within the organisation. However, some argue that the management of knowledge within the hospitality industry is quite difficult given the large percentage of temporary and inexperienced workers (Cooper 2006). Becherel and Cooper (2002) argue that human resource practices mitigate against employment and retention of highly skilled employees which is a requirement for the knowledge economy. According to OECD (2001 p. 8), "policies which engage human capital, innovation and entrepreneurship in the growth process alongside policies to mobilize labour and increase investment are likely to bear the most fruit over the long term". Hjalager (1999) argues that the restaurant sector is a good example of the impact of technology on innovation capacities. The massive development of pre-cooked food and semi-manufactured products has given restaurants a much higher operational flexibility. The vertical linkages in the food and restaurant industries have reduced the dependency on vocational cooking skills and innovative chefs required for the restaurants.

Dev et al (2002) assert that, in the context of hotel firms quality competence, organisational competence and customer competence are three of the requirements for the development of a competitive advantage. They define quality competence as the skills and capabilities needed to build high quality service and to ensure customer satisfaction. Organisational competence refers to the skills and capabilities that enable the hotel to compete effectively, such as, corporate culture, empowerment, operating policies and procedures, and reservation systems. Customer competence encompasses a variety of capabilities that help the hotel create its brand reputation, establish a customer base and build customer loyalty.

2.5. Conclusion

Intellectual capital has emerged as a key concept to analyze and evaluate the intangible dimensions of an organisation. While no conceptual framework on IC has

been agreed, proponents of IC research have suggested that it is the leveraging of IC and its components that allow an organisation to create and sustain a competitive advantage. This literature review has sought to highlight the various facets to the multi-dimensional construct IC by examining the various definitions, classification schemas, measurement methods and disclosure practices that have been advocated. As IC theory evolves it can be used as a lens to explain not only how IC can be created, acquired, accumulated, developed, retained, managed and reported but how its value can be manifested within organisations.

Accounting for IC and the perceived inadequacy of the traditional financial practices for dealing with the knowledge-based economy deserved some theoretical analysis. The measurement and management of IC are influenced by different theories of the firm and thus two theoretical frameworks are incorporated into the literature to further our understanding of the construct. First, the resource-based view, a framework built on the premise that a firm's success is largely determined by the resources it owns and controls (Wernerfelt 1984). These resources are either assets or capabilities, but the capabilities which are intangible bundles of skills and knowledge exercised through organisation routines (Nelson and Winter 1982), are sources of competitive advantage. Researchers have extended the resource-based view and developed a dynamic capability framework and a knowledge-based view of the firm thus arguing that knowledge, a component of IC, is the critical resource in this dynamic environment.

The literature has identified some perceived short comings in these transaction cost economic based theories of the firm at it relates to social contracts and proposed an extension in the terms of a social capitalist view of the firm. As managers make decisions within organisations they will draw on their experiences and knowledge to make sense and interpret their environment. A social capitalist's view of the firm as a nexus of relationships will have implications for this process of organisational sensemaking. Therefore, sensemaking as a theory is crucial to our understanding of the decision making process, actions, performance, change and learning in

organisations in relation to how the three IC components interact and provide a foundation for our understanding. It can be argued that both the knowledge based view of the firm and the social capitalist view will endure for some time. However, there is scant evidence in the literature of the integration between the two views despite their obvious interdependencies. While the literature acknowledges that in this intangible economy the integration and deployment of knowledge is critical for competitive advantage as posited in the resource based view, this is achievable only when the social context is addressed in the case of organisational sensemaking. This approach of integrating these two schools of thought has not been addressed in the literature. Therefore, the general integration of these two schools of thought is a focus for this thesis. The following three chapters outline the research methodology and methods used to test this integration.

CHAPTER 3

Research Methodology

The epistemological, ontological and axiological considerations

3.1 Introduction

In the social sciences as the researcher embarks on the research process, it is important to clearly articulate the philosophical assumptions made in relation to knowledge, human nature and the empirical world. These assumptions have direct methodological implications. This first chapter relating to methodology highlights those philosophical assumptions that the researcher used in guiding the research process and the selection of the research methods appropriate to those assumptions. A mixed methods approach was deemed most appropriate to achieve the study objectives. Therefore, a sequential exploratory design was used with the first phase being qualitative and the second phase quantitative. The qualitative research design and data collection is presented in chapter four while chapter six presents the quantitative research design and data collection.

3.2 Research Philosophy

It is necessary that any research should be conceptually and theoretically grounded in the researcher's ontological and epistemological positions. Neuman (2003) asserts that these positions would influence the nature of the phenomena to be investigated, the approach and the analysis used. This has resulted in the creation of a set of rules to follow which is dependent on the research philosophy adopted. In management accounting, like several other disciplines, researchers must therefore be cognizant of the philosophical assumptions about knowledge, the empirical world and the relationship between theory and practice to guide their research (Chua 1986). The philosophical assumptions about knowledge or epistemology are concerned with one's understanding of the nature and validity of knowledge. Craib (1992) in Roos (2005; 196) defined epistemology as the "nature of an explanation: what methodology to use, what logical structure must it have, what proofs are required, or how do we know that our knowledge is knowledge". This involves the examination of the relationship

between the researcher and that which is being researched (Collis and Hussey 2003). On the other hand, ontological issues or assumptions that the researcher makes about the empirical world are concerned with the researcher's beliefs about the nature of reality. This nature of reality relates to whether social entities can and should be considered as objective entities and external to the researcher or constructed by the individuals involved in the research situation (Creswell, 1998). In addition, consideration is given to whether reality is orderly and lawful; unitary or multiple; fixed and stable or constantly changing; and whether there is an existence of a natural social order. The assumptions the researcher makes in this regard directly influences the selection of research methods. A third consideration in the research process is the axiological assumption that the researcher makes. This assumption is concerned with the role of values in the process, that is, whether the researcher can be unbiased and truly value-free. The diametrical nature of the epistemological, ontological and axiological assumptions has resulted in the creation of a number of research paradigms which are seen as incommensurable. The two main research paradigms are labelled positivist and interpretivist, although there is considerable blurring between these two paradigms.

The positivist paradigm is seen as one extreme of the continuum relating to the epistemological, ontological and axiological assumptions. The epistemological issue, in this paradigm, concerns whether the social world can and should be studied using the same principles, procedures and ethos as the natural sciences (Bryman and Bell 2007, Neuman 2003). This paradigm assumes that knowledge can be acquired through observation and build up piecemeal. The ontological issue, according to Hopper and Powell (1985), regards the social world and its structures as having empirical, concrete existence external to, independent of and prior to the cognition of any individual. This objectivist position posits that social phenomena and their meanings have an existence that is independent of the social actors. The positivist assumes that people's behaviour and experiences can be regarded as being completely determined and constrained by their external environment. In terms of the axiological perspective positivists believe that science and the process of research is value-free. Finally, theory building in this

paradigm typically takes place in a deductive manner starting with reviews of the existing literature.

At the other extreme of the continuum the interpretivists' perspective on epistemology is that subjective meaning of social action is the essence of the research. Such researchers posit that the social world can be understood only by first acquiring knowledge of the subject under investigation (Hopper and Powell 1985). In relation to ontology, reality is depicted as existing only as a product of individual consciousness. These constructionists assert that the external social world consists simply of concepts and labels, built up from the perceptions and actions of the social actors, to help them understand reality and negotiate a shared conception of its nature with others (Bryman 2004, Neuman 2003). The interpretivists consider that researchers have values which help them to determine what is recognized as facts and the interpretations which are drawn from them (Collis and Hussey 2003). The goal of theory building in the interpretivists' paradigm is to generate descriptions, insights and explanations of events so that the system of interpretation and meaning are revealed using an inductive approach.

Management accounting researchers have used both the positivist's and interpretivist's approaches in their empirical work. Zimmerman (2001) asserts that only positivist management accounting research has any status. He conjectured that the use of non-economics based frameworks, lack of empirically testable theories, lack of publicly available data, the use of the inductive approach and an emphasis on decision making have resulted in management accounting failing to produce a substantive ambulated body of knowledge. These conjectures fuelled a debate on the validity of paradigms, their application and worth as Ittner and Larcker (2002), Luft and Shields (2002), and Lukka and Mouritsen (2002) all rejected Zimmenman (2001) positivist position and called for a variety of approaches to management accounting research. Ittner and Larcker (2002) argued that a research strategy that combines economic based and behavioural approaches as opposed to fixating on purely economic models is much more likely to produce substantive research about

management accounting. The use of the interpretive and critical perspectives as alternatives to mainstream accounting approach has been advocated by Chua (1986), Baker and Bettner (1997) with Hopper and Powell (1995) and Roslender (1992) examining the various sociological frameworks that can be applied to management accounting research. Bhimani (2002) has demonstrated that both paradigms have been used effectively to advance the discipline.

Whatever the basis for categorization, commentators on research approaches tend to agree that not all accounting studies fit neatly into a specific research type. This has led to some researchers taking issue with Kuhn's (1970) position that paradigms are incommensurable. Some researchers argue that the multi-faceted nature of organisational reality renders the use of a single research paradigm too narrow a view. Gioia and Pitre (1990) argue that multi-paradigm perspectives are not so much a search for the truth but more a search for comprehensiveness stemming from different world views. The conjecture that multiple views created by different paradigms might be linked can yield a more comprehensive view of organisational phenomena in that paradigm boundaries are permeable. Researchers in management accounting continue to debate the distinctive contributions of knowledge that arise from different philosophical views and conceptual paradigms and the extent to which they are incommensurable (Chua 1986, Ahrens and Chapman 2006, Brown and Brignall 2007, Ahrens 2008, Kakkuri-Knuuttila et al. 2008). Brown and Brigall (2007) assert that accounting is an unusual discipline in that it draws its theoretical background from aspects of behavioural science, sociology and organisation theory but its models are drawn from neo-classical economics and mathematical theory. They argue that the unique characteristics of accounting provide for the use of multi-methodology research designs. This debate in management accounting is tautological as some researchers will support only a positivist's position while others will continue to agitate for the inclusion of other paradigms and demonstrate how such an approach advances the management accounting discipline.

The researcher cogitated on this debate, as IC within the management accounting framework is multi-disciplinary and therefore the researcher can be caught between paradigms. However, in this research process, an empiricist, objectivist framework has been adopted to assess the significance placed on IC by organizations and the impact of IC on organizational performance in the hospitality industry in the Caribbean. Prior research has established a causal link between intellectual capital and organizational performance in European and North American knowledge-based companies (Bontis 1998a; Roos et al 1997; DATI 1998). This study tested the generalizability of the findings of such research in microstates, such as, the Caribbean.

The choice of an empiricist approach was derived from the need to test the theories relating to intellectual capital and organizational performance in this new environment. Zimmerman (1980 as cited in Christenson 1983) states that positive research seeks to develop theory that can explain observed phenomena. Thus, testing the theory relating to intellectual capital in other contexts can generate new knowledge. Zimmerman (2001) postulates that testing hypotheses derived from theory allows knowledge to accumulate in the sense that refuted hypotheses force revisions of the underlying theory. This view was highlighted earlier by Christenson (1983) who argued that the methodology of science is the rationale for accepting or rejecting theories or hypotheses since the aim of science is to explain observed phenomena.

Additionally, support for the empiricist's epistemology is derived from Williams (2002) who argues that performance measurement is a part of modern social empiricism and pragmatism, a particular form of empiricism, is a good framework for developing and measuring constructs, such as, efficiency and effectiveness. Epistemology does not depend on beliefs about correspondence to such entities in the world itself. Earlier, Beams (1969) had argued that empiricism is particularly applicable to accounting since it relates to the domain of reality which deals with particular facts and concrete solutions, that observation is necessary to acquire warranted beliefs, and accounting is motivated by the desire to acquire indisputable information about factual situations

concerning the financial experience. Beams (1969) asserts that to achieve this objective then only quantitatively analyzed data from observed enterprise can be used.

Bryman (2004) asserts that the ontological considerations are concerned with the nature of social entities and whether social entities can and should be considered objective entities. Objective entities have a reality external to the social actors as in the case of objectivism, or social constructions built up from perceptions and actions of the social actors as in the case of constructivism. In the discipline of accounting the use of rules that have been accepted constitutes law like generalizations which enable one to use an objectivist approach. Some may argue that the terms used in intellectual capital are constructions. However, the universal acceptance of these constructs enables us to see them as realities that are external to the social actors. According to Cloutier and Gold (2005; 125) "The law offers both formal and informal mechanisms through which to manage intellectual capital. The formal mechanisms include the statutory intellectual property regimes; patents, copyrights, trademarks, plant variety protection, and integrated topography protection." They further argued that licence agreements, research agreements, contractual joint ventures and trade secret law are among the informal mechanisms that law offers. Given that a number of intangibles have legal definitions, and intangibles are incorporated into the intellectual capital of an organization, the wide acceptance of these laws for some IC components enables an objective approach to be used.

This study of intellectual capital is theoretically grounded in a positive economic based theory of the firm; therefore, an empiricist objectivist orientation would be most appropriate. Smith (2003) asserts that positivists assume that things can be studied as hard facts and the relationships between these facts established as scientific laws and such laws have the status of truth and thus social objects can be studied in the same way as natural objects. Karl Popper, the empiricist, questioned the notion of truth and theorized that science is no longer the search for truth but careful and systematic use of the scientific method in constructing statements about the world and testing them against the evidence. Popper developed a methodology around the possibility of

refuting our existing theories, and argued that falsification, a set of procedures for scrutinizing existing knowledge rather than verification becomes the criterion of science (Smith 2003).

3.3 Restatement of Research Questions

The following research questions derived from the research objectives are restated here as they underpin the selection of research strategies used in the study.

1a. What components of the intellectual capital constructs are captured in the reports of management?
1b. What mechanisms are implemented within the organization through which IC factors are integrated in order to develop capabilities?
1c. Is there a relationship between IC components and organizational performance?
1d. Does the measurement of IC assist managers in their operational decisions relating to staffing, customer and supplier relationships and enhance organizational performance?
2a. Is there a relationship between IC components and sensemaking?
2b. Is there a relationship between sensemaking of IC information by managers and organizational performance?

3.4 Research Strategies – Quantitative and qualitative research

Qualitative and quantitative research are the two main approaches used to gather information, each associated with different methods for collecting the information. Generally, each of these approaches is associated with a particular epistemological and ontological position. That is, there are purists who believe that quantitative research should follow a positivist tradition and qualitative research should follow an interpretivist position. However, there are researchers whose worldviews reject these purists' claims as extreme and find it advantageous to mix methods (Rocco et al 2003). The use of mixed methods generally increases a study's validity and interpretability in that some measures may overlap different facets of a phenomenon. This is particularly true of IC research, therefore, a mixed method approach was deemed most

appropriate to answer the research questions set out in this study. A mixed method approach was used for example by Bontis and Fitz-enz (2002) to investigate the effectiveness of human capital within organizations in Canada.

Social phenomena are frequently interconnected in complex ways and qualitative methods can elucidate this in a manner that simple quantitative models cannot. In addition, accounting models are constituted through numbers and these numbers reflect human agency which is driven by organisational rules, norms and incentives. The multidisciplinary nature of IC required an approach that captures both the mathematical aspects of the relationship under consideration using quantitative techniques and the human, behavioural and organisational issues that give rise to or result from that relationship employing qualitative techniques. Therefore a mixed methods approach employing a sequential exploratory strategy was used in this study, where the first phase was qualitative followed by the quantitative phase. The purpose of such a strategy was to use the quantitative data and results to assist in the interpretation of qualitative findings. Morgan (1998) suggested that this design is appropriate when testing elements of an emergent theory resulting from the qualitative phase and that can be used to generalize qualitative findings to different samples. Creswell (2003) concurs that this model enables a researcher to explore a phenomenon and also expand on the qualitative findings.

Additional support for the mixed method approach in management accounting has been given by Eisenhardt (1989) and Modell (2005). Eisenhardt (1989) asserts the use of multiple data collection methods provides stronger substantiation of constructs and hypotheses where qualitative research is being combined with quantitative evidence. This process is referred to as triangulation of research methods. It is clear that the research questions identified for this study would be better answered using methods taken from both the quantitative and qualitative approaches. According to Eisenhardt (1989), qualitative data are useful for understanding the theory underlying the relationships revealed in the quantitative data. Additional support for the triangulation of methods approach in this study was gained from Abernethy et al (1999)

who asserted that the use of multiple methods achieve the objective of generalizability, limits bias and enhances the meaningfulness of measures. Therefore, qualitative methods were used to answer research questions 1a and 1b, quantitative methods were used to answer research question 1c, and both qualitative and quantitative were used to answer research questions 1d, 2a and 2b.

3.4.1 The Qualitative Approach

Bryman and Bell (2004) describe qualitative research as a strategy that emphasizes words as opposed to quantification, uses an inductive approach, and has interpretivist and constructionist orientations. In attempting to answer the first research question relating to managers' determination of the significance and characteristics of intellectual capital in the Caribbean hospitality sector, a qualitative approach was deemed most appropriate. Neuman (2003) argues that qualitative research captures and discovers meaning in the data, where concepts are in the form of themes and generalizations, data in the form of words and images, and the analysis is largely the extraction of themes and generalizations to present a coherent picture. It was imperative that during the first stage of the research the constructs relating to intellectual capital that are used in the hospitality industry were clearly delineated and thus a qualitative approach was better suited to elicit such information.

In addition, the qualitative research approach enabled the researcher to understand the social and cultural contexts relating to intellectual capital within the organization. Atkinson and Shaffir (1998) posit that human behaviour cannot be understood by observing from outside, instead the researcher should use qualitative methods, such as, field research, informal interviewing and other techniques which would yield descriptive data. In addition, the selection of a qualitative approach was predicated on the view that intellectual capital incorporates a number of constructs that are tacit, embedded in processes and socially complex. Rouse and Daellenbach (1999) argue that fieldwork is the appropriate method to gain in-depth knowledge and understanding of organizational processes that are tacit, highly inimitable and socially complex. Atkinson and Shaffir (1998) argue that field research, a qualitative approach,

should be used in management accounting research to assess how individuals or groups react to management accounting information.

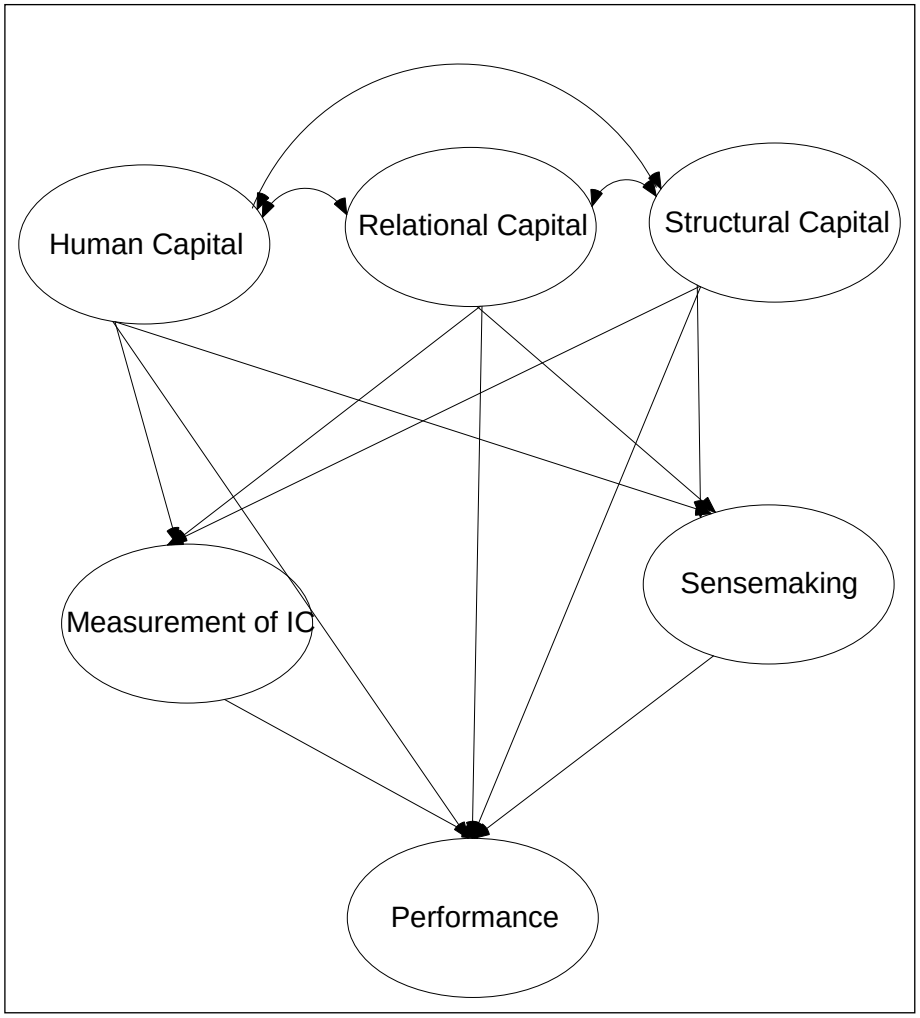
The output from the qualitative process yielded rich data, but the ability to generalize the findings was quite limited. With the qualitative research approach, whilst attention was paid to the principles of reliability and validity, it was more important at that stage to be authentic by giving an honest and balanced account (Neuman 2003). Additionally, the use of multiple measurement methods, which are usually dictated by the evolving context in qualitative research, impacted on the replication process. The use of such diverse measures together with interaction of participants illuminated different facets of intellectual capital within the organizations.

3.4.2 The Quantitative Approach

In the second stage of the study a quantitative approach was used to enable the researcher to make some generalizations pertaining to intellectual capital in the Caribbean hospitality industry. Bryman and Bell (2004) describe quantitative research as a strategy that emphasizes quantification in the collection and analysis of data, uses a deductive approach to relate theory to research, and has an orientation that is positivist epistemologically and objectivist ontologically. The information collected during the qualitative phase was incorporated with the literature on intellectual capital to create the constructs and formulate the hypotheses used in the quantitative phase.

In the quantitative study a number of variables were identified to test the hypothesized relationships. The independent variables used in the study were Human Capital, Relational Capital, and Structural Capital. The dependent variable was Organizational Performance with two mediating variables Sensemaking and Measurement of IC. The following diagram illustrates the proposed model.

Figure 5: Proposed IC and Performance Model with mediating variables



According to Neuman (2003) quantitative research begins with a hypothesis. Modell (2005) argues that such should be developed from the findings of the qualitative findings when using a mixed approach. In this empiricist orientation, theory building took place in a deductive mode starting with the review of the extant literature in conjunction with the results of the qualitative analysis of the case studies. Hypotheses were derived by selecting specific variables as likely causes of some desired effect. Such hypotheses are tentative statements of relationships that either extend prior theory in a new direction; propose an explanation for a perceived gap in the existing knowledge or set up a test of competing possible explanations (Collis and Hussey 2003). The results of these processes are either the verification or rejection of the hypotheses with theory building occurring through incremental revision or extension or rejection of the original theory. Chapter six presents the discussion pertaining to the formulation

of hypotheses based on the findings of the qualitative case studies and contributions from the extant literature.

Finally, in assessing the quality of a quantitative approach, the researcher must ensure that issues pertaining to reliability and validity are taken into account. According to Neuman (2003), reliability refers to a measurement that is consistent and repeatable under similar conditions while validity refers to how well the conceptual and operational definitions match. The use of standardized procedures, precise data and systematic measures used in designing data collection ensured that the reliability and validity concerns raised in the literature were addressed. Abernethy et al (1999) identified three types of validity; construct validity, internal validity and external validity. They assert that construct validity seeks to assess whether the constructs of theoretical interest are captured and measured reliably. The design of this study using data from the first phase in addition to the literature greatly enhanced construct validity. Additionally, the use of survey type data collection methods in a quantitative approach increased external validity which according to Abernethy et al (1999) incorporates "population validity", "ecological validity" and "temporal validity", that is the ability to generalize and extrapolate the findings of a research study across other populations, environments and time. This issue of being able to generalize and extrapolate the findings of the research is important to the development of the region and can greatly add to the extant literature on intellectual capital in developing microstates.

3.4.3 Research methods:

A research method is a strategy of inquiry which moves from the underlying philosophical assumptions to research design and data collection. The choice of method influences the way in which the researcher collects data. Specific research methods also imply different skills, assumptions and research practices. Yin (1989) identifies five research methods and suggests how to choose the right method by describing the kinds of questions that can be answered. The methods identified are

- experiment which answers the questions how and why,
- survey which answers the questions who, what, where, how many and how much,
- archival analysis which answers the questions who, what, where, how many and how much,
- history which answers the questions how and why, and
- case study which answers the question how and why.

It is clear that an experimental research design was not appropriate for the purpose of this study since it required a group of participants to be isolated from outside influences. That would require the selection of a hotel that would serve as the control entity and another hotel being used to implement a proposed model or strategy and then comparing the results from the two. However, the research aims to get an understanding of IC within the Caribbean hospitality industry which is currently unknown. Therefore, the more appropriate methods for this type of IC research were case studies, surveys and archival analysis; methods which have been widely used in IC research. A triangulated approach to answering the research questions through the use of case study in the first phase and a survey in the second phase was selected. According to Yin (2002) a case study is an empirical inquiry that investigates a contemporary phenomenon within its real life context, especially when the boundaries between phenomenon and context are not clearly evident. Case study research can be positivist, interpretive or critical depending upon the underlying philosophical assumptions of the research. In this study a positivist orientation to case studies was used as suggested by Yin (2002). The use of a survey, in the second phase, was consistent with the empiricist objectivist orientation selected for the study.

3.5. Conclusion

The methodological approach to this study greatly enhanced its ability to extend the literature relating to IC in developing countries. By using a mixed methods approach this study capitalized to some extent on the depth attributes of case study research and the breath attributes of surveys. In particular, it resolved some of the inherent

contradictions in IC research findings, clarified key empirical phenomena represented by the constructs, and documented the social context in which the constructs interact to produce organizational outcomes. The next chapter outlines the steps the researcher used in designing the qualitative case study along the positivist's orientation.

CHAPTER 4

Qualitative Research Design and Data Collection

4.1. Introduction

The previous chapter outlined the benefits of a mixed method approach in addressing the research questions. While the overall study involved the collection and analysis of data, using both qualitative and quantitative approaches, this chapter reports on the elements pertaining to the design of the qualitative phase of the study. Given the absence of empirical research on intellectual capital in the hospitality industry in the Caribbean, a qualitative approach was considered appropriate for the first phase of the study. The sections which follow will present the research design, research instrumentation and the procedures used in conducting the study.

4.2. The Qualitative Research Phase of the Study

The rationale for selecting a qualitative exploratory case study method was to gain an in-depth understanding of the constructs used and other attributes of IC information within the hospitality industry in the Caribbean. Support for this approach was derived from Collis and Hussey (2003) who argued that exploratory research case studies can be used where there are few theories or an emergent body of knowledge. The absence of IC research in the Caribbean region and the very limited research on IC in the hospitality sector generally is justification for such an approach. The case study methodology using two hotel chains provided the opportunity to examine inductively the application of IC in a particular industry and location. Applying this method to IC research enabled the researcher to capture the characteristics of, meanings and understandings that managers attribute to IC within the hospitality industry. Keating (1995) in supporting this view states that accounting researchers can develop an intimate, contextually sensitive knowledge of actual management practices through the use of case studies. In addition, within the extant theory relating to IC, there are multiple views on the constructs and nature of IC upon which the theory is built. Therefore, this research approach provided the opportunity for theory refinement by examining the existing constructs and relationships.

Chapter two which presented the literature review highlighted the relevant low profile of intellectual capital in the Caribbean; hence, this study seeks to make explicit those tacit and particular attributes of intellectual capital in microstates. Modell (2005) supports the choice of a case study as an investigative strategy in management accounting. He argues that research conducted within the positivist and functionalist paradigms needs to be complimented with case study based research. These qualitative case studies enabled the researcher to develop hypotheses that formed the basis for testing in the survey phase of the research. This approach was derived from the recommendation of Ryan et al (2002) who argued that case studies enable positivist researchers to generate hypotheses, which can be empirically tested in large-scale statistical studies at a later stage. Modell (2005) identified in his article a number of researchers who use the case study as the first phase to collect information to be used in the second phase of the research process.

4.3. Research Methods - Qualitative Case Studies

Case studies have become one of the most common ways to undertake qualitative research; but case studies are not only qualitative in their approach to collecting data. A case study is basically an extensive examination of a single instance of a phenomenon of interest using a variety of means to obtain the data on that phenomenon. Merriam (1998 p.27) has described a qualitative case study as an "Intensive, holistic description of analysis from a single instance, phenomenon, or social unit." According to Gomm et al (2000) the term case study implies the collection of unstructured data and a qualitative analysis of those data with the aim of capturing the uniqueness of the cases rather than using them as a basis for wider generalization or for theoretical inference. In addition, there are a number of dimensions to case studies and several different types of case studies that can be used in qualitative research. Miles and Huberman (1994) in adding to the extant literature on case studies, identified four dimensions to a case study; the conceptual nature, social size, physical location and temporal context. Yin (2003) classified case studies as the critical case, the unique case and the revelatory case which is subdivided into the representative case and the longitudinal case. Alternative classifications have been

posited by researchers in the management accounting area with Scapens' (1990) being the most popular.

Scapens (1990) identified four types of cases that can be used in management accounting research. A descriptive case study focuses on describing current practice, while an illustrative case study illustrates new and innovative practices that have been adopted by a particular company. The other two types are the experimental case study where new procedures and techniques that have been implemented within an organization are evaluated, while the explanatory case study uses existing theory to understand and explain what is happening within the case subject. Based on the lack of research on IC in the Caribbean and the limited work in IC in the hospitality industry of the four types of cases identified by Scapens (1990) the best suited classification for the present study are descriptive case studies.

4.3.1. Case Study as Design Strategy

The extant literature presents an extensive discussion on standard research designs and processes that could be used. However, the research design presented here is a function of the data required to answer the research questions. Initial review of the literature on IC provided guidance in both framing the research questions, presented in chapter three, and identifying appropriate case study subjects for inclusion in this research. According to Yin (2003) five components are critical in the design of a case study, with the first component being the framing of the research question. The second step in the process is the development of propositions which should direct attention to those attributes to be examined in the study. The proposition developed for the study is; hotel chains that possess intangibles in the form of IC that are valuable, not imitable, rare and not substitutable will outperform their competitors and this was derived from the resource based view of the firm.

The third step in the design phase (Yin 2003) called for consideration of the unit of analysis. Collis and Hussey (2003) define a unit of analysis as the kind of case to which

the variables or phenomena under study and the research problem refer. There are four types of case study designs, the holistic single case design with a single unit of analysis; the single case embedded design with multiple units of analysis design; the holistic multiple case design and the multiple case embedded design (Yin 2003). In this study the analysis was at the level of the chain and not the individual property, resulting in the unit of analysis being the chain using a holistic multiple case study design. There are a number of reasons that led to this decision. First a single case is recommended in situations where that case is representative, unique and critical to testing a well formulated theory (Yin 2003). The researcher did not find any case subjects that would fit this description. In choosing between the holistic design and the embedded design, the global holistic approach was selected. The holistic design relates to investigating the case subjects as a global unit while the embedded design focuses at the subunit level. The hotel chains identified as possible case subjects had a number of properties, which could be construed as units of analysis. However, the top management of these chains tended to be centralized and the managers at individual properties operated within this framework. The managers used common information systems, accounting and reporting systems, procedures manuals, and organizational culture which are some of the common attributes of intellectual capital, therefore analysis at the subunit was not deemed necessary. The holistic design enabled the researcher to focus on the global nature of the organization as the single unit of analysis.

Finally in looking at the design strategy, an important area that must be taken into account in qualitative research is the role of the researcher. According to Lillis (1999) field researchers do not have the equivalent of Cronbach's alpha or control and treatment groups to convey simply and succinctly their attention to reliability and validity. Thus field researchers must find ways to ensure that their reports appear unbiased. Depending on the role of the researcher in the research, challenges may appear. Ryan et al (2002) identified five roles that the researcher may play in a case study. These are outsider, visitor, facilitator, participant and actor. Having recognized the merits and limitations in each of the roles and the need to ensure reliability and validity in the research, the researcher assumed the role of visitor. In this role, the

researcher visited the case sites, interviewed managers, observed operations, collected other forms of data but did not get directly involved in the issues being researched. This approach enabled the researcher to maintain some measure of objectivity in the research process as required by the ontological position identified in the methodology chapter.

4.3.2. Criteria for judging the quality of the Case Study

Given the multi-paradigmatic nature of qualitative research, the criteria for judging the goodness or quality of a qualitative case study should be, to a certain extent, paradigm bound. Morrow (2005) argues the there are particular standards of trustworthiness that emerge from and are most congruent with particular paradigms. The evaluation criteria need to be consistent with the philosophical position of the research paradigm as well as the aims informing the research method (Endem & Sandelawski, 1999). The researcher is using an empiricist paradigm in this qualitative study and would therefore seek to evaluate the case study along the lines of validity and reliability which are consistent with this paradigm. Neuman (2003 p178) lends support and argues that validity and reliability "are important in establishing the truthfulness, creditability, or believability of findings."

Internal and external validity are two issues that are central to measurement. Internal validity is used primarily in experimental research and given the exploratory nature of these case studies the concept of internal validity is not highly relevant. Yin (2003) supports this position when he argues that internal validity should be used in explanatory and causal case studies and not exploratory or descriptive case studies. External validity, a concept which relates to the ability to generalize findings from the specific setting to the wider society, is another important factor to consider in case study research. Yin (2003) suggests that case study research can lend itself to external validity if the researcher establishes the domain to which a study's findings can be generalized. These exploratory case studies were designed to provide the researcher with hypotheses to be tested in the survey where generalization would be possible. However, the researcher was guided by Ryan et al (2002) who argued that it is more

appropriate to apply the logic of replication rather than sampling logic to case study research.

However, several researchers have challenged the notion of using such a positivist orientation to field research. Hammersley (1992) (in Denzin and Lincoln 1998) asserts that using a post positivist paradigm, qualitative research can be evaluated in terms of its ability to; generate generic theory, produce findings that can be generalized or transferred to other settings, be empirically grounded and scientifically credible, and be internally reflexive having taken into account the views of the researcher on the research strategy and the findings. Other paradigms such as those of constructionists argue for trustworthiness and authenticity, while the post modernists argue for increased importance being placed on emotionality, caring, subjective understanding and dialogic texts (Denzin and Lincoln 1998). These alternative perspectives were noted but the empiricist approach adopted required the consideration of issues pertaining to measurement in terms of validity and reliability.

The concepts of Intellectual Capital and its attributes have been given several dimensions within the literature. This will have an impact on measurement in terms of construct validity. Construct validity refers to whether the operational variable measures the construct that it purports to measure. The use of multiple sources of evidence and having follow-up meetings with interviewees to carry out corrections to transcripts greatly enhanced the construct validity of the study. A case study database was maintained, comprising case study notes, documents collected at the research site, wave files of the digital recordings of interviews stored on compact discs, hard copies of transcripts, and company publications. This rigorous case study protocol greatly enhanced the reliability of the case study. Reliability refers to dependability or consistency, in that if the study was repeated under identical or similar conditions the extent to which the findings would be the same.

4.4. Case study Candidates

Using an empiricist orientation to this research required the researcher to consider issues relating to sampling in the selection of candidates for case studies. In qualitative research the process of sampling is usually determined by the methodology employed as opposed to the need to established generalizability, as is the case in quantitative research designs. Sampling has a profound effect on the quality of research (Coyne 1997) and is a very complex issue in qualitative research. Sampling can be based on theoretical concepts, subjects can volunteer or be nominated to be sampled, or some other characteristic that is of interest to the researcher can be employed. Coyne (1997) identified two broad types of sampling that are common in qualitative research, theoretical sampling and selective/purposeful sampling. She further added that theoretical sampling, being the central tenet to grounded theory, differs from purposeful sampling where selection is based on the needs of the study and the information rich data it can yield. Patton (2002 p.169) posits that "Information rich cases are those from which one can learn a great deal about the issues of central importance to the purpose of the research." In this study purposeful sampling appeared to be more beneficial and therefore this method was used.

4.4.1. Population and sampling Frame

There are a number of international hotel chains operating within the Commonwealth Caribbean, for example, Hilton, Marriott, Ritz-Carlton, Holiday Inn, Hyatt Regency, Fairmont Hotels and Resorts, Wyndham, Best Western, Renaissance Hotels, Raddison Hotels, Four Seasons, Riu Hotels and Sheraton. Several of these have been established of their own volition but others as a result of Caribbean governments constructing hotels and offering management contracts to these multi-national corporations to operate them. In this exploratory study it was important to discover if there are any peculiarities that would operate within an indigenous hotel relating to intellectual capital. It was believed that international companies would be using the operating systems and organisation culture of the parent company not residing within the Caribbean and therefore those characteristics that may be considered peculiar to operating an indigenous hotel may be lost. Therefore, the researcher sought to conduct this exploratory study by focusing on those indigenous hotel chains operating

within the region. A sampling frame was developed by combining the listings in the Caribbean Yellow Pages[4] and the Caribbean Tourism Organization B2B[5] database of all the hotels operating within the region. This process resulted in 1,291 accommodation properties being identified in the research area. The researcher then selected those properties that were indigenous to the region resulting in a listing of boutique hotels, guest houses, single property hotels, resorts and chains. The regional hotel chains appear to provide more scope for exploration since it can be argued they would possess bigger management structures. Hotels in more than one island, may have a regional or indigenous organizational culture and the potential for IC to be found. The chains that fit the indigenous classification were Almond Resorts Inc, Sandals Resorts Inc., Elegant Hotels Inc and SuperClubs with its Breezes, Grand Lido Resorts and Spas and Hedonism Resorts Brands. Table 7 below details the candidates eligible for selection, with the number of countries they are operating in respective properties and the number of hotel rooms.

Table 7: Indigenous Hotel chains in the Caribbean

Chain	Properties	Countries	Rooms
Almond Resorts Inc	5	2	1,495
Sandals Resorts Inc	16	5	4,160
Elegant Hotels Group	5	1	488
Superclubs	9	2	2,168

4.4.2. Case selection

Almond Resorts Inc and Sandals Resorts Inc were selected as the two hotel chains that would be used for the two exploratory case studies. A number of factors were taken into consideration in the selection of these two brands. Access to case site was one of the factors. In the case of Almond Resorts Inc., it was the only public company in the above list which would provide the researcher with published financial statements. Almond Resorts is the largest hotel chain in Barbados and its three properties account for approximately 13% of the hotel rooms in Barbados. Its two properties in

[4] Caribbean Yellow Pages is an online directory of businesses operating in the Caribbean. It is available at www.caribbeanyellowpages.com.

[5] B2B – Business to Business Database of hotel properties located in the Caribbean. This database is accessible online at www.onecaribbean.org. The official website of the Caribbean Tourism Organization.

neighbouring St. Lucia account for 11% of the total hotel rooms and is second only to Sandals which has three properties and 16% of total hotel rooms. In addition, Almond Resorts Inc. has a close relationship with the University of the West Indies and has collaborated with the university on a number of projects in hospitality and tourism. The researcher is an employee of the University of the West Indies and has been part of this collaboration with Almond Resorts Inc. over the years. As a result of this the Managing Director of Almond Resorts has provided access to the organisation and pledged the full support of his staff at all the properties. Table 8 identifies each hotel, its location and number of rooms within the Almond Resorts Inc. chain.

Table 8: Almond Resorts Inc Hotels

Context Almond Resort Inc				
1	2	3	4	5
Almond Beach Village Rooms 395	Almond Beach Club Rooms 161	Almond Casuarina Rooms 300	Almond Morgan Bay Rooms 250	Almond Smugglers Cove Rooms 389
Barbados	Barbados	Barbados	St. Lucia	St. Lucia
		Being renovated		Being renovated

The second case study nominee was Sandals Resorts Inc. This private company represents the largest chain operating with the Commonwealth Caribbean. Sandals Resorts Inc. operates in the islands of Jamaica where the corporate headquarters is located, Antigua, St, Lucia, the Bahamas and the Turks and Caicos Islands. This company has extended its brand resulting in two brands, the traditional Sandals brand which is for couples only and the Beaches Family brand. Hotel Magazine in their July 2006 issue ranked Sandals 190th out of their 300 listing of top brands in the world. This chain with its sixteen properties and 4,160 hotel rooms spread across the Caribbean provided some insightful information. Table 9 identifies each hotel, its location and number of rooms within the Sandals chain.

Table 9: Sandals and Beaches Resorts

Brand	Property	Location	Rooms	Brand	Property	Location	Rooms
Beaches	Boscobel Resort Negril Resort Sandy Bay	Jamaica Jamaica Jamaica	230 215 130	Sandals	Whitehouse Dunn's River Ocho Rios Montego Bay Sandals Inn Negril Royal Caribbean	Jamaica Jamaica Jamaica Jamaica Jamaica Jamaica Jamaica	360 250 237 245 52 223 190
Beaches		Turks and Caicos	462	Sandals	Grande Halcyon Beach Regency	St. Lucia St. Lucia St. Lucia	289 170 328
Sandals	Grande	Antigua	373	Sandals	Royal Bahamian	Bahamas	406

4.5. Data Collection Procedures

Interviews, documentation, archival records, direct observation, participant-observation and physical artifacts are the most common methods for data collection within the case study methodology (Yin 2003). The data collection procedures employed in this study were documentation, in terms of internal management reports, newspaper clippings and company publications, archival records in terms of annual reports and organisational charts and twenty interviews with top managers (ten from each chain). Some general observations occurred while on site, but this did not constitute a major data collection source. The use of multiple sources of evidence provided the researcher with a holistic view of the phenomena under investigation. In addition, the use of multiple sources of evidence enabled the researcher to use triangulation techniques which is one of the strengths of the case study methodology.

4.5.1. Triangulation of Evidence.

Triangulation is broadly defined by Denzin (1978) as the "combination of methodologies in the study of the same phenomenon". The previous chapter focused on the between-methods triangulation in this mixed methods study. The use of quantitative and qualitative methodologies enabled the researcher to assess congruence and comparability of the results as the vehicle for cross validation. Todd (1978) termed this method of triangulation as between-methods triangulation.

Support for this approach was derived from Modell (2005) who argued that the between-method triangulation offers advantages in dealing with validity threats stemming from biases inherent in any single method. In this qualitative phase of the study a within-method triangulation technique was also used to reduce bias and enhance validity. Campbell and Fiske (1959 as cited in Modell 2005, p233) had used multiple quantitative methods for assessing convergent and divergent validity giving rise to the notion of triangulation in the social sciences. This notion of triangulation as performed by Campbell and Fiske (1959) has been seen (in Denzin (1978) terms) as within-methods triangulation, where a researcher uses multiple techniques within a given method to collect and interpret data. Therefore, the use of multiple data collection methods within this qualitative phase provided for within-methods triangulation.

Three other types of triangulation identified in the literature namely data triangulation, investigator triangulation and theory triangulation (Collis and Hussey, 2003; Ryan et al, 2002; Denzin 1978) were assessed in this study. The data triangulation was achieved through the use of four sources of data collection; interviews, documents, observation and archival records in support of Yin's (2003) recommendation. Theory triangulation was achieved through the use of multiple theories providing several perspectives as the foundation for the study. Theories relating to the resource-based view of the firm, dynamic capability, sensemaking and intellectual capital provided that theoretical base. Theory triangulation according to Modell (2005) implies that hypotheses and researcher interpretations are informed from more than one theoretical perspective. Investigator triangulation occurs when different researchers independently collect data on the same phenomenon and the results are compared (Collis and Hussey 2003). In these qualitative case studies the researcher being the sole individual for data collection would appear to be a challenge to the notion of investigator triangulation. However, placing increased emphasis on data triangulation and theory triangulation is argued to compensate for any short coming in this regard.

4.5.2. Semi-structured Interviews

Interviewing as a data collection technique provides a way of generating empirical data about the social world by asking people to talk about the issues relevant to the research objectives and enables interaction through social encounters thus facilitating the active construction of knowledge and meanings (Silverman 1993; Corbetta 2003). Interviewing has been used extensively as a data collection technique in IC research. These interviews can be structured, semi-structured or unstructured. The use of semi-structured interviews can steer the interview towards the constructs of interest enabling the researcher to gather relevant data for hypothesized constructs (Abernethy et al 1999). Twenty face to face semi-structured interviews with senior managers, ten from each chain, selected from various functional areas and different hotel properties enabled the researcher to capture the multi-dimensional aspects of IC at each chain. In ensuring that these semi-structured interviews yield useful data, an interview protocol (appendix 1) was developed from the methods documented in Wengraf (2001).

The interview protocol required as its first step that the interview questions be piloted. A student in the MSc Tourism and Hospitality Management Programme at the University of the West Indies who is also a training manager of a local hotel was used to pilot the interview. Transcription of the interview and a brief review of the data did not yield adequate information on the sensemaking issue so additional probes were added. In addition, the area of performance evaluation warranted the addition of a probe to yield data on the manager's perception in relation to the hotel competitors.

Permission was obtained from the Managing Director of Almond Resorts Inc., the Regional Director of Hotel Operations of Sandals Resorts Inc. in Jamaica and the Regional Human Resource Director for the Eastern Caribbean of Sandals Resorts Inc. located in St. Lucia to conduct the interviews with managers. A list of possible interviewees and alternatives was prepared for each chain. Initial contact was made with the various managers and the date and time for each interview scheduled. Table

10 provides a list of interviewees, location of property and the date the interview was conducted.

Table 10: Schedule of Interviews

	Interviewee	Location	Interview Schedule
1	Director of Hotel Operations	Almond Beach Club, Barbados	December 14, 2006
2	Director of Quality	Almond Beach Club, Barbados	December 18, 2006
3	Director of Corporate Communications	Almond Beach Club, Barbados	December 18, 2006
4	Regional Director of Human Resources	Almond Beach Village	December 18, 2006
5	Regional Director of Hotel Operations	Almond Beach Club, Barbados	December 19, 2006
6	Deputy General Manager	Almond Beach Club, Barbados	December 20, 2006
7	Financial Controller	Almond Beach Village	December 28, 2006
8	Director of Hotel Operations	Almond Beach Village	December 28, 2006
9	Executive Chef	Sandals Grande, St. Lucia	January 19, 2007
10	Hotel Manager	Sandals Grande, St. Lucia	January 19, 2007
11	Hotel Manager	Sandals Halycon, St. Lucia	January 22, 2007
12	Hotel Manager	Sandals Regency, St. Lucia	January 22, 2007
13	Group Director of Finance	Almond Beach Village	January 24 2007
14	Manager of Research	Almond Beach Village	January 24 2007
15	Regional Hotel Operations Director	Corporate Headquarters, Jamaica	February 2, 2007
16	Hotel Manager	Beaches, Negril Jamaica	February 6, 2007
17	Hotel Manager	Sandals Whitehouse, Jamaica	February 8, 2007
18	Hotel Manager	Sandals, Negril, Jamaica	February 9, 2007
19	Training Manager	Sandals, Whitehouse, Jamaica	February 14, 2007
20	Human Resources Manager	Sandals, Whitehouse, Jamaica	February 14, 2007

According to Lillis (1999) the structure imposed in an interviewer's guide reduces the tendency to resort to unplanned, non-neutral probes in the field which helps to minimize bias; therefore an interviewer's guide was used to govern the interviewing process. The interviewer's guide ensured that complete and consistent coverage of each theme identified in the study was achieved and minimized researcher intrusion into the work time of the interviewee. The interviewer's guide began by introducing the objectives of the research, discussing the ethical and confidentiality issues and requesting permission to tape record the session. The managers all agreed to have the sessions tape recorded. All interviews were conducted at the manager's office and lasted for approximately ninety minutes. On the interviewer's guide three forms of

questions were identified, the key question which related to a research question, supplementary questions and probing questions. This process allowed the researcher to probe when necessary thus ensuring that salient and interesting data were collected. The questions did not include the words intellectual capital, human capital, relational capital or structural capital. This was deliberate so as to elicit from the interviewees those constructs which enabled the researcher to interpret their construction of these concepts from the data provided. The interviewer's guide was designed to ensure completeness in covering the research objectives and the questions and probes assisted in eliciting the necessary responses. The researcher maintained double attention throughout the interview. According to Wengraft (2001) this is the process of both listening to the informant's response to understand what he or she is trying convey and at the same time, bearing in mind the researcher's needs, ensuring that all the questions are answered within the fixed time at the level of depth and detail needed. The interview sessions were transcribed verbatim and a copy sent to the interviewee.

4.5.3. Documentation

During the interviews, interviewees identified certain internal documents that they used and requests were made for copies of such documents to be part of the case study database. Almond Resorts Inc. provided the researcher with copies of such documents which included their quality alert which is a daily communiqué used at all their properties, employee survey, marketing survey reports, procedures manuals, employee handbook and the questionnaires used to collect data. Sandals Resorts Inc., on the other hand, provided limited access to copies of documents. The researcher was shown and allowed to examine documents referenced during the interview, and made field notes pertaining to the documents when a photocopy could not be made. The researcher was provided by both companies with copies of publications used in the marketing of the hotel. The expectation was that some of these documents would convey and describe aspects related to the IC of the company. Yin (2003) argues that documents are useful in case studies because they can corroborate and amplify evidence from other sources.

The annual reports for Almond Resorts for the years 2003, 2004, 2005 and 2006 were obtained. Sandals Resorts Inc., being a private company, did not provide access to annual reports. Annual reports have been the major source of information for research on intellectual capital reporting and disclosure, because managers of companies commonly signal what is important through this reporting mechanism. In addition, annual reports have been widely used in accounting research in the area of social and environmental reporting as it has been argued that they are the major medium of communicating social and environment issues to the public (Guthrie et al 2004).

4.5.4. Archival records

The archival records used in this study included those which describe economic, customer and employee characteristics of the hotel chain. The researcher was able to collect from the Almond Resorts Inc chain its customer satisfaction reports, employee satisfaction reports, and internal customer satisfaction reports for the year ending December 31, 2006 and the month of January 2007. The researcher also collected newspaper articles pertaining to the two companies from the Guardian Newspaper in Jamaica and the Nation Newspaper in Barbados. These articles covered the period January 2005 to February 2007. Marketing brochures, company magazines and information gleaned from the companies' websites formed part of the case study database.

4.5.5. Observation

Observation entails the systematic noting and recording of events and behaviours in the research environment. The observational record or field notes should be detailed, and contain non-judgmental and concrete descriptions of what has been observed, with the researcher making no special effort to have a particular role in the process (Marshall and Rossman, 1999). The researcher was given permission to observe operations at the properties visited. Observation as a data collection technique in this study was limited to observing front office staff interaction with guests and the procedures and materials used. In addition, in the case of Almond Resorts Inc, the

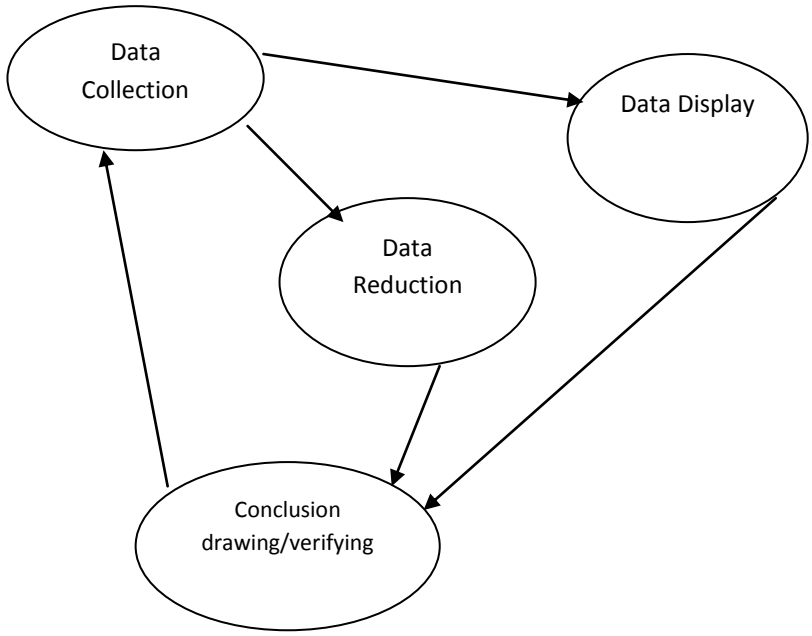
researcher was invited to sit in and observe a management meeting at the Almond Beach Club, Hotel. During this meeting the researcher made field notes based on observations relating to sensemaking of intellectual capital information that was incorporated into the case study database.

4.6. Data Analysis Procedures

The analysis of qualitative data is subject to potential bias imposed by the researcher in the interpretation and classification of the data (Lillis 1999). It is therefore imperative that the researcher uses techniques to minimize such bias through the selection of an appropriate framework for analysing the data. Lillis (1999) cautions that no analytical framework can totally eliminate potential bias in the analysis of qualitative data, but steps should be taken to ensure that the results of the analysis are impartial and the data analysis is complete. The purpose of this section is to outline the procedures used in this study to minimize such bias in the interpretation and classification of the data and in ensuring that the data analysis was complete.

Qualitative research can result in voluminous data, and the analysis of such requires reduction, summarization, classification and interpretation. Miles and Huberman (1994) outlined a systematic analytical protocol of data reduction, data display and conclusion drawing/verification and this technique was used in this study to improve impartiality and promote completeness of the data analysis. The use of such a framework provided an audit trail from transcripts to results of analyses; ensured that all cases used in the evaluation supported propositions in the data; and provided a framework within which hypotheses could be tested and allowed for the emergence of new propositions as recommended by Lillis (1999). The following figure illustrates Miles and Huberman (1994) components of data analysis interactive model.

Figure 6: Components of Data Analysis: Interactive Model



Miles and Huberman (1994)

4.6.1. Data Analysis Methods

A number of analytical techniques have been identified in the literature that can be used to analyze case studies. The most popular techniques identified include pattern matching, explanation building and content analysis. Pattern matching is an analytical procedure for linking data to propositions where one is a theoretical pattern and the other is an observed or operational one (Campbell 1975). This approach to data analysis requires the researcher to state a theoretical proposition and at least one alternative proposition prior to data collection. Case data which are gathered are compared to the predictions of the theory and predictions of the counter theory. Support is demonstrated if the case data matches the predicted theory more closely than the counter theory. Trochim (1989) argues that pattern matching is more useful for secondary re-analyses of data that were previously analyzed with a more traditional approach. The analytical method of explanation-building is considered a form of pattern matching, in which the analysis of the case study is carried out by building an explanation of the case. Explanation-building is an interactive process that begins with a theoretical statement and refines and revises it. Pattern-matching and

explanation-building as analytical techniques are more suited to explanatory case studies.

The exploratory nature of this research and the focus on descriptive case studies renders these methods inappropriate for analysis of the case data. Therefore, the researcher decided to use content analysis as the major technique for analyzing the information presented in the case study. The following section outlines the rationale for the selection of content analysis and discusses how the researcher used content analysis in the study.

4.6.1.1. Content Analysis

Several studies researching accounting in the areas of corporate social reporting, environmental accounting and intellectual capital employed content analysis as the research method to capture and organize diverse empirical data. Content analysis is a research technique that has been used by several researchers to determine the presence of words, concepts, phrases or constructs within texts or sets of texts. This technique for gathering and analyzing the content of text (Neuman 2003) whereby the researcher uses a set of procedures to make valid inferences from texts (Smith 2003) has been used widely in intellectual capital research. This was the major factor in selecting this method to analyze the case studies relating to intellectual capital.

The researcher was mindful in the selection of this method of the debate raised in the literature as to whether content analysis is a quantitative approach or a qualitative approach. Neuman (2003) argues that content analysis is a technique of systematic counting and recording to produce a quantitative description of content of text. The quantitative results in the form of variables, referring to a particular word or theme, that were produced were then available for statistical analysis, thus implying a quantitative approach. This view was supported by Bryman and Bell (2004) who defined content analysis as an approach to the analysis of documents and text in which the researcher seeks to quantify content in terms of predetermined categories.

Mayring (2000, page 2) defines qualitative content analysis as

> *"An approach of empirical methodological controlled analysis of texts within their context of communication, following content analytical rules and step by step models without rash quantification."*

Kapborg and Bertero (2003) argued that content analysis is one of the classical procedures for analyzing textual material and in this qualitative procedure numbers do not play any role at all, because word usage is explored, and researchers discover the range of meanings that a word can express in normal use. Mayring (2000) makes the point that the purpose of qualitative content analysis is to preserve the advantages of quantitative content analysis and to transfer and further develop them to qualitative-interpretative steps of analysis. Bryman (2004) argues that qualitative content analysis facilitates contextual meaning in text through the development of emergent themes derived from their textual data. Bryman (2004; 572) defines qualitative content analysis as

> *"An approach to documents that emphasizes the role of the investigator in the construction of the meaning of and in texts. There is an emphasis on allowing categories to emerge out of data and on recognizing the significance for understanding the meaning of the context in which an item being analyzed appeared."*

This debate is recognized as being tautological, since in addition to quantifying the presence of words and concepts, researchers must analyze the presence, meaning and relationships of such words and concepts, by making inferences about the messages within the texts. As argued by Krippendorff (2004) quantification is not the defining criterion for content analysis because text is always qualitative and the process of using numbers instead of verbal categories or counting instead of listing quotes is merely convenient. He contends that this process is not a requirement for obtaining valid answers to a research question and hence the quantitative/qualitative distinction is a mistaken dichotomy. For the analysis of texts both quantitative and qualitative approaches are indispensable, therefore the technique was quite appropriate to analyze the narratives produced by the case study data.

4.6.2. The Analytical Method

The interviews were transcribed verbatim and formatted into text files. The case notes were typed and formatted into text files as well. The researcher also downloaded from

the Nation Publishing Company and the Guardian Newspaper websites information pertaining to the two hotel chains and these files were also formatted as text. This textual data contained in the case study database was then uploaded in NVivo[6], a qualitative research software by QSR International. This software enabled the researcher to access, manage, shape and analyze the textual data. The researcher was able to classify, sort and arrange the information to explore the emerging themes and test theory. This was in keeping with the methodological procedure for conducting qualitative content analysis as suggested by Kapborg and Bertero (2003) who articulated a three step process.

The first step, involved summarizing the material by reading and identifying sentences with identical or similar meaning and clustering them. This step is referred to in the literature as coding. In the process of performing content analysis the text being coded can be broken down into categories on a variety of levels such as word, word sense, phrase, sentence, or theme. Neuman (2003) labeled this method of coding the data, at the visible or surface content in a text, as manifest coding. Other researchers termed this process 'form oriented analysis' (Smith 2003), conceptual analysis or thematic analysis, when a concept is chosen for examination and the researcher examines the text for the occurrence of the concept.

This principle was applied to coding the data using the NVivo software. The text were first read and initial codes emerged as predicated in the grounded theory framework outlined by Glaser and Strauss (1967). However, the researcher was not proposing to use grounded theory as a framework, the purpose of this initial coding using an inductive approach was to identify the initial themes that emerged. This stage enabled the researcher to perform data reduction, by flagging up those chunks of text where key themes seem to recur as suggested by David and Sutton (2004). This is the first phase in the Miles and Huberman (1994) framework. Miles and Huberman (1994)

[6] Weitzman (2000 in Denzin and Lincoln 2000) terms NVivo a code-base theory building software programme which allows the researcher to represent relations among codes, build higher order classifications and categories, and formulate and test theoretical propositions about the data. In addition this software has a sophisticated search and retrieval function.

defines data reduction as a form of analysis that sharpens, sorts, focuses, discards and organizes data in such a way the final conclusions can be drawn and verified. The following figure 7 illustrates the codes used in NVivo during the coding process as part of the data reduction.

Figure 7: Data Coding Tree

(1)	/HC	(2 1 2)	/RC/cust-cap/cust-sat
(1 1)	/HC/Pers-comp	(2 1 3)	/RC/cust-cap/cust-ret
(1 1 1)	/HC/Pers-comp/emp-com	(2 2)	/RC/Brand
(1 1 2)	/HC/Pers-comp/emp-skill	(2 3)	/RC/Com_cap
(1 1 3)	/HC/Pers-comp/emp-kn	(3)	/SC
(1 1 4)	/HC/Pers-comp/emp-qual	(3 1)	/SC/IS
(1 1 5)	/HC/Pers-comp/emp-exp	(3 2)	/SC/OC
(1 2)	/HC/HRP	(3 2 1)	/SC/OC/mgmt-phil
(1 2 1)	/HC/HRP/recr	(3 2 2)	/SC/OC/org-kn
(1 2 2)	/HC/HRP/train	(3 2 3)	/SC/OC/mgmt-proc
(1 2 3)	/HC/HRP/twork	(4)	/MIC
(1 2 4)	/HC/HRP/emp-rew/recg	(5)	/Perf
(1 2 5)	/HC/HRP/emp-ret/turn	(5 1)	/Perf/fin
(1 2 6)	/HC/HRP/empower	(5 2)	/Perf/nonfan
(1 2 7)	/HC/HRP/emp-sat	(6)	/SM
(1 2 8)	/HC/HRP/leader	(6 1)	/SM/DecM
(2)	/RC	(6 2)	/SM/Mgmt-team
(2 1)	/RC/cust-cap	(6 3)	/SM/exp
(2 1 1)	/RC/cust-cap/cust-base	(7)	/other

In the second step of this process (Kapborg and Bertero 2003), the researcher was able to conduct interpretive content analysis to clarify vague, unclear and contradictory sentences by examining such in the light of the context in which they were used. The researcher generated reports on each initial code identified using the NVivo software.

These reports contained the name of the source documents and the line number that could be used as reference to the location within that document. This facilitated the researcher in narrowing the focus of attention from the whole of a text to just those areas that were significant. However, in conducting this iterative process the researcher went back and forth to the source document ensuring that the initial coded material was used in the correct context and was appropriate for the construct.

Neuman (2003) labeled this method of looking for the underlying or implicit meaning in the content of a text as latent coding. Other researchers labeled the process as ‘meaning oriented’ analysis (Smith 2003), or relational analysis or semantic analysis where the researcher not only identifies the concepts present in the text but goes

beyond the mere presence by exploring relationships in terms of semantics or meaning between the concepts identified. The production of core constructs from textual data through a systematic method of reduction and analysis as suggested by Priest et al (2002) was achieved. This process enabled the researcher to create data displays as advocated in the Miles and Huberman (1994) framework.

In the Miles and Huberman (1994) framework, the concept of data display refers to an organized, compressed assembly of information that permits an analyst to make inferences, draw justified conclusions or take some other appropriate form of action. These displays can take the form of matrices, graphs, charts or networks. In this study, the researcher used a conceptually clustered matrix to display the data. According to Miles and Huberman (1994) a conceptually clustered matrix has its rows and columns arranged in such a way as to bring together items that conceptually belong together. The following table 11 illustrates the conceptually clustered matrix that was used in this study.

Table 11: Conceptual Clustered Matrix for analysis IC

Dimensions of IC	Intellectual Capital			Performance	Sensemaking
	Management	Measurement	Reporting		
Human Capital Relational Capital Structural Capital	How does the organization prioritize, enact, manage and develop its IC resources? Is the management of IC done in an integrated manner, taking into consideration the relationships that exist between the organization's resources? Does the management of IC components result in development of capabilities?	To what extend does the organization measure the composition and performance of its IC resources? Are IC indicators used to inform decision making and resource allocation? Does the measurement of IC indicators conform to measurement theory?	What is the type and level of IC reporting in the organization's internal business management documents? Does the organization inform its external stakeholders about the composition and performance of its IC resources?	How do managers determine the significance of the contribution of IC components to overall performance of the hotel?	What is the impact of managers' interpretation and sense-making of IC information in the hotel?

In terms of the analysis of archival records using content analysis, a more quantitative approach was used. The annual reports of Almond Resorts Inc. for the years 2003 to 2006 were the basis for the content analysis. The majority of research on external reporting of IC has focused on annual reports using content analysis as the research

technique. The most popular framework used empirically has been Sveiby's (1998) intangible asset monitor which is broken into three components. The pioneering study using this framework for content analysis of annual reports of Australian companies was Guthrie and Petty's (2000) study. This methodology was adopted and replicated in Ireland by Brennan (2001), Italy by Bozzolan et al (2003), Malaysia by Goh and Lim (2004), The Netherlands, Sweden and UK by Vandemaele et al (2005), South Africa by April et al (2003) and Boedker et al (2005). The initial categories and respective items are found in the following table 12.

Table 12: Guthrie and Petty IC Classification Framework

Internal Structure	External structure (relational)	Human Capital
Intellectual property	Brands	Know-how
Patents	Customers	Education
Copyrights	Customer loyalty	Employees
Trademarks	Distribution channels	Work related knowledge
Infrastructure assets	Business collaborations	Work related experience
Corporate culture	Research collaborations	
Management process	Financial contacts	
Information systems	Licensing agreements	
Networking systems	Franchising agreements	
Research projects		

Source: Guthrie and Petty 2000

The above framework was extended by Guthrie et al (2006) in his comparative study of Hong Kong and Australia to include management philosophy, vocational qualifications and entrepreneurial spirit. Oliveria et al (2006) further extended the framework to include additional items in addition to renaming the categories. Bontis (2003) had developed a framework that was used in his study of IC disclosure in Canadian companies. This framework consisted of 39 attributes and its difference was more descriptive in terms of the attributes. This framework was adopted and replicated by Vergauwen and van Alen (2005) in The Netherlands, France and Germany.

The annual reports were analyzed using the Oliveria et al (2006) framework as the coding scheme. In applying the framework, which requires a more quantitative content analysis approach, the attributes identified were examined within the sentences to

ensure that they were being used in the right context and were coded. According to Krippendorff (2004) in content analysis there are three units of analysis, the sampling unit, recording or coding unit and context unit. He defined the recording or coding units as "the units that are distinguished for separate description, transcription, recording or coding" (p.99) and the context units as "units of textual matter that set limits on the information to be considered in the description of recording units" (p. 101). The table 13 below provides a listing of the attributes used in the content analysis of the annual reports.

Table 13: Oliveria et al IC Classification Framework

Structural Capital	Relational Capital	Human Capital
Intellectual property	Brands	Know-how
Patents	Customers	Education
Copyrights	Customer loyalty	Employees
Trademarks	Distribution channels	Work related knowledge
Infrastructure assets	Business collaborations	Work related experience
Corporate culture	Research collaborations	Vocational qualifications
Management process	Financial contacts	Flexibility
Information systems	Licensing agreements	Formal training
Networking systems	Franchising agreements	Incentives and remuneration
Research projects	Company image	Productivity
Corporate know-how	Suppliers	Teamwork capacity and spirit
Management Philosophy	Competitors	Occupational health and safety
	Investors	Initiative, motivation and dedication
	Community involvement	Entrepreneurial spirit, innovativeness,
	Environmental activities	proactive and reactive abilities, changeability

Source: Oliveria et al (2006)

In the final stage of the process as prescribed by Kapborg and Bertero (2003), the statements taken from the text were analyzed in relation to the relevant theories. The resource based view of the firm which formed the theoretical framework, together with the extant literature on intellectual capital and its attributes, together with the literature relating to measurement theory and sensemaking assisted the researcher in this phase. This process was then linked to content analysis of the annual reports and other internal management reports. Ryan et at (2002) argues that in case study research, emerging patterns should be identified which are used to describe and explain the case. They contend that the patterns observed in the case may be related

to patterns in other cases or in prior studies and if the patterns observed in the case are in conflict with existing theories then additional evidence should be collected in order to substantiate the explanations. Ryan et al (2002) conclude that a good case study report is one that is authentic, plausible and critical. They argue that to achieve authenticity the researcher's interpretation should be grounded in the case by the text giving the reader the clear understanding that the author was there. Plausibility is achieved with the demonstration of knowledge on the part of the author by linking the data to the existing literature. The researcher cogitated on this recommendation and used the guidelines provided in the writing up of the case study report.

4.7. Conclusion

The qualitative approach used in this study is designed to provide an in-depth understanding of IC within the hospitality industry in the Caribbean. This qualitative first phase has enabled the researcher to resolve some of the inherent contradictions in IC research findings, clarify key empirical phenomena represented by the constructs, and document the social context in which the constructs interact to produce organizational outcomes. This phase employed an explorative approach to investigate, describe and understand the findings. Using purposive sampling two hotel chains were selected as the cases for this exploratory study to extract the rich information that must inform the overall study. The data collection procedures used consisted of interviews, documentation, archival records and observation. These multiple sources of evidence provided for data triangulation and when combined with theory triangulation sought to reduce bias and enhance the validity of the study. Content analysis was deemed the most appropriate technique for the analysis of the data collected, the results of which are presented in the following chapter. The outcomes of this phase assisted in the formulation of hypotheses tested during the quantitative phase of the study.

CHAPTER 5

Qualitative Analysis and Findings

5.1. Introduction

The previous chapter outlined the research design, research instrumentation and the procedures used in conducting the study. This chapter will present the qualitative analysis and findings of the two case studies designed to explore, within the hospitality industry, managers' understanding of intellectual capital construct and the attributes that encompass the construct. This phase of the research is exploratory in nature reflecting limited case study analysis of IC and the lack of any empirical evidence on IC research within the Caribbean. The research has been largely informed by the conceptual ideas that have been developed in other socio-cultural contexts. The political economies of industrialized countries have tended to be implicitly assumed in social accounting research, which may result in unique insights that might reside in local/regional context being suppressed. In exploring this issue, the particular circumstances of the Caribbean region will be made explicit.

5.2. Description of the Data - The Two Hotel Chains

Almond Resorts Inc., is a four star chain of hotels which at the time of data collection, operated two hotels in Barbados and two in St. Lucia. The chain is expanding and had acquired another property in Barbados, Almond Casuarina, which was being refurbished to be opened in 2008. Almond Resorts Inc., formerly B.S & T. Resorts Ltd, was incorporated in Barbados in 1991. The company had acquired the 161 room property formerly known as Divi St. James, which was operated based on an alliance with Pineapple Beach Club Antigua for two years. In 1993 the relationship with Pineapple Beach Club was terminated but the hotel continued its operations and was now trading as Almond Beach Club. In 1994, Almond Resorts Inc., opened their second hotel after the acquisition of the largest property on the island, the former Heywoods Hotel, from the Government of Barbados. The chain opened Almond Morgan Bay in St. Lucia, in December 2005 and Almond Smugglers Cove also in St. Lucia, in February 2007.

The second chain is Sandals Resorts Inc. which commenced operations in April 1981, with the acquisition of the Bay Roc Hotel, a 66 rooms hotel and 30 cottages property, and the 52 rooms property the Carlyle Hotel both in Jamaica. This entry of Sandals into the accommodation sector occurred at a time when Jamaica was witnessing the exit of several major players in the hospitality and tourism industry due to the economic challenges facing the country. The Bay Rock Hotel was the first hotel to operate under the Sandals brand as an all inclusive hotel and traded as Sandals Resort Beach Club. The other property also acquired in 1981 continued to be operated under its original name the Carlyle Hotel as a European plan hotel.

The success achieved in the first two years of operation of the all inclusive resort was the catalyst for developing the chain and in 1985 the Carlyle Hotel was converted to an all inclusive hotel trading as Sandals Inn Montego Bay. The formation of the chain resulted in the name being changed from Sandals Resort Beach Club to Sandals Resorts Inc. The success in the all inclusive market together with the improved performance of the tourism industry within Jamaica catapulted Sandals into expansion. In 1986 Sandals Royal Caribbean was they opened. Two years later in 1988 Sandals Negril came on the market; this was followed in close succession by Sandals Grande Ocho Rios in 1989 and Sandals Dunns River in 1991. The success of this indigenous chain consisting of six hotels with just under 1200 rooms in Jamaica enabled the founders to expand into the wider Caribbean and to build a pan Caribbean brand for the hotel.

In 1991 Sandals Resorts Inc started its pan Caribbean brand with the acquisition of a property in Antigua which has become one of its many 5 diamond rated hotels. The Sandals Grande Antigua started with 193 rooms and with its expansion in 2006-2007 today this property is one of the largest hotels in Antigua with 373 rooms. This Caribbean expansion led the chain into the neighbouring island of St. Lucia with the acquisition and development of a property in 1993 which became Sandals Regency St. Lucia, and in 1994 Sandals Halcyon Beach was opened. In 1996 Sandals Royal Bahamian Hotel, a property with 406 rooms, in the Bahamas was opened. Sandals continued its expansion in St. Lucia by constructing a new property comprising 289

rooms in 2002 which received an AAA 5 diamond rating called the Sandals Grande St. Lucia. In July 2005, Sandals Resorts Inc was awarded a five year management contract to operate one of the most exclusive properties in Jamaica. This hotel trading as Sandals Whitehouse European Village and Spa is thirty three percent owned by Ackendown Newtown Development Company Limited and sixty seven percent owned by two Jamaican statutory corporations.

Sandals Resorts, a 'couples only' all inclusive product, extended its brand to include a family oriented, all inclusive product trading in the name of Beaches Resorts. This was in response to the growing demand of repeat guests for a property that would cater to family needs. The group opened Beaches Negril Resorts and Spa in 1995 followed by Beaches Boscobel Resort and Spa and Beaches Sandy Bay. Sandals Resorts being highly recognized within the Caribbean as an indigenous pan Caribbean brand was being eagerly sought after by Caribbean governments. The chain responded to a request of the government of Turks and Caicos and opened the Beaches Turks and Caicos Resort and Spa in 1999. The group has also expanded into the neighbouring island of Cuba which many observers assert offers significant investment returns in the hospitality industry. The company has also developed its own tour company located in the USA, Unique Vacations, to handle its reservations and in-house promotions. Today, this chain holds many distinctions within the Caribbean. In December 2007, the chain was named for the 14th consecutive year as the Caribbean leading hotel brand. In addition, at the World Travel Awards 2007, Sandals was awarded World's leading all inclusive company, World's leading family all inclusive for Beaches resorts in Turks and Caicos and the World's most romantic resort for Sandals Grande Antigua Resort and Spa. The humble origins of Sandals Resort Inc. to its present world acclaimed status in all inclusive hotels warrants the search for an understanding of the various aspects of intangibility that have contributed to this pre-eminence.

5.3 Dimensions of IC

The major finding of these exploratory case studies in the hospitality industry in the Caribbean is that there is no formal recognition of the construct of intellectual capital. Several of the managers within the two chains were unaware of the terminology associated with IC, while others interpreted IC as a proxy for intellectual property which they argued was an inappropriate concept within the hospitality industry. On the other hand, the notion of intangibles is widely recognized and managers concurred that the intangibles within their respective hotels drive performance. The analysis of evidence collected during these case studies suggested that although managers appear nescient to the formal construct of IC, their management of the hotel operations, measurement of performance and internal reporting, indicated the presence of IC attributes of human capital, relational capital and structural capital. The following sections will describe the management of operations, measurement of performance indicators and reporting practices within the hotels using an IC lens. The final section will outline sensemaking of IC processes that managers utilized in their decision making.

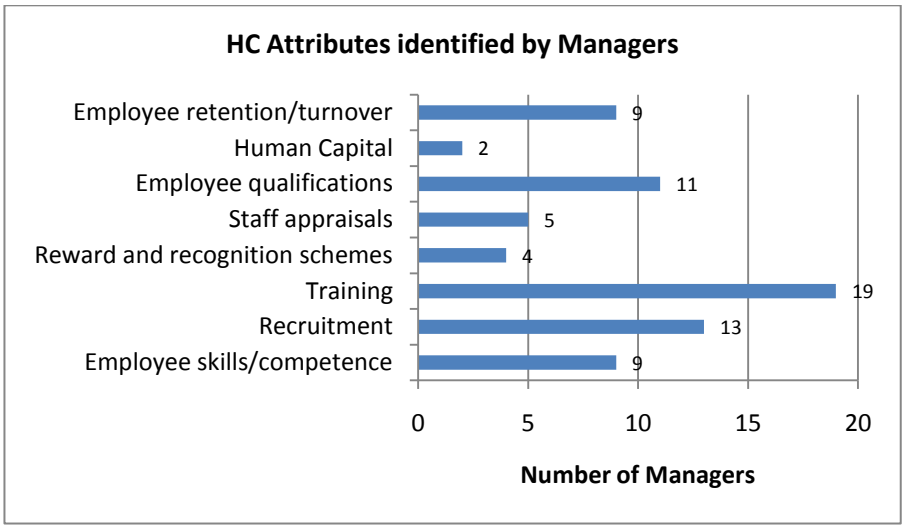
5.3.1 Human Capital

In analyzing the data as it relates to managers' understanding of human capital, many seem unaware of the concept. The term human resources was used quite often by managers in their discussion of employees and their value to the organization. Almond Resorts Inc. has repeatedly posited "people are the core of our success" Annual report 2003, p9, "the foundation of our success is our people" (Annual report 2003, p11) and "Almond Specialists are among the best in the industry and they are our most important asset" (Annual report 2004, p6). In addition, two of the ten managers at Almond used the term human capital in their interviews showing an understanding of the term. For example, the Director of Hotel Operations at Almond Beach Village states

> *…."the most powerful component of Almond which we recognized a long time ago and still focus on quite significantly is human capital. That is, the human resource component, staff, on one hand who function to deliver the experience, and equipping them to value and deliver quality service."*

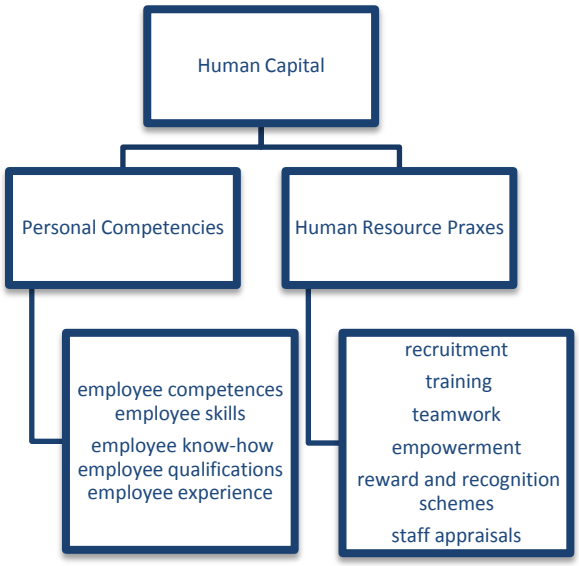
In analysing the multiple sources of evidence used in the case study some terms emerged which can be classified as attributes of HC. Nineteen of the twenty (95%) managers interviewed argued that training was one of the most influential factors in developing the human capital of the organisation. The recruitment process was highlighted by 13 out of 20 (65%) of the managers as an important attribute in developing the HC. Nine out of twenty (45%) asserted that employee skills was an important attribute while 55% (11 out of 20) managers argued that employee qualifications for the higher level positions was an important attribute. Other attributes identified by managers included staff appraisal (25%) and reward and recognition schemes (20%). Figure 8 identifies the HC attributes and the respective number of managers who articulated these points in their interviews.

Figure 8: Bar chart HC Attributes



The data clustering and thematizing of the managers' discussion of their roles and tasks within the chains and the other sources of evidence collected relating to human capital resulted in two themes emerging. The first theme relates to attributes individuals bring to the organisation which was categorized as personal competencies and the second theme related to the practices organisations engaged in developing individuals and the stock of HC categorized as human resource praxes. Figure 9 illustrates these two themes and their respective attributes through which the human capital is developed within the hotel chains.

Figure 9: The components of Human Capital



The NVIVO reports for the codes relating to human capital produced key word and phrases. A selection of common key words and phrases found in the multiple sources of evidence are provided in Table 14. These key words and phrases that emerged from the data relating to human capital were used to create the themes and provide the support for the classification.

Table 14: Key words and phrases found in quotations relating to Human Capital

Category Human Capital	Example: *"no matter where you go within any organization they will tell you that is the human capital which actually makes an organization successful"*
Sub-category Human Resource Praxes	Examples: *" We invest a significant amount of resources in training" ; "talent base recruitment process"; "we have this system of cross functional teams"; "quality teams"; "empowerment program"; "in a reality it is teamwork" "2-3 year management training program"; "sandals corporate university" " our labour turnover is low", "up-scaling managers"; "a very sophisticated recruitment process"; "It is not usually easy to find replacement for some jobs"; "mentorship program"; "staff appraisals"; "a loyalty card for staff"; "a variety of reward and recognition packages for employees".*
Sub-category Personal competencies	Examples: "*knowledge"; "skills"; "qualifications"; "experience"; "100% of the staff have certification for their job based on the technical knowledge required"; "our Research Manager is well qualified B.Sc. in economics and an MBA"; "we have one of the most recognized people in the industry as our Environmental Director"; "we regard the people who work on a daily basis as the content experts"; our Director of Training has a PhD"; "we have the best employees in the island"; "trained professionals"; "loyalty and a commitment shown by the staff"; "talent, technical skills and educational background".*

The following section provides further discussion relating to the human capital attributes revealed in the data.

Human Resource Praxes

The selected extract of phrases and words relating to human resource praxes shown in table 14 highlights the activities the organisation engaged in to develop its human capital. The managers recognized that personal attributes can never be owned by the organisation but are rented and therefore it is imperative that the organisation provides a working environment which will result in minimum turnover among employees. This, it can be argued, has been the catalyst in these chains for the creation of human resource management practices as they aim at growing the HC. As is evident from table 14, the human resources praxes category refers to those practices that the organisation uses to develop its human resources and by extension the human capital. The chains selected as case studies are large organisations with hundreds of employees; however, most of the positions within these organisations are classified as low skilled. One of the findings is that a large portion of the HC has been developed as a result of efficient human resource management practices. The human resources praxes which include comprehensive recruitment and selection processes; extensive and continuous training; employee empowerment, rewards and recognition schemes, staff appraisals and quality leadership contribute to the high employee satisfaction and low employee turnover at these chains. The continuous deployment of these praxes has created an environment where such practices have become embedded within the organisation's culture which have been used to leverage the human capital.

The comprehensive recruitment programme at Almond Resorts Inc. has resulted from its partnership with Talent Plus of Nebraska, USA, a global human resources consulting firm that specializes in using scientific studies to enable organisations to build high performing talent based organisations. All ten (10) managers argued that their recruitment policy has enabled the chain to have a cadre of individuals who can function effectively and deliver quality service. They asserted that having employees

cast in to the appropriate position for their talent and continuously developed, leads to greatly enhanced performance. This process is achieved by the company using customized selection instruments to create an unlimited number of technical, non-technical, and position based aptitude tests for applicants. The managers assert that the effective use of this recruitment programme has enabled the chain to reduce its 'wrong-hire' percentage. The Director of Quality at Almond Resorts Inc. reported....

> ...."*we have embarked on a system for hiring persons, which is called Talent Plus, very much like a psychometric test. So every single Almond Specialist...goes through this process where you are tested for your talents. You are asked ...questions in...terms of attitude, work ethic; a number of areas, that information is used to be able to place people in the right area. ..... the results of testing tells me that that a person is better suited for a back house position or better suited in purchasing... So there are various levels in the organization, there are different questions that are asked to help pull talents out, …… We started this a couple years and all new employees will go through this process, but old employees, we have gone back and Talent Plus those persons as well."*

At Sandals Resorts Inc. on the other hand, managers stated that their recruitment process consisted of a four step interview process, but there is no psychometric test involved. In this chain, the emphasis is on hiring the individual based on "attitude" and not skills nor experience. The interview transcripts of Sandals managers are replete with the phrase 'Sandals recruit based on attitude'. The General Manager at Sandals Regency in St. Lucia asserted "S*andals policy is to hire the smile and the attitude and train the skill*". However, this process for recruitment is mainly focused on the line staff, for certain specialized positions the chain recruits internationally. The General Manager of Sandals Whitehouse asserts

> *…."we recruit internationally, from Canada, Peru, the Ukraine, Germany, very typical of Sandals properties, the Caribbean has a shortage of Executive Chefs, so we always have to look outside, it also helps with language ambassadors."*

The managers explained that the need for international recruitment arises as a result of the educational system within the region. This system produces employees in vast numbers for the lower skilled positions within the industry but not enough persons for management and certain specialized positions.

The managers at both chains have recognized that paying attention to the recruitment and selection of employees yields dividends in terms of high staff retention and low

staff turnover and this in essence will increase the value of human capital. The Financial Controller of Almond Resorts Inc. inferred in her interview that the tacit nature of some operations which form part of the human and structural capitals of the organization is impaired when employees leave. In addition, this reduces productivity within the hotel. The managers at both chains pointed out that in a demanding industry such as hospitality; the companies have been able to retain employees for five years, ten years and even the full fifteen years of its existence. This they argued is due to the selection process and training that the chains have put in place. They contend that when the selection process results in a 'wrong-hire' by not getting it right the first time or in other instances when key employees leave the organisation, these are major challenges for the organisation. The Director of Quality at Almond Resorts Inc. posits that in the hospitality industry some positions are critical to a hotel maintaining a distinctive competency and the exit of individuals currently holding these positions create challenges for the hotel. The Director asserted that "*An Executive Chef is a key employee people in operations management at the highest level; it is not easy to replace him, since these jobs are quite specialized.*"

Recruiting and retaining the best employees, however, is only part of the equation. The organisations have leveraged the skills and capabilities of their employees by encouraging individual and organisational learning and creating a supportive environment, in which knowledge is created, shared and applied. This has been achieved largely due to significant investment in training. An examination of the organisation charts for the chains shows the position of Regional Training Manager at Almond Resorts Inc., Director of Training at Sandals Resorts Inc. and Training Managers for each hotel within the Sandals Resorts group. These training managers function to create the programmes needed to develop staff and by extension the human capital of the organisation. Most of the managers asserted that the training provided to employees is essential to the success of the organisation. One of the Directors of Hotel Operations highlighted the importance of training within the organisation.

> "*There are very few other hotels that have a dedicated Training Manager or Director; they will do some level of training but not in terms of committing the resources to training and running programmes in-house.*"

Almond Resorts Inc. provides a number of in-house training programmes as part of a "certification programme". This certification programme provides training in technical skills and language training to employees in French, Italian and German. These certification programmes which include externally certified courses (HACCP for Kitchen Managers, Disaster Preparedness Management) have a success rate of over 80 percent (Annual report 2005 p8). The language training has resulted in at least 10 percent of the staff being able to communicate in basic Italian in the Italian Restaurant (Annual report 2006, p4). In addition, the company provided funding for training by tuition reimbursement for general courses along with providing tuition and support for a Masters in Hospitality and Tourism at the University of the West Indies.

Sandals Resorts Inc. has an extensive training programme; the managers state that no other hotel in the region can match them in terms of training. All new recruits undergo an extensive one week orientation where, as managers argue, the team members are "sandalized" and the concept of continuous development and education is inculcated. The Training Manager at Sandals Whitehouse asserts

> …"*team members* [as the employees are called at the chain] *are mandated to undergo a minimum of one hundred and twenty hours of training each year."*

They are required to select training courses from a wide range of areas offered within the organisation. One of the Hotel Managers testified that …"*it is training, then training and then training again, from a Sandals group perspective to maintain our competitive edge."* Cross functional training is a must within this organisation and the organisation has established a Corporate University which enables it to offer certification for its courses. The Regional Director posits that training is so critical to the institution that they recruited a Doctor of Philosophy to be its Director of Training and Head of the Corporate University.

The chains operate throughout the Caribbean and several managers argue that the educational system within the region is quite diverse. This creates a challenge in that in some islands there is a lack of individuals with the requisite skills needed for certain positions within the hospitality industry. The managers concur that the training

capability of the chains sets them apart from other hotels and mitigates against any challenges that may be presented by hiring individuals without the requisite qualifications. The Director of Corporate Communications Almond Resorts Inc. asserted

> "*We invested a significant amount of resources in training, for several years we had established a management training program, we had about 10 bright young people go through the 2-3 year management training program.*"

This view was supported by the Regional Director of Human Resources as she argued that some of the training provided is geared towards upgrading the skills and competencies of the current middle management team, and this upgrading will in essence grow the human capital of the hotel. The Regional Director of Human Resources asserts

> "*This training we do with managers is separate and distinct from any other group in trying to upscale them in terms of ensuring that they have an understanding of the importance of the human capital.*"

The managers argue that the human capital of the chains is impaired as other hotels often poach employees since the investment in human capital in the other hotels throughout the region is not comparable.

The other human resource praxes of teamwork, empowerment, rewards and recognition schemes, staff appraisals and leadership have created an environment where the human capital of an organisation can appreciate. The managers interviewed recognized that having these practices embedded in the organisation human capital is created and maintained.

Personal Competencies

Table 14 shows selected extracts of phrases and words used by interviewees to highlight those innate qualities that the individual possesses and brings to the organisation which is termed here personal competency. It has been argued that the development of human capital at both chains has been largely due to the human resources practices of the organisation. The high percentage of low skilled employees being recruited would warrant such embedded systems. All the managers highlighted

the importance of the competence, knowledge, skills, qualifications and experience of their employees. The managers during interviews constantly highlighted the innate qualities of the staff describing them has hard working, committed, highly motivated and being able to function effectively under pressure.

An interesting perspective articulated by several managers, is that in recruitment, qualifications and experience are not the major factors of interest but attitude and ability to be trained. They posit that they can recruit an individual who is not as qualified or experienced as would be expected for the particular position, but their training programmes would develop within the individual the requisite skills needed for effective performance within the hotel. The Director of Corporate Communications at Almond Resorts Inc. argues that it is more advantageous to the organisation to recruit an individual without all the requisite qualifications and experience and provide him/her with the necessary training. The manager asserts

> ..."*while we recruit a lot of experienced professionals we also like to bring to the table those who are not contaminated, people with eagerness to learn."*

However, the managers argue that employees must possess a certain level of knowledge to perform satisfactorily in the organisation. This employee know-how or knowledge should not be relevant only to the specific job but a wider situational knowledge. Managers assert that they expect employees to be knowledgeable about the organisation, its products and the wider society in which the hotels are located. The following extract from the General Manager at Sandals St. Lucia Grande provides an example.

> ..."*we may find someone that is trained as a bartender, but a bartender is not only someone that mixes drinks. A bartender should be able to converse intelligently with guests, guests very often come to the bar sit down and talk and not only drink and that is very important."*

The managers all concur that this situational knowledge is critical within a 'customer focused' environment. Guests need immediate responses to their queries and therefore employees must have access to the information or be in a position to help

the guest access the information. The credo of Almond Resorts sums up the desired type of employee for these chains.

> *"The organisation seeks to associate only with individuals who have a positive attitude, value teamwork, willing to work hard and take personal responsibility to make things happen."*

Managers argued that many of the employees at the lower levels can be recruited and trained to function in a particular position but this is not the case with the management team. Qualifications are quite important for the management team. Almond Resorts Inc. has partnered with the University of the West Indies to increase their stock of qualified managers through sponsorship of managers in the Masters in Hospitality and Tourism Management. Sandals Resorts Inc. has created a Corporate University which has enabled them to up-skill and enhance their management team qualifications. The Regional Director of Hotel Operations argues that for management positions they require individuals with an Associate, Graduate, Post Graduate or Professional qualification. In both chains they boast of the qualifications of their management team, one manager states "*Our Research Manager is well qualified with a B.Sc. in economics and an MBA"* another manager states "*We have one of the most qualified people in the industry, in the Caribbean, as our Environmental Director."* The Almond Resorts Inc. 2005 annual report highlighted the experience and qualifications of two managers recruited during the year.

> *"Roderick Crawford, former Hotel Manager at the Ritz Carlton Golf & Spa Resort,…has been appointed Director of Hotel Operations at the Almond Village. Mr Crawford who brings nearly 3 decades of hospitality experience to Almond is a graduate of Cornell University and Ryerson University.*
>
> *James Samuel has been appointed Director of Hotel Operations at the Almond Beach Club and Spa. A Business Studies major, Jamaican-born Samuels was educated at the University of Kingston. He has served at the University of the West Indies as Director of the Tourism and Hospitality Unit."*

In summary these case studies revealed that whereas there is no formal recognition of human capital in these chains, managers in their operational activities recognized that the competencies developed in terms of human capital are quite valuable to the organisation in the attainment of its objectives and in enhancing its performance. This implicit value of human capital was recognized when new operations were being established in neighbouring territories and the resulting challenges that the entity

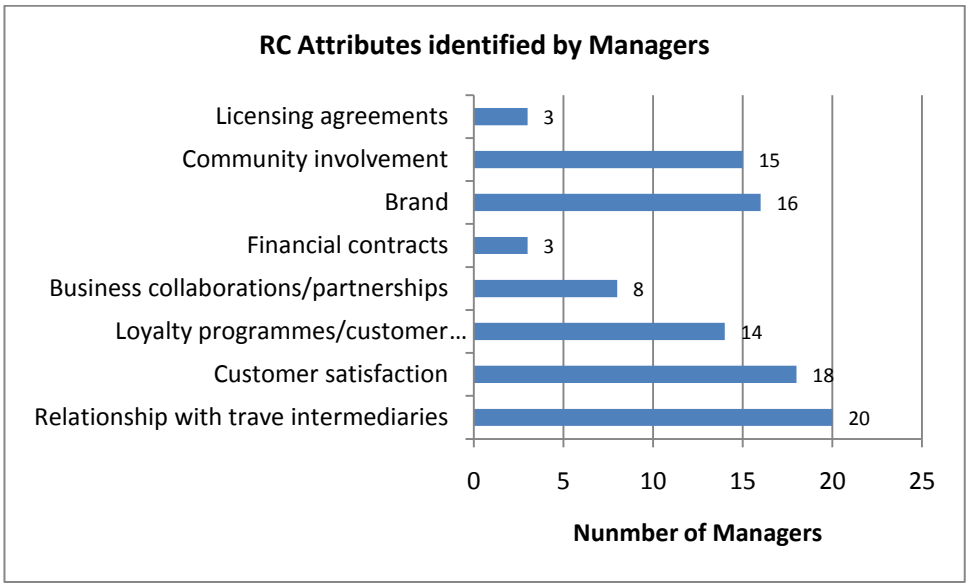
faced in not having a ready availability of prospective employees to provide the level of service that the chain required.

In analysing the evidence collected it was found that human capital in these chains can be deconstructed into two components, personal competencies of individuals and human resources practices. The case studies revealed that human resource practices were more dominant as a factor in growing the human capital. These practices, which have been embedded into the organisation's culture, are necessary due to the high percentage of low skilled employees recruited within the organisation. Training and development are essential in the growing of human capital and by extension intellectual capital in the hotel. The continuous training and development opportunities for all staff have provided the organisation with competent personnel as evidenced by the certification programmes.

5.3.2. Relational capital

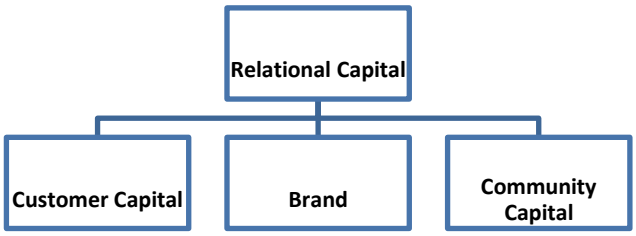
The multiple sources of evidence collected during the case study suggested that although managers appeared to be incognizant of the broad concept of relational capital, their actions and daily activities suggested an understanding of the presence of its attributes. This was one of the findings of these case studies. All twenty of the managers interviewed (100%) stated that the relationships of the chains with travel intermediaries were crucial to the success of the entity. In relation to customers 18 of the 20 (90%) managers stated that customer satisfaction was the entity's number one priority, in addition, 14 of 20 (70%) managers highlighted the importance of loyalty programmes in increasing customer retention. Eight of the 20 (40%) managers identified a number of business collaborations and partnerships that the chains have entered into over the years. Additional attributes identified by the managers included: (a) financial contracts (15%), (b) brand (80%), (c) community involvement (75%), and (d) licensing agreements (15%). Figure 10 identifies some of the relational capital attributes identified by the managers interviewed.

Figure 10: Bar Chart of RC Attributes



The data clustering and thematizing of the managers' discussion of their roles and tasks within the chains and the other sources of evidence collected relating to relational capital resulted in three themes emerging which were termed customer capital, brand and community capital. The first theme customer capital refers to the chains' relationship with its customers in terms of customer satisfaction, customer retention and customer management. A second theme that was constantly being mentioned by the managers was the concept of the image of the entity and the role of this image in the region and further afield in providing them with customers and partners, this theme was labelled brand. The third theme emerged as managers highlighted the significance the chains played in the livelihood of their surrounding communities which was labelled community capital. Figure 11 illustrates relational capital and three themes that emerged from the content analysis of the data.

Figure 11: Relational Capital and it components



A selection of common key words and phrases found in the multiple sources of evidence is provided in Table 15. These key words and phrases that emerged from the data relating to relational capital were used to create the themes and provide the support for the classification.

Table 15: Selected key words and phrases relating to relation capital

Category Relational Capital	*Example: "external relationships come in several forms, how one relates to the trade on one hand, how one relates to travel intermediaries in general, we cultivate very strong relationships"*
Sub-category Customer Capital	Examples: *"guest satisfaction is our number one priority"; "customer relationships"; "the tour operators are crucial"; "high repeat guest rates"; "we are averaging 88% in customer satisfaction across the board"; "we are a customer driven establishment"; "loyalty programme for our travel agents"; "recognize and reward that loyalty in a substantial way"; "guests that have been here 10, 12,15 times"; "repeat guest program"; "we assess our position in the market"; "resolve all customer complains immediately".*
Sub-category Community Capital	Examples: *"a number of partners in the industry"; "relationship with the Cave Hill Campus"; "Almond is a very good corporate citizen in that we have a legacy of helping in many respects"; "developing the neighbouring communities brings significant rewards to the chain";*
Sub-category Brand	Examples: *"we have an unique brand"; "the brand is pretty well known out there, but I can't say what is the dollar value"; the brand is out there in the market"; "we have done some research on the knowledge of the brand"; "Almond does a lot of branding"; "the Almond brand will help to carry us forward"; "establish our brand as an international brand"; "established brand"; "is the only indigenous brand that has a regional focus and international focus"; "advertising firm to pull our brand issues together"; "The value of the brand is far beyond what you have spent"; "the value is really in the future and you are going forward with a brand that has value"; "we have shown that we can develop an indigenous brand and do it well'; "ALMOND RESORTS builds its Pan-Caribbean brand" (Nation newspaper December 26, 2005); "a small indigenous Caribbean chain to get to the level where it can win those management contracts"; "Growing an indigenous brand creates an opportunity for a unique tourism experience and a chance to develop the island more."*

The following section will provide further discussion relating to the relational capital attributes that the data revealed.

Customer Capital

The relationships that exist between the chains and their customers appear to be epochal, resulting in the entire organisation being focused on customer service. This focus drives all the major decisions within both chains. All managers in both chains asserted that customer satisfaction is their number one priority and this was corroborated by the documents examined. The internal reports, company publications and annual reports all highlighted the importance of customer satisfaction within the chains. Almond Resorts Inc. has codified the values relating to customer service of the organisation on a small card called the employee handbook. This contains the mission statement, basic standards of success, credo, motto, and the three steps of service. This clearly demonstrates the importance the organisation attaches to customer satisfaction. The first paragraph of Almond's credo reads

> *"Customer satisfaction is our number one priority…."*

Sandals' managers argued that customer service is important within the chain and this is documented in the detailed standard operating procedures manual. The Regional Director emphasizes the organization's focus on the customer and customer satisfaction.

> *"We say we are a customer driven establishment; customer is our mission; customer satisfaction is our number one priority. We do whatever it takes to please and we genuinely believe in that."*

Customer retention is another aspect of customer capital. Both chains have embedded loyalty programmes geared towards increasing customer retention. Sandals Resorts have a tiered and more developed loyalty programme, (consisting of standard, gold, platinum and diamond with requirements and rewards associated with each level), than Almond Resorts. Almond Resorts loyalty programme is a simple system rewarding customers based on number of nights or number of visits. The managers pointed out that the loyalty programmes implemented at both chains have resulted in their achievement of a fairly high number of repeat guests and high occupancy levels.

The Deputy General Manager at Almond Beach Club highlighted the impact of the repeat guest programme on the hotel occupancy levels.

> *"Our repeat guest rates are a very, very high percentage of our guests that come here …at this time of year are very high, going towards Christmas between 45 and 50 percent of this occupancy will be repeaters.… the repeat guests would not only be 2 or 3 time repeats but we have guests that have been here 10, 12, 15 times."*

The relationships with the travel intermediaries are seen by managers as essential for the continued success of the hotel as they provide the essential customer base. In addition, the managers argue that the travel intermediaries provide them with feedback on the chains' products and services. The recognition of the importance of the travel trade to the chain's success has led to the establishment of contracts and business collaborations with a number of travel intermediaries. The managers argue that the chains' dependence on distributors to provide it with them requisite number of customers creates some challenges for hotels in small island states like the Caribbean. The following extract from the Manager of Research at Almond highlights the problem.

> "T*our operators are crucial, that is how the business works, and that is unfortunate, tour operators can hold us to ransom, right now in Barbados it is hotels like ours using the present business model that require certain volumes just to break-even. We get our volume from the tour operators, they control the seats and so you have to deal with the Virgins, the BAs, the Liberties, they control so much of your business. They can squeeze you or they can make you, they are crucial."*

The critical nature of the relationships with the travel trade has resulted in the creation of programmes to enhance loyalty amongst the travel intermediaries/wholesalers. The managers argue that these loyalty programmes reduce turnover amongst the travel intermediaries and pay dividends in terms of increased recommendation of clients. Both chains have well established programmes where travel intermediaries are rewarded based on the number of nights sold for each chain. The managers assert that the travel agents are given free nights accommodation at the various properties as a reward and at the same time they are educated on the products and services that the hotel offers. This they contend will increase recommendations by the travel intermediaries since they have an intimate knowledge of the product the chains are offering. The Director of Hotel Operations at Almond Beach Club acknolweldges that

they recognize the importance of these loyalty programmes for travel partners to the viability of the hotel.

> *"We also have a loyalty programme for our travel agents because those are the people out there selling the Almond Brand and working on our behalf. We recognize them in many ways... It is also a part of the education that when they come to the hotel it is not just a vacation. …. we take them into a classroom setting and talk to them about the product, the brand, ….. give them an opportunity to really feel and truly experienced what the Almond product is. …… having come and experience it, they are a lot more confident and they know the product inside out, to be ambassadors for Almond and for Barbados."*

The loyalty programmes for travel agents have been formalized in both chains with the "Team Almond Programme" and the "Certified Sandals Specialists", each with a mandatory educational component. The Sandals travel agents loyalty programme is much more developed than the Almond programme. Sandals Resorts provides workshops throughout the United States to educate travel agents on their products and services and they host an annual ultra awards ceremony for travel agents. The General Manager of Sandals Regency asserts the owner of the company who is extremely popular with the travel trade and the company's annual awards ceremony enables him to foster greater relationships with the travel trade. This has resulted in Sandals being the number one recommendation for a Caribbean holiday amongst the travel intermediaries in the United States.

A number of business collaborations have also been forged at both chains in order to maintain high levels of customer retention and to expand the customer base. It was quite evident that Sandals Resorts paid attention to forging business collaborations with persons and entities outside the travel trade to assist them in offering innovation within the industry. The chain boasts of its business collaborations with renowned individuals like Hollywood based wedding specialist Preston Bailey in offering at Sandals properties the 'Preston Bailey Weddings', it also partnered with Sesame Street to offer at all their Beaches family resorts the 'Sesame Street Club'. The chain also has signed contracts with cosmetic companies that enable it to offer exclusive products

within its 'Red Lane Spa'. The marketing brochures used by the company highlight these collaborations.

Brand

The construct of 'brand' was observable in the multiple sources of evidence used in the analysis of data pertaining to these two chains. The documentary information in the form of newspaper clippings, annual reports and internal documents were replete with information pertaining to the construct of brand. The Nation Newspaper, a local newspaper in Barbados, on December 26, 2005 described the Almond brand as a 'Pan Caribbean brand'. Similar reports were made of the Sandals and Beaches chain in other regional newspapers such as the Jamaica Gleaner.

The Almond Resorts annual reports also made several qualitative disclosures in terms of the recognition and level of awareness of their brand in target markets. The internal documents examined all contained logos, slogans and tag lines of the respective chain as evidence of the chain's attempt to instil within the organisation a sense of brand identity.

In observing the guest relations' function and reception areas at hotels, employees use the chain's 'tag line' whenever they answered the phone. Both chains sought to have 'tag lines' which identified with their target audience. The logo, another element designed to emphasize identity, is featured prominently on all documents, websites and in the case of Sandals on billboards throughout Jamaica. The three components of a brand's identity of name, logo and slogan were used extensively by the two chains to assist in creating brand awareness. A number of insightful findings were gleaned from the transcripts of the interviews relating to managers' interpretation of the dimensions of brand image, brand loyalty and brand equity. The managers argued that the concept of brand was quite important in achieving organizational effectiveness and brand dimensions of image and loyalty enhanced the brand equity of the respective chain and by extension the intellectual capital.

In the opinions of the managers of both chains, attaining occupancy figures on an annual basis in excess of eighty percent is an indication of the customer's loyalty to the brand. The Manager of Sandals Whitehouse argued of the relationship between brand loyalty and occupancy.

> *"This level of occupancy when the world average is between fifty and sixty five percent is testimony to the loyalty and esteem in which the brand is held."*

Managers believed this loyalty resulted from brand awareness. That is, the extent to which an awareness of these two Caribbean indigenous brands has been created in the international market. As one manager reported "*we get no guests from the Caribbean and 84% of the time our rooms are full".* The research manager at Almond resorts reported that in their research on the level of awareness of the brand amongst the travel intermediaries within the United Kingdom, they were quite heartened by the results. They revealed a high level of brand awareness of both chains when talking about the Caribbean as a destination. In addition, the numerous awards given to both chains in the international arena, speaks volumes to the level of awareness of these two indigenous brands. Several of the managers argue that this recognition of the chains by third parties is a measure of their worth and this image recognition in the international market place is important for indigenous hotels. The accolades that the travel partners bestowed upon these two chains, when highlighted in the international press have the added effect of increasing the awareness of their brand. The Director of Quality argues that being recognized internationally augments your own internal measurements relating to level of awareness. Table 16 highlights some of the awards presented to the chains over the years.

Table 16: Selected Awards

Award	Awarding Body	Chain /Hotel	Source
Best selling family hotel - 2005	BA holidays	Almond Resorts	Annual Report page
Silver Partnership award - 2005	Virgin Holidays'	Almond Resorts	Annual Report page
Best All-Inclusive product in the Caribbean	Tropical Sky (U.K. Tour Operator)	Almond Resort	Annual Report page
Best All Inclusive Resorts in the Caribbean – 2007	Caribbean Travel & Life Reader's Choice	Almond Resorts	Annual Report page
Top Spa in Barbados - 2006	World Travel Awards	Almond Resorts	www.worldtravelawards.com/winner
Worlds leading all-inclusive company 2007 (12 consecutive years)	World Travel Awards	Sandals Resorts	www.sandals.com/general/awards.cfm
Caribbean's leading hotel brand 2007 (14 consecutive years)	World Travel Awards	Sandals Resorts	www.sandals.com/general/awards.cfm
Five diamond award 2003 2003 2004	American Academy of Hospitality Sciences	Sandals Resorts St. Lucia Grande Antigua Grande Sandals Negril	www.sandals.com/general/awards.cfm
Best all-inclusive Resort Chain 2008 Favorite All-Inclusive Brand 2005	Modern Bride Magazine	Sandals Resorts	www.sandals.com/general/awards.cfm
World's leading family all-inclusive	World Travel Awards	Sandals Resorts (Beaches Resorts-Turks and Caicos)	www.worldtravelawards.com/winner
Worlds best all-inclusive 2006	Travel and Leisure Magazine	Sandals Resorts Grande Ocho Rios	www.sandals.com/general/awards.cfm
Best Caribbean hotel group.	Travel Weekly (UK Globe)	Sandals Resorts	www.sandals.com/general/awards.cfm
World's Most romantic all-inclusive resort 2007	TripAdvisor	Sandals Resorts Whitehouse	www.sandals.com/general/awards.cfm
Gold List 2007 Gold List 2006 Gold List 2004	Condé Nast Traveler Magazine	Sandals Resorts Negril Beach Whitehouse St. Lucia Grande	www.sandals.com/general/awards.cfm
Green hotel of the year 2007 2006	American Express Caribbean Environmental Award	Sandals Resorts St. Lucia Grande Montego Bay	www.sandals.com/general/awards.cfm

Implicit in the beliefs of managers is that a high level of advertising brings increase brand awareness, resulting in both chains engaging in repetitive advertising, with advertisements being placed in the travel section of international newspapers such as the New York Times, Toronto Mail, The Globe, major television networks such as CNN, CBS, NBC, co-branding products with major supermarket chains like Tesco and Wal-

Mart and offering complimentary holidays on a number of talk shows within the United States. The managers argued that the public relations activity of offering complimentary holidays to specific groups had the effect of creating awareness and at the same time increasing loyalty to the brand. One of Sandals managers reports about the success of their complimentary holidays to gulf war veterans during the nineties.

> *"This gesture not only heightens brand awareness but has converted recipients of complimentary holidays into loyal customers."*

In addition to the repetitive advertising, building partnerships and business collaborations has paid dividends in terms of increased visibility and awareness. The managers argued that partnering with airlines to increase airlift capacity to several of the Caribbean destinations through packaged tours has also built brand awareness.

The managers at both chains recognize that the brands' image is extremely important and provides opportunities for further expansion. Sandals managers all posit that their brand image was the catalyst for all the invitations from regional governments to open resorts in neighbouring Caribbean islands. The group operates the largest property in Turks and Caicos and has the largest share of the St. Lucian market with their three properties. The managers assert that before the entry of Sandals brand, airlift into Turks and Caicos was a problem. However, after that introduction, the airlift capacity has more than tripled, an indication of the esteem to which North American airlines hold the hotels' brand image. The Sandals managers all recognized the importance of brand equity and how it can be used as leverage in obtaining favourable management contracts with most Caribbean governments. The managers at Almond recognize this as well and posit that as a younger chain, their thrust is to build up the image of the entity to the point where it is one of their most valuable assets. The Financial Controller makes this observation.

> *"The value is far beyond what you have spent, the value is really in the future and you are going forward with a brand that has value. So when we talk to investors, we say that we are very interested in Grenada and we want to bring an Almond brand to Grenada, that they say "O Almond", we want to hear, we are going to do whatever it takes to get you here. In the same way that many governments will bend over backwards to bring a Hilton to their country or Marriott's or whatever, we want to have that in the Caribbean and eventually in the world."*

Sandals recognized the strength and to some extent the uniqueness of brand image and sought to extend the brand thus widening its scope of influence and potentially enhancing its equity. The manager of Beaches Resorts, the extension of the Sandals brand, stated that having recognized a high percentage of loyalty as measured through their return guest, the couples only focus of the brand created restrictions for their loyal customers who were parents or becoming parents. This resulted in the extension of the Sandals brand to form the Beaches resorts which is family oriented with several programmes designed for children and the whole family. The Beaches Resorts have a Sesame Street programme as a result of their partnership with the Sesame Street Corporation. The Manager of Beaches Resorts Negril states

> *…"the extension of the brand enabled us to cater to the growing family market amongst our loyal customers."*

Finally, managers of both chains argued that the chains have an identity, a high degree of awareness amongst the travel trade in their major markets, a high percentage of returning guests, a reasonable level of loyalty and a sound image, all of which translate into brand equity. The managers have recognized that implicit within the company's brand image there is an implied value that they often leverage to achieve financial rewards. This value could be favourable contracts or some other form of concessions but no attempt has been made to assess the brand in monetary terms. The Managers argue that it is too difficult to quantify the concept of brand.

The Group Director of Finance at Almond asserts that a lot of money is spent on the brand but the purpose of such expenditure is to create awareness, protect and control the components of the brand and develop brand equity. The major focus according to the Director of Finance is to develop the brand equity to a point that it is comparable to other international brands which will enable them to leverage that brand equity to achieve concessions in their expansion thrusts.

Sandals on the other hand believes that it has achieved this over the years but has not sought to account for the construct of brand. Sandals has standardized a number of its

images and has trademarked a number of keywords that are used in its promotions but this has only been seen in terms of revenue expenditure and not capital expenditure. They recognized the overall value of the brand to the total assets of the firm. The General Manager of Sandals Negril in speaking about the value of the brand states *"I think the brand outweighs the real estate value at this stage. The brand of Sandals outweighs the current real estate as we know it."*

Community Capital

The documentary evidence collected is replete with disclosure of the chains' involvement in community activities. The chains constant disclosure of their community involvement and relationships developed with civic groups, educational institutions and small entrepreneurs within their environs in newspaper articles, press releases, annual reports and other documentary evidence is geared towards enhancing community capital, an aspect of relational capital.

> *"Almond Resorts believe that strong communities are vital to the well being of our society and economy. We feel that we have a special responsibility and role to play in helping our communities thrive."* Almond Resorts Inc. Annual Report 2004 page 10.

The managers of both chains recognized that the relationships that have been developed within the community created a network of social interaction for the hotel which will enhance its intellectual capital. This can be achieved in a number of ways; one is through increased commitment to the organisation by the members of the community within the hotel environs and secondly through increased loyalty to the hotel by customers recognizing the hotel as a good corporate citizen.

The managers believe that in such a labour intensive industry the chains need to get the best talent for jobs as they become available. So working with schools through sponsorship of programmes, providing internships, giving scholarship, and assisting in the delivery of tourism and environmental programmes are some of the activities designed to inculcate within the community a sense of loyalty to these chains. The managers believe that this will translate into community capital resulting in the chain being employer of first choice for school leavers within the community. Sandals

Resorts Inc. has also sponsored training programmes for farmers and other suppliers to enable them to improve the quality of their products and service. The managers cite examples of how the chains work assiduously with local entrepreneurs to develop their ability to deliver quality products and services. One such example is provided from the Manager of Sandals Negril.

> *We'd like to think of ourselves as excellent corporate citizens, our hotel, we are the largest, empowering private employer and we contribute a lot to the economy. We are big in developing our people to break them out into tomorrow's managers. In addition to the people we employ, we are big in developing people in the schools and bringing that awareness of tourism to the schools."*

The managers reiterate the importance of the chains being seen as good corporate citizens. Almond resorts in their annual report of 2005 states

> "*Good corporate citizenship is one of the core values of Almond Resorts; the commitment to investing in the communities where we have a presence is an essential element of who we are." (Annual report 2005 Page 5)*

There are several other statements made in their annual report that provides evidence of their commitment to the community. Table 17 highlights some of the selected statements taken from the annual reports of Almond Resorts to highlight their disclosure of community capital.

Table 17: Examples of Disclosure of Community capital

Relationship	Descriptor	Source
Relationships with vendors	*Mount a weekly craft market which enables vendors to display their products*	Annual report 2003 page 10
Relationships with civic groups	*Meals for senior citizens in association with the Kiwanis Club of Barbados* *Providing a hostel for battered and abused women in association with the YWCA*	Annual report 2003 page 10 Annual report 2006 page 5
Relationships with schools	*Vocational training programme at Castries Comprehensive High* *Summer Internship Programme for students*	Annual report 2006 page 5 Annual report 2004 page 8
Relationship with University	*Sponsored an International Chair in Tourism and Hospitality Management at the Cave Hill Campus of UWI.* *Provides a training and facilitation unit for the action learning components of the Tourism and Hospitality Programme at UWI*	Nation Newspaper March 5, 2006 Annual report 2006 page 5 Annual report 2006 page 5
Relationships with sports clubs	*Financial assistance to the St. Lucia National's Women's Rugby Association*	Annual report 2006 page 5

Almond Resorts Inc. in their 2004 Annual report page 8 stated "*Our community outreach begins with identifying the critical needs that Almond has and the resources and experience to address."* The repetitive disclosure of such information is geared towards creating an aura of excellent corporate citizenship which when interpreted favourably by customers increases customer retention and expands the customer base of the chain. The company focuses on what it has and uses its resources in building its community capital which will grow the intellectual capital of the organisation. Sandals Resorts Inc. also supports several community activities that are quite similar to those identified by Almond.

The finding of this case study as it relates to relational capital is that although the managers seem unaware of the concept of RC, it is was quite evident that a significant amount of relational capital existed and was used to enhance the performance of these chains. This relational capital was deconstructed into customer capital, brand and community capital which served to highlight its significance within the chains. The case studies revealed that the construct of customer capital was extremely important and a lot of emphasis was placed on this attribute within the chains. This was evident in the varied customer loyalty programmes implemented which sought to increase customer satisfaction and develop customer capital.

These case studies also revealed that managers deal with the attribute 'brand' in value creation terms, that is, how it can be used as leverage in obtaining favourable terms on contracts and other negotiations, and not in value realisation terms. Within the chains no emphasis has been placed on putting a dollar value on the construct brand. Concern has only been with what the brand can do to increase occupancy and the corporate reputation of the hotel. It was also found that the activities of the managers were always geared at ensuring that the brand equity of the chains was not impaired. Another important finding as it relates to relational capital is that building of an image within the community was an important asset which can be leveraged at a later date. Therefore the chains engaged in activities to ensure that they create this intangibility,

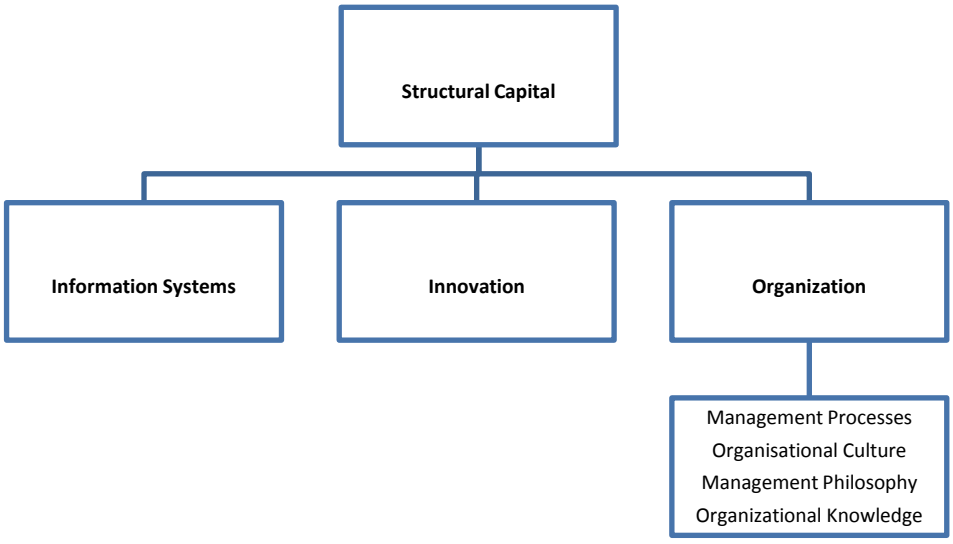
in order to build the corporate reputation of the entity, which in this study was labelled community capital.

5.3.3 Structural Capital

In the two hotel chains it was found that managers relied heavily on the structural capital to enable them to deliver quality service to their customers. The structural capital of these chains augments the relational capital and human capital through the embedded standard operating systems, information systems and the overall organisational culture that has evolved.

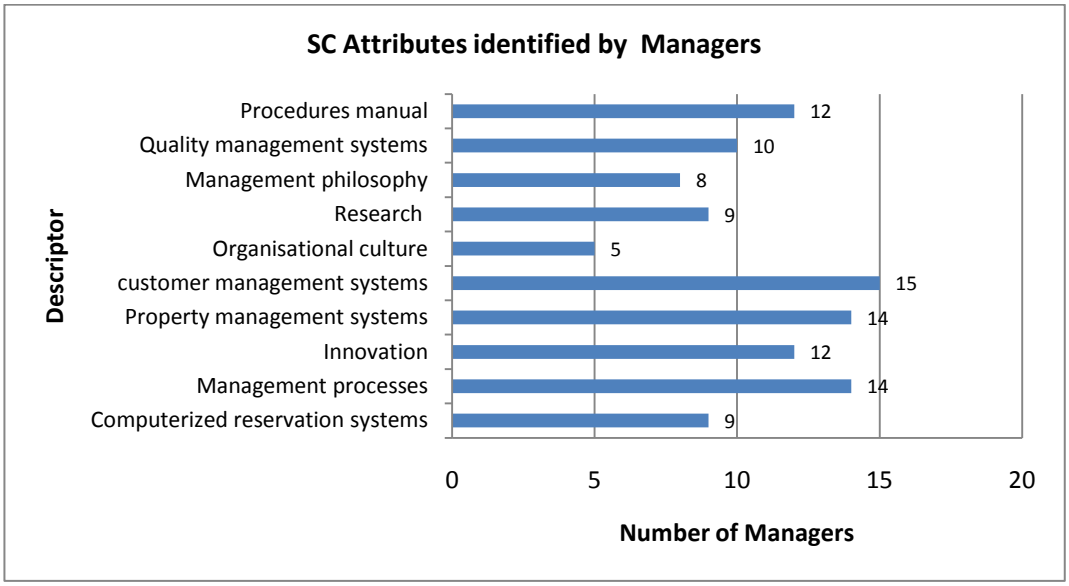
It was revealed from the analysis of the various sources of evidence used that the structural capital consisted of three major themes, information systems, innovation and organisation. The information systems category relates to all the customer relationship management systems and property management systems used by the staff in the provision of services to customers. The category referred to as innovation identifies those activities that the staff engage in to "delight and wow" the guests. The third category of organisation captures such elements as management processes, management philosophy and organisational knowledge which all coalesced into an organisational culture that emphasizes quality service to all guests. The following figure highlights the three elements of structural capital.

Figure 12: Structural Capital and its sub-components



The interview data highlighted a number of insightful characteristics relating to the structural capital of the two chains. The managers spoke of a number of management systems which used information technology to assist them in the performance of their daily tasks. Fifty percent of the managers highlighted the Quality Management Systems, seventy five percent the Customer Management System, seventy percent the Property Management System and forty five percent the Computerized Reservation System. These systems were all classified under the theme of information systems. They also spoke of a number of other non IT based systems and procedures embedded within the organisation. These attributes and the respective percentage of managers articulating their importance are procedures manuals 60%, management philosophy 40%, research 45%, organisational culture 25%, and management processes 70%. These attributes were encompassed under the theme of organisational capital. Sixty percent of the managers spoke of innovation and its role in developing the chain and this attribute was classified as the third theme 'innovation'. These structural capital attributes identified by managers during the interviews and the respective number of managers who articulated their importance are provided in Figure 13.

Figure 13: Bar Chart of SC Attributes



The following section will provide further discussion relating to the structural capital attributes that the data revealed.

Information Systems

The managers recognized that to operate successfully in the dynamic tourism market, they must fully embrace and utilize information technology. The information systems and networking systems assist the managers in their customer management, quality management, control and monitoring of operations and accounting at these 'All-Inclusive' chains. The managers argue that a reservation system is critical within a hotel, as it provides the linkages with the customers and distributors in this highly competitive environment. This linkage provides customers with real time information on available rooms and rates. Almond Resorts Inc. having recognized the importance of its reservations system rebuilt its internet site in 2005 to bring it to the cutting edge of internet booking technology with direct booking capability among other features (Annual report 2005 page 4).

Both chains have reservation systems that provide them with linkages to the distributors as well as to individual customers through their website. The chains have incorporated businesses in major tourist markets to handle their reservations. In the case of Almond Resorts, their "Rev 7" system located in Orlando, USA provides access to all tour operators and travel agents enabling them to make their reservations on-line. The information is then downloaded to the respective properties where they use the MICROS- Fidelio[7] system for the front of house aspects relating to reservations. The General Manager explains that this system gives them the opportunity to track the special needs of their guests.

Sandals Resorts Inc has its own reservation company Unique Vacations Inc. with branches in USA, Canada and UK. In addition, there are affiliated companies in France,

[7] MICROS- Fidelio International is a subsidiary of MICROS Systems Inc, which provides enterprise wide integrated information technologies for the hotel industry including multi-property, fully integrated hotel systems encompassing property management systems, sales and catering systems, central reservations systems, customer information systems and revenue management systems. [Source – www.micros.com accessed May 24, 2007.

Italy, Germany, Russia, Scandinavia, Latin America, Argentina, Brazil, Columbia and Mexico. As a result the linkages that the reservation systems have to other information systems enable both chains to effectively operate their customer relationship management systems.

The managers of both chains recognized that the creative and effective use of information technology has enabled them to forge a sustainable competitive advantage in the industry. This has resulted in significant investments in the information technology of both chains over the years. Almond Resorts as recently as 2005 spent approximately $7.8 million to change their Property Management System to Micros Opera and the Financial Accounting systems to SAP (Almond Resorts Inc. Annual Report 2006). Sandals Resorts Inc. on the other hand uses Visual One Systems for their property management, sales and catering, restaurant point of sale, golf, spa and accounting. They however, propose to change their accounting and purchasing system in 2009 to Oracle.

The managers argue that the implementation of online systems throughout the company enables all the properties to communicate via the same technology platform, bringing numerous benefits to the guests and staff by enhancing customer interaction as well as operating efficiencies. The seamless integration of these information systems resulted in linkages between the relational capital and the structural capital. That is, these integrated enterprise wide information systems comprising of quality management, property management and Customer Relationship Management systems enabled the chains to deliver quality customer service. The managers asserted that customer management software such as Micros Opera assists the staff in their customer satisfaction focus by facilitating effective management of customer complaints. The Director of Hotel Operations at Almond states the

> ….*"customer management system called Micros Opera actually complements the quality management system, in that the system actually allows us to capture all guests' requests and guests' complaints. Every single guest request or complaint is in the database and the status of that request or complaint, that is whether it is has been fixed, ongoing, how long has it been outstanding, that is one of our principal ways of operating."*

Eighty percent of the managers reported that they use software to assist them with quality management and property management issues. The managers identified customer complaints as one of the major areas which enabled them to use the two systems. They contend that the software in addition to providing information on customers' complaints facilitates the tracking of those problems relating to the physical plant of the hotel. They further assert that large hotels cannot function without these information systems as they are integral to the operations of the entity. The quality management systems part of Micros Opera and Visual One software programmes enable departments to communicate with one another on all issues. This quality management system which is essentially a work order system or special request system facilitates managers in their tracking of problems within the organisations. The following quote from the General Manager of Sandals Regency highlights how the quality management system is used within the organisation.

> "*QMS that is part of Visual One which is a work order system/special request system so departments can communicate with other departments. When a department receives a request they must assign someone to that request and update the system as it is completed. So if a guest makes a comment that their air condition unit has not worked for 24 hours or 2 days or something, we can go back and find out who knew about it. Who received the information? Was it received at guest services or in housekeeping? Did they communicate it to maintenance department? Did maintenance department attempt to fix it? What happened?"*

Innovation

In structural capital the concept of innovation is deemed an essential attribute. However, this may beg the question as to what can be innovating in a service industry such as hospitality. It was found that within these chains the managers' concept of innovation referred to the various activities and services implemented at these all-inclusive chains that enable them to differentiate their service. The managers argued that as indigenous operators these chains redefined the all-inclusive concept by adding a distinctly Caribbean flavour. Today, they recognized that this revised "Caribbean flavour", all-inclusive product is now being exported to other regions of the world, the Mid East, Far East and Mexico.

In terms of innovation at the Sandals chain the managers posit that the creation of specialty restaurants, swim-up pool bars and the constant rejuvenation of menus are some of the innovations within the chain. The all-inclusive product would provide food and beverage for guests included in their package. The managers at Sandals argue that the introduction of specialty restaurants, in addition to the normal restaurants was designed to increase revenue from food and beverage operations not included in the package. These restaurants also provided the chain with opportunities to revise the menu offering. In addition, the Swim-up pool bars, that have become a signature of all Sandals properties, is seen by managers as an innovative service in that guests can remain in the pool and still obtain a beverage as they need it. The introduction of the butler service to their premium rooms was hailed by managers as another innovative product. This service was designed to create distinctiveness in the products being offered by the hotel. In essence, the managers maintain that the chairman of the company is extremely creative and is constantly modifying the all-inclusive product.

The Director of Hotel Operations at Almond Resorts Inc. argued that the chain has demonstrated that they can be innovative in the industry as was evident on the opening of the first All-Inclusive hotel in Barbados. He added that prior to the entry of Almond, hotels in Barbados used the European Plan. However, the managers argued that they continue to be innovative by altering the traditional all-inclusive plan making it distinctive from the Sandals, Super Clubs and other Caribbean All-Inclusives. The managers within the chain saw innovation in the food and beverage operations as the revisions of food menus, beverage choice, variety in bar operations and banqueting. One manager asserted

> ..."*our meals are served table-side from an al la carte menu so you get the feeling that you are really in an exclusive environment. Breakfast is also served buffet then again eggs are made to order with two egg stations, not your typical All Inclusive, so that in a sense this is how we differentiate ourselves from the other All-Inclusives."*

The innovative thrust of the organisation is enhanced by leveraging the information systems. The hotel has integrated its information systems with its customer relationship management system to create a new service which will enable it to provide value added services to their customers. This concierge programme results from the linkage of the structural capital with the relational capital and is another

example of product innovation within the chain. In addition, this chain makes all its decisions based on research findings and has been quite innovative in its reporting. The daily 'quality alert' and the 'internal customer satisfaction reports' are examples of the creativity and innovativeness in its hospitality reporting.

The chains are always seeking new ways to improve their products and services. The managers argued that the additional revenue gained from food and beverage operations and guests services are measures of how innovative activities are gauged in the chains. The Guest Relations Manager asserted that the department's aim is to create new and exciting offerings that will increase ancillary spending of customers during their stay. Both chains also provide their customers with varied entertainment and several managers believe that their empowerment of staff facilitates a sense of creativity and innovativeness in the entertainment offerings.

Organisation

The two chains over the years have developed a number of significant management processes that have become rooted in their culture. In the case of Almond Resorts, this organisation is driven by research. All the managers articulate the importance of research and see this process as a distinctive competence of this hotel. They posit that the research process is so embedded in the organisational culture that it is used by the chain to assess all proposals relating to business collaborations and contracts, customer satisfaction and employee satisfaction amongst others.

The Director of Corporate Communications asserts "*Almond does not do things by guess, we don't wake up in the morning and say people come to Barbados in August or September; everything we do is thoroughly researched."* The managers argue that they depend on reports from the research department to guide them in their daily meetings with staff. The detailed customer satisfaction report that is produced on a monthly basis is used as a tool to evaluate performance and determine remediation. However, the Quality

Alert is produced on a daily basis and this report guides the management in operational decisions.

The customer satisfaction focus of the hotel drives a lot of the management processes. In this regard Almond has been able to build a distinctive competency of quality management by the coalescing of its human capital attributes of teamwork and empowerment with its relational capital attribute of customer capital. This quality management process is fully embedded within the organization's culture. All of the managers confirm the importance of quality management within the hotel and constantly refer to the work of the Quality Council in managing the issues that emerge from day to day.

The establishment of Quality Teams at Almond enables employees from different functional areas to interact as they attempt to make sense of problems facing the organisation. This interaction also facilitates the updating of standard operating procedures within the hotel. The hotel has a well established certification process where all the operational aspects of the organisation are documented. Several of the managers interviewed recognized the importance of this documentation in building the knowledge base of the organization, by moving the information from a tacit to an explicit form. This is an example of knowledge management within the organisation. Managers made constant reference to a certification document during the interviews; this document contains all the standard operating procedures of the hotel.

Sandals Resorts, on the other hand, does not have the research focus as Almond does, but their knowledge management practices are quite impressive. The development of their standard operating procedures (SOP) manual is seen as the 'bible' within the organisation. This is used to assess all products and services offered to guests within the establishments. The SOP manual has codified all the processes within the hotel. The General Manager of Sandals Regency cited as an example the outsourcing of the housekeeping function at the hotel as a cost reduction feature, but added that the

process had to be quickly discontinued due to the variance in quality standards between those in the Sandals' SOP and those of the service provider. The manager argued that the SOP provides guidelines on every single process within the chain as they have taken the tacit knowledge from the employees relating to all practices and made it explicit and this forms the basis for training within the organisation. The managers all talked of "sandalizing" employees which mean that every employee is aware of the standard that has to be met according to the SOP.

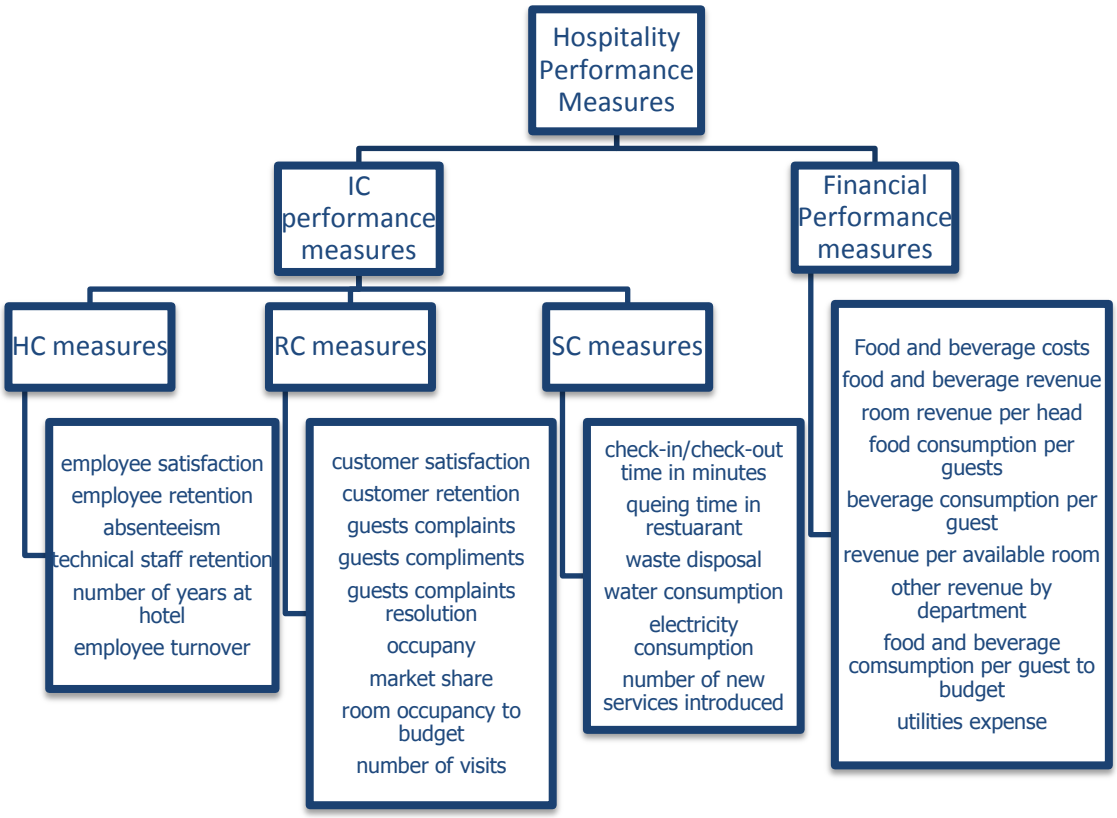
The case studies revealed that both chains were customer and market focused and driven by customer satisfaction. Hence well established Customer Relationship Management Systems were established within the chains that created linkages with the human capital and relational capital components of intellectual capital. It was found that the information systems and networking were an integral part of the organizations' development of their structural capitals. The Almond Resorts' case study revealed that research was an essential component of the management processes and was embedded within organisation culture. The Sandals case study revealed that documentation of knowledge was a critical component of their structural capital. The case studies also revealed that within the industry innovation was deemed an essential asset. Finally, these case studies highlight that although managers may be unaware of the formal construct of structural capital their actions and daily operations were dependent on the information systems, innovation and management processes embedded within the organisations' culture.

5.4. Performance Measurement in the hospitality industry

The data clustering and thematizing of the managers' discussion of their roles and tasks, and the other sources of evidence collected relating to performance measurement within the two chains, resulted in four themes emerging, three of which were non-financial. The first theme, HC performance measures, highlighted the importance of the human resources component within the hotels in providing rooms, food and beverage, recreational and other guest services. The second theme, RC performance measures emphasized the hotels' customer focused orientation and their commitment to meeting the varied needs of constituents. The third theme, SC

performance measures, identified those systems and procedural attributes which the hotels used to provide rooms, food and beverage, recreation and other services. The fourth and final theme, financial performance measures, identified those measures that the hotel utilized to assess its performance and stewardship of its shareholders' funds. Using the data from the interview transcripts and other documentary evidence consulted, the four themes and the performance measures identified under each theme are presented in a diagrammatic form illustrated in Figure 14.

Figure 14: Hospitality Performance Measures



The following section will provide further discussion relating to the themes that the data revealed.

5.4.1. Human Capital Performance Measures

An analysis of the interview transcripts revealed that 7 out of 20 (35%) of the managers indicated that the hotel measured employee turnover and employee retention. The Regional Director of Hotel Operations at Almond referenced the Barbados Productivity Council (2005) study in his discussion, reporting that in the

hospitality industry the turnover rate was as high as 20 per cent. He further added that Almond turnover was much lower than the 20 per cent, which was largely due to their recruitment strategy. The managers of the Sandals chain indicated that the data collected on turnover were stratified between non-technical staff and technical staff. The Manager of Sandals Negril stated that there was a high turnover percentage of staff in the front end jobs, but the turnover among the technical staff was much lower.

The HR managers and Training Mangers interviewed indicated that the chains tracked the number of years an employee was with the company. Six of the twenty managers (30%) indicated that the number of complaints and number of compliments relating to employees were measured on a weekly basis. In the case of Almond Resorts Inc. the Regional HR Director asserted that the industrial relations climate in Barbados has warranted her department developing additional metrics. She asserted that her department captures data on the number of times an employee has been disciplined and the level of absenteeism within the organization. Absenteeism was highlighted by 15 of the 20 (75%) managers as a metric that is constantly measured and monitored. The following extract from the Research Manager of Almonds Resorts Inc. indicates that the level of absenteeism at the chain is at the upper end of the scale.

> *"A study conducted by the Barbados Productivity Council in 2005, reveal that the absenteeism rate for the hotel industry ranges between 0.6 per cent and 11.5 per cent with an average of 9.5 per cent ….our absenteeism is 8 per cent … the hotel's youthful focus for front end jobs may have contributed to this 8% level of absenteeism for Almond."*

At the Sandals Group, the Manager of Beaches Negril asserted that they measured absenteeism as part of their employee performance appraisal and the results are used to determine especially in the case of new recruits whether their probation would be extended or their services terminated. The managers inferred a link between absenteeism and turnover to employee satisfaction resulting in the chains measuring employee satisfaction on an annual basis. The Research Manager of Almond indicated both employee satisfaction and management satisfaction was measured.

One of the findings relating to HC performance measures in the hotels was that various managers required certain measures to effectively perform their jobs. Table 18 highlights the type of HC measure and the manager who uses that indicator in their decision making.

Table 18: HC performance measures used by managers

Human Capital Performance Measures	Guest Relations Manager	Food and Beverage Director	Executive Housekeeper	HR Manager	Training Manager	General Manager
Employee Turnover				✓	✓	✓
Employee Retention				✓		✓
Technical Staff turnover				✓		✓
Absenteeism	✓	✓	✓	✓		✓
# of Disciplines /employee **				✓		✓
Guest complaints - employee	✓	✓	✓			✓
Guest compliments - employee	✓	✓	✓			
Employee satisfaction				✓		✓
Staff appraisals				✓	✓	✓
# of training hours				✓	✓	✓

** Almond Resorts only

An examination of table 18 reveals that the Guest Relations Managers, Food and Beverage Directors and Executive Housekeepers focus on collecting information from the customer surveys relating to guest compliments and guest complaints. One of the Food and Beverage Directors within the Sandals Chain asserts that

> "...*the guest comments provided a source of information, in that the questionnaire is quite comprehensive and we get information on all aspects of our food and beverage operations."*

A review of the questionnaires from both chains did confirm their comprehensive nature and they elicited information from guests on all services provided. In addition, it was noted that the employee-customer relationship was keenly observed by all managers to evaluate staff on how they deliver service and interact with the guests. The managers used the results of their analysis pertaining to guests complaints and compliments to reward or discipline staff members.

The two HR Managers interviewed argued that they focused on measures relating to turnover, retention and employee satisfaction as the issues resulting from such measures assist them in developing appropriate HR strategies. The Training Manager at Sandals Whitehouse stated that the qualitative comments provided on the guest comment sheets greatly assisted her in developing her customer satisfaction and orientation training programmes. The comments enable her to compile a list of exemplars in customer service and those indign acts that should be eliminated.

5.4.2. Relational Capital Performance Measures

The interview data highlighted some insightful characteristics of the measuring of relational capital. One hundred per cent of the managers indicated that customer satisfaction was measured and they use the results of this measurement in their daily activities. The other relational capital metrics identified and the respective number of managers highlighting such was customer retention (80%); guests' complaints (70%); guests' complaints resolutions (50%); guests' compliments (50%); occupancy (80%); market share (25%) and number of visits per guest (40%). A selection of some phrases found in the multiple sources of evidence relating to the measuring of relational capital attributes are found in Table 19.

Table 19: Selected phrases on RC performance measures

RC performance Measure	Example
Guest complaints resolution rate	"*We measure as well, the guest problems resolution, the rate at which we actually resolve guest complaints. Our system actually tracks that, and this is an indication of our performance, the amount of resources to expend towards keeping guests happy. That again is an indication of our performance.* Director of Quality
Guest requests and guest complaints	"*the quality management system,.. that system actually allows us to capture all guests requests and guests' complaints. That is; a database where every single guest request or complaint is … the status of that request or complaint would be in that database whether it is has been fixed, ongoing, whether it was not done, how long has it been outstanding… that is one of our principal ways of operating."* Regional Director of Hotel Operations
# of times visiting hotel	*Our repeat guest rates are a very,… between 45 and 50 percent of this occupancy will be repeaters. …… we have guests that have been here 10, 12, 15 times.* Deputy General manager

The relational capital of these chains is composed of customer capital, brand and community capital. However, the customer focused environment resulted in the measurement system only focusing on the customer capital component of relational capital.

The data also revealed that the chains used varied methods of data collection. However, the survey approach using questionnaires was the most commonly used data collection instrument. Almond Resorts Inc. used a pre-exit questionnaire and a post-exit questionnaire, while Sandals Resorts used only post-exit questionnaires but guests have the option of either completing a hard copy or an online version.

Almond's pre-exit questionnaire according to the Research Manager is given to guests within two days of arrival to capture data on the guest's first impression of the performance of guest relations, housekeeping and restaurant and bar services. He further added that this process gives the hotel the opportunity to identify any issue of concern and have this issue resolved to the customer's satisfaction before the customer leaves. The managers assert that in addition to the quantitative scores obtained from analyzing the survey instrument they used the written comments on questionnaires, postings on trip advisor website, and observation of staff in their interaction with guests as data collection procedures. In the case of Almond Resorts focus group meetings with guests on a weekly basis is another data collection procedure used. The Director of Quality cited a few examples of written comments on questionnaires;

> *"Lets take breakfast for instance, they might say, we waited too long to sit down, service was great, Portia was fantastic she was a great waiter, our eggs were too cold."*

The Food and Beverage Manager at Sandals provided an example of the use of observation within their operation;

> *"…we go into the restaurants and observe staff and how they interact with the guests, we also look to see if there is any queuing either at the entrance to the restaurant or for particular dishes.... and we make note of that… you see we are an all-inclusive property so guests mainly eat in-house."*

The managers at both chains reported that they receive feedback from guests after their visits through letters, faxes, and telephone calls complimenting staff and the hotel. They asserted that favourable comments are often used as testimonials on their websites. The managers regarded the receipt of such correspondence was an important indicator of customer satisfaction and ensures repeat business and recommendations.

The quantitative and qualitative data resulting from the varied data collection methods enable the managers to evaluate the performance of the hotels in the customer capital area of relational capital. Table 20 highlights the performance measures and the managers of the operational department who use the measure.

Table 20: RC performance measures used by managers

Relational Capital Performance Measures	Guest Relations Manager	Food and Beverage Director	Executive Housekeeper	General Manager
Customer satisfaction index	✓	✓	✓	✓
Customer retention -				
# of times visiting hotel	✓	✓		✓
# of guests complaints	✓	✓	✓	✓
# of total nights per guest	✓			✓
# of guest compliments	✓	✓	✓	✓
Guest complaints resolution rate	✓	✓	✓	✓
Occupancy percentage	✓	✓	✓	✓
Market share				✓

The analysis revealed that the customer satisfaction index is used by all managers within the hotel. Meanwhile number of times visiting the hotel, a customer retention performance measure, is used by the Guest Relations Managers, Food and Beverage Directors and Executive Housekeepers. They argued that this measure is an indication of the level of satisfaction that guests have with their products and services and hence their likelihood to return. Additional customer capital metrics measured in terms of number of complaints, number of compliments and the complaint resolution rate are used by the Guest Relations Managers, Executive Housekeepers and Food and Beverage Directors.

The occupancy percentage is used by all managers and they asserted that this measure drives their decision making process and it is used to determine staffing, food preparation, linen demands for housekeeping etc. The chains compare the actual occupancy to the forecasted occupancy on a weekly basis. The research manager at Almond states that in addition to looking at the occupancy rate, he often relates it to the market share. The General Managers interviewed indicated that they use the market share ratio in their decision making process as they like to see how their respective hotel is doing in relation to other similar hotels in the country. The Research Manager at Almond stated that when providing information on the market share to the general managers he also provides information relating to markets in terms of country of origin, types of guests, and age ranges since such information

drives the advertising and marketing programmes of the hotel. In concluding it should be noted that some of the relational capital measures depend heavily on the structural capital of the hotel. The next section will outline some of the structural capital performance measures evident in these two chains.

5.4.3. Structural Capital Performance Measures

The analysis of the data relating to structural capital performance measures revealed that the metrics employed sought to test compliance with the hotels' documented standard operating procedures. Forty percent of the managers interviewed asserted that they use observation as a data collection technique to ensure that employees' actions were always in accordance with documented SOPs, while twenty percent highlighted the use of "mystery guests" as a data collection procedure to test the level of compliance. The following assertion from a Food and Beverage Director outlines a data collection process within his operation.

> *"…everything that we are supposed to do in the standard procedure is measured, to see how long it takes us to greet the guest at the door, how long it takes us to move them to the table, if the table is set and clean. All these things are measured and then we get a report that tells us how well we did and we often use that as a training tool."*

Forty percent of the managers interviewed stated that the check-in and check-out processes at hotels are measured in minutes from time to time. The Director of Quality at Almond Resorts stated that monitoring this metric has enabled the company to introduce additional procedures to reduce the time it takes for a check-in or check-out. The General Manager of Sandals Whitehouse stated that after monitoring this metric over the years has resulted in their introduction of two new check-in processes, an online check-in and a Butler service program. He further added that with the online check-in being available up to four days before arrival, the number of quests queuing to check-in has been significantly reduced.

Managers identified performance measures relating to the evaluation of equipment, food and equipment temperatures, length of storage of frozen, chilled or dry goods,

energy consumption, water consumption, water savings, waste sent to landfill, waste recycling, green cleaning products, promoting and selling “green tours” and local craft items. These measures are embodied in the evaluation process relating to either the HACCP (Hazard Analysis – Critical Control Points) or green globe certification. The Food and Beverage Manager stated that in the catering environment, the chains have to ensure that the strict controls on receiving goods, storage, defrosting, preparation, cooking, cooling, serving cold, serving hot immediately or hot hold and serve are maintained as provided by Food Safety Legislation. This has resulted in the chains establishing and implementing effective monitoring procedures at critical control points (CCPs) to ensure that food is safe for human consumption. According to the Food and Beverage Director, all the equipment is inspected on a monthly basis and the inventory management systems track the length of time in days items remain in stock to ensure compliance. In relation to the Green Globe certification, the managers asserted they use a number of performance measures to ensure when the audits are conducted that the performance levels established are maintained or improved.

5.4.4. Financial Performance Measures

The analysis of the transcripts of the interview data highlighted a number of financial performance indicators that managers used in their daily activities. Table 21 indicates the financial measure identified and the respective managers who indicated they used the metric in their daily operations.

Table 21: Financial Performance Metrics used by managers in the hospitality sector

Financial Performance Measures	Guest Relations Manager	Food and Beverage Director	Hotel Operations Manager	General Manager
Food and beverage costs		✓	✓	✓
Food and beverage revenue –other		✓	✓	✓
Food consumption per guest		✓	✓	✓
Beverage consumption per guest		✓	✓	✓
Beverage consumption per brand		✓	✓	✓
Room revenue per head	✓		✓	✓
Utilities expenses by type	✓	✓	✓	✓
Other revenue by department (Spa, tours)	✓		✓	✓
Room occupancy to budget	✓		✓	✓
Revenue per available room	✓		✓	✓
Food consumption per guest to budget		✓	✓	✓
Beverage consumption per guest to budget		✓	✓	✓
Food and beverage variances		✓	✓	✓
Losses in utensils, linens		✓	✓	✓

An examination of the table indicates a number of measures relating to the evaluation of food and beverage consumption in the hotel. As the Director of Food and Beverage at Sandals Grande St. Lucia states

> "*In an all-inclusive hotel the food and beverage operation is about the corner stone, guests spend between 30 and 50 per cent of their time in some food and beverage operation, a bar or restaurant, therefore managing food and beverage costs are key*."

The managers asserted that these indicators such as food and beverage consumption per guest per day, food and beverage costs, consumption per brand were constantly compared to the budgeted amount and any resulting variance is noted by Food and Beverage Directors, Executive Chefs, Hotel Operations Manager and the General Manager. The Deputy General Manager at Almond indicated that once an unfavourable variance is reported efforts are made to reduce the cost on the following day by adjusting menu offerings. The Deputy General Manager asserts

> "*...all Inclusive hotels focus on cost, because the guests have paid everything upfront, we have got that revenue upfront but what depletes it, is what we as managers spend. So you would get a cost report to show what your replacement cost is like, what your food and beverage cost is like, food and Beverage cost on a daily basis. If you got $26 or $27 to spend per person, everyday you will know what you spent yesterday, so like what food and beverage spent per person yesterday and if is not in line you pick up the phone and call the Chef."*

In addition, to examining food and beverage costs, the Food and Beverage Director asserted that the occupancy level is used to determine staffing needs as this impacts on the overall food and beverage operation costs.

The table also identifies metrics such as room revenue per head, revenue per available room, room occupancy to budget, and other revenue by department which are used by the Guest Relations Managers, Hotel Operations Managers and General Managers. The Financial Controller at Almond asserted that revenue per available room is a key industry ratio, which measures how the site is earning revenue, and the executive team uses this ratio in preparation of the hotel discount grid which is used when negotiating deals with tour companies. The Financial Controller also stated that the rate is used in relation to the room cost to determine the profitability by room. The General Manager of Sandals Whitehouse stated that they use the revenue per available room in relation to the data captured on occupancy by room type, customer/guest type and season. This enables the chain to offer different rates for winter and summer, and a Caricom rate for Caribbean nationals.

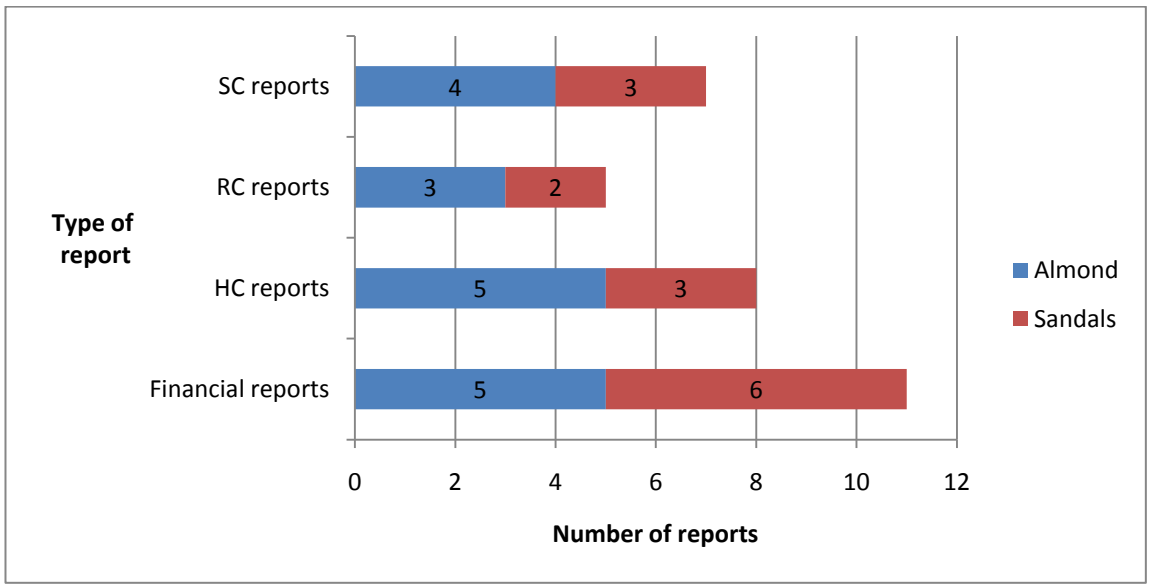
In summary it was found that some form of performance measurement system was in place at both chains. However, their approach to measurement of IC within the chains is not a holistic approach but segmented and departmentalized. Most of the measurement seems to focus largely on financial performance measures and customer satisfaction as the primary non-financial measure. This approach to measurement appeared to have created some challenges for managers as they were charged with the responsibility of ensuring profitability and at the same time high levels of customer satisfaction. The analysis of the case studies also revealed that both chains have well established systems for capturing information on customer satisfaction. Since customer satisfaction drives these organizations their measurement tends to be integrated into the organizations processes creating linkages among structural, relational and human capital.

5.5. Reporting in the hospitality industry

The reports analysed in these two chains were classified into internal reports which focused on providing managers with information for their daily management, and external reports which provided information to shareholders and other stakeholders. There were thirty standard internal reports, of which sixteen were used by Almond

Resorts and fourteen by Sandals Resorts. Using content analysis to classify the internal reports based on the nature of their contents, resulted in them being classified into financial reports, HC reports, RC reports and SC reports. The financial report classification related to those reports produced by the finance/accounting department which provided financial information to assist managers in controlling costs. The HC report classification related to reports providing information on employees and human resources practices in the chain. The RC report classification related to reports providing information on the relationships with customers and other stakeholders. The SC report classification referred to reports which focused on reporting adherence to the chains' standard operating procedures. The number of reports found in each category at each chain is provided in Figure 15.

Figure 15: Bar Chart showing the distribution of reports by type and chain.



This analysis revealed that financial reports represented 11 out of 30 (36.67 percent) of the total reports. HC reports represented 26.67 percent, RC reports 16.67% and SC reports 23.3% of the total reports produced and used by the chains. The analysis of the interview transcripts and other documentary evidence collected highlighted some insightful characteristics pertaining to the internal reports. This analysis revealed that the reports, some of which were available online, were disseminated to various functional managers. Table 22 and Table 23 list the reports prepared by Almond

Resorts and Sandals Resorts respectively and the managers who used such reports in their day to day management.

Table 22: Almond Resorts Inc – Management Reports

Management Reports	Frequency	Guest Relations Manager	Food and Beverage Director	Executive Housekeeper	HR/ Training Manager	General Manager
Financial Reports						
Food and beverage cost report	Daily		✓			✓
Variance analysis report	Monthly		✓	✓		✓
Daily sales report	Daily	✓	✓			✓
Managers Flash	Daily	✓	✓	✓		✓
Profit and loss statement	Monthly	✓	✓	✓	✓	✓
Human Capital Reports						
Employee Satisfaction Report	Annually	✓	✓	✓	✓	✓
Management Satisfaction Report	Annually				✓	✓
Labour report	Weekly		✓	✓		✓
Internal Customer Satisfaction Report	Annually	✓	✓	✓	✓	✓
Training report	Monthly				✓	✓
Balance Sheet of Talent	Annually	✓	✓	✓	✓	✓
Relational Capital Reports						
Marketing reports	As needed					✓
Customer satisfaction Index	Monthly	✓	✓	✓	✓	✓
Quality Alert	Daily	✓	✓	✓	✓	✓
Structural Capital Reports						
Health and Safety log report	Daily		✓			✓
Equipment Maintenance report	Monthly		✓			✓
Green team report	Monthly		✓	✓	✓	✓
Quality team report	Monthly	✓	✓	✓	✓	✓

Table 23: Sandals Resorts Inc – Management Reports

Management Reports	Frequency	Guest Relations Manager	Food and Beverage Director	Executive Housekeeper	HR/ Training Manager	General Manager
Financial Reports						
Food and beverage cost report	Monthly		✓			
Inventory Variance report	Monthly		✓			✓
Inventory valuation report	Daily		✓	✓		✓
Break even analysis	Daily	✓	✓			✓
Purchasing summary report	Monthly		✓	✓		✓
Profit and loss statement	Monthly	✓	✓	✓	✓	✓
Human Capital Reports						
Employee Opinion Report	Annually	✓	✓	✓	✓	✓
Manning Summary (total employ)	Weekly	✓	✓	✓	✓	✓
Training report	Annually				✓	✓
Relational Capital Reports						
Customer satisfaction Index	Monthly	✓	✓	✓	✓	✓
Front office report	Monthly	✓				✓
Structural Capital Reports						
Health and Safety log report	Daily		✓			✓
Equipment Maintenance report	Monthly		✓	✓		✓
Green team report	Monthly	✓	✓	✓	✓	✓

The tables indicate that the financial reports were mainly used by the Food and Beverage Managers, Executive Housekeepers and General Managers. The General Managers regularly sees the reports but acts on an exception basis. The managers argued that in an all-inclusive environment since revenue is pre-determined, effective management of costs is critical. This requires managers to use reports such as food and beverage cost report, variance analysis reports, inventory valuation reports and daily sales reports to manage menu and beverage offerings and evaluate the hotel's performance in generating revenue from items not included in the all-inclusive package. An essential report identified by the General Manager of Almond is the managers' flash. This is a comprehensive report produced on a daily basis, providing summary financial and non-financial information on revenue generated by each department, occupancy level, average room rate, and revenue per available room.

The chains produced two standard reports relating to HC, a training report prepared by training managers reporting on the number of courses offered during the month, the participation rates and any costs associated with the delivery of such courses and, a labour report which essentially is a manpower report in that it assists operational managers with their manpower planning. The food and beverage director states,

> "*The labour report details how money is spent on labour, it details the labour component by department and by category based on occupancy, so if the occupancy is 40% then it would say that your staff should be 100, broken down by department say food and beverage 30, detailing the amount of waiters, cooks etc for the department*."

The Research Department of Almond Resorts produces three additional reports, an employee satisfaction report, a management satisfaction report and an internal customer encounter (ICE) report. The employee satisfaction report which provides information on the level of employee satisfaction by department is used by all operational managers. The management satisfaction report is used by the HR department and the executive managers to compare perspectives of the staff on the effectiveness of management with the perspectives of the operational managers on their own effectiveness. The third report, the "ICE report", resulted from an assessment of poor customer satisfaction scores and the related level of employee

satisfaction. The managers argued that the consensus of a number of employees was that they were not responsible for the low level of customer satisfaction within their respective departments. The following extract provided by the Research Manager provides further details of their perspective.

> "*...we had a department that was getting a lot of blows from the guests, but when you drill down we realize that it was not their fault. It was the internal suppliers who provided services to them who did not allow them to meet their customer satisfaction and were letting them down. So we decided to do some pilot studies, in which we looked at the process with each department, on a daily basis we would measure how the department that they are supplying inputs to their processes are actually performing. So the same way the guests are rating us, each department has an opportunity to rate their supplier."*

A comprehensive customer satisfaction index was the major RC report produced by both chains. This monthly report which reported on customer satisfaction by department was used by all managers in their daily operational activities. The managers argued that they use the report in a number of ways, first to identify where employee training was needed, secondly to benchmark properties, thirdly to make comparisons between departments and hotels on their level of customer service, and finally as a catalyst for investigation into departments with low customer satisfaction levels. The report highlights exemplars in service as well as any illaudable acts which are to be eliminated. The Director of Quality at Almond posited that results of the customer satisfaction index determine if a quality team has to be assembled to evaluate a department.

> "... *the report is shared with every single department head within the hotel. And those that are not performing when the report comes out, they have 7 days to meet with their team and to come up an action plan and how they are going make improvement."*

In analysing the contents of the two customer satisfaction indices it was revealed that Almond Resorts' customer satisfaction index was more comprehensive than that of Sandals. The Almond report, produced by the research department, captured and disclosed data on several aspects of customer satisfaction. The report produced an overall customer satisfaction score for each property by total and by department with comparative scores for previous months and the percentage change. In addition it reported on issues of guest satisfaction measured by quality of vacation, willingness to return and willingness to recommend on a four point rating scale, and included

qualitative comments in terms of complaints and compliments. The following excerpt is taken from the interview with the Director of Quality at Almond Resorts Inc., who spoke of the use of this report provided by the research department.

> *"The research department produces a monthly satisfaction report and gives a total overall satisfaction. It gives a customer satisfaction by department and it also gives a breakdown of the components of that score. It gives guest comments as well, qualitative and quantitative data, and we do an analysis of both. That information is used across the board. When that report comes out, every manager, every employee actually, is interested in what that report is saying because that guides us, it tells us whether we are on track or not."*

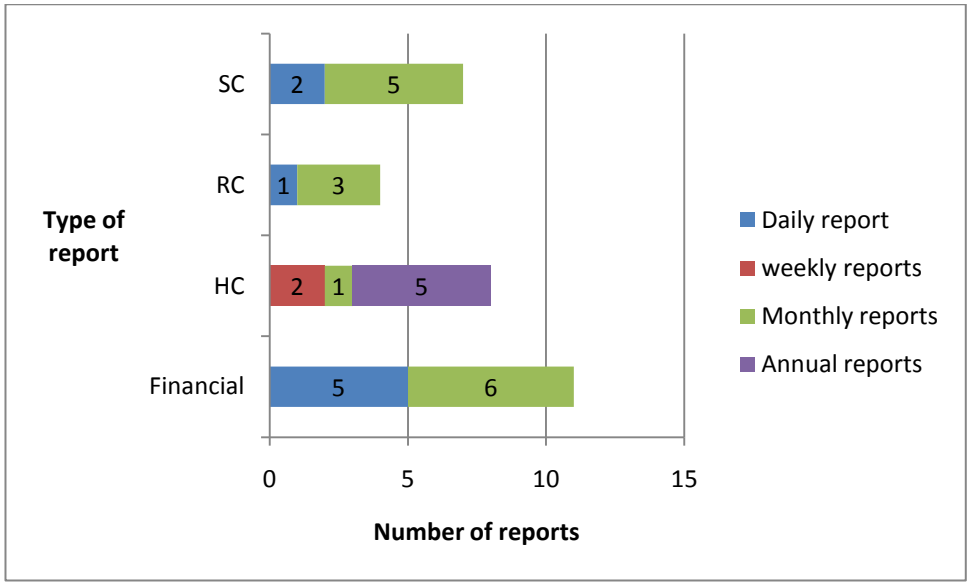
Almond Resorts also produced a RC report which was the center of managers' operational decisions. This report called the "Quality Alert" is a comprehensive summative report produced on a daily basis focusing managers' attention on all the non-financial metrics that are measured within the chain. This report is fully embedded within the organisational culture as it used at all daily briefings.

The SC reports at both chains focused mainly on reporting adherence to external certification programmes. The reports produced were mainly used by the Food and Beverage Managers and the General Managers. The managers argued that as a result of following HACCP principles, as it relates to health and safety, the Health and Safety Managers produce daily logs reporting the temperature of buffet food items tested, temperature log of reheated food, temperature log of refrigeration and freezer units and on a monthly basis, an equipment maintenance report. The managers further added that being Green Globe Certified requires Environmental Managers to produce reports detailing the waste management efforts, and the results of the recycling and energy conservation programmes. These reports which served to satisfy external requirements were the only structural capital reports produced.

Internal reporting was quite evident in the management of the hotel operations and measurement of performance. The frequency of production of the reports was used as a measure of importance of the report. That is, reports produced and used on a daily

basis were deemed more important than reports produced on a monthly basis, and those produced on a monthly basis were deemed more important than those done on an annual basis. The following chart (Figure 16) illustrates the frequency of which reports were produced in relation to type of report for both chains.

Figure 16: Bar Chart showing the distribution of reports by type of report



The analysis revealed that of the eight daily reports, financial reports accounted for 62.5 percent or 17 percent of the overall reports, SC reports which were compliance type reports accounted for 25 percent or 7 percent of the overall reports and RC reports accounted for 12.5 percent or 3 percent of the overall reports. The RC report related to Almond Resorts' quality alert. The two weekly reports or 7 percent of the total reports were HC reports relating to man power planning. Monthly reports accounted for 50 percent of the overall reports, 6 out of the 15 or 40 percent were financial reports. The SC reports were 33 percent of the total monthly reports or 17 percent of the total reports; four out of the five SC reports were compliance reports. The 3 RC reports represented 20 percent of the monthly reports and 10 percent of the total reports, while the single monthly HC report related to Almonds' training report. The 5 reports that were produced on an annual basis representing 17 percent of the total reports related to HC reports. In using the frequency of reporting as a basis for determining importance this analysis reveals that financial reports were more critical within the chains since these accounted for 37 percent of the total reports of which 17

percent were daily reports. In terms of non-financial reports apart from compliance type reports the RC reports appeared more critical to managers for their daily operations.

External reporting:

The previous section addressed the internal reporting of the chains in an effort to make explicit any action that managers engage in to assess IC and its attributes. In this section, an assessment was made of any external reporting of IC in the context of the chains. However, this was only done in the case of Almond Resorts which is a public company. The annual reports of Almond Resorts Inc. for the years 2003 to 2006 were the basis for the content analysis to determine the extent and significance of any IC reporting. The following table provided the summary of the frequencies of the attributes identified in the annual reports over the four-year period.

Table 24: Reporting frequency of IC attributes in Annual Reports

Almond Resorts Inc.	Reporting Frequency in Sentences			
Structural Capital	2003	2004	2005	2006
Intellectual property: Patents, copyrights, trademarks				
Corporate culture				
Management process	2	3	3	
Information systems			3	3
Networking systems				1
Research projects				
Corporate know-how				
Management Philosophy			1	
Total	**2**	**3**	**7**	**4**
Relational Capital				
Brands	4		5	4
Customers	2		3	6
Customer loyalty	2		2	3
Distribution channels				
Business collaborations	1		5	4
Research collaborations				
Financial contacts			3	9
Licensing agreements				
Franchising agreements				
Company image	1		3	
Suppliers	2			1
Competitors				
Investors				
Community involvement	6	5	6	9
Environmental activities	3	4	3	6
Total	**21**	**9**	**30**	**42**
Human Capital				
Know-how				
Education				
Employees	4	4	2	
Work related knowledge				3
Work related experience			2	
Vocational qualifications	2		1	1
Flexibility				
Formal training	3		7	3
Incentives and remuneration	5	2	2	3
Productivity				
Teamwork capacity and spirit			1	1
Occupational health and safety			2	1
Initiative, motivation and dedication		1		
Entrepreneurial spirit				1
Empowerment	2	3		1
Total	**16**	**10**	**17**	**14**
Overall total	**39**	**22**	**54**	**60**

This table indicates that there has been very little reporting of structural capital to external stakeholders over the years. The areas that were highlighted in the structural capital focused on the information systems of the organization as it related to their internet booking technology and a quantification of capital expenditure relating to

their property management software and financial accounting system which was designed to enhance customer interaction as well as operating efficiencies. In addition there was some disclosure of their management processes. The items of corporate culture, intellectual property, research projects and management philosophy were not referenced in the annual reports for the years under review and this is inconsistent with findings in other studies using the same framework. Guthrie and Petty (2000); Guthrie et al (2006), Goh and Lim (2004), and Brennan (2001) had all found that the internal structure or structural capital items were frequently reported by companies, with management philosophy being one of the most frequently reported item in this category.

In terms of relational capital, the organization has focused considerably on its community involvement and environmental activities in its annual report over the years. Brands and customers were also recognized in this area. The relational capital attribute relating to business collaboration and financial contracts were highlighted in the last two years and this is associated mainly with the expansion drive the company is undertaking. The results indicate that in the company's external reporting of IC, relational capital items were the most frequently reported. This finding is consistent with Brennan (2001), Goh and Lim (2004), Oliveria et al (2006), and Guthrie et al (2006).

The human capital attributes of training, incentives and remuneration accounted for the major disclosures in this component. Very little reference was found of employee know-how, education, work related knowledge, work related experience and vocational qualification which was consistent with the findings of Brennan (2001). The qualitative content analyses as they relates to human capital revealed external reporting on the level and type of training and the number of persons involved in some aspect of training. In addition there was reporting on the incentives and remuneration offered to employees.

5.6. Sensemaking of IC

The previous sections analysed the presence of IC and its related components, their measurement and the reporting practices of the chains pertaining to IC. The results revealed that IC was quite evident in the chains though not formally recognized and the management of intangibles was a keen focus. Therefore, a logical step in the process of investigation was to decipher how managers made sense of the IC information they unconsciously used. That is, how managers integrated or not the IC information in their day to day activities and how they made sense of IC and diffused it through their interactions within the organisation. The following section will analyse and report on this process.

The techniques used to collect data relating to sensemaking of IC were observation and interviews. Opportunities for sensemaking were created during the daily briefings. These scheduled meetings involved discussion, dialogue, debate, agreement and disagreement as managers met and considered a problem. The researcher was invited to sit in on a managers' briefing session while on the property at Almond Beach Club. This provided the opportunity to observe how the managers interpret and make sense of intellectual capital information during their management meetings. Table 25 provides an extract from the researcher's field study notes on the observation of the management meeting at Almond Beach Club.

Table 25: Field Study Notes: Synopsis of management meeting

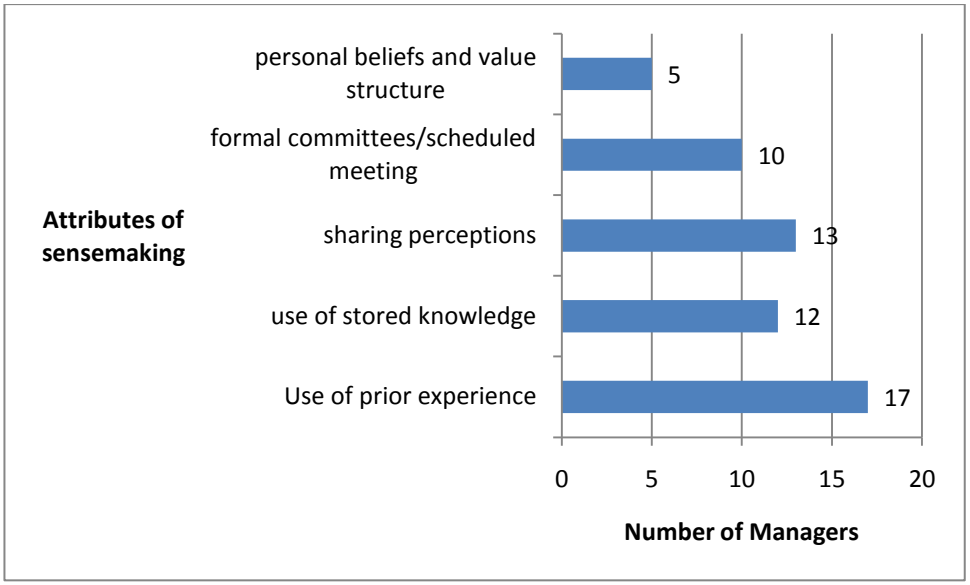
The focus of this meeting was centered on complaints in the customer satisfaction report relating to bathrooms in one of the blocks. The General Manager requested from the Guest Relations Manager the projected occupancy for the period to determine whether this block could be closed. The Guests Relations Manager reported a projected occupancy level in the nineties, which meant that the block could not be closed. The Maintenance Manager reminded the meeting that these rooms were scheduled for complete refurbishment during the summer which was approximately six months away. The managers listened as actual comments made by guests taken from the customer satisfaction report were read by the Guests Relations Manager. They continued to interpret the information made by guests relating to the rooms. The General Manager reminded the meeting that the block under consideration usually housed the guests from the BA Tours package one of their major travel partners. The debate continued on whether certain cosmetic work could be done immediately to ensure that the rooms were of an acceptable standard. The group continued to discuss the cost of a temporary solution versus unacceptable level of customer satisfaction. The group decided that customer satisfaction was paramount and no guest should have to endure any facilities that were not of the "Almond Standard". The suggested cost of temporary fixing of the rooms, repainting the bathroom, attending to loose tiles, grouting tiles, placing a new enamel coating on the tubs was quite significant according to the estimate provided by the Maintenance Manager. The managers were reminded that these rooms would be gutted in another two to four months and this cost would not be recovered. The managers concurred that it was more important to achieve their projected level of customer satisfaction than exceeding their repairs and maintenance budget.

The information contained in the above table illustrates how the managers extracted common cues from their shared experience. This process of collective "centering" highlighted how the managers in an ongoing relationship shared experiences, negotiated and accepted meaning and developed a shared meaning. Implicit in the discussion was managers' perception that the role and identity of the hotel was determined by how the customers framed the service they received. They collectively centered on customer satisfaction, thus highlighting the importance of customer capital. The individual managers interactively created a social reality which became the chain's reality and thus could be defined as collective sensemaking. Their discussions entailed a continuous framing and reframing of the respective project, while at the

same time highlighting the complexity of IC management. The Guests Relations Manager as a social performer displayed his professional experience and social code in such a manner that enabled him to influence the others. In essence, this example emphasized that managers have a capacity to tacitly decode or reflexively map out the multiple interpretations pertaining to IC.

The interview process also allowed the researcher to glean from the stories told by managers the presence of sensemaking of IC. A type of critical incident technique was used to elicit such information when managers were asked to recall any major decision that they were engaged in within the hospitality industry; the information sources they had sought to assist them with the decision and to identify other persons involved in the process and their respective roles. The twenty interviews revealed twenty stories being told by managers. Most of these stories contained similar characteristics pertaining to sensemaking of IC. In analysing the data provided by the interview transcripts some terms relating to the construct of sensemaking emerged. Seventeen out of the twenty (85%) managers asserted that they used prior experience in their decision making process when confronted with a new situation. The use of stored knowledge in terms of the standard operating procedures of the chain was highlighted by 60% of the managers interviewed as important in their interpretation of a new situation. The sharing of perceptions with other managers was highlighted by 13 out of 20 (65%) of the managers as a technique used. The weekly meetings and formal committees were highlighted by 50% of the managers as opportunities for sharing with other managers and providing opportunities for a greater understanding of how the new situation could be handled. Only 25% of the managers interviewed indicated that personal beliefs and their value structure influenced their decision making. Figure 17 summarizes these terms identified by managers and the respective number of managers who articulated these terms in their interviews.

Figure 17: Bar Chart of Sensemaking Attributes



The previous section highlighted the quantitative content analysis of sensemaking of IC in the hospitality section. The following section employs a qualitative content analysis approach to capture the salience of emerging issues relating to the process of sensemaking of IC. The situations highlighted by the managers revealed that the characteristics of sensemaking served to connect human capital, relational capital and structural capital as these operational managers were engaged in scanning, interpreting and action based on the cues they extracted from the situations with which they were confronted. In this respect the researcher has selected two of the stories told by managers, one from each chain, to demonstrate the process of sensemaking of IC.

Story 1 – Sandals opening of a fine dining restaurant

This story relates to the opening of a fine dining restaurant using an American Plan in the all-inclusive setting. This decision engaged the managers in sensemaking of IC information. The first characteristic of sensemaking identified in this story is the ongoing nature of sensemaking as the decision making process shifted back and forth. The Director of Food and Beverage argued that after the completion of the restaurant

and the doors were ready to open they recognized a problem and had to get back to the process to make another set of decisions. He asserted

> "...*we trained very hard and at the end of the eleventh hour, we realise it wasn't going to be an AP* [American Plan where guests would pay for their meals] *and what was I going to do with it. It was kind of like, well we've got, I've trained everyone in all of these particular tasks and now it is not going to be. So we had to adapt again with, it was too small*."

This highlights that in the sensemaking process, individuals and organisations make sense of what fits, what seem plausible at the time. Weick (1995) describes this as a process where individuals focus on what is plausible rather than what is accurate. The managers had made the decision based on the best information they had at the time, as sensemakers act in light of the information available to them in a given timeframe. As Weick (1995) asserts they create plausible scenarios to explain what the noticed cues mean and how certain responses may benefit or harm them and they make decisions accordingly.

The Director, in his information processing role, spoke of using formal and informal sources as well as internal and external sources of information. The formal and internal sources [stored knowledge] of information were consulted during the various team meetings. The internal reports included the financial reports relating to food and beverage cost and the intellectual capital reports relating to customer satisfaction and human resource reports on employees. He asserted that the customer satisfaction report was used to collect comments, complaints and compliments relating to the restaurant and bar services both in terms of product offerings and staff services.

Sharing this information with the team enabled them to identify exemplars in customer service that would assist them in formulating their standard operating procedures for the new restaurant. This process allowed the managers to cogitate on the comments made and derived a shared vision for the new entity. The director also spoke of the meetings with his colleagues to obtain information pertaining to staffing for this restaurant. He asserted that the Human Resource Manager also provided reports on staff members to aid the team in their selection of staff for the restaurant.

The director stated "…*we became very selective and picked the best persons for this operation. We hired a new chef from overseas to come in and cook there. We spent a lot of time training. We bought in a trainer to cover this different kind of service."* The food and beverage reports were used to assist in disciplining the menu, this was used in conjunction with the team's perception of customer expectations as the Food and Beverage Director asserted *"We looked at the menu, we cost it out and we price it accordingly, we want it to be reasonable as well, what would fit into our customer expectations for this type of product*." This statement suggests that the chain is being grounded in a customer focus identity which resonated with the team.

Informal and external sources of information were also used to inform the team members of what pertains in other types of establishments of a similar nature. The director's relationship with other food and beverage managers and with the wider trade provided him with a source of informal and external information which he shared with the team. This type of activity highlights the social nature of sensemaking. This social process of sensemaking can be gleaned from the Director's comment on the role of his team and the external relations that were established by the chain and the director himself. "*We had some people that were in Philadelphia, that I knew, that we used as outside consultants. They came in to help us put it together. Put it all down on paper, because we had all the ideas but we had to structure it.."* This highlights the recognition on the part of the Director that the interaction between these individuals provided an opportunity for them to establish shared beliefs, values and structures for the chain that enabled the group to act as a coordinated whole. This also highlights how relational capital is used in the sensemaking process. The retrospective characteristic of sensemaking together with aspects of human capital was also highlighted as the director spoke of his "*ten years experience*", and "*fortunately my background as a chef*" and "*so I had some experience in this, I have done that before*". This retrospective characteristic was used to lead the team as he called on his previous experience to aid in the decision making process. The retrospective quality of sensemaking involves remembering past experiences and being conscious of what will happen as a result of some particular action. This story highlights that the opening of a restaurant may

appear as a physical activity, but several of the decisions made during the process required the managers to make sense of intellectual capital information.

Story 2 - Almond Resorts – Improving customer satisfaction in the arrival process

The Director of Quality asserted that

> *"...we were collecting customer satisfaction data that was showing that the level of customer satisfaction with the arrival process was significantly below the average customer satisfaction for the property."*

The Director's initial interpretation of the data suggested there was a problem that warranted immediate attention. The Director indicated that in addition to scanning the report and interpreting the quantitative score relating to customer satisfaction within the arrival process, he also paid attention to the numerous qualitative comments which indicated dissatisfaction with the process. To get a greater understanding of the process the Director indicated that he observed the check-in process a few times and also held discussions with some employees of the guest services department. This was to enable him to make sense of the information contained in the customer satisfaction report.

The Director stated that he concluded that the quality service in the guest services area did not meet quality standards and was below an acceptable level. To address the issue and identify possible solutions he established a cross functional team. The Director of Quality stated

> *"This team consisted of members from different departments which deal with aspects pertaining to the arrivals process, guest services and housekeeping; in addition to persons from the restaurants, bar, and maintenance. ……Cross functional teams is a common feature of Almond's landscape. …..we have a Quality Council which is made up of staff and management and its meets every month to deal with issues emanating from the customer satisfaction report."*

This human capital practice of teamwork provides for organisational sensemaking, in that each team member being from different functional areas brings to the team his or her own perspective relating to the problems in the arrival process. This is known in sensemaking terms as enactment, where an individual creates their own reality as a result of interacting with the environment. This environmental interaction results in new experiences. The entity seeks information from various sources to better understand these experiences, thus creating or establishing a mental model that may serve as the basis for future actions. The teamwork also facilitates the social characteristic of sensemaking as each individual is able to share his or her own beliefs,

values and experiences with the team. The social process of sensemaking allows the team members to negotiate with one another as the team moves towards a shared vision that is grounded in an identity of customer satisfaction.

In assisting the Director in the sensemaking process the team used various formal and internal sources of information. The Director highlighted the customer satisfaction report as the major source where the team reviewed the data for the previous six months to twelve months in order to identify the issues in the data. The information gleaned from observation of the processes, conversations with employees working in the guest services area, conversations with guests, reading the reports of focus group meetings on customer service in the guest services area produced by the research department was shared in the meeting. To assist in the sensemaking process the Director stated that they mapped the processes as they existed. Having interpreted the major issues they then used their shared vision and collective centering to map an improved process. The Director inferred in his discussion, the importance of human capital attributes of experience and training. It was these two attributes found in the Quality Director which enabled him to guide the team through the use of 'quality tools'.

> *"I worked at Bartel as a Quality Manager for a number of years, so I learnt a lot from them in terms of systems and procedures …. I came to the table with this experience and information so I am using what can be realistically applied to this environment."*

These attributes of experience and training enable an individual to use the sensemaking characteristic of retrospection to call on previous experiences to guide the team in the present situation. The improved process was implemented according to the Director, but again the ongoing nature of sensemaking was engaged as they continued to collect data on the process. The Director stated

> *"We also collect data on our observation of the process, we saw a 20% improvement at the Village* [Village is one of the Hotels] *which was significant and at the Club* [another property] *it was more than a 20 percent improvement and our complaints in this area were down".*

In summary, it was found that within both chains, managers received a lot of financial information designed to assist them in their decision making. The accounting department focus was on providing reports of a financial nature. However, the front

end managers who meet and interact with the customers tend to focus on customer satisfaction as their number one priority. This created a dilemma for these managers, how do they meet the shareholders' expectation of high profits and at the same time meet their customer's needs of high satisfaction. The intellectual capital information that was prepared by the various operational departments which they used in their day to day operations were focused on customer satisfaction, but the reports provided by the accounting department warranted decisions made on costs. The stories highlighted in this section illustrate how the balance was achieved in making operational decisions. Although managers were aware of their need to be financially prudent, to achieve their customer satisfaction levels they had to use intellectual capital metrics as the sensemaking lens in their decision making.

5.7 Conclusion

The case studies highlighted that IC and it attributes tend to be more implicit and covert in companies found in microstates such as the Caribbean. It was found that the managers were quite nescient of the constructs of IC, HC, RC and SC, however, their day to day activities and the embedded practices within the organisations suggested the presence of such. The high percentage of low skilled employees required embedded human resource praxes to develop the HC. The RC of the chains was developed as a result of the interaction of the customer capital, brand and community capital. The well established customer relationship management systems created linkages with the HC and SC of the chain. The brand of these chains was seen as being valuable and was used as leverage in contract negotiations. The SC of the chains was developed as a result of the information systems, innovation and organisational capital. It was also found that within these chains the interconnections between the HC, RC and SC resulted in the development of certain resources that were quite valuable to the chain.

It was also found that the measurement of IC was not integrated but rather departmentalized and focused largely on customer capital. Most of the measurement focused on financial performance measures. In addition, it was found that there were

some additional measures used in the chain that related to mandatory requirements based on external agencies such as 'green globe'. The chains also appeared proactive in terms of measurement as it related to food safety as prescribed by HACCAP. The lack of an integrated performance measurement framework which an IC measurement and management system would produce resulted in a lack of a reporting framework for IC and it components. Most of the reports received by the managers tended to be financial in nature with the other reports relating to the customer management effort of the chain. This financial reporting framework coupled with a customer focused environment with limited reports often created dilemmas for the managers. The various stories told by managers highlighted how they used intellectual capital metrics as their sensemaking lens in their operational decision making within the organisation. It was found that within these chains relationships were established between sensemaking and the attributes of IC. These case studies provided some rich and in-depth findings in relation to IC, sensemaking and the hospitality industry, though due to the case study design and purposive sampling used, such findings cannot be generalized to the wider hospitality industry in the Caribbean. Therefore in keeping with the empiricist methodological approach these findings will be tested using a survey approach. The next chapter will outline the development of the hypotheses and the design of the quantitative approach used to enhance the validity and generalizability of the study.

CHAPTER 6

Quantitative Study Design and Data Collection

6.1. Introduction

The previous chapter presented the findings of the case studies which suggested a number of relationships among key variables. These findings were used in concert with the extant literature to derive a number of hypotheses that will be tested during the quantitative phase. This approach was derived from Modell (2005) who argued that hypotheses should be developed from the findings of the qualitative research when using a mixed-methods approach. Hypotheses are simply theoretical propositions with the operational definitions of the constructs substituted and the relative control variables added. This chapter outlines the quantitative approach used in this study to assess the significance placed on IC by organizations and the impact of IC on performance in the hospitality industry in the Caribbean. The following sections present the quantitative research design for the study by outlining; the basic research model, the survey design, the data collection procedures used, the formulation of the research hypotheses based on the literature review and the findings of the exploratory case studies, and a discussion on the techniques employed in analyzing the data.

6.2. Research Hypotheses

A consensus on the classification of IC components has not yet been reached in the literature, but there emerges a converged view of a tripartite model that is used for the classification of IC, comprising HC, RC and SC. These classifications were supported in the analysis of the two exploratory case studies presented in chapter 5. According to the resource based view logic, the theoretical framework of the study, if the HC, RC and SC are encapsulated into resources that are valuable, rare, imperfectly imitable, and imperfectly substitutable the firm will have a sustained competitive advantage which will lead to superior performance. The two case studies support this proposition. In addition, there were divergent views among the managers interviewed as to which attribute of IC contributed more significantly to the performance of the firm.

The human resource management literature asserts that human capital is one of the major factors contributing to the continued success of organisations, studies such as Huselid et al (1997); Becker and Huselid (1998) and Khandekar and Sharma (2005) found relationships between HR management effectiveness and organisational performance. The marketing fraternity joins with the IC advocates in purporting that there is a relationship between relational capital and performance. Empirical studies conducted within corporations to determine the effect of a relational capital element, that of market orientation, on performance were Narver and Slater (1990), Jaworski and Kohli (1993) and Greenly (1995). These studies supported the hypotheses that the RC element of market orientation positively affects performance. The SC which is developed in organisations through their information systems and other management processes also leverage an organisation's performance. Huang and Liu (2005) found that innovation capital has a non-linear relationship with firm performance. In addition, with the interaction between innovation capital and IT capital there is a positive effect on firm's performance. The analysis of the case studies revealed that managers perceived that the performance of their entity was clearly related to the intangibles in terms of HC, RC and SC.

The literature also posits a positive relationship between the composite measure of IC and performance. Bontis (1998), in his pilot study provided empirical evidence that supports the hypothesis that IC affects performance. This study was replicated in Malaysia by Bontis et al. (2000) and the conclusion was the same. Tayles et al (2007) study on IC, management accounting practices and performance in Malaysia found that the level of investment in IC is associated with management accounting practices and business performance. Chen et al. (2005) in their study found that IC has a positive impact on market value and financial performance. Wang and Chang (2005) showed that the IC components affected performance directly, with the exception of human capital which influences performance indirectly through the other IC components.

This study hypothesized that the three components of IC are related to performance.

H_1 HC is positively associated with hotel performance

H_2 RC is positively associated with hotel performance

H_3 SC is positively associated with hotel performance

The analysis of the case studies reveals that the tacit knowledge embedded in the hotels' employees, the explicit knowledge codified in the hotels' databases and the shared knowledge gained through the social networks and relationships within the hotels and other organisations improved the effectiveness and efficiency of employees in interpreting events and making predictions. This process which enables organisations to routinely integrate the three IC components is referred to in the literature as sensemaking. Theoretically, the more competent an organization's workforce (HC), well developed and highly effective its repositories of codified knowledge (SC) and with opportunities for engaging in social networks (RC), individuals will be able to more effectively make sense of events within it. Penrose (1959) asserts that a firm be viewed as "a collection of individuals who have had experience in working together, for only in this way can 'teamwork' be developed" (1959: 46), which would suggest a relationship between human capital and sensemaking. The structural capital and the relational capital in a firm can be enhanced by its relationship with sensemaking in that there are many aspects to the learning embedded in such shared experience. They include the specific meanings and understandings subtly and extensively negotiated in the course of social interaction. It is therefore posited that there is a relationship among the components of IC and sensemaking. Three hypotheses have been developed to test the extent to which this is applicable in the hospitality industry in the Caribbean.

H_4 HC is positively associated with sensemaking

H_5 RC is positively associated with sensemaking

H_6 SC is positively associated with sensemaking

The case studies revealed that there was no holistic approach to the measurement of IC in any of the two hotel chains. Any evidence of measurement was mainly focused on the customer capital attribute of relational capital. Some attention was paid to employees and ascertaining their level of satisfaction with the entity, but outside of this there was no major measurement of IC relating to HC with few indicators being used. In the structural capital component there is little mention made of indicators or measurands. The literature on the other hand is replete with measurement approaches and several studies have been conducted on the measurement of IC within organisations. Therefore the association with measurement of IC in the hotels and the corresponding IC components is tested using the following hypotheses.

H_7 HC is positively associated with measurement of IC

H_8 RC is positively associated with measurement of IC

H_9 SC is positively associated with measurement of IC

The case studies revealed that individual managers a-priori theories, beliefs and work experiences influenced their perceptions about issues and how they make sense and interpret IC information. A review of the literature relating to sensemaking and performance clearly demonstrates a relationship between the two variables. Thomas, Clark and Gioia (1993) tested the relative strength of the direct and indirect paths between sensemaking activities of scanning, interpretation and action on performance. They found that the performance measures used in the study were significantly related to the sensemaking processes. Young's (2005) study found a positive association between a firm's value as measured by Tobin's Q and Top Management Team's (TMT) social capital where such TMT members hold prominent directorships in other prestigious firms. Therefore it is hypothesized that:

H_{10} Sensemaking is associated with hotel performance

In addition, the findings of the case studies suggest a possible mediational role of sensemaking on the components of IC, in their relationship with performance. A given

variable may be said to function as a mediator based on the extent to which it accounts for the relationship between the predictor and criterion. The hypothesized model being proposed in this study posits a mediational role for sensemaking and measurement of IC within the hospitality industry in the Caribbean. According to Baron and Kenny (1986) for sensemaking and measurement of IC to have mediatory roles on the components of IC in its relationship with performance, these components of IC must affect the mediating variables as a first step. Secondly, the components of IC must affect the dependent variable (performance), and the third condition set out in their criteria is that the mediator must affect the dependent variable (performance) with the effect that the independent variable (components of IC) on the dependent variable (performance) being less than in the second step. This approached has been widely used in social science research over the years. Hair et al (2006) in refining Baron and Kenny's approach posit a number of steps for testing mediation in SEM. Firstly, the path coefficients between the independent and the dependent variables must be significant. Secondly the path coefficients between the independent and the mediator must be significant. Thirdly, a significant path coefficient must exist between the mediator and the dependent. They further argue that for a full mediation to occur the path coefficient between the independent and the dependent variable should be drop to non-significance once the mediator is included as additional predictor in the model. However, if the relationship between the independent and dependent variable remain significant albeit lower when the mediator is included as a predictor in the model then mediation is partial. Therefore, hypotheses have been designed so as to test this three step process with the final hypothesis for the mediating role of sensemaking in the relationship among the components of IC and performance as follows.

H_{11} Sensemaking will mediate the relationships between HC, RC, SC and Performance

The mediator variable of measurement of IC is depicted in the hypothetical model because it is being argued that the exogenous variables of HC, RC and SC can affect performance both directly and indirectly through the measurement of IC. The examination of this mediation is important for two reasons. First from a theoretical perspective where it has been consistently argued that "what gets measured gets managed", a construct such as the measurement of IC will mediate the effect that the

exogenous variables of HC, RC and SC have on the dependent variable performance. Secondly, it is a requirement that in developing a mediation model the researcher must assess the level of significance of the mediator variable in the model. Therefore it is being hypothesized that measurement of IC will mediate the relationship among these components of IC and performance.

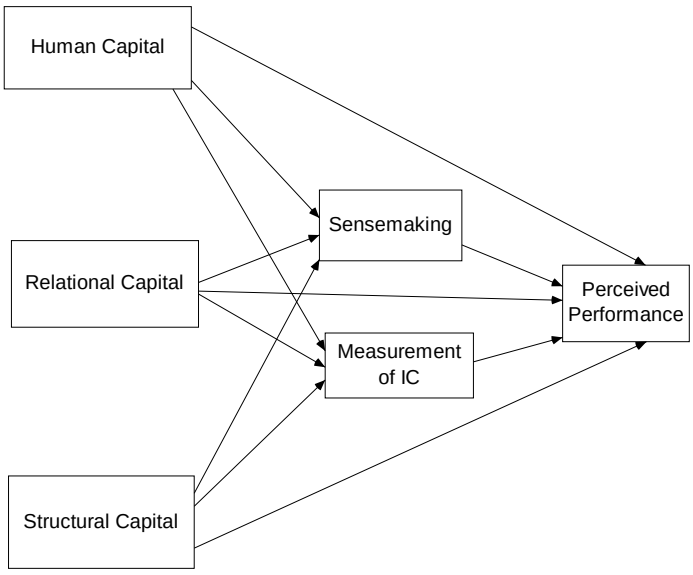
H_{12} Measurement of IC is positively associated with hotel performance

H_{13} Measurement of IC will mediate the relationships between HC, RC, SC and performance

6.3. Basic Research Model

The hypothetical model depicts the relationship between exogenous variables of HC, RC and SC with perceived performance being affected both directly and indirectly, through the sensemaking and perceived performance linkage and the measurement of IC and perceived performance linkage. The following figure illustrates the proposed model.

Figure 18: Basic Research Model



6.3.1. Variables used in the Model

In a quantitative study a number of variables may be identified to test any hypothesized relationships. This study, in using the tripartite model for the classification of IC, has listed three independent variables, HC, RC, and SC. The dependent variable is perceived performance and the mediating variables are sensemaking and measurement of IC.

Independent variables:

Human Capital

Human capital refers to the employees of an entity in terms of their education, skills, training, experience, attitudes about life and business, genetic inheritance and values (Edvinsson and Malone 1997; Hutson 1993, Roos and Roos 1997, Litschker et al., 2006). The two exploratory case studies revealed that human capital can be broken into two sub-factors namely employee competence and human resource praxis.

Relational capital

The relational capital of the firm encompasses the brands, customer-supplier relationships, relationships with the community and any market assets of the firm. This complex construct refers to the social relations and networks that exist amongst a firm's employees and external economic agents (Tsai and Ghoshal 1998, Edvinsson and Malone, 1997; Stewart, 1997).

Structural Capital

Structural capital includes all the non-human storehouses of knowledge in organizations, which include the databases, organizational charts, process manuals, strategies and routines (Bontis, 1999; Roos *et al*. 1997). The structural capital component of IC would also encompass the organizational structure, legal parameters, patents, trademarks, culture, manual systems, research and development, software systems, and informal ways of doing things (Edvinsson and Malone, 1997; Nelson and Winter, 1982).

Mediating Variables

Sensemaking

This concept of sensemaking is defined by Weick (1995) as a process of making sense and assigning meaning to events in the environment, by applying stored knowledge, experience, values and beliefs to new situations in an effort to understand them. The variable sensemaking in this study incorporates the concepts of top management teams information-processing systems, organizational structure, and basis of judgement of importance of IC.

Measurement of IC

Measurement in its most basic form is about the systematic assignment of numbers to represent some attributes of an object or an event of interest (Mock and Grove 1979). In this study the variable measurement of IC refers to the efforts management engage in to collect, analyze and report data relating to the components of IC that aid them in their decision making process.

Dependent Variable

Performance

Business performance is an important indicator of the success of a hotel. This performance can be assessed in both financial and non-financial terms (Bontis 1998a; Bontis, Chua et al. 2000, Kaplan and Norton 1992). A hotel's financial performance can be assessed in objective measures such as return on investment, profit, revenue per available room and sales turnover. However, this information is often difficult to obtain for privately held firms. Dess and Robinson (1984) argue that it is difficult to obtain accurate estimates of these financial measures by survey techniques due to the confidential nature of the data and variation among the participating firms with regard to accounting procedures. They support the use of subjective perceptions of performance as an alternative. In an empirical study conducted, Dess and Robinson (1984) found that the subjective perception of the firms' improvement or decline in financial measures such as return on investment was highly correlated with the objective measures of the absolute changes in ROI and sales over the same time period.

In addition, executives' perceptions have been used as worthwhile alternatives to the 'more objective' indicators in different empirical pieces of work developed according to the resourced based view the theoretical framework of this study (Powell, 1996; Vicente-Lorente, 2001; King and Zeithaml, 2001; Lopez, 2003).

In this study, due to the difficulty in obtaining objective measures of performance, perceived measures of organizational performance of the hotel in the context of the industry were used. Additionally, research conducted by Bontis (1998a), Bontis et al, (2000), Khong and Nair (2006), Khong and Yah (2006) Tayles et al (2007) revealed that perceived performance measures are feasible to measure an organization's performance. Therefore the dependent variable used in this study is a composite scale of items relating to managers' perception of changes in performance of financial and non-financial measures. The composite variable was parcelled into two components one being financial and the other non-financial measures. The financial measures included occupancy level and revpar. Occupancy as an efficiency measure in hotels is an indicator of how guests perceive a hotel, while revpar which refers to revenue per available room is a standard measure that hotels collect to assess their financial viability.

6.4. Survey Design

Empirical studies in IC were the primary source for obtaining survey items for each of the components and their respective sub-factors. Additional items were sourced from empirical studies in strategic human resource management and strategic marketing management to complement insights from the IC research. In addition, some items were added from the literature related to sensemaking, to capture the managers' assessment of the IC information and its impact on their decision making. The following section provides the details relating to questionnaire design by providing some discussion of the source of each item used.

6.4.1. Questionnaire Design

The first stage in the preparation of the questionnaire was the creation of a database of questions used to capture data on each component of IC, sensemaking and performance. The database contained 190 items that were used in previous studies on IC, sensemaking and performance measurement. Researchers such as Bontis (1998), Sveiby (1997) and Stewart (1997) provided a number of items relating to IC. The Human Resource Management literature provided items to be used in relation to human capital, with a number of questions being drawn from Youndt and Snell (2004) study which was referenced extensively on HC and performance. Questions were also collected from the marketing literature where Han et al (1998) provided a significant contribution to those questions relating to relational capital. In relation to the sensemaking construct, the empirical studies conducted that used questionnaires (Thomas and McDaniel, 1990; and Gioia and Thomas, 1996), provided a number of survey items that were validated. The items for the performance measurement variable were drawn from the work of Kaplan and Norton (1992), Brander-Brown and McDonnell (1995), Phillips (2005), Phillip and Louvieres (2005) and Fitzgerald et al (1991). Table 26 provides a breakdown of the items and their respective sources.

Table 26: Sources of items used for questionnaire development

Variable	No. Questions	Sources
Human Capital	39	Bontis (1998), Youndt et al, Huang et al (2007), Reed et al (2006), Moon and Kym (2006) Sveiby (1997), Tayles et al (2007)
Relational Capital	44	Bontis (1998), Han et al (1998), Huang et al (2007) Youndt et al (2004), Reed et al (2006) Tayles et al (2007)
Structural capital	37	Sveiby, Bontis (1997), Youndt et al (2004), Reed et al (2006), Huang et al (2007), Sveiby (1997), Tayles et al (2007)
Sensemaking	9	Thomas &McDaniel (1990), Gioia and Thomas (1996)
Measurement of IC	36	Moon and Kym (2006), Sveiby(1997), Stewart (1997), Bontis (1998), Kaplan and Norton (1992), Brander Brown and McDonnell (1995)
Performance	25	Brander Brown and McDonnell (1995), Bontis (1998), Kaplan and Norton (1992), Brander Brown and Atkinson (2001) Philips (2005), Fitzgerald and Moon (1996), Fitzgerald et al (1991)

The second stage in the questionnaire's development was matching questions to the themes that emerged during the qualitative case studies (appendix 2). The following table depicts the themes and the source of the items.

Table 27: Matching source of items to IC attributes reported in case studies

Variable	Bontis (1998)	Huang et al (2007)	Reed et al (2006)	Youndt et al (2004)	Han et al (1998)	Sveiby (1997)	Stewart (1997)
Human Capital							
• Personal Competencies	√	√	√	√			
• Human resource praxes	√	√	√	√			
Relational Capital							
• Customer capital	√	√			√	√	
• Brand	√	√					
• Community capital	√	√	√		√		
Structural capital							
• Information systems	√	√	√	√			
• Innovation capital	√	√					
• Organisational capital	√	√	√	√			
Measurement of IC	√	√	√			√	√

A draft questionnaire was then prepared in order to elicit responses from the respondents on each IC component, managers' perceptions of hotels' performance and measurement of IC and the sensemaking of IC information using a 7-point Likert scale. Additionally, four questions were included to elicit information relating to occupancy, revenue per available room, number of employees and number of rooms. The questionnaire also elicited brief information on the demographics of the hotel and the respondent. The final questionnaire consisted of eighty items and the following section details the item selection for each variable.

Human Capital.

This construct was measured with sixteen survey items modified, for the hospitality industry, and drawn from items used by Bontis (1998a), Huang, Luther et al. (2007), Reed et al (2006), Youndt and Snell (2004), Moon and Kym (2006). In the preparation of these items the researcher was also guided by the work of Huselid, Jackson and Schuler (1997), Youndt and Snell (1998), Stewart (1997), Edvisson and Malone (1997) and Sveiby(1997). There were eight items related to employee competence and eight items related to human resource practices included in the survey.

Relational Capital

This construct was measured with seventeen survey items, modified for the hospitality industry, and drawn from items used by Bontis (1998a), Huang et al (2007), Sveiby (1997), Reed et al (2006) and Han et al (1998) and supported by Stewart (1997) and Edvisson and Malone (1997). The final questionnaire contained twelve items, seven items related to customer capital and dealt with issues relating to customer retention, customer satisfaction and customer loyalty, and three items related to community capital and two items related to brand.

Structural Capital

This construct was measured with fifteen survey items, modified for the hospitality industry, and drawn from items used by Bontis (1998), Huang et al (2007), Youndt and Snell (2004) and Reed et al (2006) supported by Sveiby (1997), Stewart (1997) and Edvisson and Malone (1997). Four items were placed in the information system sub-factor, two in the innovation sub-factor and nine in the organisation sub-factor. The sub-factor organisation captured concepts such as management philosophy, management processes and organisational knowledge.

Sensemaking

To assess the level of sensemaking within hotels in the Caribbean, the researcher focused on the information processing structure of the top management teams by using a number of items that were validated by previous research. The eight items that were used to develop the scale were drawn primarily from empirical studies by Thomas and McDaniel (1990), and Gioia and Thomas (1996).

Measurement of IC

There were thirteen items that were included in this section. The work of Sveiby (1997) and Stewart (1997) provided the major sources for the items. In addition, two items were constructed by the researcher based on literature using Brander-Brown and McDowell (1995), Salterio (1998) and Flamboltz (1980).

Performance

There were fourteen questions included in the survey to elicit information from the respondents on self reported performance measures as well as perceptual estimates of performance on multiple dimensions. Bontis (1997) provided a list of indicators that can be used to measure performance, and these indicators were modified to reflect the hospitality industry guided by the work of Kaplan and Norton (1992), Brander Brown and McDonnell (1995), Fitzgerald and Moon (1996), Fitzgerald et al (1991) Brander Brown and Atkinson (2001) and Philips (2005).

6.4.2. Sampling

Sampling was one of the major areas considered during the design phase. According to Kalleberg et al (1990) if representative sampling procedures are not followed there is little more than an intuitive basis for generalizing results beyond the specific cases studied. To ensure the validity of the generalizations of the sample to the population under investigation an appropriate sampling frame was developed. Smith (2003) asserts that if the sampling frame is not comprehensive or it is inaccurate then the sample cannot be construed as representative. In effectively constructing the sampling frame the target population for the study was defined as the hotels within the English speaking Caribbean. The Caribbean Tourism Organization (CTO), an international development agency and the official body for promoting and developing tourism throughout the Caribbean has thirty-one member territories of which nineteen are English speaking. These nineteen territories formed the geographical area of the study.

Telephone directories, chamber of commerce membership directories, direct enumerations and unemployment insurance forms are some of the sources identified in the literature that can be used to provide a sampling frame for organisational research. The telephone directories of the various territories within the Caribbean were used to provide the sampling frame for this study. Kalleberg et al (1990) support the use of the telephone directory as a sampling frame. In their research they found that this source yielded the highest number of organisations when compared to other

sources. They argued that the telephone directory provides high coverage, low cost in the preparation of the sample frame and no negotiation is needed for access. The limitations of this source however, relate to the moderate auxiliary information provided on the organisations, timeliness since they are usually prepared at least up to six months before being published, and duplicate entries which complicates sampling because it inflates the probability that an organisation will be sampled.

6.4.2.1. The Sampling Frame

An initial list of all the hotels in thirteen English speaking Caribbean territories was created by accessing the online 2007 Caribbean yellow pages directory. The website caribbean.com provided links to the directories of the remaining six territories. This provided a comprehensive list of all types of accommodations (hotel, guesthouses and resorts) within the study area. The list was then sorted by telephone numbers to identify duplicate listings and once identified they were removed. Using the websites of the Caribbean Tourism Organisation (doitcaribbean.org and onecaribbean.org), the Caribbean Hotel Association (caribbeanhotelassociation.com), caribbean.com and the individual hotels the number of rooms for each property was appended to the respective property on the list. The result of this activity provided a sampling frame of 1,291 properties ranging from 2 rooms to 2300 room. The following table 28 details those properties with 40 or more rooms.

Table 28: Properties with 40 or more rooms

Number of rooms	Number of properties
Over 100 rooms	176
Between 50 and 99	163
Between 40 and 49	90
Total	429

The literature has identified a number of probability samples that can be used in survey research, however given the small number of properties within the sample frame and issues relating to response rates, the researcher included in the study all the accommodation properties with 40 or more guest rooms.

6.4.3. The Pilot

The survey instrument was piloted (see appendix 3) to a mixture of academics and professionals within the hospitality industry. The questionnaires were sent to Lecturers of the Departments of Management Studies at the Cave Hill Campus and the Mona Campus of the University of the West Indies who taught either Accounting or Hospitality and Tourism Management. In addition, students registered in the MSc Tourism and Hospitality Management at the University, who were actual full time managers in their respective hotels, were asked to pilot the questionnaire. The Research Manager at Almond Resorts Inc. was also asked to complete a questionnaire. This resulted in a total of forty-two persons being asked to participate in the pilot.

The pilot process resulted in nineteen questionnaires being returned. The comments received resulted in revision of the questionnaire. These revisions related to the deletion of two items which were considered unclear, five items were rephrased to improve clarity and a new section was added to separate the items that appeared to relate to measurement of IC and performance of IC. The final questionnaire is included as appendix 4.

6.5. Data Collection Approach

The researcher focused on the hotels with at least forty rooms with a mail survey to the 429 properties. The following table provides the distribution of properties across the Commonwealth Caribbean and the questionnaire return rate for territories surveyed.

Table 29: Hotel distribution by territory and questionnaire return rates

Territory	Properties	Hotels > 40 rooms	Percentage	Returns	Percentage Return
Anguilla	28	5	18%	2	40%
Antigua	44	24	55%	12	50%
Bahamas	287	79	28%	2	3%
Barbados	87	56	64%	39	70%
Bermuda	47	18	38%	5	17%
BVI	43	10	23%	6	60%
Cayman Islands	133	33	25%	6	18%
Dominica	27	3	11%	3	100%
Grenada	85	10	12%	8	80%
Jamaica	171	119	70%	57	48%
St. Kitts and Nevis	23	7	30%	3	43%
St. Lucia	87	25	29%	15	60%
St. Vincent & Grenadines	83	7	8%	4	57%
Trinidad & Tobago	85	25	29%	16	64%
Turks and Caicos Islands	61	8	13%	6	75%
	1291	429	33%	184	42%

To facilitate the return of the mail survey, an envelope addressed to the researcher in care of an individual resident in the respective territory was inserted in to the package containing the questionnaire. In addition, a letter addressed to the hotel manager outlining the rationale of the survey and instructions for completing the questionnaire were included in the package. The questionnaire was printed on yellow paper with navy blue ink to distinguish it from the several pieces of mail a manager may receive. The demographics and geography of the Caribbean required the use of a local resident as the conduit for return of the questionnaires and these were provided with a list of hotels in their respective area to facilitate follow up.

The initial posting resulted in 46 questionnaires being returned. The follow-up process consisted of telephone calls to the non-responding hotels and in some cases a visit to the property. In several cases a second questionnaire was sent to the hotel but a drop off and pickup process was used. That is, the questionnaire was taken to the hotel by the local resident who then returned to collect the questionnaire. The completed

questionnaires were sent by courier to the researcher. This resulted in 184 completed questionnaires.

It can be argued that for any survey research where there is less than 100 percent response there is potential for non response bias. Non response bias occurs when the observed values deviate from the population parameter due to differences between the respondents and non-respondents. Therefore since the response rate for the present study was 42 percent, non response bias was evaluated. Lambert and Harrington (1990) tested for non response bias in their postal survey using t-tests to determine whether there were any significant differences between the responses of early respondents and the late waves of returned surveys. They assumed that late respondents were somewhat representative of the opinions of non-respondents. Using Lambert and Harrington (1990) approach, twenty randomly selected survey items were used to conduct t-tests using thirty early respondents and thirty late respondents. The t-tests revealed for the twenty items selected there was no significant difference among the twenty survey items tested. These results do not rule out non-response bias, but they suggest that non-response may not be a problem.

6.6. Data Analysis Approach

In this study, both univariate and multivariate analysis techniques were used. The univariate analysis which explored each variable in the data set separately was used initially to examine the range of values, measures of central tendency, measures of dispersion, skewness and kurtosis, and missing values analysis to identify any major issues with the data set. The multivariate analysis on the other hand, which refers to statistical techniques used to analyse data that arise from more than one variable, was deemed a more appropriate method of analysis to answer the research questions and test the hypotheses developed. Multivariate analysis enables the researcher to find relationships between variables, make predictions, and identify any dominant patterns in the data. The choice of multivariate analysis technique from principal components analysis, correspondence analysis, multidimensional scaling, cluster analysis, multiple regression analysis, partial least squares, multivariate analysis of variance and

structural equation modelling, was determined on which method could best answer the research question and test the hypotheses.

In the literature, studies on the relationship between intellectual capital and business performance usually use regression analysis or the principal component method. These methods deal with only one dependent variable or component and cannot examine the cause and effect relation between them. In regression analysis, we may frequently encounter a multi-collinearity problem if we include related variables as independent variables in order to lessen the error term. In addition, two key assumptions that have to be met in order for this technique to be used are the data must be normally distributed and the variables should be free of measurement error.

An alternative multivariate technique that can be used to model relations between latent variables incorporating measurement error is Structural Equation Modelling (SEM). Hoyle (1995) asserts that SEM is a comprehensive approach to testing hypotheses about relations among observed and latent variables. In addition, there are techniques in SEM which do not require that the data follow a normal distribution (Browne and Cudeck, 1993; Bentler and Yuan, 1999). SEM has become a major statistical analysis method in much social sciences research (Hershberger 2003). This is not the situation in management accounting, though increasingly examples are appearing. As a result, Smith and Langfield-Smith (2004) have made a call for greater use of SEM in management accounting research. Finally, although multiple regression analysis can be used to test the hypotheses, taking into consideration the issues identified above Factor Analysis and SEM have been selected as the multivariate techniques to be employed in this study. The following section will provide background information on the techniques.

6.6.1. Factor Analysis

Factor analysis is a set of statistical techniques which aims to simplify complex sets of data, by taking a large set of variables and statistically reducing them to a smaller set of factors to help researchers construct indexes, test the uni-dimensionality of scales and assign weights to items in an index. Foster (2002) asserts that this is achieved by analyzing the correlations of a set of variables. He posits that factor analysis is designed to simplify the correlation matrix and reveal the small number of factors which can explain the correlations. There are two main approaches to factor analysis, exploratory factor analysis (EFA) which is often used in the early stages of research to explore the interrelationships among a set of variables, and confirmatory factor analysis (CFA) which is a more complex set of techniques used to confirm specific hypotheses concerning the structure underlying a set of variables.

The goal of the EFA in this study was data reduction of the entire sample and the ascertainment of whether the survey questions loaded on the respective dimensions of HC, RC and SC. The results of the EFA provided a reduced data set that was used in the subsequent multivariate analyses. Most of the items used in the survey had been used in prior IC research and several researchers found evidence of the three factors. This process sought to validate those items in addition to the items taken from related literatures and adapted to the hospitality industry.

The CFA, on the other hand, is where a measurement model was constructed specifying the relations of the observed measures to their posited underlying constructs, with the constructs intercorrelating freely (Anderson and Gerbing 1988). Previous factor analytic work had indicated the presence of between three and five factors underlying the IC construct. Therefore, SEM was used to perform the CFA to validate a three factor model. Investigation of the factor structure for this sample of hotels in the Commonwealth Caribbean was the goal of this analysis. The use of exploratory and confirmatory analyses as complimentary approaches provided valuable information.

6.6.1.1. Conditions necessary for factor analysis

There are a number of theoretical and practical issues that were considered in using factor analysis as a technique. Those issues related to sample size, missing data, normality, linearity, outliers, multicollinearity and singularity, and factorability of the correlation matrix. The first step in the process to assess the adequacy of the data for factor analysis was to examine the sample size, which revealed that the overall sample size of 184 exceeds the minimum as advocated by several authors for factor analysis. The issue relating to sample size has been widely debated in the literature. To date there is no agreement on what constitutes an adequate sample size for factor analysis, but it has been generally agreed the larger the sample size, the better. The factor analysis literature contains a variety of recommendations pertaining to sample size, suggesting a minimum sample size, or a minimum ratio of sample size to number of variables, or a minimum ratio of sample size to number of constructs. Kline (1994) asserts that a sample of size of at least 100 or a minimum of 2:1 for the sample size to number of variables is appropriate. Tabachnick and Fidell (2001) suggest at least 300 cases for factor analysis but concedes that a smaller size of at least 150 should be sufficient if solutions have several variables loading above 0.80. Nunnally (1978) suggests a ratio of 10 cases for every variable to be factor analyzed. Mundford et al (2005) empirically tested these recommendations and concluded that the number of variables may not be an appropriate index to determine sample size and to provide an absolute minimum sample size is unrealistic. They suggest however, that in practice using a higher variables-to-factor-ratio with that ratio being at least 7 if possible is reasonable. In the Mundford et al (2005) study they reported that with a variables-to-factors ratio of at least 7, even with low communality the minimum necessary sample size for excellent agreement was at least 150 cases but not greater than 180. Horgarty et al (2005) empirical study showed that there is no minimum sample size or ratio of variables to sample size. Arrindell and van der Ende (1985) reported that they could not find support for the suggested sample size to variables ratio of 10:1 or 5:1 as reported in the literature. Their study found a recognizable factor solution was identified in cases where this ratio was as low as 1.3 to 1 with a minimum sample size of 78. They suggested the sample size should be related to the number of factors drawn and this ratio should be at least 20 to 1 to provide a stable factor solution. In

this study the sample size of 184 can be argued as appropriate for factor analysis. In addition, the literature on intellectual capital which has identified three broad factors (HC, RC and SC) would require at least 60 cases using the recommendation of Arrindell and van der Ende (1985).

6.6.1.2. Factor Extraction

This process involves determining the smallest number of factors that should be included in the model to best represent the interrelations among the set of variables. Fabrigar et al (1999) identified two approaches for rotating the initial factor analytic solution to a final solution, principal components analysis, the goal of which is data reduction and principal axis factoring where the aim is to produce a parsimonious representation of associations among variables. The decision pertaining to the choice of methods however depends upon whether the data are normally distributed. Fabrigar et al (1999) posit that whereas in some methods of factor analysis, for example, maximum likelihood factoring, the assumption of multivariate normality is important, in that if it is severely violated the procedure can produce distorted results, the principal axis factor method both iterated and non-iterated have the advantage of entailing no distributional assumption. However, Tabachnick and Fidell (2001, pg 588) posit that *"as long as PCA[8] and PA are used descriptively to summarize the relationship in a large set of observed variables assumptions regarding the distributions of variables are not in force"*. Hence to determine the most appropriate method for analysing the data, the researcher tested for normality using the non-parametric Kolmogorov-Smirnov test of one sample. The results of the K-S test established that the data violate the assumption of multivariate normality. Therefore, principal axis factoring rather than the principal components analysis was the extraction method used in this study.

[8] PCA refers to Principal components analysis and PA principal axis factoring.

6.6.1.3. The number of factors to retain

Kaiser' criterion, Catell's scree test, and Horn's parallel analysis[9] are the three techniques more commonly used to determine the number of factors to retain. Kaiser's criterion or the eigenvalue rule dictates that factors with eigenvalues equal or greater than 1.0 should be retained. Catell's scree test, on the other hand, involves plotting the eigenvalues against the number of variables and visually inspecting the graph to find the point where the shape of the curve changes direction and becomes horizontal. Catell recommends retaining all factors above the elbow as these factors contribute the most to the explanation of the variance in the data set. Horn's parallel analysis involves comparing the size of the eigenvalues with those obtained from a randomly generated data set of the same size. To perform Horn's parallel analysis, data was entered in a standalone windows program that computes random eigenvalues that were used as the criteria for parallel analysis, by performing a Monte Carlo simulation. The eigenvalue obtained from SPSS was compared to the corresponding values generated from the parallel analysis and where those factors were greater than the criterion value, those factors were retained.

6.6.1.4. Factor rotation and interpretation

There are two main approaches to rotation, resulting in either orthogonal or oblique factor solutions. Orthogonal rotation should be used if the researcher assumes that the underlying constructs are independent, whereas oblique rotation should be used in cases where the constructs are correlated (Tabachnick and Fidell 2001, Kline 1994). In interpreting a final solution using an orthogonal rotation, the factor pattern and the factor structure are identical but this is not the case in oblique rotations, and hence the factor structure rather than the factor pattern is interpreted (Kline 1994).

Finally, in the empirical studies in IC using factor analysis as an analysis technique both exploratory factor analysis and confirmatory factor analysis have been used. The extraction methods included principal components analysis (Bontis 1998a, Moon and

[9] This programme was designed by Watkins (2000) computer software, State College, PA: Ed & Psych Associates.

Kym 2006, Reed et al 2006, Ling and Taw 2006), maximum likelihood (Khong and Yah 2006, Youndt and Snell 2004, Youndt et al 1996, and principal axis factoring (Huang, Luther et al. 2007). The rotation techniques tended to be varimax (Moon and Kym 2006, Khong and Yah 2006, Ling and Taw 2006, Bontis 1998a, Tseng and Goo (2005) or direct oblimin (Reed et al 2006).

6.6.2. Structural Equation Modelling

SEM has been described as a collection of statistical techniques that allows simultaneous analysis of a set of relationships between one or more than one independent variable and one or more than one dependent variable (Tabachnick and Fidell, 2001; Smith and Langfield-Smith, 2004). According to Muthen (2002 p82) "structural equation modelling (SEM) took factor analysis one step further by relating the constructs to each other and the covariates in system of linear regressions thereby purging the structural regressions of biasing effects of measurement error". This technique allows a dependent variable in one equation to become an independent variable in another equation. In addition, SEM allows the researcher to represent latent variables in the relationships between variables while accounting for estimated measurement error associated with the imperfect measurement of variables. The use of SEM in this study required the estimation of an a priori model and the evaluation of the model.

6.6.2.1. Model Estimation

A number of techniques is available for estimating the performance of a SEM model. The software used in this study was AMOS which has five methods for calculating the estimates of a model. These are maximum likelihood (ML), generalized least squares (GLS), unweighted least squares (ULS), scale-free least squares (SLS) and asymptotically distribution free (ADF). In the selection of an appropriate estimation technique the researcher considered the sample size of 184 and the distribution of the data.

A number of researchers has over the years debated the issue relating to multivariate normality and structural equation modelling of which CFA is a commonly used technique. The assumption of multivariate normality is important in CFA in that its violation can inflate computed chi-square values. This may result in the rejection of a model, despite it being correct. Ullman (2006) has argued that researchers obtaining data that violate the normality assumption is not uncommon in the social sciences. Yuan and Bentler (2006) concur as they posit that (p1122) "real data typically have larger skewness and kurtosis than those of a normal distribution". They further added that in reality, the normality assumption used in modelling should be considered as only a working assumption. However, a number of statistical techniques to deal with non-normal data have been developed. Field (2000), Tabachnick and Fidell, (2001), and Foster (2000) argued that data which show evidence of skewness and kurtosis can be transformed using a log, square root or reciprocal transformation to reduce the effects. The assessment of variables in the data set revealed evidence of skewness and kurtosis in a number of the variables and these variables have been transformed using a square root transformation.

The software programme AMOS can perform CFA on data where the assumption of normality has been violated by choosing the estimation criterion of asymptotically distribution free (ADF) option. Browne and Cudeck, (1993), and Bentler and Yuan (1999) argue that the ADF method which does not invoke the normality assumption is ideal, unfortunately this method needs unreasonably large sample sizes to get stable estimators and to make the ADF test statistic behave as a normal chi-square value. Ullman (2001, 2006) supports this view and further added that this criterion is impractical in studies with many variables. Satorra and Bentler (2001) further criticized the use of the ADF method and asserted that this criterion which involves fourth-order sample moments lacks the robustness for small and medium sized samples. The ADF could not be used in this study although the data showed evidence of multivariate non-normality since the sample size was only 184. Additional support for this decision is based on the assertion of Curran et al (1996) that models with greater than 20 variables could not be feasibly estimated with ADF.

The ADF criterion which is recommended for data where there are no distributional assumptions, with the limitations noted, has resulted in researchers using the alternative estimation methods that are robust to deal with small and medium size samples. Byrne (2001) argues that bootstrapping can be used in situations where there is a violation of the multivariate normality assumption. In the event of missing data, maximum likelihood can still be undertaken in AMOS by choosing the option of "means and intercepts estimated'. Other SEM software such as LISREL and EQS incorporates alternative fit statistics that can be used with the ML estimation technique. In addition, Steenkamp and van Trijp (1991) have argued that the ML parameter estimates are rather robust against moderate violations of the multivariate normality assumption provided the sample size exceeds 100. Bentler and Yuan (1999) agreed that the ML can be used even when the sample size is quite small, perhaps only slightly larger than the number of variables but they caution that it can yield quite distorted results about model adequacy under the violation of multivariate normality. Satorra and Bentler (1988) recognizing the sample size limitation in ADF have developed an adjustment for non-normality that can be applied to ML, GLS, or EDT chi-square statistics. The Satorra-Bentley scaled χ^2 is a correction to the χ^2 test statistic (Satorra and Bentler 2001). Several simulation studies for example Chou et al.,(1991), Curran et al., (1996) and Ullman (2006) have used this technique. The results have demonstrated that the technique is robust and consistent with non-normal data and samples similar to this study. This technique, however, is not available in AMOS, as a result the researcher has selected the bootstrapping ML option that has been advocated by Byrne (2001).

6.6.2.2. Model Evaluation

There are two aspects to evaluation of the model, an evaluation of the measurement model and an evaluation of the structural model. The measurement model specifies relations between the manifest variables and latent variable. Evaluating the measurement model entailed the use of CFA to establish the loadings of each observed variable on the latent variable. This allowed for the assessment of the constructs in terms of unidimensionality, convergent validity, average variance explained and discriminant validity.

The structural model is a model of relations between latent variables, incorporating specified measurement error variances. In evaluating the structural model, a portfolio of indices exists for the evaluation of model fit. However, there is no general agreement on a set of appropriate goodness of fit measures. Hair et al (2006) have classified these indices into three groups. The absolute fit indices which are direct measures of how well the specified model reproduces the observed data. The fit indices included in this group are the chi-square, the Goodness-of-fit (GFI), Standardized Root Mean Residual (SRMR), Root Mean Square Error of Approximation (RMSEA), Expected cross-validation Index (ECVI) and actual Cross Validation Index (CVI). The second classification relates to the incremental fit indices which assess the specified model relative to some alternative baseline models. The indices included in this classification are Normed Fit Index (NFI), Comparative Fit Index (CFI), Tucker-Lewis Index (TLI) and Relative Noncentrality Index (RNI). The third classification is termed the parsimony fit indices which provide information about which model among a set of competing models is best, considering the fit relative to its complexity. The indices used in this evaluation according to Hair et al. (2006) are the Parsimony ratio (PR), parsimony Goodness-of-fit (PGFI) and Parsimony Normed Fit Index (PNFI).

In the selection of indices to evaluate the structural model for this study, consideration was given to the sample size and distribution of the data. It has been argued that SEM is based on covariances and these are less stable when estimated from small samples (Ullman 2006). This instability of covariance matrices would impact on parameter estimates and chi-square tests which are sensitive to sample size. Several empirical studies have examined the performance of the various ratios under conditions relating to sample size and normality of the data. In the absolute fit indices the chi-square which assesses the magnitude of discrepancy between the sample and the fitted covariance matrices is usually the most reported index. Researchers have been consistent in their evaluation of this ratio in terms of sample size and non-normality of the data. Bentler (1990), March et al. (1988), Satorra and Bentler (1988) have all argued that the use of the chi-square statistic may be inappropriate or incomplete in model evaluation becuase it is affected by sample size. As a consequence March et al. (1988),Bentler and Yuan (1999) have suggested test statistics that can be used to

evaluate small samples. In this study the fit indices that were used to evaluate the structural model are GFI, NFI, CFI and RMSEA.

6.6.3. Reliability and Validity issues and concerns

Finally, is assessing any study, issues pertaining to validity and reliability must be addressed, the following section details how the researcher dealt with these issues.

6.6.3.1. Reliability

According to Malhotra and Birks (2003) reliability refers to the extent to which a measurement reproduces consistent results if the process of measurement were to be repeated. Collis and Hussey (2003) assert that reliability can be evaluated through the use of test-retest method, split halves method or internal consistency. The scales were evaluated for reliability using the Cronbach's alpha which is an internal consistency method based on the recommendation of Malhotra and Birks (2003). They argue that the Cronbach's alpha is a measure of internal consistency reliability that is the average of all possible split-half coefficients resulting from different splittings of the scale items.

6.6.3.2. Validity

Validity is concerned with the extent to which the research findings accurately represent what is happening in the situation (Collis and Hussey, 2003). According to Malhotra and Birks (2003) validity is composed of content validity, criterion validity and construct validity. They defined content validity as a subjective but systematic evaluation of the representativeness of the content of a scale for measuring the task at hand. Criterion validity examines whether the measurement scale performs as expected in relation to other selected variables as meaningful criteria. According to Hair et al. (2006) construct validity is the extent to which measured items actually reflect the theoretical latent construct those items are designed to measure.

Malhotra and Birks (2003) identified convergent validity, discrimant validity and nomological validity as the three aspects of construct validity. Convergent validity measures the extent to which the scale correlates positively with other measures of the same construct. Convergent validity in SEM can be assessed from the measurement model by determining whether each indicator's estimated pattern coefficient on its posited underlying construct is significant. Anderson and Gerbing (1988) argue that the significance can be tested by determining whether the estimated pattern coefficient is greater than twice its standard error. In assessing the SEM model for construct reliability (CR) Hair et al (2006) formula of

$$CR = \frac{(\sum_{i=1}^{n} \lambda_i)^2}{(\sum_{i=1}^{n} \lambda_i)^2 + (\sum_{i=1}^{n} \delta_i)}$$

where λ represents the standardized factor loadings, *i* is the number of items for *n* items and δ is the variance of the error terms that was used. Discriminant validity assesses the extent to which a measure does not correlate with other constructs from which it is suppose to differ. The discriminant validity for the study was assessed using Hair et al (2006) recommendation of comparing the variance extracted from two factors to the square of the correlation estimate between the two factors. To assess the variance extracted Hair et al. (2006) formula of

$$VE = \frac{\sum_{i=1}^{n} \lambda_i^2}{n}$$

where λ represents the standardized factor loadings and *i* is the number of items for *n* items was used. The variance extracted reflects the overall amount of variance in the manifest variables accounted for by the latent construct. Hair et al. (2006) contend that the variance extracted from the two factors should be greater than the square of the correlation estimate. The final attribute of construct validity is nomological validity which assesses the relationship between theoretical constructs. It seeks to confirm significant correlations between the constructs as predicted by a theory.

6.7. Conclusion

The research design outlined for this quantitative phase follows the objectivist ontology which assumes that the researcher remains detached from the research situation. The entire population of hotels with forty or more rooms was surveyed in this study and the resulting forty two percent return provides for some generalizations of the findings within the Commonwealth Caribbean. The statistical techniques selected enabled the identification of constructs important to the study and sought to examine the existence of causal relationships among them.

Additionally, at the methodological level confirmatory techniques were used that enabled the testing of hypotheses and theory verification which support the empiricist epistemological position of the research. Finally, the methods used in this study with emphasis on validity through tight quantitative techniques ensured that at the axiological level rigour was achieved. The following chapter reports on the quantitative analysis of the data and the results of the hypotheses tested.

CHAPTER 7

Quantitative Analysis and Discussion

7.1. Introduction

The research design of this study, based on an empiricist objectivist methodology using theoretical frameworks relating to the resource based view of the firm and sensemaking was the focus of the previous chapter. This chapter will set out the findings by presenting the quantitative analysis of the data obtained from the questionnaire survey. The analysis proceeded in four stages. Preliminary analysis involved univariate analysis of the data followed by exploratory factor analysis of the independent variables, mediating variables and dependent variables to reduce the data set. Next, a two-stage approach to structural equation modelling as advocated by Anderson and Gerbing (1988) was used for the confirmatory factory analysis. The measurement models were assessed followed by the structural model. The results of the confirmatory factor analysis of the independent, mediating and dependent variables were then used in the structural equation model. This phase sought to assess the relationships among the IC factors, measurement, sensemaking, and performance and to test the hypotheses developed. The results are reported in the following sections.

7.2. Univariate Analysis of the Data

The data set consisted of 184 returned questionnaires which were entered in SPSSv15. Three variables that were negatively written in the questionnaire were reverse coded on entry into SPSS. The raw data was subjected to univariate analysis and statistics were obtained to reveal the means, standard deviations, kurtosis and skewness of all variables in the data set. The following table provides some descriptive statistics on the hotels included in the survey.

Table 30: Descriptive statistics of selected variables

	Mean	St. Deviation	Range
Number of rooms	133.36	121.513	40 – 856
Number of employees	155.37	176.26	20 – 843
Occupancy level in 2006	71.41	12.62	34% - 95%
Revenue per available room*	US$ 208.02	208.18	$26 - $1,098

*based on 38 observations only

In terms of the hotel ratings 14.6% were 5 stars; 29.1% were 4 stars; 50.0% were 3 stars, and 6.3% were 2 stars. The meal plans offered by the hotels consisted of 5.9% AP (Full American Plan), 12.5% MAP (Modified American Plan), 9.9% CP (Continental Plan), 36.8% EP (European Plan), and 34.9% all-inclusive. The questionnaires were completed by senior managers, 33.7% by the General Manager, 7.7% the Accountant, 33.1% the Human Resources Manager, 3% the Marketing Manager and 22.5% the Hotel Operations Manager.

The results of the skewness and kurtosis were used to assess normality of the observed single variables used in the study, an important criterion in several statistics tests. Sixty-five (65) of the eighty (80) observed variables were negatively skewed and three (3) were positively skewed. The significance of the skewness and kurtosis was examined by computing a Z-score for each variable. This process revealed that in terms of the skewness in sixty-five (65) variables it was significant, and in terms of kurtosis in forty-one (41) of the variables it was significant in that the Z-score exceeded 1.96. In addition, a one-sample Kologorov-Smirnov nonparametric test was performed on the data. This test procedure indicated that 73 of the 80 variables appear to violate the normal distribution assumption.

The presence of univariate outliers and multivariate outliers can affect the distribution of a sample. Univariate outliers were identified by computing the standardized scores by taking each score and converting it to a z-score by subtracting the mean and dividing by the standard deviation. Tinsley and Brown (2000) assert that any z-score that is greater than 3.29 with $p < .001$ is considered an outlier. An analysis of the data using this criterion revealed 52 scores out of 13,359 (0.38 percent) can be classified as univariate outliers.

The questionnaires were rechecked to ensure that they were no data entry errors and this process revealed three errors in data entry which were corrected. An examination of the univariate outliers by questions revealed that 8 were associated with question 30, and the others were randomly associated with the other questions. A further examination of question 30 which read, “Generally, we do not care about what our customers think or desire from us”, and a re-examination of the data indicated that these 8 outliers were as a result of managers selecting 7 which meant they strongly agree with the statement. It can be argued that most managers in a customer focused environment would not assert that they do not care about their guests.

In examining the univariate outliers by cases, only two cases were of concern to the researcher. In one case 11 of these outliers were found, a further examination of this case revealed that the manager selected the options at the extremes. In the other case, 8 outliers were found and five of these were related to questions 19 through 23. The two cases were deleted from the data set. The other univariate outliers by cases were randomly distributed throughout the data.

Missing value analysis was conducted on the data set. Data are available from 182 cases with missing values in some cases and variables. However, of the 73 variables to be used in factor analysis there were no missing data. An examination of ratio variables assessing occupancy, number of rooms, number of employees and revenue per available room indicated missing values. The variable assessing revenue per available room showed an extremely high percentage of non-response (79.4 percent) and this variable was excluded from further analysis.

7.3. Exploratory Factor Analysis (EFA)

The univariate analysis described in section 7.2 above addressed the issues relating to missing data and normality. The significant skewness and kurtosis in addition to the non-parametric Kolmogorov-Smirnov test of one sample indicated that the assumption of multivariate normality may be violated. Therefore the extraction method used in

this study was principal axis factoring rather than the principal components analysis. Additional tests were conducted to determine the factorability of the correlation matrix. Pallant (2005) states that the correlation matrix should show at least some correlations of r = 0.3 or greater to be considered suitable for factor analysis. Correlation matrices among the 46 items produced by SPSS reveal a number of correlations in excess of 0.3 and some considerably higher. Patterns in responses to variables are therefore anticipated. An analysis of the anti-image correlation matrix revealed all elements on the diagonal of this matrix were greater than 0.5. In addition, the Bartlett's test of sphericity, which test the null hypothesis that the original correlation matrix is an identity matrix (Field 2000) was conducted on the data. This test is a measure of homogeneity of variables. Pallant (2005) posits that this test should be statistically significant at $p<0.05$. The Bartlett's test of Sphericity showed an approx. Chi square of 4594.992, with 1081 df and significance 0.000. The results indicated that the correlation matrix was suitable for factor analysis.

The Kaiser-Meyer-Olkin measure of overall sampling adequacy provides a means to assess the extent to which indicators of a construct belong together. Kaiser and Rice (1974) posit guidelines for interpreting KMO measure. They assert that a KMO larger than 0.9 is marvellous, larger than 0.8 is meritorious, larger than 0.7 is middling but below 0.5 is unacceptable. Pallant (2005) supports this view and asserts that the Kaiser-Meyer-Olkin value should be 0.6 or above. The data on which this study is based has a KMO measure of sampling adequacy of 0.864 which is meritorious. The following table provides the results of the KMO and Bartlett's Test.

Table 31: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.864
Bartlett's Test of Sphericity	Approx. Chi-Square	4594.992
	df	1081
	Sig.	.000

An important preliminary step of factor analysis is to investigate the existence of multicollinerity (Ibrahim and Wee, 2002) which may threaten interpretations made

from correlated studies. Multicollinerity occurs when independent variables in a study or subscales in a measure are too highly correlated among themselves (Hanke and Reitsch 1994). Generally, correlations of more than 0.8 are considered as the threshold for multicollinearity (Nunnally, 1978) and are observed from zero-order correlations among variables. The original non-rotated principal component analysis using SPSS reveals that the smallest eigenvalue which is associated with the 46 factors is 0.094, not dangerously close to zero. In addition, none of the squared multiple correlations exceed 0.9, the largest being 0.8245. This finding would indicate that multicollinearity and singularity are not a threat in this data set.

7.3.1 Independent Variables – IC constructs

There are two major extraction methods that are used in IC research, principle components analysis and principle axis factoring. Tabachnick and Fidell (2001) assert that if one is interested in a theoretical solution uncontaminated by unique and error variability and have designed the study on the basis of underlying constructs that are expected to produce scores on the observed variables then factor analysis instead of principal components is the appropriate choice. Kline (1994) states that the principal axes method of factor analysis and principal components are identical, except that instead of unity in diagonals, some other estimate of communality is inserted. He explains further that this means that while the principal components method explains all the variance in a matrix the principal axis does not, resulting in the principal components being contaminated by error since all correlations contain error. This view is supported by Fabrigar et al (1999) as they argue that in principal components analysis there is no differentiation between common and unique variance since this method defines each measured variable as a linear function of principal components. Conceptually, the primary difference between these two broad categories is that in principal axes factor analysis there is a smaller set of latent constructs that underlie the variables that actually were measured. In principal components, on the other hand, one is simply trying to mathematically derive a relatively small number of constructs to convey as much information as possible in the measured variables. In SPSS, factor analysis is termed principal axis factoring which was used in this study.

7.3.1.1 Principal Factors Extraction

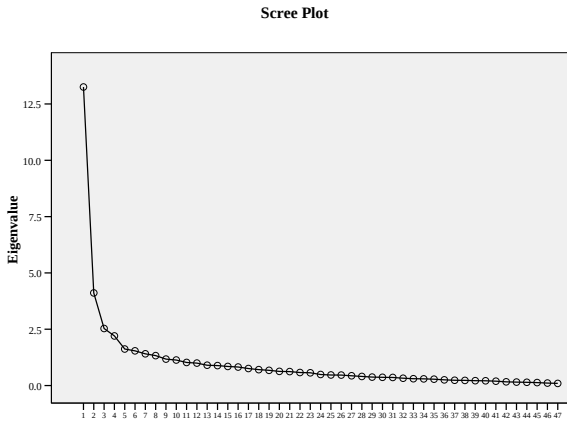
Several principal axis factoring runs were conducted in SPSS specifying a different number of factors to find the optimal number of factors. Anderson and Gerbing (1988) termed this approach restrictive factor analysis. The first run of the data using principal axis factoring with varimax rotation on the 46 items yielded eleven factors with eigenvalues greater than 1 that explained 67.460 per cent of the variance. The eigenvalues for the selected factors and cumulative variance is shown in table 32.

Table 32: Initial Eigenvalues for varimax rotation on 46 items and 11 factors

	Initial Eigenvalues		
Factor	Total	% of variance	Cumulative %
1	13.281	28.872	28.872
2	4.221	9.175	38.047
3	2.444	5.312	43.359
4	2.150	4.674	48.033
5	1.602	3.483	51.516
6	1.491	3.241	54.757
7	1.409	3.063	57.819
8	1.226	2.664	60.483
9	1.155	2.510	62.994
10	1.034	2.248	65.242
11	1.020	2.218	67.460

The total variance explained table is provided in appendix 5. According to the Kaiser Criterion or the eigenvalue rule the number of factors to retain is where the eigenvalue is greater than 1. The retention of eleven factors seems unreasonable since the first four eigenvalues are all greater than 2, and after the sixth factor changes in successive eigenvalues are small. This can be construed that there are between 4 and 6 factors. This was confirmed by an examination of the Cantell scree plot (figure 19) which indicates that between four and six factors should be retained as that is the point at which the slope changes and becomes horizontal.

Figure 19: Cantell's Scree Plot



Horn's parallel analysis confirmed that four factors should be retained as only four of the actual eigenvalues exceed the criterion value. Table 33 shows a comparison of the eigenvalue to the criterion value from the parallel analysis.

Table 33: Horn's Parallel Analysis

Component	Actual eigenvalue from PA	Criterion value from parallel analysis	Decision
1	13.281	2.1577	accept
2	4.221	2.0320	accept
3	2.444	1.9225	accept
4	2.150	1.8485	accept
5	1.602	1.7750	reject

The results that four factors would emerge from the data set would find some support in the literature. In evaluating the number of factors and items to retain, the factor loadings were taken into account. According to Bollen (1989) a higher loading means that the item contributed more toward a factor. Comrey and Lee (1992) were more specific in their recommendation and suggested a range of factor loadings that can be used with the respective overlapping variance. They posit that a factor loading in excess of 0.71 is excellent in that the overlapping variance is 50 percent; a loading of 0.63 is very good with an overlapping variance of 40 percent; a loading of 0.55 is good

with an overlapping variance of 30 percent; a loading of 0.45 is fair with an overlapping variance of 20 percent; and a loading of 0.32 is poor with an overlapping variance of 10 percent. Hair et al (1998) on the other hand related the selection of a factor loading to the sample size. They assert that loadings of more than 0.30 are generally accepted as significant. However, for a sample between 150 and 200 the factor loading based on a significance level of .05 should be 0.45. Based on this recommendation the criterion for interpretation chosen for this research is a factor loading in excess of 0.45.

An analysis of the rotated factor matrix (see appendix 6) of the first run of the data set revealed that HC5, RC11, RC12, RC14, and RC8 all had factor loadings below 0.45, the criterion being used in this research, and were deleted. In addition, there was one factor with no items above 0.45, four factors with one item above 0.45 and one factor with two items above 0.45. Using Anderson and Gerbing's (1988) restrictive analysis approach the data were rerun specifying six factors. The results of this iteration revealed an explained variance of 47.544 percent, seven items loading on to factors below the 0.45, factor 6 with no items above 0.45 and factor 5 with three items above 0.45. The items RC13, RC15, RC16, HC2, HC8, HC7 and HC3 were deleted. The third run of data set specifying 4 factors and 36 items yielded an explained variance of 46.444 percent. An analysis of the pattern matrix revealed that six items loaded onto factors below 0.45 and were deleted. The fourth run of the reduced data set used the established criterion of 0.45 as the minimum loading with a corresponding 20 percent of overlapping variance and an oblique rotation. This iteration yielded 4 items loading onto factor 1, 10 items loading onto factor 2, 6 items loading onto factor 3 and 5 items loading onto factor 4.

A method that has been used in factor analysis in determining the number of factors to select is the a-priori criterion. In IC literature it has been argued that there are three broad factors comprising IC (Bontis 1998, Svieby 1997, Stewart 1997). Using this a-priori criterion the data were subjected to an iteration to examine the fit of items onto the respective factors. This iteration yielded an explained variance of 46.827 percent, 10 items loading on to factor 1, 8 items loading on to factor 2 and 10 items loading on

to factor 3. Further examination revealed that two items loaded on to the wrong factor and one item had a high cross loading. Another test of the adequacy of extraction and number of factors is an examination of the residual correlation matrix for residuals greater than 0.1. The residual correlation matrix reveals the partial correlations between pairs of items with effects of factors removed. According to Tabachnick and Fidell (2001) if this examination of the residual correlation matrix reveals several moderate residuals (i.e. between 0.05 and 0.1) or a few large residuals (i.e. greater than 0.1) this suggests the presence of another factor. Using this criterion to examine the residual correlation matrix revealed that 37.5 percent of the residuals were above 0.05 which suggests evidence of another factor.

Based on the analysis of the various pattern matrices, reproduced correlation matrices and percentage of variance explained by the model, the four factor model appears to represent the data better. To assess whether the items are well defined by the solution the communalities were inspected. Communalities indicate the presence of variance in an item that overlaps variances in the factors and this is used to determine homogeneity or heterogeneity. According to Field (2000) communality is a measure of the proportion of variance explained by extracted factors. The communality values with the exception of 1 are all above 0.32. However, the restricted analysis using three factors has more theoretical support than the four factor model.

7.3.1.2 Adequacy of Rotation

Rotation is performed to avoid items with high loading falling into too many different factors. Two common types of rotation are oblique and orthogonal rotations. Several authors strongly support oblique rotation over other methods for its assumption of interfactor relationship (Tabachnick and Fidell 2000) and its ability to produce a better estimate of factors among correlated latent variables (Fabrigar et al 1999). The data were analysed using both orthogonal rotation and oblique rotation and the resulting factor score matrices were examined to determine the level of correlation among the items. Table 34 shows the factor correlation matrix highlighting the correlation between factors using the oblique rotation.

Table 34: The Factor Correlation Matrix

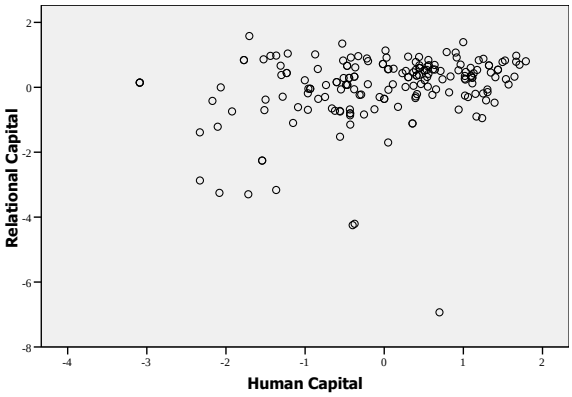
Factor	1	2	3	4
1	1.000	.360	.360	.434
2	.360	1.000	.363	.353
3	.360	.363	1.000	.427
4	.434	.353	.427	1.000

Extraction Method: Principal Axis Factoring.
Rotation Method: Oblimin with Kaiser Normalization.

The presence of correlations above 0.32 indicates there is 10 percent or more overlap in variance among factors. Tabachnick and Fidell (2000) posit that once the correlation matrix have correlations in excess of 0.32 that oblique rotation should be used unless there are compelling reasons for orthogonal rotation.

Another test of the adequacy of rotation could be done by a visual inspection of a scatterplot with pairs of rotated factors as axes and items as points. In examining the items that loaded on the respective factors, factor 1 was labelled human capital; factor 2 structural capital – organisational capital; factor 3 relational capital; and factor 4 structural capital – technological capital. The scatterplots between relational capital and human capital, relational capital and structural capital – organisation, relational capital and structural capital – technological capital, human capital and structural capital – organisation and human capital and structural capital – technological capital show evidence of correlation among factors as found in the oblique rotation. The factor correlation matrix shows relationships between 30 percent and 40 percent. This is reasonable to support the rotation. It should be noted that if higher percentages of relationships were found there could be problems with singularity. A scatterplot diagram between relational capital and human capital is illustrated in Figure 20.

Figure 20: Scatterplot of Relational Capital and Human Capital



Nunnally (1978) on the other hand asserts that if rotated factors are orthogonal the sum of the squared loadings in any row remains the same in that the rotated factors explain the same amount of variance as the unrotated factors did. Secondly, the sum of the products of loadings in any two rows of the rotated factor matrix is the same as the unrotated matrix. Thus the common variance is explained in both the rotated and unrotated matrices. The data was rerun specifying 4 factors and 36 items but the method of rotation selected was orthogonal. This iteration revealed 9 items loading on to factor 1, 5 items loading on to factor 2, 8 items loading on to factor 3 and 7 items loading on to factor 4. The orthogonal rotation yielded higher loading on the respective factor than the oblique rotation.

The entire matrix was checked using Nunnally's (1978) approach and it would appear that the rotated factors are orthogonal because the properties of the unrotated matrix factor loadings carry over to the rotated factor loading. The following table 35 presents an analysis of selected items using Nunnally's approach.

Table 35: Comparison of selected items in the rotated factor matrix and unrotated factor matrix using Nunnally's approach

Rotated Factor Matrix(a)					Factor Matrix(a)						
	Factor				Factor				Comm.		
	1	2	3	4	1	2	3	4	Extract.	Check 1	Check 2
HC1	0.620	0.136	0.439	0.180	0.531	0.376	-0.082	0.096	0.439	0.439	0.4505
HC11	0.678	0.028	0.613	0.082	0.522	0.472	0.058	0.007	0.499	0.499	0.5201
HC12	0.666	0.241	0.549	0.035	0.677	0.353	0.023	-0.172	0.613	0.613	0.5593
HC13	0.687	0.238	0.126	0.068	0.602	0.411	-0.122	-0.057	0.549	0.549	

Finally, as there is evidence of correlation between factors as shown in the factor correlation matrix, this correlation can be considered low, and an examination of the pattern matrix in the oblique rotation with the rotated matrix in orthogonal rotation the two matrices present very similar results. Hair et al (2005) assert that with an oblique rotation the factors have a way of becoming specific to the sample and not generalizable. Therefore as suggested by Field (2000) when both methods produce similar results, the choice of oblique rotation over orthogonal rotation should be based on which produces the easier interpretation. The orthogonal rotation will be used for further analysis. The rotated factor matrix is presented below in table 36.

Table 36: The four factor – rotated factor matrix

	Factor			
	1	2	3	4
HC15… employees are highly skilled	.765			
HC14…. employees generally focus on the quality of service….	.718			
HC13 ... employees have a broad knowledge …	.687			
HC11 … employees easily adapt to new ideas and knowledge	.678			
HC12 … employees are committed to making this hotel better ….	.666			
HC4 … employees are generally experts …	.626			
HC1 …best employees in the industry	.620			
HC6 … employees of our hotel are creative and intelligent	.560			
HC9 …comprehensive recruitment programme …	.531			
SC7… has a supportive organizational culture.		.804		
SC8 Hotel systems and procedures support innovation		.792		
SC10 ...much of its knowledge and information is in its systems and procedure		.705		
SC9 …organizational structure encourages employees to integrate		.680		
SC5 … encourages knowledge sharing and encourages learning		.451		
RC5… listen and respond to customer's complaints			.648	
RC7 A survey of customers would indicate that they are generally satisfied…			.608	
RC6 … customers are loyal to our hotel			.607	
RC3 …business decisions are driven by customer satisfaction			.574	
RC1… hotel tries to offer customers the best service…			.527	
RC10 …hotel is heavily customer and market focused			.517	
RC2… maintains long-standing relationships with …suppliers and trade partners			.515	
RC4… maintains good relationships with all civic groups …			.492	
SC14 …information systems are integrated with each other				.718
SC2 …information system makes it easy to access relevant information				.586
SC12 …developed several new ideas and services/products …				.545
SC1 … hotel has the most effective processes ...				.514
SC6… hotel knowledge is documented …..				.488
SC15 … a sufficiently high annual information technology budget allocation				.479
SC4…computer system has been customized …				.460

Extraction Method: Principal Axis Factoring.
Rotation Method: Varimax with Kaiser Normalization. a Rotation converged in 6 iterations.

The VARIMAX rotation used above simplifies the columns of the factor matrix. According to Hair et al (2005) with this approach some loadings are likely to be high (i.e., close to -1 or +1) and some loadings are likely to be near 0. The logic is that the interpretation is easiest when the item factor loading is close to -1 or +1, thus indicating a clear negative or positive association between the item and the factor. They continued that when loadings are close to 0, this is an indication that there is a clear lack of association.

7.3.1.3 The importance of each factor

The rotated factor matrix shows the 9 items loaded onto the human capital factor (factor 1), the 5 items on the structural capital – organisational capital factor (factor 2), the 8 items on relational capital factor (factor 3) and the 7 items on structural capital – technological capital factor (factor 4). The human capital construct refers to the intangibles that characterise the employees who work in a hotel. The Structural capital – organisational capital refers to the intangibles in terms of structure and hotel organisational processes. The relational capital refers to the intangibles generated by the relationships of the hotel to its customers and other external groups. The structural capital – technological capital refers to information systems and other technological intangibles used in the operation of the hotel.

An assessment of the importance of each factor can be achieved by examining the percentage of variance and covariance it represents. The portion of variance a factor represents is the variance explained by that factor divided by the total number of items. The portion of covariance a factor represents is the variance explained by the factor divided by the sum of the variance explained by each factor. In terms of HC, the variance explained is 16.63 percent and when divided by the 29 items results in 57.34 percent of variance. The 16.63 percent of variance explained results in a percentage of covariance of 32.61 percent being 16.63 divided by the total variance explained of 51 percent. Table 37 indicates the results of the calculation for all four factors.

Table 37: Percents of Variance and covariance explained by each rotated orthogonal factor

	Factors			
	1	2	3	4
Variance explained by factor	16.63	12.64	11.70	10.03
Percent of Variance	57.34%	43.59%	40.34%	34.59%
Percent of covariance	32.61%	24.78%	22.95%	19.66%

Each of the factors accounts for between 57% and 34% of the variance in the set of items. The factors that have emerged from this analysis are consistent with the literature and previous studies conducted on IC using factor analysis. The results were subjected to a validation process which is discussed in the next section.

7.3.1.4 Validation of Exploratory Factor Analysis

To validate the EFA, the sample was split into two equal samples of 91 respondents and the factor models were estimated to test for comparability. Table 38 shows the results of the two split samples varimax rotation for the two factor models.

Table 38: The Varimax rotated factor matrix for two split samples

	Rotated Factor Matrix							
	Sub-sample 1				Sub-sample 2			
	1	2	3	4	1	2	3	4
HC1	0.564							
HC4	0.586				0.659			
HC6	0.551				0.547			
HC9	0.483				0.585			
HC11	0.674				0.693			
HC12	0.676				0.647			
HC13	0.737				0.652			
HC14	0.716				0.718			
HC15	0.671				0.820			
RC1		0.627					0.463	
RC2		0.461				0.507	0.608	
RC3		0.649				0.514	0.592	
RC4		0.603					0.491	
RC5		0.634				0.480	0.660	
RC6		0.638					0.569	
RC7		0.554					0.626	
RC10		0.439					0.606	
SC1			0.469					0.632
SC2			0.632					0.545
SC4			0.497					0.572
SC5			0.481			0.672		
SC6			0.603					0.458
SC7				0.759		0.864		
SC8				0.773		0.829		
SC9				0.684		0.713		
SC10				0.615		0.747		
SC12			0.620					0.533
SC14			0.797					0.608
SC15			0.490					0.350

The two VARIMAX rotations are quite comparable in terms of loadings for most of the items. There is a noticeable cross loading for items RC2, RC3 and RC5 in the sub-sample 2. In addition, SC5 did not load with the same items in sub-sample one as it did in sub-sample two. The results show between the samples the loadings were lower on the human capital construct (factor 1) in sub-sample 1 compared to sub-sample 2 (factor 1), but in terms of relational capital the loadings in sub-sample 2 (factor 3) were lower than those on sub-sample 1 (factor 2). The loadings on the structural capital constructs were lower on sub-sample 1 (factors 3 and 4) than on sub-sample 2 (factors 2 and 4). Overall with all the items, with the exception of SC5, reloaded onto the same factor as

in the original total sample, it can be argued that the results are fairly stable within the sample.

Finally, in this study, the items that the research had identified a priori as belonging to particular constructs loaded on to these factors with loadings in excess of the 0.45 cut-off criterion used in this study.

7.3.2. Mediating variables

Sensemaking

Factor analysis was performed on the eight items included on the questionnaire that a-priori were identified as relating to sensemaking using principal axis factoring. These items were used in previous studies on sensemaking within organisations. The EFA process resulted in one factor emerging with six items loading onto this factor with loadings in excess of 0.45. The percentage of variance explained after the extraction process was 50.43. Because only one factor was extracted there was evidence of unidimensionality of the derived measure. Table 39 shows the factor loadings and their communalities after extraction.

Table 39: Factor matrix with Communalities added - Sensemaking

	Factor Loading	Communalities
SM5 All members of the management team participate ….	0.833	0.693
SM3 Decision making in this hotel is participative	0.784	0.615
SM6 Decision making in the hotel is interactive	0.761	0.579
SM4 Committees, teams, task groups are regularly formed	0.660	0.436
SM2 … there is free and open exchange of ideas …	0.644	0.414
SM8 Written rules and procedures are followed....	0.537	0.288

Extraction Method: Principal Axis Factoring.

Measurement of IC

Thirteen items were included within the questionnaire to assess the importance of measurement of IC in the hotel. These items were factor analysed using the 0.45 cut-off criterion established for the study this resulted in one factor with five items. The variance explained by this factor is approximately 43.012 percent. Because only one factor was extracted there was evidence of unidimensionality of the derived measure. Table 40 shows the factor loadings and their communalities after extraction.

Table 40: Factor matrix with Communalities added – Measurement of IC

Factor Matrix(a)	Factor 1	Communalities Extraction
M8 Measure Customer retention	0.765	0.586
M7 Measure Customer complaints	0.683	0.467
M10 Measure Market share	0.666	0.444
M9 Measure Employee training	0.665	0.442
M5 Measure Customer satisfaction	0.461	0.212

Extraction Method: Principal Axis Factoring. 1 factor extracted. 7 iterations required.

7.3.3 Dependent variable - Performance

The fourteen items included in the questionnaire relating to how managers perceived that their hotel performed, in terms of both financial and non-financial measures of performance over the last three years in relation to their competitors, were factor analyzed using principle axis factoring. Table 41 presents the factor with the item loadings and communalities after extraction.

Table 41: Factor matrix with Communalities added - Performance

Factor Matrix(a)	Factor	Communalities
	1	Extraction
P5 Sales growth	0.858	0.736
P9 Overall performance	0.851	0.724
P3 Growth in profits	0.811	0.658
P2 Occupancy percentage	0.809	0.654
P7 Market share	0.805	0.648
P4 Labour productivity	0.802	0.642
P1 RevPar [revenue per available room]	0.769	0.592
P6 Customer satisfaction	0.688	0.474
P8 After-tax return on investment	0.679	0.461

Extraction Method: Principal Axis Factoring. 1 factors extracted. 4 iterations required.

Nine items loaded on to a single factor with loading in excess of 0.6 and the variance explained by this factor was 62.094 percent. Since only one factor emerged there is evidence to suggest unidimensionality of the measure.

7.4. Reliability of factors

A diagnostic measure of the internal consistency of a factor is the reliability coefficient Cronbach's alpha. This coefficient assesses the consistency of the entire scale. Peter (1979) asserts that reliability is the degree to which measures are free from error and therefore yield consistent results. Internal consistency is one of three methods for assessing the reliability of a measurement scale. According to Hair et al (2006), Nunnally (1978) the lower limit for Cronbach's alpha is 0.70. The reliability of the factors derived from the factor analysis was assessed using Cronbach's alpha with the following results which are displayed in Table 42.

Table 42: The IC factors scales and Cronbach's alpha

Factor	Number Of items	Cronbach's alpha
Human Capital	9	0.891
Relational capital	8	0.856
Structural capital – organisation	5	0.894
Structural capital – technological capital	7	0.818
Sensemaking	6	0.853
Measurement of IC	5	0.778
Performance	9	0.942

Based on the recommended lower levels for the Cronbach's alpha as a measure of reliability, the above factors all meet this criterion, which suggests an acceptable level of internal consistency and reliability for the factor. Further analysis of the scales by examining the tables showing the respective item-total statistics 47 of the 49 items have corrected item-total correlation of above 0.5 and the Cronbach's alpha would be reduced by removing any item. Table 43 shows extracted data from the item-total statistics for the respective IC constructs relating to the Cronbach's alpha if the item is deleted.

Table 43: Extracted data from the item-total statistics for IC constructs scales.

Human Capital		Relational Capital		SC- Organisational		SC – technological capital	
Item	Cronbach's Alpha if Item Deleted	Item	Cronbach's Alpha if Item Deleted	Item	Cronbach's Alpha if Item Deleted	Item	Cronbach's Alpha if Item Deleted
HC15	.883	RC5	.835	SC7	.849	SC14	.774
HC14	.883	RC7	.839	SC8	.848	SC15	.810
HC13	.884	RC6	.846	SC9	.869	SC2	.790
HC11	.886	RC3	.833	SC10	.875	SC12	.792`
HC12	.883	RC1	.832	SC5	.808	SC1	.802
HC4	.890	RC10	.848			SC6	.787
HC1	.887	RC2	.838			SC4	.802
HC6	.890	RC4	.841				
HC9	.891						

The use of the coefficient alpha to assess the internal consistency of the scales assumes unidimensionality. Hair et al (2006) defines unidimensional measures as a set of measured items that has only one underlying construct. In developing an overall model the concept of unidimensionality should be assessed. In addition, the validity of the study has to be assessed. Reliability is a necessary but not sufficient condition for validity (Peter, 1979; Churchill, 1979). In order to assess the unidimensionality of the scales, confirmatory factor analysis will be used. Hair et al (2006) argue that CFA is a way of testing how well measured variables represent a smaller number of constructs. In addition, this technique may provide different conclusions about the scale acceptability.

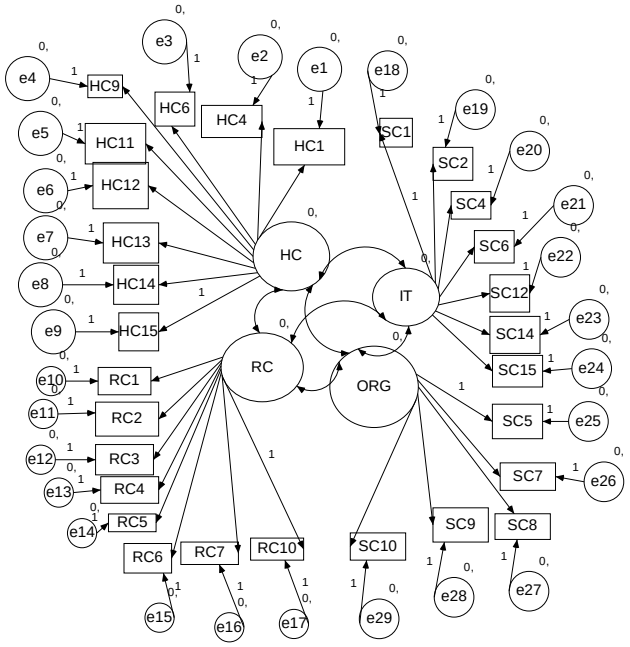
7.5. Confirmatory Factor Analysis

A confirmatory factor analysis (CFA) was performed through AMOSv7 on the reduced data set from the survey. Many different relationships among the set of variables can be postulated with many different parameters being estimated. Thus many different factor models can be proposed on the basis of different hypothesized relationships between the observed variables and the factors. However in CFA, the researcher must a-priori posit the relationship among the measured variables to factors in the model. This model is composed of the hypothesized relations among the constructs known as the structural model, and the relationships among the measured variables and the factors known as the measurement model. The structural model is a set of one or more dependent relationships linking the latent variables and is useful is representing the interrelationship among these dependent relationships (Hair et al. 2006; Schumacker and Lomax 2004). The measurement model on the other hand, specifies indicator variables for the exogenous and endogenous latent variables which are used to assess the reliability of each latent variable and to estimate causal relationships (Schumacker and Lomax 2004).

7.5.1. CFA - Independent variables

The four factor model where the structural capital construct was captured in two factors being termed organisational capital and technology capital was tested using CFA. This model is shown as figure 21.

Figure 21: The IC four factor Model



The indices used in the evaluation of the structural model were the GFI, IFI, CFI and RMSEA. For the GFI, CFI and IFI fit indices values of 0.90 and above indicate a good fit (Bentler and Bonett, 1980, Bollen, 1989), while a higher cut-off of 0.95 is advocated by (Schumaker and Lomax 2004, Hair et al 2006) and a lower cut-off of 0.80 is posited by Doll and Xia (1997). The suggested cut-off for the RMSEA posited by Shumarker and Lomax (2004) is at most 0.05, Browne and Cudeck (1993) suggest that values less than 0.08 indicate a reasonable fit. The results of this model showed a CFI of 0.847, IFI of 0.850, RMSEA of 0.078, chi-square 779.5 df =371, p= .001. indicate that indices fell below the threshold of 0.9 for the CFI and IFI (Bentler and Bonett 1980, Bollen 1989) and 0.08 for the RMSEA (Browne and Cudeck 1993) the criteria used in this study. This indicates that model fit was inadequate, therefore a respecification of the structural model was deemed appropriate.

Anderson and Gerbing (1988) argue that in respecifying the hypothesized model both theory and content should be taken into account and not statistical considerations alone. The conceptual framework of IC supports a three factor model (Bontis 1998,

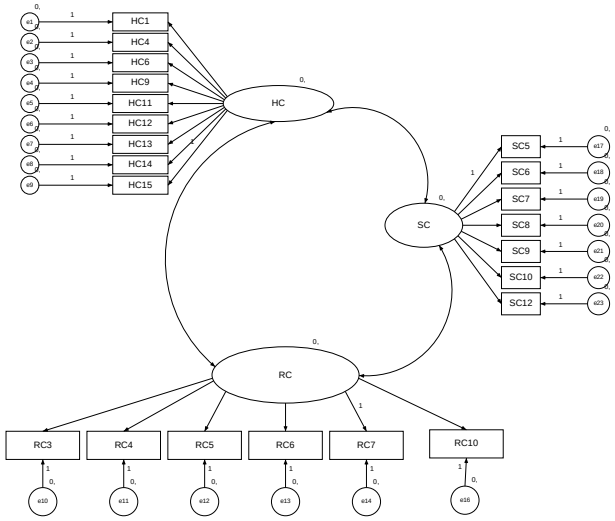
Svieby 1997, Stewart 1997) and hence an evaluation of the three factor structural model was conducted and the results reported in the following section.

Three factor Model Specification and Identification

This first-order hypothesized structural model consists of the covariance among the three IC constructs, HC, RC and SC. The IC measurement model, on the other hand, consists of 22 observed variables, 3 different latent variables being hypothesized and 22 error terms. According to Ullman (2006) each observed variable has an associated error, given that each factor may not predict the measured variable perfectly, as there is variance in the measured variable that is not accounted for by the factor.

This three factor hypothesized IC model is grounded in the IC and related literatures. Several researchers argue that there are three factors that constitute IC, (Saint-Onge 1996; Bassi 1997; Stewart 1997; Sveiby 1997; Bontis 1998a), human capital, relational or customer capital and structural capital. In some empirical studies the various IC factors have been sub-divided, for example Reed et al. (2006) sub-divided the relational capital construct into internal social capital and external social capital and (Martin-de-Castro, Navas-Lopez et al. 2006) sub-divided relational capital into business and social capitals, and structural capital into technological and organizational capitals. So it can be argued that the three factor measurement model identified has theoretical support in the IC literature. In addition, the resource-based view resource interaction thesis posits that one component of IC can leverage the value of knowledge in the other components to such an extent that the relation of each component to the firm's performance is contingent on the knowledge value of the other components. Therefore the hypothesized model assumes that the three factors are correlated but the measurement error variances are not related resulting in zero correlated measurement errors. This model will test that theory in relation to the hospitality industry in the Caribbean. For the confirmatory three factor model, the model specification is diagrammed in figure 22.

Figure 22: IC Three Factor Model



The observed variables (indicators) in this model have theoretical support in the IC and related literatures. These indicators were used in prior studies on IC and its sub-components by Bontis (1998a), Bontis et al. (2000); Han et al., (1998); Youndt et al., (2004); Huselid et al., (1997); Reed et al., (2006) and Huang et al., (2007). Table 44 identifies the indicators used in the model.

Table 44: Indicators used in the three- factor IC model

Indicator	Description		Indicator	Description
HC1	..best employees in the industry		RC5	… listen and respond to customer's complaints
HC4	… employees are generally experts …		RC6	… customers are loyal to our hotel
HC6	employees of our hotel are creative and intelligent …		RC7	A survey of customers would indicate that they are generally satisfied…
HC9	comprehensive recruitment programme …		RC10	…hotel is heavily customer and market focused
HC11	… employees easily adapt to new ideas and knowledge		SC5	… encourages knowledge sharing and encourages learning
HC12	... employees are committed to making this hotel better ….		SC6	… hotel knowledge is documented …..
HC13	... employees have a broad knowledge		SC7	… has a supportive organizational culture.
HC14	…. employees generally focus on the quality of service…		SC8	Hotel systems and procedures support innovation
HC15	… employees are highly skilled		SC9	…organizational structure encourages employees to integrate
RC3	…business decisions are driven by customer satisfaction		SC10	...much of its knowledge and information is in its systems and procedure
RC4	… maintains good relationships with all civic groups …		SC12	…developed several new ideas and services/products …

The number of free parameters to be estimated in the hypothesized model consists of 22 factor loadings, 22 measurement error variances, zero measurement error covariances, and three covariances among the latent variables which is less than the number of distinct values in the S matrix. According to Schumakar and Lomax (2004) when the number of values in the S matrix is greater than the parameters to be estimated the model is overidentified. Using the criterion as theorized by Shumakar and Lomax (2004) the hypothesized model is identified and therefore the model can be estimated.

Model Estimation

The purpose of estimation is to check the fit of the model to ascertain whether the hypothesized relationships observed in the covariance matrix can be explained with fewer parameters than those included in the sample covariance matrix. According to Ullman (2001) the hypothesized model provides the underlying structure for the estimated population covariance matrix. The data were entered in AMOSv7 by using AMOS graphics to draw a path diagram identifying the twenty-two observed, three latent variables and the associated error terms. The bootstrapping ML option was used to estimate the model.

The assumptions of multivariate normality and linearity were evaluated. The multivariate normality was evaluated through the use of Mardia's (1970) coefficient. According to Ullman (2006) a Mardia's coefficient greater than 3.00 is indicative of nonnormality. The normalized estimate of Mardia's coefficient for this model was 32.201. This Z-score, without considering sample size, is fairly large and therefore indicates that the indicators multivariate distribution is non-normal. Multivariate outliers were assessed using Mahalanobis distance, which revealed some possible outliers. According to Tinsley and Brown (2000) Mahalanobis distance is a statistical procedure to screen for multivariate outliers by computing distance of each case from the centroid, the mean of all the indicators of the remaining cases. They assert that a large Mahalanobis distance signifies multivariate outliers but it does not indicate the indicators on which the case is deviant. Although it has been argued that outliers can

affect the normality of data, Fields (2000); Tinsley and Brown (2002); Tabachnick and Fidell (2001) have all asserted that care should be taken in dealing with outliers. They posit that one should not rush to delete cases where outliers are identified since they contain information that may be relevant to the analysis. Using this guideline the researcher did not delete any of the cases.

Model Evaluation

There are two aspects to the evaluation of the model, an evaluation of the measurement model and an evaluation of the structural model. In evaluating the measurement model the constructs of human capital, relational capital and structural capital were assessed on unidimensionality, convergent validity, average variance extracted and discriminant validity. The standardized loadings of manifest variables onto a construct and their error variances were checked to ascertain whether they exceed 0.5 as advocated by Grant (2003) and Hair et al (2006). The results are presented in three tables, each table highlighting a particular construct and its related items with their respective factor loading, standard error, critical ratio and variance extracted; and the associated error and its standard error and critical ratio.

Human Capital

Table 45 highlights selected data from the AMOS output relating to the construct human capital.

Table 45: Selected AMOS output relating to Human Capital -

				FL	SE	CR	R^2	Error	Est	SE	CR
HC15	q18	<---	HC-1	.724			.525	e9	1.018	.122	8.368
HC14	q17	<---	HC-1	.762	.092	9.830	.580	e8	.664	.082	8.085
HC13	q13	<---	HC-1	.739	.102	9.532	.546	e7	.887	.107	8.269
HC12	q12	<---	HC-1	.782	.096	10.096	.612	e6	.675	.086	7.886
HC11	q11	<---	HC-1	.709	.116	9.144	.503	e5	1.240	.147	8.463
HC9	q9	<---	HC-1	.607	.119	7.807	.368	e4	1.672	.188	8.898
HC6	q6	<---	HC-1	.645	.084	8.292	.416	e3	.772	.088	8.743
HC4	q4	<---	HC-1	.606	.103	7.792	.367	e2	1.238	.139	8.902
HC1	q1	<---	HC-1	.660	.101	8.501	.436	e1	1.064	.122	8.707

FL- Factor Loading, SE – Standard Error, CR- Critical Ratio, Est- Estimate.

The loadings for the indicators for the human capital construct are appropriate as they all exceeded 0.5. All the error variances are positive so there is no identification problem related to negative variances. The indicator HC15 had a fixed regression weight of 1 resulting in no associated standard error or critical ratio. The critical ratios associated with the other factor loadings and their standard errors all exceeded 1.96 and can therefore be deemed significant. In addition the critical ratios of the error term associated with the indicator also exceeded the 1.96 benchmark. Green (2000) asserts that the value of 1.96 is used as a benchmark to apply for a 5 percent significant level in samples using critical values.

Convergent validity was assessed by examining the indicators' estimated unstandardized coefficients and standard errors revealed HC1 (.855 and .101), HC4 (.799 and .103), HC6 (.700 and .084), HC9 (.931 and .119), HC11 (1.056 and .116), HC12 (.973 and .096), HC13 (.974 and .102), and HC14 (.903 and .092) thus indicating that their estimated pattern coefficient exceeded twice the standard error. The indicator HC15 was fixed at a coefficient weight of 1.00 in order to identify the model, hence no standard error was estimated. It can therefore be argued using Anderson and Gerbing (1988) criterion that this construct exhibits convergent validity.

The r^2 values for each indicator are shown in Table 45 above. The r^2 value of 0.525 for HC15 indicates the proportion of variance in HC15 that is explained by the construct human capital and the square root of 0.525 = 0.725 for HC15 represents its loading. The variance that a indicator accounts for by itself is calculated by deducting the variance from 1 that is (1- r^2) therefore the variance that HC15 accounts for by itself is 1 – 0.525 = 0.475. Hair et al.(2006) assert that high r^2 values indicate good reliability. An r^2 value of 0.25 was used in this study to ensure that at least 25 percent of an indicator's variance is explained by the respective latent construct. In addition, using a criterion of 0.25 for the r^2 would result in factor loadings of at least 0.50 as advocated by Hair et al. (2006). The factor loadings for the indicators relating to the human capital construct exceeded 0.6 with a variance explained exceeding 0.36.

The variance extracted for the human capital construct is 0.4836. This figure is slightly below Hair et al (2006) suggested cut-off of 0.5, which would indicate that at most fifty percent would be due to measurement error. However, Grant (2003) used a cut-off of 0.4 in his study and argued that this would indicate that at most 60 percent was the result of measurement error.

The construct reliability for human capital is

$$CR = \frac{6.234^2}{6.234^2 + 9.230} = 0.808$$

The results indicate based on the criterion established by Hair et al (2006), and Fornell and Larcker (1981) that the human capital construct has adequate construct validity even though 51 % is due to measurement error.

Structural Capital

Selected information from the AMOS output relating to the second IC construct of structural capital is presented in table 46.

Table 46: Selected AMOS output relating to Structural Capital

				FL	SE	CR	R^2	Error	Est	SE	CR
SC5	q42	<---	SC-1	.573			.328	e18	1.064	.116	9.147
SC6	q43	<---	SC-1	.657	.211	7.036	.431	e19	1.515	.169	8.957
SC7	q44	<---	SC-1	.892	.190	8.475	.790	e20	.348	.052	6.677
SC8	q45	<---	SC-1	.899	.208	8.497	.807	e21	.387	.060	6.435
SC9	q46	<---	SC-1	.762	.198	7.753	.581	e22	.886	.104	8.509
SC10	q48	<---	SC-1	.801	.223	7.988	.642	e23	.918	.112	8.217
SC12	q55	<---	SC-1	.570	.197	6.339	.324	e24	1.680	.185	9.102

FL- Factor Loading, SE – Standard Error, CR- Critical Ratio, Est- Estimate

The loadings for the indicators for the structural capital construct are appropriate as they all exceeded 0.5. All the error variances are positive so there is no identification problem related to negative variances. The indicator SC5 had a fixed regression weight of 1 resulting in no associated standard error or critical ratio. The critical ratios associated with the other indicators are all significant at the 0.5 level.

In assessing convergent validity of structural capital the relationship between the unstandardized loadings and respective standard errors for the indicators SC6 (1.487, 0.211); SC7 (1.614, 0.190); SC8 (1.767, 0.208); SC9 (1.538, 0.198); SC10 (1.780, 0.223) and SC12 (1.246, 0.197) exceeds Anderson and Gerbing's (1988) criterion and therefore it can be argued that the construct shows evidence of convergent validity. The variance extracted using Hair et al (2006) formula is 0.5587 and the construct reliability is 0.796 which suggests good construct reliability. In assessing the factor loadings and variance explained, all of the r^2 values for each indicator exceeded 0.25 the criterion used in this study. The lowest factor loading on the structural capital construct is 0.57 with a variance explained of 0.324.

The results indicate that with a construct reliability of 0.796, variance extracted of 0.5587, factor loadings in excess of 0.5 and estimated pattern coefficients greater than twice the standard error this factor has construct validity.

Relational Capital

Selected information from the AMOS output relating to the third IC construct of relational capital is presented in table 47.

Table 47: Selected AMOS output relating to Relational Capital

				FL	SE	CR	R^2	Error	Est	SE	CR
RC10	q28	<---	RC-11	.578			.334	e15	.822	.096	8.571
RC7	q25	<---	RC-11	.624	.141	6.376	.389	e14	.523	.063	8.317
RC6	q24	<---	RC-11	.570	.174	5.983	.324	e13	.928	.108	8.609
RC5	q23	<---	RC-11	.797	.143	7.361	.636	e12	.262	.042	6.247
RC4	q22	<---	RC-11	.633	.196	6.595	.401	e11	.539	.085	6.351
RC3	q21	<---	RC-11	.701	.148	6.874	.491	e10	.444	.058	7.694

FL- Factor Loading, SE – Standard Error, CR- Critical Ratio, Est- Estimate

In this construct the indicator RC10 had a fixed coefficient weight of 1.00 hence no standard error was estimated. The loadings for the indicators for the relational capital construct are appropriate as they all exceeded 0.5. All the error variances are positive

so there is no identification problem related to negative variances. The critical errors associated with the factor loadings and error terms are all significant at the 0.5 level.

In assessing convergent validity for relational capital it was revealed that the unstandardized coefficients on the indicators exceed twice the associated standard errors (RC3; 1.020, 0.148), (RC4; 0.981, 0.155), (RC5; 1.054, 0.143), (RC6; 1.041; 0.174), (RC7; 0.900, 0.141), thus suggesting evidence of convergent validity. The variance extracted by this construct is 0.429 and the construct reliability is 0.812. Since the construct reliability exceeds 0.7 as suggested by Hair et al. (2006) it can be argued that the construct shows evidence of construct reliability.

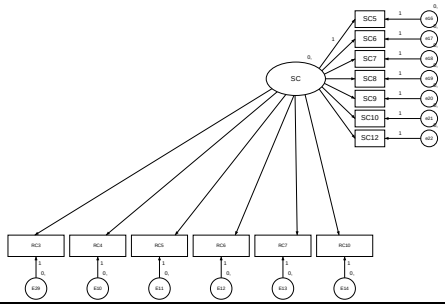
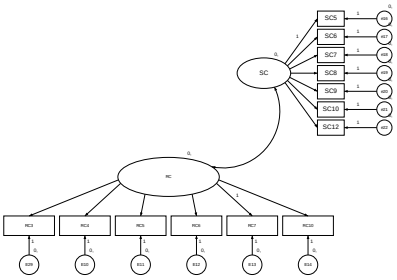
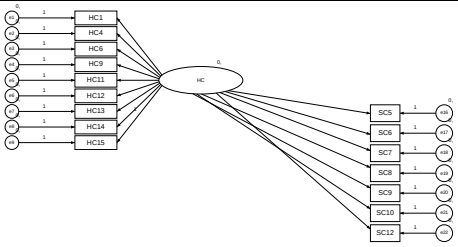
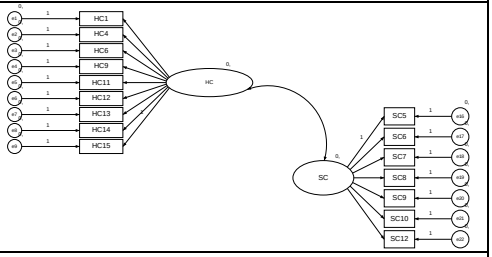
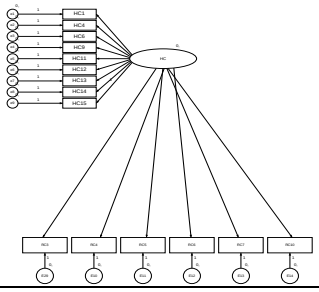
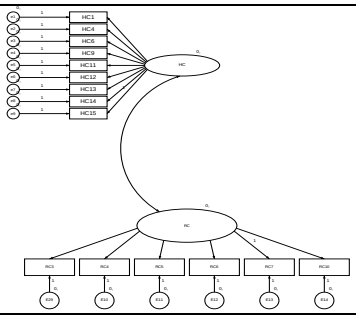
The results indicate that with a construct reliability of 0.812, factor loadings in excess of 0.5 and estimated pattern coefficients greater than twice the standard error; this factor has adequate construct validity.

Discriminant Validity

In assessing discriminant validity between the HC construct and the SC construct, the variance extracted from these two constructs were 0.4836 and 0.5587 and the square of the correlation estimate was 0.309 indicating discriminant validity. In the assessment of HC and RC the variances extracted were 0.4836 and 0.429 respectively with the square of the correlation estimate between the constructs being 0.316 indicating discriminant validity. The final assessment was between RC and SC with the respective variance extracted of 0.429 and 0.559 with the square of the correlation estimate being 0.394 supporting discriminant validity.

Anderson and Gerbing (1988) suggest testing for discriminant validity by using a chi-square difference test. Table 48 reports the results of the test.

Table 48: Chi-Square difference test results

RC-SC	Constrained to SC X^2 = 229.87 df = 65	Unconstrained X^2 = 134.59 df = 64
		
HC-SC	Constrained to HC X^2 = 529.08 df = 104	Unconstrained X^2 = 134.59 df = 64
		
HC-RC	Constrained to HC X^2 = 306.2 df = 90	Unconstrained X^2 = 162.5 df = 89
		

Using Anderson and Gerbing (1988) suggested chi-square difference test, since the X^2 value received from the unconstrained model is lower than the values received in the model where the trait correlations are constrained to unity, would indicate that the traits are not perfectly correlated and discriminant validity is achieved.

Evaluating the structural model

The indices used in this study for the evaluation of the structural model were, the GFI, IFI, CFI and RMSEA. The respective cut-off for the GFI, CFI and IFI fit indices is 0.90 (Bentler and Bonett, 1980, Bollen, 1989) and RMSEA is 0.08 Browne and Cudeck (1993). A comparison of the results for individual CFA models for human capital, relational capital and structural capital with intellectual capital is illustrated in table 49.

Table 49: Comparative model results – selected indices

	X^2	df	p	GFI	IFI	CFI	RMSEA
Human Capital	46.706	27	.014	.942	.972	.971	.063
Relational Capital	18.104	9	.034	.967	.947	.946	.079
Structural Capital	34.127	14	.002	.947	.975	.975	.089
Intellectual Capital	310.884	206	.000	.906	.944	.944	.054

The results would indicate that using the chi-square to test the statistical fit of the intellectual capital model would be described as poor (Chi-square 310.884, 206 df, p<.001). However, the subjective indices indicate a reasonably good fit for the model (GFI =.906; CFI = .944; RMSEA = .054). From the table above it is evident that the value for the GFI, IFI, CFI and RMSEA fall within the cut-offs as advocated by Bentler and Bonett (1980) and Bollen (1989). The higher cut-off advocated by Shumaker and Lomax (2004) would be achieved using the Sartorra-Bentler correction. Sartorra and Bentler (1988) developed a rescaled statistic which multiplies the ML test statistic by a correction factor that depends on the data of the model. This Satorra-Bentler (S-B) statistic has shown to outperform asymptotic robust test statistics in small and medium size samples (Chou, Bentler and Satorra 1991, Curran, et al 1996 and Hu et al 1992). The S-B chi-square corrects the normal theory chi-square by a constant k, a scalar value that is a function of the model implied residual weight matrix, the observed multivariate kurtosis, and the model degrees of freedom. The greater the degree of observed multivariate kurtosis and degrees of freedom in the model the greater downward adjustment made to the inflated normal theory chi-square. The GFI, IFI, CFI and RMSEA indices are affected by the chi-square statistic; hence a reduction in the chi-square statistic would increase the IFI and CFI and reduce the RMSEA. Ullman (2006) showed that the correction factor applied to chi-square increased the CFI figure. The modification indices were examined in the hope of improving the fit further, but there was no theoretical justification for linking any of the error terms as suggested. Therefore it can be argued that the model hypothesized for IC has a reasonable fit.

An examination of the standardised residuals reveals only one exceeded the cut-point of 2.58 as posited by Joreskog and Sorbom (1988). As such the residual of 2.923

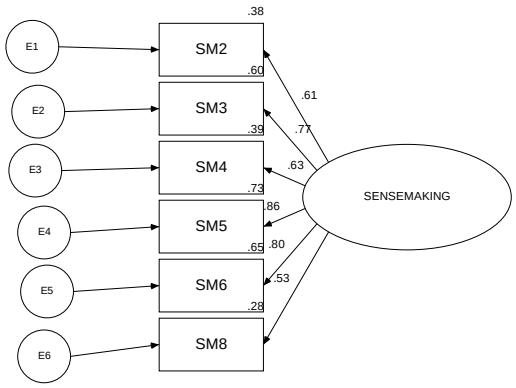
represent the covariance between indicators SC6 and HC9. Therefore, one can conclude that the only statistically significant discrepancy of note lies with the covariance between the two indicators noted. An examination of the modification indices (MI) relating to the parameters in the covariance section reveals the only ones that make any substantive sense are the covariance between error term 11 and error term 19, error term 12 and error term 17, and error term 6 and error term 17, but the expected parameter change of 0.017, 0.034 and -0.032 are of little concern. In terms of the MI relating to the regression weights only one which relates to the cross loading of SC5 on Relational Capital causes concern, the MI is 4.475 but the expected parameter change of 0.272 renders it not worthy of inclusion in a subsequently specified model.

7.5.2. CFA – Mediating variables

Sensemaking

The unidimensionality of sensemaking scale which consisted of six indicators was tested using confirmatory factory analysis. This model which consisted of one latent variable, six manifest variables and six error terms is depicted in the figure 23 below.

Figure 23: CFA Sensemaking Model



The following table provides a tabulation of the results of the model fitting process using AMOS 7.

Table 50: Selected AMOS output relating to Sensemaking

				Estimate	S.E.	C.R.	FL	r^2		Estimate	S.E.	C.R.
q56	SM8	<---	SM	1.000			.527	.278	E6	.115	.013	9.009
q51	SM6	<---	SM	1.895	.270	7.021	.804	.647	E5	.086	.012	7.109
q50	SM5	<---	SM	2.071	.288	7.198	.856	.733	E4	.069	.012	5.957
q49	SM4	<---	SM	1.635	.266	6.150	.627	.393	E3	.182	.021	8.676
q47	SM3	<---	SM	1.774	.257	6.896	.774	.599	E2	.093	.012	7.570
q16	SM2	<---	SM	1.263	.208	6.071	.614	.377	E1	.116	.013	8.731

	X^2	df	p	GFI	IFI	CFI	RMSEA
Sensemaking	43.123	9	.000	.925	.924	.926	.147

The loading for the indicators for the sensemaking construct are appropriate as they exceed 0.5. All error variances are positive, and all critical ratios are significant as they exceed 1.96. The unstandardized coefficients are greater than twice the corresponding standard error thus it can be argued that this construct exhibits convergent validity. The r^2 are all above 0.25, variance extracted 0.504, and construct reliability is 0.964 which supports the view that this construct has adequate convergent validity. The selected indices for the structural model for sensemaking with the exception of the RMSEA fall within the accepted thresholds. The results of the RMSEA indicate that the structural model lacks an adequate fit, however, the other fit statistics used in assessing a model namely goodness of fit and baseline comparison indicate an acceptable fit and these are all above the required thresholds.

Measurement of IC

This mediating variable was also evaluated using CFA as a complementary process to assess the reliability and validity of the scale. The measurement model for the construct measurement of IC consisted of five observed variables, 1 latent variable and 5 error terms. Selected data relating to the Amos output for the measurement of IC is provided in table 51.

Table 51: Selected AMOS output relating to Measurement of IC

			Estimate	S.E.	C.R.	FL	r^2		Estimate	S.E.	C.R.
Q68	M5	<--- meas	1.000			.444	.197	E1	.014	.005	2.744
Q70	M7	<--- meas	2.576	.524	4.916	.657	.432	E2	.059	.007	8.734
Q71	M8	<--- meas	2.360	.460	5.127	.758	.575	E3	.126	.017	7.371
Q72	M9	<--- meas	2.224	.456	4.875	.642	.412	E4	.101	.013	7.524
Q73	M10	<--- meas	2.808	.577	4.863	.638	.407	E5	.165	.022	7.565

	X^2	df	p	GFI	IFI	CFI	RMSEA
	6.728	5	.242	.984	.991	.991	.044

An analysis of the results indicates that the loadings for the indicators for the measurement of IC construct are appropriate as they exceed 0.4. All error variances are positive, and all critical ratios are significant as they exceed 1.96. The unstandardized coefficients are greater than twice the corresponding standard error thus it can be argued that this construct exhibits convergent validity. The r^2 for four of the five measures exceed 0.40, variance extracted 0.41 and construct reliability is 0.858 which supports the view that this construct has adequate convergent validity. The results for the structural model for measurement of IC indicated that the model has an acceptable fit as all indices are within the acceptable thresholds.

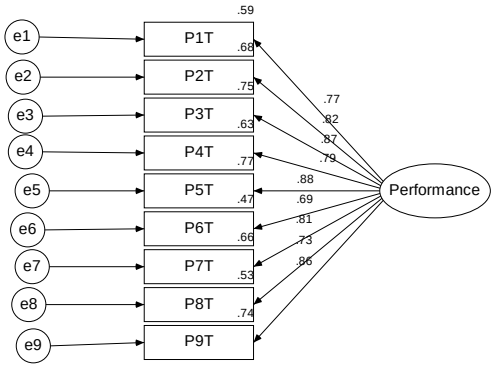
7.5.3 CFA – Dependent variable -Performance

The measurement model used in CFA for the dependent variable performance consisted of 1 latent variable, 9 indicators and 9 error terms. An analysis of the results of the CFA for the dependent variable revealed that all the loadings for the indicators for the performance construct are appropriate as they exceed 0.7. All error variances are positive, and all critical ratios are significant as they exceed 1.96. The unstandardized coefficients are greater than twice the corresponding standard error thus it can be argued that this construct exhibits convergent validity. The r^2 are all above 0.45, variance extracted 0.6462 and construct reliability is 0.9661 which supports the view that this construct has adequate convergent validity.

The indices used in the evaluation of the structural model for perceived performance were GFI- 0.919, CFI - 0.929, IFI - 0.930, RMSEA - 0.73 and chi-square of 111.0 df =27.

The results would indicate that the model had an acceptable fit as all the selected indices are within the acceptable thresholds. The following diagram depicts the performance model.

Figure 24: CFA Performance Model



7.6. Correlation analysis of research factors

Having completed the CFA analysis of the independent variables, mediating variables and dependent variable, a single scale for the research variables was created by averaging a respondent's scores over the items measuring each variable. The values of mean, standard deviation and Cronbach's alpha for the research variables are presented in Table 52.

Table 52: Summary statistics of research variables

Variable	Mean	SD	Cronbach's Alpha
Human Capital	5.077	1.020	.888
Structural Capital	5.309	1.112	.888
Relational Capital	6.096	.866	.857
Sensemaking	5.204	1.334	.838
Measurement	5.514	1.131	.815
Perceived Performance	5.500	1.022	.944

Pearson's correlation analysis was used to assess the relationship among the critical variables. Table 53 presents the correlation matrix for the research variables.

Table 53: Pearson's Correlation Coefficients (N=182)

Variable	HC	SC	RC	SM	ICM	HPP
Human Capital **(HC)**						
Structural Capital **(SC)**	.528					
Relational Capital **(RC)**	.429	.583				
Sensemaking **(SM)**	.544	.772	.622			
Measurement **(ICM)**	.225	.489	.252	.348		
Perceived Performance **(HPP)**	.413	.480	.288	.432	.437	

The correlation statistics are all significant at p<.001.

Table 53 shows that all the variables have some form of association with the other variables that will form the model. Human Capital and Structural capital, two of the three independent variables are moderately associated with perceived performance while RC has a weak but significant relationship with perceived performance. All three independent variables have a significant and strong association with the mediating variable of sensemaking. The variables HC and RC have a weak but significant association with measurement of IC. The two mediating variables of sensemaking and measurement of IC have moderate associations with perceived performance and these associations are significant at the p<.001 level. The results of this analysis indicates that a model to test the mediating roles of sensemaking and measurement of IC in relation to the components of IC and perceived performance can be developed.

The next section will report on the findings of the model using a structural equation modelling approach. Smith and Langfield-Smith (2004) discussed the three modelling strategies identified by Joreskog (1993) being strictly confirmatory, alternative models and model generating. They argued that in the strictly confirmatory modelling strategy the researcher formulates one model and uses data to test the model resulting in either accepting or rejecting the model. The alternative models approach is where the researcher specifies a number of models based on theory and uses a single set of data to test the models. The third strategy is to specify an initial model and if this model does not fit the data, the model is modified and tested again using the same data; this approach is called model generating. In this study the researcher has chosen the model generating strategy.

7.7. Analysis of Causal Relationships

This analysis will seek to answer the research questions 1c, 1d, 2a and 2b (page 8) and to triangulate with the findings in the qualitative exploratory case studies. It has been argued in the literature that there is a relationship between IC components and performance; in addition, based on the findings in the qualitative phase of the research, it has been posited that sensemaking and measurement of IC are mediating variables in the relationship among the IC and its components and performance.

The model will examine those relationships and test the hypotheses developed by examining the relationships of the constructs human capital, relational capital and structural capital, and measurement of IC, sensemaking and perceived performance. The model will also address the issue of the IC components and their relationship to the mediating variables of measurement of IC and sensemaking and the dependent variable perceived performance. The model being used is a partially aggregated model instead of path analysis or disaggregated model. The partial aggregation approach to model assessment provides greater substantive content for each variable within a smaller matrix, less distraction from accumulated errors, and, thereby greater reliability (Hu and Bentler 1995). The next section will examine the model in terms of its specification, identification and estimation and will discuss the single latent variable modelling approach.

7.7.1. Model Specification

The structural model consists of the covariance among the IC constructs of HC, RC and SC; and the correlation among the IC constructs and the other latent variables of measurement of IC, sensemaking and performance. The measurement model consists of six latent variables, seven error terms, and six manifest variables. The constructs were measured using multi-item scales consequently a large number of indicators had to be dealt with. As a result a latent variable model with multiple indicators might not be very helpful, since model complexity in terms of constructs and or indicators might prevent the finding of a model that fits the data. Since it was not possible to test the measurement model based on the 42 indicators of the latent variables because of the

lack of sufficient data to identify the model, item parcelling was used to aggregate manifest variables reducing the forty two indicators to fourteen parcels.

The concept of item parcelling is quite common in SEM research where the sample size is small to moderate and the data shows that the assumption of multivariate normality may be violated. West et al (1995) argue that the Asymptotic Distribution-Free (ADF) estimation procedures which do not impose a multivariate normality assumption require extremely large samples and small models in order to generate reasonably precise estimates. The use of the ADF estimation procedure for 42 indicators would require a sample size of at least 903 using Schumacker and Lomax's (2004) formula $p(p+1) \div 2 = [42(42+1)] \div 2 = 903$. Therefore the current sample size of 182 would be insufficient to use the ADF estimation procedure. The use of item parcels instead of items can result in a much reduced, weight matrix, sample size requirement (Hau and March 2004; Bandalos 2002; Bandalos and Finey 2001; Hall et al. 1999). As has been argued by Alhija and Wisenbaker (2006) aggregating items into parcels reduces the number of indicators involved in modelling and thus researchers are able to use more realistic models that better capture and more easily interpret increasingly complex theories of human behaviour.

A parcel is used to refer to an indicator or observed variable, which is a simple sum or mean of several items assumed to be conceptually similar, psychometrically unidimensional and which is used to assess the same construct (Alhija and Wisenbaker 2006; Marsh et al 1998; Marsh and O'Niell 1984). Bandalos and Finney (2001) reported that in their survey of 317 applied SEM studies approximately 20% employed some type of parcelling procedure. In Accounting, de Ruyter and Wetzels (1999) and van der Stede (2001) used parcelling procedures in their studies. It has been argued that item parcels yield the same results in terms of convergence to proper solution, parameter estimates and SEs of parameter estimates, as a latent variable model with multiple indicators (de Ruyter and Wetzels, 1999; Hau and March 2004; Marsh et al. 1988). In addition, Hau and Marsh (2004) found in their empirical study that the use of item pair parcels resulted in less bias associated with non-normality. Bandalos (2002) argued

that item parcelling has been adopted in many empirical studies to mitigate the effects of data not being multivariate normal or coarsely categorized or both. She cautions that unidimensionality of the items being combined is very important as violations of this concept can obscure rather than clarify the factor structure of the data. This view was in support of Hall et al. (1999) assertion that parcelling yields valid results only if the intrafactor parcelled items are unidimensional and unique factors within items do not correlate with unique or common factors of other items in other parcels. On the question of the unidimensionality of a construct, de Ruyter and Wetzel (1999) assert that the use of CFA in the first stage of the analysis can ensure that the quality of the construct being measured can be explicitly assessed. The evaluation of the constructs HC, RC, SC, sensemaking, measurement and performance using CFA and Cronbach's alpha revealed that these scales exhibit unidimensionality thus parcelling was an appropriate technique.

In several empirical studies, it was demonstrated that the use of item parcels as opposed to the individual items resulted in better model and data fit (Bandalos 2002; Bagozzi and Heatherton, 1994). Additionally, the solutions based on parcels containing a higher number of items resulted in an improvement in the model fit. Marsh et al. (1998), using simulated data, found that CFA solutions based on two parcel (six items), three parcel (four items), four parcel (three items) or six parcel (two items) resulted in greater number of proper solutions than analyses based on two, three, four or six individual items. However, they found that the solutions that were based on all 12 individual items resulted in proper solutions for samples tested, but the chi-square-degrees of freedom ratio was much higher than on the models using the item parcels. Sass and Smith (2006) found that when a single unidimensional scale is used to represent a latent construct, the use of individual items, item parcels or an appropriate representation of measurement error through a single observed variable all resulted in identical disattentuated structural coefficient estimates. Marsh et al.'s (1988) study inferred that the allocation of items to a parcel had no bearing on how the parcelled items performed in SEM. Therefore, using this approach three items were attributably assigned to each parcel, with the exception of one parcel containing two items and

another one four items. Table 54 identifies the item parcels and their respective item composition.

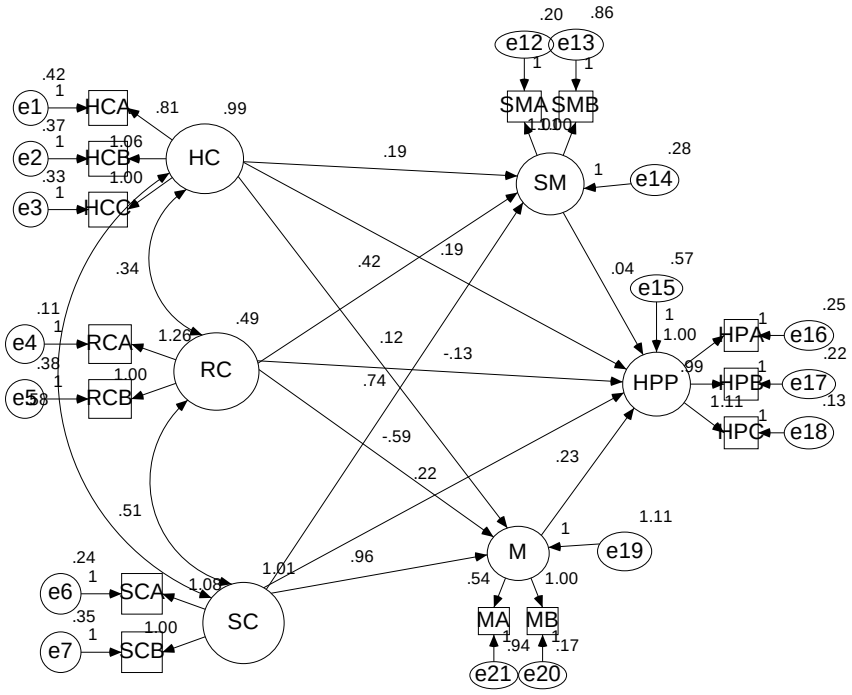
Table 54: Parcel and related questionnaire items

Construct	Parcel	Items
HC – Human Capital	HCA HCB HCC	HC1, HC4, HC6, HC9, HC11, HC12, HC13, HC14, HC15
RC – Relational Capital	RCA RCB	RC3, RC4, RC5, RC6, RC7, RC10
SC – Structural Capital	SCA SCB	SC5, SC6, SC7, SC8, SC9, SC10, SC12
M – Measurement of IC	MA MB	M5, M7, M8, M9, M10
SM – sensemaking	SMA SMB	SM2, SM3, SM4, SM5, SM6, SM8
HPP – Performance	HPA HPB HPC	P1, P2, P3, P4, P5, P6, P7, P8, P9

7.7.2. Model Estimation and Evaluation

The data for the model was entered in AMOSv7 by using AMOS Graphics to draw a path diagram identifying the fourteen manifest variables resulting from parcelling, fourteen error terms associated with the manifest variables, six latent variables of which three were exogenous and three endogenous with the associated error terms. The assumption of normality was estimated and it revealed that the parcelled items did not reveal any significant skewness or kurtosis with the only exception being relational capital. Figure 25 depicts the model.

Figure 25: Hypothesized Partial Mediation Model



The model was then estimated using the ML estimation technique. Table 55 contains selected information from the AMOS output which was used to evaluate the measurement model.

Table 55: Path coefficients, variances and r^2 of the Measurement Model

			Regression Weights					Variances			
			Stand. Estimate	Unstand. Estimate	S.E	CR	r^2		Estimate	S.E	CR
HCC	<--	HC	0.866	1.000			0.750	e3	0.330	0.058	5.725
HCB	<--	HC	0.868	1.063	0.077	13.824	0.754	e2	0.365	0.065	5.657
HCA	<--	HC	0.778	0.810	0.067	12.143	0.606	e1	0.423	0.055	7.690
RCB	<--	RC	0.750	1.000			0.562	e4	0.115	0.053	2.177
RCA	<--	RC	0.933	1.257	0.118	10.620	0.871	e5	0.380	0.051	7.399
SCB	<--	SC	0.862	1.000			0.742	e6	0.242	0.049	4.979
SCA	<--	SC	0.911	1.077	0.067	15.993	0.830	e7	0.352	0.052	6.804
SMA	<--	SM	0.939	1.000			0.882	e12	0.201	0.063	3.167
SMB	<--	SM	0.798	1.006	0.071	14.112	0.637	e13	0.861	0.108	7.943
MB	<--	M	0.955	1.000			0.912	e20	0.940	0.120	7.839
MA	<--	M	0.591	0.539	0.090	5.958	0.350	e21	0.168	0.237	0.710
HPA	<--	HPP	0.885	1.000			0.782	e16	0.251	0.035	7.158
HPB	<--	HPP	0.894	0.988	0.056	17.631	0.799	e17	0.221	0.032	6.847
HPC	<--	HPP	0.945	1.113	0.057	19.442	0.893	e18	0.134	0.031	4.271

In evaluating the measurement model, the standardized regression weights for the manifest variables all exceed 0.5. All error variances for the manifest variables are positive so there is no identification problem resulting from negative variances. Thirteen of the fourteen critical ratios associated with the manifest variables are significant at the p<0.001 level. The exception of e21 being the error associated with parcel MA. The unstandardized coefficients are greater than twice the corresponding standard error. The r^2 for thirteen of the fourteen manifest variables exceed 0.5. The r^2 for endogenous variables exceed 0.35 and the standard errors and critical ratios are all significant at the p<.001 level. Selected information pertaining to the endogenous variables used in the model is presented in table 56.

Table 56: Correlation coefficient, standard errors and critical ratios for the endogenous variables

Variable	r^2	Error	S.E.	CR
SM	.814	e14	.071	3.929
M	.361	e19	.272	4.094
HPP	.363	e15	.081	7.120

The fit indices of GFI, IFI and CFI using the 0.9 threshold as advocated by Bollen (1989) and Bentler and Bonett (1980), RMSEA of 0.08 Browne and Cudeck (1993) were used to evaluate the structural model. Table 57 presents the information on selected fit indices from the AMOS output used in the evaluation of the structural model.

Table 57: Fit indices for the structural Model

	X^2	df	p	GFI	IFI	CFI	RMSEA
Model 1	135.008	63	.000	.915	.961	.960	.079

The observed X^2 for the structural model indicates that the statistical fit of this model and the sample data is relatively poor, however as argued by Arbuckle and Wothke (1999) the goodness of fit cannot be judged by X^2 value alone. Since the p-value of X^2 is sensitive to sample size, the relative chi-square statistic which is measured by the CMIN/df can be employed as fit index (Kline 1998). The CMIN/df is 2.143 and is in an acceptable range according to the criterion of less than 3 (Kline 1998) and 5 (Shumacker and Lomax 2004). Other indices of fit for the structural model are GFI and RMSEA, which reflect the relative amount of the variances and covariances jointly accounted for by the model, they are .915 and .079 respectively and these values are

above the criterion established. Therefore the hypothetical model as depicted in Figure 25 is judged to provide a moderate fit for the observed covariances.

7.8. Hypotheses Testing

Having observed the psychometric properties of the questionnaire components, the hypotheses outlined in Chapter 6 will now be tested. Hypotheses are usually tested in the form of a null hypothesis, denoted with H_o. The researcher will either accept or refute the null hypothesis depending on the result of the test performed on the observed data. The significance of the hypothesized value of the parameter will determine whether the hypothesis is accepted or rejected. The levels of significance that will be used in this study are 0.05, 0.01 and 0.001 being acceptable significance, strong significance and high significance respectively.

Table 58 presents selected output from AMOSv7 showing the standardized and unstandardized regression weights, standard errors, critical ratios and the p-value. This information was used in the interpretation of the paths between the variables.

Table 58: Regression Weights, critical ratios, standard errors and p-values.

Regression Weights					
	Standardized Estimate	Unstandardized Estimate	S.E.	C.R.	P
SM <--- RC	.242	.423	.136	3.111	.002
M <--- RC	-.313	-.591	.224	-2.634	.008
SM <--- HC	.158	.195	.076	2.565	.010
M <--- HC	.092	.121	.123	.985	.325
SM <--- SC	.608	.738	.107	6.921	***
M <--- SC	.731	.957	.173	5.543	***
HPP <--- SM	.054	.042	.156	.267	.790
HPP <--- M	.318	.229	.079	2.906	.004
HPP <--- RC	-.093	-.126	.168	-.753	.451
HPP <--- HC	.197	.188	.089	2.124	.034
HPP <--- SC	.229	.216	.195	1.105	.269

7.8.1 Perceived performance and its relationship to components of IC

One of the objectives of this study was to investigate the relationship among the components of IC and performance in the hospitality sector in the Caribbean. It was therefore hypothesized that the components of IC namely HC, RC and SC are associated with performance. This resulted in the three following hypotheses being formulated.

H_1 HC is positively associated with hotel performance

H_2 RC is positively associated with hotel performance

H_3 SC is positively associated with hotel performance

These hypotheses tested the direct relationship between the components of IC and performance. An examination of the path coefficients and the related standard errors, critical ratio and p-value to assess the relationship among the IC components and hotel performance revealed that only HC had a direct positive and significant relationship at the 0.05 level. The path coefficient between HC and performance was 0.188 (P=0.034). This small but significant (P <.05) path coefficient supports the hypothesis that HC is associated with performance. The path coefficient between the variables RC and performance was -0.126 (P= 0.168) which was insignificant. This infers a direct negative relationship between RC and performance which is inconsistent with prior findings. This finding rejects the hypothesis that RC is positively associated with performance. In a similar fashion there is a small and insignificant path coefficient between SC and Performance (0.216 P=0.269). This rejects the hypothesis that SC is positively associated with Performance.

7.8.2 Sensemaking and its relationship to components of IC

A second objective relates to the role of sensemaking and the various components of IC. The following three hypotheses were formulated in the research design phase.

H_4 HC is positively associated with sensemaking

H_5 RC is positively associated with sensemaking

H_6 SC is positively associated with sensemaking

The relationship among the IC constructs and sensemaking had path coefficients that were significantly different from zero and were in the expected direction. The path coefficient between RC and sensemaking was 0.423, which was statistically significant ($p < .05$). This implies that there was a moderate and significant relationship between sensemaking and RC. In a similar fashion, the path coefficient between SC and sensemaking was 0.738 which was statistically significant ($p < .001$). This implies a strong and significant relationship between SC and sensemaking. On the other hand, the path coefficient between HC and sensemaking was 0.195 which was statistically significant ($p < .05$). This implies that there was a small but significant relationship between HC and sensemaking. These findings support the hypotheses relating to the IC components and sensemaking.

7.8.3 Measurement of IC and its relationship to components of IC

The relationship among the components of IC and measurement of IC were formulated into three hypotheses.

H_7 HC is positively associated with measurement of IC

H_8 RC is positively associated with measurement of IC

H_9 SC is positively associated with measurement of IC

In examining the relationship among the IC components and the measurement of IC, SC has a positive relationship that was significantly different from zero. The path coefficient between these two variables was 0.957 which was statistically significant ($p<.001$). This implies a strong and significant relationship between SC and the measurement of IC. The path coefficient between RC and the measurement of IC was -

0.591 which was statistically significant ($p < .01$). This implies a moderate and significant relationship between these two variables, the negative sign however was unexpected. This inverse relationship indicates that increases in the measurement of IC results from a decrease in RC. There was no significant relationship between HC and the measurement of IC. The path coefficient between these two variables was 0.121. These findings support the hypothesis that there is a positive association between SC and measurement of IC. It however, rejects the hypotheses that there is a positive association between HC and measurement of IC and RC and measurement of IC.

7.8.4 The Mediating Variables – Sensemaking and Measurement of IC

Grapentine (2000) using Baron and Kenny's (1986) approach identified three outcomes of testing for mediation; no mediation, partial mediation and full mediation. He posits that no mediation exists if the relationship between the independent variables and the mediator is non-significant or the relationship between the mediator and dependent variable is non-significant. Partial mediation exists if the relationship between independent variables and the mediator is significant and the relationship between the independent variable and the dependent variable remains significant, albeit smaller, after including the mediator. Full mediation exists if relationship the independent and the mediator is significant but the relationship between the independent variable and the dependant variable drops to non-significance after including the mediator.

To examine the mediatory role of sensemaking and measurement of IC using a SEM approach three models were estimated. The first model, the hypothetical model, depicted in Figure 26 – allows for both direct and indirect effects (mediated through sensemaking or measurement of IC) of the Intellectual capital components of HC, RC and SC on performance. The second model (figure 27) positions sensemaking and measurement of IC in fully mediatory role between the IC components and performance by deleting the paths between the IC components and perceived performance. The third model (figure 28), the direct effects model, also a nested model, is derived by deleting the paths between the mediating variables of sensemaking and measurement of IC and performance. To evaluate competing nested

hypothetical models against each other the X^2 difference test was used (Kline, 1998). Because the second model is nested within the first model, a X^2 difference test to determine whether sensemaking and or measurement of IC fully mediates or partially mediates the relationship between the IC components and performance was conducted. A X^2 difference test was also conducted between the first model and the third model.

Figure 26: Partial Mediation Model

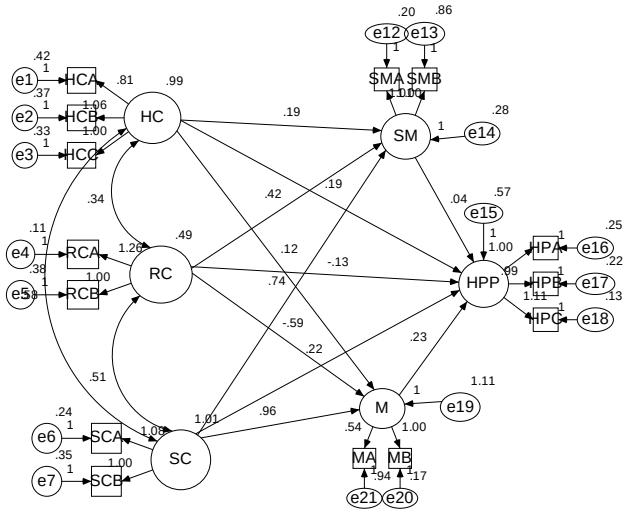


Figure 27: Full Mediation Model

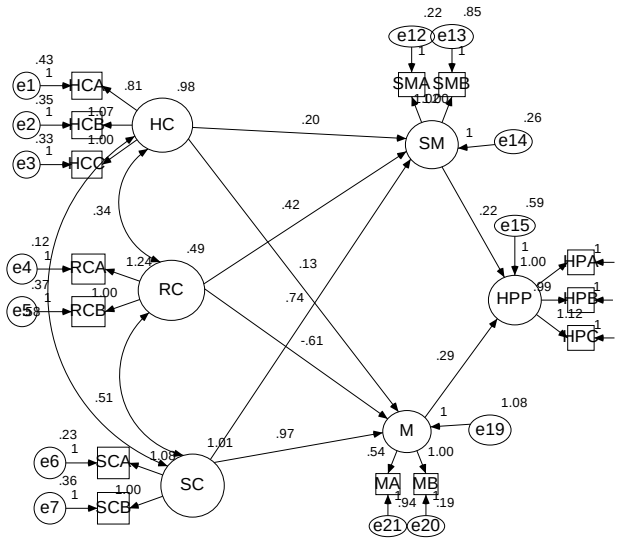


Figure 28: Direct effects Model

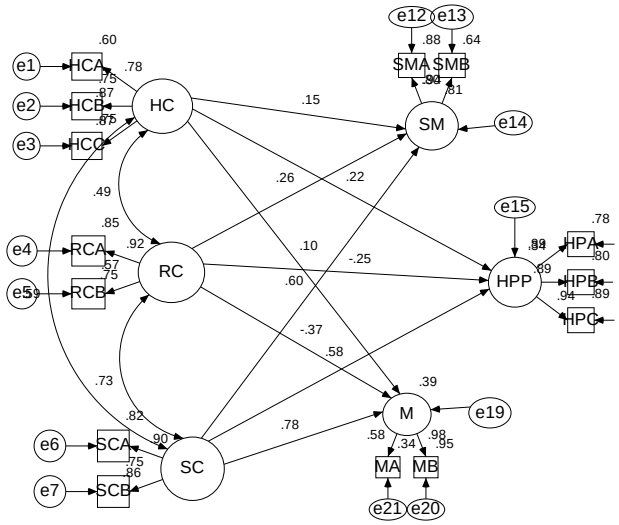


Table 59 presents selected indices for the structural equation models. The table includes the results for the full and partial mediation models and the direct effects model.

Table 59: Model Comparisons

Model	X^2	df	ΔX^2	GFI	TLI	CFI	RMSEA
Full Mediation	140.345	66		.912	.944	.959	.078
Partial Mediation	135.008	63	5.337	.915	.943	.960	.079
Direct Effects	146.636	65	11.628	.909	.937	.955	.083

An evaluation of the selected indices used in this study for the three structural models reported in table 59 indicates that they meet accepted standards of overall model fit. Further analysis of the model fit statistics indicates that the partial mediation model had the lowest X^2 statistic. However, the X^2 difference test comparing the full and partial mediation models was non-significant at the $p < 0.05$ level (ΔX^2, 3 d.f. = 5.337). According to Kline (1998) a non-significant value of this statistic suggests that the overall fit of the two models is comparable. The principle of parsimony then suggests that the model with the highest degrees of freedom (the most parsimonious model) is the better choice (Nachtigall et al., 2003, Yuan and Bentler 2004, Larsson et al., 2008). To further explore the data a X^2 difference test was conducted on the full mediation model and the direct effect model which was significant at the $p < 0.05$ level (ΔX^2, 1 d.f. = 6.282). According to Nachtigall et al., (2003) if the X^2 difference test is significant, this indicates that the less parsimonious model should be preferred. Since the X^2 difference

test between the partial mediation model and the full mediation model is non-significant and the X^2 difference test between the full mediation model and the direct effects model is significant, then the full mediation model is the preferred model.

Having accepted the full mediation model as the best model the next section will use Hair et al (2006) SEM approach to testing mediation, which is a refinement of Baron and Kenny's (1986) approach, to test the hypotheses relating to the two mediation variables.

Sensemaking as a mediating variable

Using Hair et al (2006) SEM approach, the standardized path coefficients were obtained from the AMOS print out for the paths between the mediator sensemaking and the components of IC (HC, RC, and SC) and the dependent variable performance. The results are presented in the table 60 below.

Table 60: Standardized Path Coefficients for Sensemaking

	Standardized path coefficients (given if significant at 0.05 or less)			
	Dependent variable			
Independent Variable	**Step 1** Perceived performance	**Step 2** Sensemaking	**Step 3** Perceived performance	Interpretation
HC	.220 *	.158 *	.197 *	
RC	.250 *	.242 *	-.093 (ns)	
SC	.583 *	.608 *	.229 *	
Mediator				
Sensemaking			.054 (ns)	Significance is not achieved hence there is no form of mediation.

* significant at 0.05 or less ns – not significant

Step 1 – Path coefficients relationship between HC, RC and SC and performance (dependent variable)
Step 2 – Path coefficients relationship between HC, RC and SC and sensemaking (mediator)
Step 3 – Path coefficients relationship between HC, RC and SC and performance with sensemaking as mediator in the model

H_{10} Sensemaking is positively associated with hotel performance

An examination of the paths between the mediating variable of sensemaking and the dependent variable performance reveals that the path coefficient between sensemaking and performance revealed no significant relationship therefore the hypothesis that sensemaking is associated with performance is rejected.

H_{11} Sensemaking will mediate the relationships between HC, RC and SC with performance

Table 60 highlights that there are significant relationships between the components of IC and sensemaking as well as significant relationships between the components of IC and performance when the sensemaking path is deleted. However, an examination of the paths between the mediating variables of sensemaking and the dependent variable performance reveals that the path coefficient between sensemaking and performance revealed no significant relationship. This would suggest that sensemaking does not mediate the components of IC with performance. This finding suggests that the hypothesis that sensemaking will mediate the relations among the components of IC and performance cannot be accepted.

Measurement of IC as a mediating variable

Using Hair et al (2006) SEM approach to testing mediation the standardized path coefficients were obtained from the AMOS print out for the paths between the mediator measurement of IC and the components of IC (HC, RC, and SC) and the dependent variable (performance). The results are presented in the table below.

Table 61: Standardized Path Coefficients for Measurement of IC

	Standardized Path coefficients (given if significant at 0.05 or less)			
	Dependent variable			
Independent Variable	Step 1 Perceived performance	Step 2 Measurement of IC	Step 3 Perceived performance	Interpretation
HC	.220 *	.092 (ns)	.197 *	No mediation
RC	.250 *	-.313 *	-.093 (ns)	Full mediation
SC	.583 *	.731 *	.229 *	Partial mediation
Mediator				
Measurement of IC			.318 *	Significance achieved hence mediation is possible

* significant at 0.05 or less

Step 1 – Path coefficients relationship between HC, RC and SC and performance (dependent variable)
Step 2 – Path coefficients relationship between HC, RC and SC and measurement of IC (mediator)
Step 3 – Path coefficients relationship between HC, RC and SC and performance with measurement of IC as mediator in the model

H_{12} Measurement of IC is positively associated with hotel performance

An examination of the paths between the mediating variable of measurement of IC and the dependent variable performance reveals that the path coefficient was significantly different from zero. The path coefficient between measurement of IC and performance was 0.229, which was statistically significant ($p < .01$). This implies a modest but significant relationship between the measurement of IC and the managers' perception of performance. The hypothesis that measurement of IC is positively associated with perceived performance cannot be rejected.

H_{13} Measurement of IC will mediate the relationships between HC, RC and SC with performance

Analysis of the results indicates that the relationship between measurement of IC and performance is positive and significant at the 0.05 or less. This allows for further evaluation of other paths. The non-significant path between measurement of IC and HC would indicate that there is no mediatory role of measurement of IC between HC and performance. The non-significant path between RC and performance in step 3,

while the paths between RC and measurement of IC in step 2 and between RC and performance in step 1 are significant, according to Grapentine (2000) this would indicate full mediation. In the case of SC and measurement of IC being a mediator, all three paths are significant at the 0.05 or less level together with the standardized path coefficient in step 1 being higher than in step 3 and would indicate that there is evidence to support a hypothesis of partial mediation.

In summary, the findings of this study reveal that the independent variable HC is the only IC construct that has a direct positive and significant relationship with performance. The direct path coefficients in the model for the other independent variables, SC and RC, were insignificant with their relationship with performance. The IC constructs, HC, RC and SC, all had significant relationships with the mediating variable of sensemaking. The relationship in the case of SC with sensemaking was quite strong, but moderate in the case of RC and small in the case of HC. In the case of the relationship with the measurement of IC mediating variable, SC has a strong and significant association, RC has an unexpected negative but significant association while the relationship with HC was not significant. In testing for mediating effects using Hair et al (2006) SEM approach revealed that relationship between sensemaking and performance was insignificant therefore could not mediate the relationships between the IC constructs and performance.

In the case of the mediating variable measurement of IC in its association with performance, significance was achieved at the p =.01 level. Full mediation of RC and performance resulted from the significant association between RC and measurement of IC and the non-significant path coefficient between RC and performance. Measurement of IC partially mediated the relationship between SC and performance. The regressing of measurement of IC on SC (0.731 $p < 0.05$) and regressing measurement of IC on both SC and performance (0.229, $p < 0.05$) resulted in significant path coefficients. Grapentine (2000) argues that once both regression coefficients are significant and a reduction of the coefficient occurs in the mediation model, then partial mediation is achieved. In the case of HC since the regression coefficient

between HC and measurement was non-significant mediation was not achieved. Therefore, HC has a positive and significant direct relationship with performance but the relationships between RC and performance and SC and performance are mediated by measurement of IC.

7.9. Conclusion

This chapter has provided the results of the quantitative phase of the empirical research conducted for this thesis. Univariate analysis of the data was conducted to ascertain descriptive statistics pertaining to the means, standard deviation, kurtosis and skewness of the variables in the data set. EFA was used as the first stage multivariate technique to reduce the data set and generate the factors to be tested in the hypothesized model. The EFA of intellectual capital items resulted in a four-factor IC model, splitting the structural capital into two components. However, the use of Anderson and Gerbing's (1988) restrictive approach enabled the testing of the a-priori three factor model which had more theoretical support. EFA was also conducted on the items relating to sensemaking, measurement of IC and performance. This process resulted in single factors emerging where the items loaded on the factors identified a-priori. CFA was then applied to the reduced data set. The initial four factor model for IC was tested and its lack of fit resulted in respecification and the resulting a-priori three factor model providing measurement results that satisfied the thresholds identified in the study. This approach was in keeping with Smith and Langfield-Smith (2004) model generating strategy used in the study. The results of the CFA, of the IC three-factor, sensemaking, measurement of IC and performance models indicated that the resulting factors that were to be used in the SEM model were unidimensional, reliable and exhibited discriminant, construct and convergent validity.

SEM was applied using Anderson and Gerbing (1988) two-step approach to assess the measurement and structural models. The measurement model consisted of six latent variables, seven error terms and fourteen manifest variables as a result of parceling the forty-two indicators. The model fit statistics for the hypothesized model were all above the threshold as advocated by Bollen (1989), Bentler and Bonett (1980), Browne

and Cudeck (1993). The partially aggregated model that was used to test the hypotheses developed revealed that seven of the thirteen hypotheses were supported. The significant results achieved are that HC has a direct association with hotel performance; RC and SC has an indirect association with performance being mediated by measurement of IC; HC, RC and SC are all significantly associated with sensemaking; SC has a positive association with measurement of IC; RC has an unexpected negative association with measurement of IC; and the measurement of IC has a significant association with hotel performance.

This chapter has presented the results of the multivariate analysis of the data along with an interpretation of the main findings. The next and final chapter of this thesis is aimed at discussing the qualitative and quantitative results obtained from the two phases. In addition, the chapter will provide a summary of the overall thesis and a discussion on the implications that could result from the findings achieved. The chapter will also highlight the limitations of the research, recommend areas for further research, and outline the study's contribution to knowledge.

CHAPTER 8

Discussion and Conclusion

8.1. Introduction

The “new” or “intangible” economy has created a new reporting paradigm for businesses. This has resulted in practitioners and academics engaging in research relating to intellectual capital management, measurement and reporting. One of the results of this research is the production of a body of literature highlighting the importance of intellectual capital and its attributes to organizational effectiveness. However, it is not known the extent to which organizations within the Caribbean consider intellectual capital and its contribution in their decision-making process. The understanding of the factors involved in the measurement and the management of intellectual capital and its constructs is further unknown. Therefore this research aimed to: investigate the characteristics and significance placed on intellectual capital in the hospitality industry in the Caribbean; and critically assess the impact of IC information (numbers, texts, narratives) on corporate performance through the sense-making process in organizations.

The first section of this final chapter will present a discussion on the qualitative and quantitative findings of the research in relation to the extant literature. The second section will present the contributions of this research to the extant literature and the practical implications of the research to the hospitality industry. Thus the limitations of the study will be presented in the third section of the chapter and additionally some suggestions for future research in IC are offered. The final section of this chapter presents the conclusions of the study.

8.2. Summary of Findings

This exploratory study which investigated IC within the hospitality industry in the Caribbean confirms the presence of the three components of IC within the industry. The qualitative case studies reveal that there is no multi-dimensional performance

measurement framework within the chains of hotels. The case studies also reveal that there is limited disclosure of IC information within the hotels. The study also validates the relationships between HC and Performance and Measurement of IC and Performance. It found an indirect relationship between the constructs of RC and SC with Performance mediated by the construct Measurement of IC. In addition, it was found that the constructs of HC, RC and SC are positively and significantly associated with the construct of Sensemaking. Therefore this study shows sensemaking of IC information is an integral part of the IC management within the Caribbean hospitality industry. The study also shows that the measurement of IC is critical to the IC components and performance linkage. The following section will discuss these findings in relation to the extant literature.

8.3. Discussion of findings

There were two major objectives, each with research questions, which sought to guide the research process. The first objective relates to the characteristics and significance of the various IC components and measurement of IC to the overall performance of a company. The four research questions relating to this objective are:

1a. What components of the intellectual capital constructs are captured in the reports of management?

1b. What mechanisms are implemented within the organization through which IC factors are integrated in order to develop capabilities?

1c. Is there a relationship between IC components and organizational performance?

1d. Does the measurement of IC assist managers in their operational decisions relating to staffing, customer and supplier relationships and enhance organizational performance?

The second objective investigated the impact of managers' interpretation and sensemaking of IC information on organizational performance. The two research questions are:

(a) is there a relationship between sensemaking by managers and organizational performance? and

(b) is there a relationship between IC components and sensemaking?

The two qualitative case studies were used to answer research questions 1a and 1b, while the survey was used to answer research question 1c. In answering research questions 1d, 2a and 2b, both the qualitative case studies and the survey were used. Five key issues were addressed in answering these research questions. These issues are; the dimensions of IC within the hospitality industry, the measurement of IC, the recording of IC information, the relationship between the components of IC and organisational performance, and the sensemaking of IC information. This section will present the discussion of each of these issues by identifying the respective research question and the findings of the research in relation to the extant literature. Table 62 presents the key issue dimensions of IC, its related research questions and summary of findings.

Table 62: Dimensions of IC – Research questions and summary findings

Research Issue **Dimensions of IC in the hospitality industry**
Research Questions (1a) what components of the intellectual capital constructs are captured in the reports of management? (1b) what mechanisms are implemented within the organization through which IC factors are integrated in order to develop capabilities?
Summary of Case Studies Findings
• Human Capital o There is evidence of human capital within the hotel chains which was subdivided into personal competencies and human resource praxis o Human resource practices are regarded more highly in the development of human capital than the personal competencies of the individuals. o A number of human resource practices are embedded within the organisation which will grow the structural capital of the organisation. o Managers' perceived that Human capital is an important factor in the organisation's success. • Relational Capital o There is evidence of relational capital within the chains comprising of brand, customer capital and community capital. o The attribute brand is seen in value creation terms and not in value realisation terms. o Customer capital component is highly valued by managers. o Customer capital is developed and managed through customer satisfaction and loyalty programmes. o There are interrelationships between relational capital and structural capital, and between relational capital and human capital. • Structural Capital o The structural component of the chains comprises information systems, innovation and organisation capital o Information systems are an integral part of the organisation's development of structural, relational and human capitals. o Managers of Almond Resorts (one of the case studies) perceived that 'Research', an essential structural capital component of the chain, provide them with a distinctive competence. o There is some inconsistency in managers' perception on how knowledge is developed within the organisation. o The 'Information Systems' are embedded into the organisation's structural capital and perceived by managers as a strategic asset

In analyzing the qualitative data to answer the first research question it was necessary to deconstruct the question into two parts. The first part of the question which relates to the components of IC will be addressed in this section, while the second part of the question which relates to the reporting of those components will be addressed in the reporting of IC section. In analyzing the qualitative data in order to answer the first part of the question which relates to the components of IC, it was found that there is

no formal recognition of the concept of IC or its attributes. However, the analysis revealed that managers in discussing their roles and operations suggest quite the opposite. That is, within these chains, though not knowledge-based entities, there is clearly evidence of HC, RC and SC. The content analysis and data thematizing resulted in two sub-factors for HC (personal competencies and human resource praxis), three sub-factors for RC (brand, community capital and customer capital), and three sub-factors for SC (information systems, innovation and organisational capital). The creation of this taxonomy for IC within these chains is not at odds with the literature, as Moon and Kym (2006) empirical work indicated three sub-factors for HC (employee capability, employee satisfaction and employee sustainability); three sub-factors for RC (customer, partner and community); and four sub-factors for SC (culture, organisational processes, information system and intellectual property). The quantitative analysis on the other hand does not support such a sub-division.

In the quantitative analysis the descriptive statistics and tests for reliability indicate that the responses used in this study meet the levels of reliability and validity required. Inter-item correlation and Cronbach alpha scores were used to estimate the reliability of the scales and confirm that the scales employed were internally consistent. The confirmatory factor analysis (CFA) resulted in three factors with their respective Cronbach's Alpha in parentheses HC (0.888), RC (0.888) and SC (0.857). Prior IC studies indicated the presence of between three and six factors. Reed et al (2006) found four factors HC (0.90), internal social capital (0.81), external social capital (0.81) (with only two items loading) and organisational capital (0.64); whereas Youndt et al (2004) found three factors HC (0.81), social capital(RC) 0.88 and organizational capital (SC) 0.62. Tayles et al (2007) empirical study on IC, management accounting practices and corporate performance also documented three factors (HC, RC and SC) with reliability coefficients were between 0.82 and 0.92.

The Travel and Tourism industry, of which the accommodation sector is a component, is considered to be a labour intensive industry accounting for 11.9 percent of total employment (WTTC 2009). Therefore, an assessment of the value placed on HC within

the chains is considered to be critical. Wolverton et al (2002) and O'Neill and Belfrage (2005) have identified the workforce as a major component of the intangible asset value of a hotel. The qualitative analysis presented in chapter five reveals that managers perceive that the implementation of effective human resource management (HRM) practices contributes to the growth of HC. The HRM practices identified as being effectively implemented within the chains comprise comprehensive recruitment schemes, training, teamwork, rewards and recognition schemes, and staff appraisals. These HRM practices identified as being prevalent in the chains have been described in the literature as 'high performance work practices' (Huselid 1995). The implementation of such practices in the hospitality industry is supported in the literature as Connolly and McGing (2007) empirical study on hotels in Ireland found that the Irish hotels displayed a number of these HRM practices termed high performance work practices.

The analysis reveals that managers perceive that the implementation of these 'high performance work practices' enhanced the chain's HC and its operational performance. This assertion is supported in the literature as Youndt et al. (1996) study found that human resource practices designed to professionalize employees and create an egalitarian work environment positively influence operational performance. The literature is replete with studies that demonstrate that 'high performance work practices' enhances organisational performance (Jackson and Schieler 1995; Schuler and Jackson 1987; Becker and Huselid 1998; Becker et al 1997). The analysis further revealed that the other sub-category of HC being personal competencies, which relates to the innate qualities that individuals bring to the organisation, interacts with the human resources practices to further enhance the HC. Support for this assertion is found in the literature as Combs et al (2006) argue that 'high performance work practices' improves organisational performance through its interaction and overlapping of employees' knowledge, skills and abilities. This is in keeping with the resource based view of the firm which theorises that a resource such as labour complemented by certain organisational resources may lead to competitive advantage and superior performance (Barney 1991, Wernerfelt 1994).

The network of relationships among the chains' various stakeholders suggests that RC is another critical intangible of these firms. The analysis of the multiple sources of evidence collected during the case studies reveals that the chains' RC was developed through their focus on customer capital, brands and community capital. The deconstruction of RC into these three sub-components yielded interesting findings pertaining to the overall construct. The sub-component brand is perceived by managers in value creation terms rather than value realisation terms. That is, managers does not recognize brand in terms of a dollar value that would be used in financial statements (explicit value) but rather an implicit value used in negotiating deals. The analysis of the data reveals examples where this implicit value is used successfully by the respective chains to obtain favourable entry arrangements and other management contracts from various governments throughout the region. The use of the construct brand in this way is consistent with findings in the literature, as Ailiwadi et al (2003) argued that the 'value of the brand' (here an implicit value) should be used in tactical decisions, assessing brand extendibility and evaluating the effectiveness of marketing decisions. O'Neill (2005) concurred as he posits that a large part of a hotel's value is intangible in the form of its brand name in the market.

The second sub-component, community capital, can be argued assist in the creation of this implicit brand value as it reflects the reputation and image of the entity in its social community. This subcomponent of RC is highlighted by seventy five percent of the managers as extremely important to these chains. The constant disclosure of community capital either in literature produced by the chains or managers in their discussions sought to enhance the reputation of the entity and highlights the significance placed on this attribute in growing the RC of the chain. The results of the data analysis suggests that managers perceive that high levels of community involvement enhance the chain's reputation which impacts positively on RC resulting in the chains having a competitive advantage. This notion that a favourable reputation could lead to a competitive advantage is consistent with the tenants of the resource based view. Reputation takes time to create, it cannot be bought, adds value through

differentiation, is rare, difficult to imitate and cannot be easily substituted (Barney 1991, Hall 1993, Roberts and Dowling 2002). Several empirical studies have demonstrated that firms with relatively good reputations were better able to sustain superior profit outcomes (Michalisin et al 2000; Kotha et al 2001; Roberts and Dowling 2002, Carmeli and Tishler, 2004, Rindova et al 2005, Flatt and Kowalczyk 2008). Fombrum and Shanley (1990) pioneering study showed that maintaining a good reputation is a prerequisite to obtaining a competitive advantage. Corporate reputation also interacts with other organisational resources to create capabilities which will contribute to the chain having distinctive competencies. This is supported in the normative literature as Flatt and Kowalczyk (2008) found that organisational culture influences reputation, reputation in turn influences performance, and reputation mediated the relationship between culture and performance.

The analysis of data presented in chapter five clearly demonstrates that these chains are customer focused. The relationship between the customer and the chain appears to be extremely important. This third component of RC, termed customer capital, encompasses the chains' activities in customer satisfaction, customer retention and customer service. The chains have effectively implemented and embedded into their culture, customer relationship management (CRM) systems aimed at developing its customer capital and or arresting any deterioration in it. The data reveals that the successful implementation of such CRM systems enabled the chains to increase their customer satisfaction and customer retention. This finding is consistent with that reported in the literature, as Kale (2003) asserts that CRMs impacts on both customer satisfaction and shareholder value by providing customers with consistent, high-quality service. The CRM systems also supported the chains loyalty programmes enabling them to track and effectively monitor their relationships with their guests. Rigby et al. (2002) argue that to build and sustain RC organizations must, nurture customer relationships, partner with other stakeholders of the organization and establish ties with the community in which they are embedded. The analysis of the case studies reveals that by developing these CRMs the chains have successfully integrated the three components of IC to create a complex set of complementary resources that in the eyes of the managers are not easily matched by competitors. According to Meso

and Smith (2000) the interaction of intangible resources resulting from firm specific actions creates strategic assets which provide the firm with a competitive advantage.

The information systems that interacted with the HC and RC are essentially one of the attributes of SC of the chains. The literature on IC identified information systems as a component of the SC construct (Bontis, 1998; Stewart 1997; Edvisson and Sullivan, 1996; Guthrie and Petty 2000; Brennan and Connell 2000). The information systems which comprise computerized reservation systems, customer management systems and property management systems are fully embedded into the organisations' SC. The analysis presented in chapter five reveals that managers perceived that these information systems are critical to the effective management of the hotels' operations. This finding is consistent with the literature on information systems and organisational effectiveness. Powell and Dent-Micallef (1997) found in their empirical study that some firms gained advantages by using information technology to leverage other resources which resulted in improvements in performance. This is consistent with the resource based view of the firm, in that information systems and information technology acting alone are not strategic assets but it is the interaction between information systems and other intangibles that create the capability. According to Bharadwaj (2000) information systems when blended with other organisational resources can create a complex set of complementary resources that are not easily matched by competitors thus sustaining IS-based advantage. Huang et al (2006) empirical study found that the ability of customer relationship management of the enterprise and the knowledge management of the enterprise which they termed 'IT enabled intangibles' are strongly correlated with firm performance. The study also found that the information technology infrastructure and employees knowledge and skills relating to the information technology which they termed 'human IT resources' have a strong positive relationship with 'IT enabled intangibles'.

The qualitative content analysis of the annual reports of Almond Resorts Inc reveals that in recent years the chain consistently increased its investments in information technology. The implicit belief of managers is that such increases will result in increases in productivity and profitability. However, some empirical studies have

demonstrated that it is not the increases in investment in information technology that result in increases in productivity and profitability but the interaction among the information systems and HC and RC. Peslak (2003) in his study found that information technology spending did not have an overall level of positive impact on firm productivity on US firms. The analysis of the case study data also revealed that the customization of the information systems provided a critical link among the three components of IC. This finding is consistent with the literature, as Siguaw and Enz (1999) found that hotels that implemented innovated technology to improve the efficiency of internal operations had an indirect effect on customer service and guest satisfaction. Zhu and Nakata (2007) also found that information technology capabilities, which referred to the ability of the computers and related technologies to store, process and communicate information, moderated the relationship between customer orientation and business performance. It was also found that the chains customize their information systems which assist the entities in their knowledge management efforts. Zhang (2007) supports such use as his empirical study found that firms whose information systems were complemented by unique knowledge and information enjoyed gains in profitability.

The qualitative analysis discloses that sixty percent of the managers identify innovation as an essential component of SC. The managers of both chains argue that innovation within the hospitality industry enables the chains to be competitive by differentiating their service offerings. This is consistent with the literature on innovation and performance as Victorino et al (2005) asserted that innovative service offerings are necessary just to maintain a firm's current market share. Timmerman (2009) found that the implementation of an innovation process at the Ritz-Carlton hotel resulted in an improvement in the organisational knowledge and capabilities of the hotel. Additionally, some authors have argued that innovative activities and IC are positively correlated (Narvekar and Karuna 2006; Wu et al 2007; Charies 2004). This association was empirically tested by Chen et al (2008) who found a positive and significant relationship between innovation activities and IC. Mouritsen et al (2005) also argued that innovative activities enable corporations to accumulate IC which enhances their competitive position.

The data shows that the chains implemented a number of measures that were construed as being innovative. These measures include the creation of speciality restaurants, swim-up pool bars, variety in bar operations and banqueting, constant rejuvenation of the menu offerings, concierge programmes, and butler programmes in an all-inclusive environment. According to the definitions found within the literature these measures can be construed as being innovative. Orfila-Sintes and Mattsson (2009) define process innovation within the hospitality industry as the implementation of new or significantly improved methods of delivering a service or product. Other studies have argued that minor modifications in the existing hospitality service or use of new or significantly improved technology in delivering the service can be construed as innovative (Ottenbacher and Gnoth 2005, Charies 2004). The managers recognized the implementation of such measures as an attempt to enhance the IC of the chain and provide them with some distinctiveness within the industry. Since Victorino et al (2005) argued that in the hospitality sector the customer is perpetually inundated by similar often easily substitutable service offerings, to achieve any measure of distinctiveness innovation is required.

Finally in terms of the SC attributes, the third sub-component was termed organisation capital which referred to the management processes, organisational culture and management philosophy that characterised the chains. The case analysis reveals that within these chains some management processes are similar while others are quite different in order to highlight the distinctiveness of each chain. Almond Resorts Inc created their distinction in being research driven. The case study evidence reveals that research as a management process is deeply embedded into the chain. This appears quite unusual for a hotel, but research is an integral part of IC in knowledge intensive industries. Sandals Resorts created distinctiveness in their knowledge management efforts through the development of their standard operating procedures (SOPs).

One of the research questions addressed the mechanisms implemented within the chains through which IC factors were integrated in order to develop capabilities. The data analysis presented in chapter five reveals that the interaction among the three components of IC developed a complex set of firm-specific organisational processes which are embedded in the organisations' social fabric and history. The analysis reveals that the interaction between HC's attribute of human resource praxis and the SC attribute of organisational capital resulted in the creation of routine practices aimed at creating distinctive competencies within the chain. Support for this finding was derived from Reed et al (2006) empirical study which showed that a firm's organisational capital leveraged human capital in its relationship with financial performance. The case study evidence affirms that the chains' SC derives its capabilities from employees based on the knowledge they possess and how they store, assimilate and interpret that knowledge. The SC further enhances the HC by providing the employees with a supportive and socially complex infrastructure. Chapter five presented evidence to illustrate how the implementations of human resource practices such as comprehensive recruitment, training, empowerment and teamwork are embedded within the organisational culture. This results from the chains' purchase of the homogenous and perfectly mobile resource of labour (HC) but combining this resource with an intangible resource such as knowledge that is 'context dependent and tacit' to create organisational processes that are firm-specific and develop over time through complex interaction (Amit and Schoemaker 1993). The interaction between HC and SC resulted in the creation of capabilities that according to the logic of the resource based view are hard to imitate and firm specific (Wernerfelt, 1984, Peteraf 1993, Penrose 1959, Barney 1991).

The significant investment in training and staff development made by both chains further illuminates this interaction process. In the case of Sandals, the creation of a Corporate University as part of their SC interacted with HC to provide 'Certified Sandals Specialists', employees equipped with knowledge that is context dependent and firm-specific enabling them to handle new challenges and improve their long-term productivity. The case study evidence also shows that as a result of the recruitment of such a large percentage of low skill employees the use of organisational knowledge is

critical. The chains developed SOPs manuals where the tacit knowledge was codified and stored. These manuals are used in training programmes and to benchmark any labour services they purchase from vendors. In addition, the chain's policy on mandatory annual training also highlights that this HR practice is embedded into the organisational culture as managers perceived that a well trained staff would enhance organisational performance. This is supported in the extant literature as several empirical studies have demonstrated the positive impact of training on organisational performance (Garcia 2005, Aragon et al. 2003). In addition, this result supports Dierickx and Cool's (1989) argument that constant amounts of investments made over a longer period yields higher returns than a significant investment made over a shorter period of time due to time compression diseconomies. The managers believed that the significant emphasis and investment in training over the years provides them with a first-mover advantage as competitors would not have time to catch up even if they were to imitate the firm's level of investment in human resources. Lee et al (2005) found in their empirical study that where organisations created HR configurations that were more difficult for competitors to imitate, generally such firms enjoyed superior performance.

The qualitative analysis affirms that managers rely on the CRM system working in concert with the hotel information systems to provide them with details pertaining to the levels of customer satisfaction and customer retention. The CRM system enables the chains to forge relationship among HC, in terms of employees, (RC) customer capital, and (SC) information systems to create routine processes that become embedded within the organisational culture. This interrelationship among the three components of IC resulted in the creation of capabilities which managers argue the chains leveraged to create a competitive advantage. The extant literature documents that firms create a competitive advantage by assembling resources that work together to achieve organisational capabilities (Grant 1995, Russo and Fouts 1997). Chapter five also presents additional routine procedures developed through the interaction of the three components of IC to resolve customer complaints. The evidence shows how the use of the Quality Management Systems (QMS) which results from the interaction of HC, RC and SC enable employees to manipulate the resources into value creating

strategies by resolving complaints in a timely manner. This is seen in the use of cross functional teams, the hotel information systems and customer data to resolve customer complaints in order to ensure that high levels of customer satisfaction and customer retention are maintained. The interaction among the components of IC found support in the literature as Powell and Dent-Micaleft (1997) empirical study affirmed that where human resources were complementary to information technology advantages were created resulting in superior performance of such firms.

Another routine practice that is embedded within one of the chains that is consistent with the RBV resource interaction thesis is employee empowerment. The constant mantra used within the Almond Resorts chain is that employees should always 'delight and wow' the guests. The organisational culture of Almond Resorts provides employees with the power and a responsibility structure that enables them to make decisions. According to Henry (2001) the implementation of a creative culture will support an organisation's quest to gain and sustain a competitive advantage from its intellectual assets. The SC component of organisational culture provides the environment supportive of a routine practice of empowerment, another capability that has been developed through the interaction of the components of IC. Finally, the analysis of data pertaining to these case studies clearly shows that through the integration of HC, RC and SC these chains are able to create capabilities. The importance of resource integration resonates with Dyer and Singh's (1998) notion of complementary resources. They argue that by combining complementary resources higher rents can be generated since the combined set is indivisible and distinctive. The analysis reveals that the chains have embedded processes that enable the managers to integrate, build and reconfigure competencies to address changes in their environment aimed at sustaining their competitive advantage which is consistent with the extant literature posited by Eisenhardt and Martin (2000) and Makadox (2001). The next section discusses the research issue measurement of IC and the research question and summary findings are presented in table 63.

Table 63: Measurement of IC- Research question and summary findings

Research Issue **Measurement of IC**		
Research Question *1d. Does the measurement of IC assist managers in their operational decisions relating to staffing, customer and supplier relationships and enhance organizational performance?*		
Hypotheses	**Evidence**	**Results**
H_7 HC is positively associated with measurement of IC	β=.092; t=.985; p=.325	Rejected
H_8 RC is positively associated with measurement of IC	β=-.313; t=2.634; p=.008	Rejected
H_9 SC is positively associated with measurement of IC	β=.731; t=5.543; p=.000	Supported
Summary of Case Studies Findings		
• The measurement approach to IC within the hotels is not a holistic approach but segmented and departmentalized. There is no fully integrated measurement system. • There is the recognition that non-financial measures are important for the success of the entity • Customer satisfaction drives the organisation • The measurement of customer satisfaction, a non-financial measure, is integrated into the organisation's processes • Measurement of IC factors other than customer satisfaction tends to be departmentalized. • At Almond Resorts, the research department assists in achieving some of the measurement objectives		

In an attempt to answer this aspect of the research the qualitative and quantitative data presented in the previous chapters reveals some interesting findings. In the quantitative analysis, the construct Measurement of IC exhibited uni-dimensionality as only one factor emerged from the EFA performed on the data. The inter-item correlation and Cronbach alpha score of 0.778, which exceed Nunnally (1978) 0.70 threshold, confirms that the scale is internally consistent. The construct reliability of 0.858 supports the view that the construct has adequate convergent validity. Therefore, further analysis could proceed using this construct. The association of this construct to the IC components was assessed using SEM and the results reveal that there is a signification association between the construct of Measurement of IC and the constructs RC and SC, but reject the hypothesis that there is an association between HC and Measurement of IC. The beta coefficient linking this construct measurement of IC to the SC construct was a strong positive relationship ($p < 0.001$ $\beta=0.957$; $t=5.543$); whereas the corresponding figures in relation to the RC construct indicated a moderate but negative relationship ($p < 0.01$ $\beta=-0.591$; $t=2.634$). This finding partly supports the literature as a prior study indicated significant relationships

between the assertion of performance measures captured in IC and the respective IC components of SC (0.608), RC (0.502) and HC (0.512) Tayles et al (2007).

In terms of RC and its association with Measurement of IC, the negative sign was unexpected in that the findings of the qualitative case studies indicate that there is a fairly comprehensive measurement system relating to the customer capital attribute of RC. The managers identified a number of performance metrics used in the customer capital area which included customer satisfaction, customer retention, guest complaints and guest complaints resolutions, number of visits per guests and occupancy rate. The case studies show that the monitoring of these is at a higher frequency than other non-financial performance measures suggesting that the managers perceived these as important. This finding is supported in the literature as Atkinson and Brander Brown (2001) in their empirical study of performance measures in UK hotels report that customer satisfaction, customer loyalty and market share were measured 89%, 78% and 62% respectively. Other empirical studies have shown that the customer capital metric of customer satisfaction enhances financial performance (Ittner and Larcker 1998; Yoo and Park, 2007) and increases loyalty which results in improved profitability (Bowen and Chen 2001). Additionally, the qualitative case studies identify brands and community capital as important attributes of RC but there were no metrics identified to measure them. This finding was contrary to Bergin-Seers and Jago (2007) who reported in their empirical case study on hotels in Australia that small hotels used measures as 'amount of support provided' and 'value of alliances' to measure their community capital. O'Neill and Belfrage (2005) in their empirical study of the Hyatt brand measured the brand value in relation to revenues and reported that it accounted for approximately 34 percent of room revenues. This metric was also used in other empirical studies by Kinnard et al (2001), and Nilsson et al (2002).

The strong and significant association of SC with measurement of IC in the quantitative phase supports the findings of the qualitative case studies. This finding is quite interesting in that within the case studies there is a high degree of measurement in the

SC area but this was mainly of a compliance nature. This frequent measurement occurred in the areas of health and safety and the environment in relation HACCAP and Green Globe certification respectively. There are some attempts to measure processes like check-in/check-out and other similar processes to ensure that they are in accordance with the SOP. However, of the three components of SC identified, innovation capital, organisational capital and information systems there is no indication of measurement of the innovation capital or information systems. This does not support the finding of Haktanir and Harris (2005) whose case study found evidence that the hotel measured innovative activities. However, this general lack of measurement of SC subcomponent innovation lends some support to the finding of Atkinson and Brander Brown (2001) who reported that in their study of UK hotels that Innovation was monitored by a small percentage of the respondents. A number of metrics that can be used to measure in the areas of innovation and information systems have been identified in the literature by Sveiby (1997) and Stewart (1997) but none of these measures were used by any of the case subjects. The lack of a measurement framework for these chains could affect their overall performance as Huang and Liu (2005) found that the interaction between innovation capital and IT capital resulted in a positive effect on firm's performance.

In terms of human capital the insignificant relationship between HC and Measurement of IC was not unexpected since the qualitative case studies revealed that the extent of measurement of HC metrics was quite limited. Metrics such as employee turnover, number of training hours per employee and absenteeism were measured on an annual basis. These metrics tended to be more popular and managers often compared the performance of the chain on these metrics against those published by the statistical departments.

The fundamental question of whether the measurement of IC is associated with performance was answered in the affirmative. The results of the SEM indicate a reasonable and significant relationship in that the beta coefficient linking these two constructs is positive and statistically significant at $p<.01$ ($\beta=0.229$; $t=2.906$). However,

the findings of the case studies show that these chains have not implemented any framework that can be construed as an IC measurement framework, that is, a performance measurement system that incorporates both financial and non-financial metrics in a balanced multi-dimensional approach. This finding is in line with Cruz (2007), Evans (2005) and Atkinson and Brander Brown (2001). The case studies indicate that managers mainly monitor financial dimensions of performance and this is consistent with the finding of Atkinson and Brander-Brown (2001). An earlier empirical study of Zimbabwean hotels found that cost control ratios were considered by managers as the most important ratios (Messenger and Mugomeza 1995), and these case studies indicate that this is still the case today. The next section will discuss the issue of reporting of IC with the research question and summary findings presented in table 64.

Table 64: Reporting of IC – Research question and summary findings

Research Issue **Reporting of IC**
Research Questions *1a. What components of the intellectual capital constructs are captured in the reports of management?*
Summary of case studies findings
• The managers use a variety of reports on a daily basis to help them in their decision making which were mainly focused on the traditional financial and cost management areas. • The non-financial reports focused mainly on information relating to customer capital. In the case of Almond Resorts, their Quality Alert was the major focus of the hotel and directed daily decision making. This report highlighted how an IC report is embedded within the organisation culture. • External stakeholders are not fully informed of the organization's internal management practices in relation to IC. • The external reporting of IC information focused on community capital and customer capital with very little reporting of SC and HC • There was no reporting framework within the hotels

The second part of this research question focused on the type and level of IC reporting in the organisation's business management documents. The content analysis of the interview transcripts of the managers of these chains reveals that they are oblivious to the construct of IC and its components. This suggests that with this lack of understanding a reporting framework relating to IC would not be present in any of the chains. This was confirmed based on the content analysis of the internal reports which

were classified, based on the nature of their contents, into financial, HC, RC and SC reports. It was found that the SC reports were mainly of a compliance nature (HACCP or Green Globe related). The data analysis also revealed that the RC reports tended to focus on the customer capital attribute, with the customer satisfaction report being a major focus of both chains. Having a customer satisfaction focus is strongly supported in the literature. Banker et al (2005) in their empirical study of 'Hotelcorp' documented that customer satisfaction improved the hotel's financial performance as a result of repeat business and not price premiums. Training was a key focus of both chains and the training report was one of the major HC type reports produced. Abeysekera (2006) supports a training focus in hotels as he argues that employers should recognize the positive value that training has on employee productivity. Another HC type report produced by the chains was the labour report but this report was used mainly for its financial focus. Banker et al, (2005) also documented that measuring and reporting non-financial and financial information relating to the implementation of an incentive plan also improved the financial position of the company six months later. This would suggest that reporting information relating to HC would enhance a firm's profitability. However, the analysis documented that financial reports were the most frequently produced and used by managers.

The reporting frequency was used as a method of assessing the report's importance to managers. This analysis revealed that the financial reports were produced either on a daily or monthly basis, customer satisfaction monthly, SC reports monthly, but apart from the Labour Report which was produced weekly the other HC reports were annual reports. The production of reports on a daily basis suggested that some areas needed the managers' constant focus. Additionally, the frequency of reporting in the financial area could be attributed to established procedures for analysing such reports. Neilsen et al. (2006) argue that IC reports do not have a set of accounting standards nor historically crafted set of institutions such as auditors and financial analysts that strongly support these reports. Although, Petty et al (2008) reported that in their empirical study 91 percent of the respondents [Financial Analysts] stated that they believed they would find IC reports more decision-useful than the information provided by the traditional financial accounting reports. They also reported that 88

percent of the respondents believed that voluntary disclosure of IC by companies should be rewarded by the capital market in the form of a higher share price. However, the limited adoption of a reporting framework for IC has been attributed to the high cost associated with the collection and collating of IC metrics together with the challenges in their interpretation (Johanson 2003).

The issue of disclosure of IC in annual reports has received significant attention in the literature. A fundamental question that can be asked is whether these chains inform their external stakeholders about the composition and performance of their IC resources. The results of quantitative content analysis of the annual reports for Almond Resorts Inc., a public company, reveal that this hotel chain did not have a framework for IC reporting. This finding is quite similar to Xiao (2008) in relation to China. However, further analysis of the disclosures relating to the components of IC affirm that there was very little reporting of SC. This finding is inconsistent with Guthrie and Petty (2000) Guthrie et al (2006), Goh and Lim (2004) and Brennan (2001) who found that SC items such as management philosophy were frequently reported by companies. However, the hotel chain reported fairly extensively on its 'community capital' attribute of RC. The chain also reported on its business collaborations and financial contracts which resulted in RC being the most frequently reported IC component. This finding is consistent with that of Brennan (2001,) Oliveria et al (2006) and Guthrie et al (2006). The HC attributes of training and incentives accounted for the major disclosures in this area and this was consistent with the findings of Brennan (2001). Finally, external stakeholders are not fully informed of the organization's internal management practices in relation to IC and this finding is consistent with that of Boedker et al (2005) study on an Australian public sector organization.

In summary, it has been argued by Engstrom et al. (2003) that reports are good devices for managing IC as this gives the hotel the opportunity to allocate their resources according to the priority given in the reports. In addition, guidelines have been developed for preparing and interpreting these reports (Bukh et al. 2001; Meritum 2001; Mouritsen et al 2003) and several European companies have prepared IC

statements as an appendix to their annual reports (Skandia, Celemi) but global adoption of this has been quite limited. Martin (2004) argued that these IC statements contain little detail on the relationships between the various IC resources. Therefore the limited adoption globally of IC statements (due to the cost associated in collecting information pertaining to the metrics used, challenges in interpretation, lack of comparability across firms, lack of established standards, no backing by professional associations such as accountants etc) combined with the lack of knowledge of IC within this geographical area would inhibit the development of an integrated IC reporting framework although reports are produced that speak to individual components of IC. Table 65 below presents the summary findings and research question relating to IC and performance.

Table 65: IC and Performance – Research question and summary findings

Research Issue **IC and Performance**		
Research Questions *1c. Is there a relationship between IC components in management reports and organisational performance?*		
Hypotheses	**Evidence**	**Results**
H_1 HC is positively associated with hotel performance	β=.197;t=2.124; p=.034	Supported
H_2 RC is positively associated with hotel performance	β=-.093; t=.753; p=.451	Rejected
H_3 SC is positively associated with hotel performance	β=.229;t=1.105; p=.269	Rejected
H_{12} Measurement of IC is positively associated with hotel performance	β=.318;t=2.906; p=.004	Supported
H_{13} Measurement of IC will mediate the relationships between HC, RC and SC with performance		Supported

This research question sought to validate the literature pertaining to the significant relationship between the various IC components and performance. Several studies provided empirical evidence that supported the hypothesis that IC positively affects performance (Bontis 1998; Bontis et al 2000; Tseng and Goo 2005; Chen et al 2005; Reed et al 2006; Tan et al, 2007; Wang 2008). However, these studies were not conducted in the hospitality industry and therefore the quantitative phase of this study sought to test the association of the three IC constructs of HC, RC, and SC to performance in this industry. An examination of the path coefficients, critical ratios and significance level indicates that only HC has a significant relationship with performance.

The SEM results reveal that HC has a direct positive effect on Performance as the standardized parameter estimate between the two constructs was 0.197 with a critical ratio of 2.124 and a p-value of 0.034. This finding corroborates that of Youndt and Snell (2004) who reported in their study that HC was significantly related to performance (β= 0.211, $p<0.05$) and Wang (2008) who found a significant relationship between HC and the market value of the company. Other researchers found an association between HC and Performance but this influence was indirectly through the other IC components (Wang and Chang 2005; Do Rosario Cabrita and Bontis 2008). This quantitative finding of a positive association of HC with Performance, though a weak association corroborates to some extent the earlier qualitative findings. The qualitative case studies reveal that where entities implemented effective HR practices, such as 'high performance work practices' (Huselid 1995), this would enhance their HC which would in turn impacts positively on performance.

The results of the correlation analysis reveal a weak but significant relationship between RC and performance (ρ = 0.288 $p<0.001$). The SEM results, on the other hand, revealed that RC does not directly affect performance as the standardized parameter estimate between the two constructs is negative (0.126) with a critical ratio of -0.753 and a p-value 0.451. This finding does not corroborate the majority of other empirical studies that tested the direct affect of RC on Performance and found a positive and statistical significant association between the two constructs (Youndt and Snell 2004; Wang and Chang 2005; Wang 2008). Additionally, Do Rosario Cabrita and Bontis (2008) using the same subjective performance measure reported a positive and statistical significant association (β =0.291; t=4.578; $p<0.001$) between the two constructs in relation to the Portuguese Financial Industry. The finding in this quantitative phase of an insignificant direct association contradicts the findings of the qualitative studies as managers inferred in their discussions that their effective management of two of the three categories relating to RC, customer capital and community capital, resulted in improved performance. The case studies did reveal that whereas managers were oblivious to the formal construct of RC their discussions suggested that they engaged in activities which built the RC of the chain in an attempt to enhance performance. Several empirical studies lend support to the assertion that effective management of

these sub-components of RC would enhance performance. Yeung and Ennew (2001) found a positive impact of customer satisfaction on performance and Hancock (2005) found that good corporate citizenship (a proxy here for community capital) contributed to improved business performance. Other empirical studies have documented a significant association between customer satisfaction, an attribute of RC, on various dimensions of performance; shareholder value/market value (Ittner and Larcker 1998; Mittal et al. 2005; Gruca and Rego 2005), ROI (Anderson and Mittal 2000; Anderson et al 1994), cash flows (Rust et al 2004) and abnormal earnings (Nayyar 1995). However, this study did find an indirect relationship between RC and Performance, where this association is mediated by measurement of IC. This finding indicates that the hypothesis which states that measurement of IC mediates the relationship between RC and performance cannot be rejected. This suggests that in hotels where there are high levels of the measurement of IC, the relationship between RC and performance will be enhanced which lends support to the qualitative findings.

The SEM results also reveal an indirect relationship between the SC construct and Performance mediated by Measurement of IC. This supports the hypothesis that measurement of IC mediates the relationship between SC and performance. This finding supports that of Widener (2006) who developed a SEM linking SC to Performance mediated by employee and operational measures; and found that in non-manufacturing firms SC was indirectly associated with performance through the employee and operational measures. In terms of this study's direct effect between the two constructs, the hypothesis that SC is associated with performance could not be supported. The path coefficient between the two constructs has a standardized parameter estimate of 0.229 that is positive, with a critical ratio of 1.105 and p-value=0.269, however, the results of the correlation analysis reveal a moderate but significant relationship between SC and performance ($\rho = 0.480$ $p<0.001$). This insignificant direct effect between SC and performance implies that internal organisational systems, repositories of knowledge, routines and procedures, and the information systems designed to capture, store and disseminate the organizational explicit knowledge do not appear to impact directly on the performance of the hotels in the Caribbean. This finding which is similar to that of Cleary (2009) does not

corroborate other empirical studies (Ordonez de Pablos 2002; Bontis et al 2000; Do Rosario Cabrita and Landeira Vaz 2006). The case studies reveal that the hotels are able to effectively create distinctive competencies in terms of their documentation procedures, knowledge management efforts, research and quality management information systems which impacts positively on their performance. In addition, the qualitative data analysis suggests that SC can be deconstructed into information systems, innovation and organisational capital. In using these sub-categories of SC the literature offers some interesting results between the respective sub-categories and performance. Huang and Liu (2005) found that innovation capital has a non-linear relationship with firm performance whereas Wang (2008) found a significant relationship between market value on the one hand and innovation capital and process capital respectively.

The fundamental question of whether the measurement of IC is associated with performance is answered in the affirmative. The results of the SEM indicate a reasonable and significant relationship linking these two constructs as the standardized parameter estimate is positive 0.318, a critical value of 2.906 and statistically significant at $p<.01$. This finding suggests that hotels within the Caribbean that engage in effective Measurement of IC will enhance their performance. Widener (2006) argues that firms that establish a performance measurement system that provide top managers with critical information pertaining to its resources and capability will positively affect their performance. This argument supports an earlier call from Kaplan and Norton (1996 page 21) who asserted that “if you can’t measure it, you can’t manage it“. Hoque (2005) found a positive and significant association between managers’ use of non-financial measures and performance. This finding of a significant relationship between measurement of IC and performance corroborates a number of other empirical studies that referred to performance measures (Van der Stede et al., 2006; Olson and Slater, 2002; Hoque and James, 2000; Lingle and Schiemann, 1996 and Hyvonen, 2007).

In summary, whereas the qualitative case studies indicate a lack of an integrated performance system that incorporate a balanced multi-dimensional approach, the items measured did have an impact on the overall performance of the chains. The quantitative data highlight that in hotels where there is evidence of measurement of IC, this mediated the relationship between SC and performance and RC and performance. The structural equation model did reveal an indirect effect between the constructs of RC and SC with performance through the measurement of IC linkage. This result supports Widener (2006) who found some support for her hypothesis that various performance measurement practices mediate the associations between intangible assets and perceived financial performance. Table 66 presents the research question and summary findings relating to sensemaking.

Table 66: Sensemaking of IC – Research questions and summary findings

<table>
<tr><th colspan="3">Research Issue
Sensemaking and IC</th></tr>
<tr><td colspan="3">Research Questions
2a. Is there a relationship between IC components and sensemaking?
2b. Is there a relationship between sensemaking by managers and organizational performance?</td></tr>
<tr><th>Hypotheses</th><th>Evidence</th><th>Results</th></tr>
<tr><td>H_4 HC is positively associated with sensemaking
H_5 RC is positively associated with sensemaking
H_6 SC is positively associated with sensemaking
H_{10} Sensemaking is positively associated with hotel performance
H_{11} Sensemaking will mediate the relationships between HC, RC, SC and Performance</td><td>β=.158; t=2.565; p=.010
β=.242; t=3.111; p=.002
β=.608; t=6.921; p=.000
β=.054; t=.267; p=.790</td><td>Supported
Supported
Supported
not supported
not supported</td></tr>
<tr><td colspan="3">Summary of Case Studies Findings</td></tr>
<tr><td colspan="3">• Managers in their sensemaking roles used an IC lens to make management decisions
• Sensemaking of IC information incorporated HC attributes of personal belief, value structure and experience, SC attributes of stored knowledge and formal committees and RC attribute of sharing perceptions
• The seven characteristics of sensemaking as outlined by Weick (1995) were observed
• Sensemaking facilitated the interaction of the three components of IC</td></tr>
</table>

The construct of sensemaking in this study refers to the way managers understand, interpret and create sense for themselves based on the information surrounding them. The results of quantitative analysis using SEM to test the hypotheses that there is a relationship between the construct of sensemaking and the constructs of the IC

components reveal that the hypotheses could not be rejected. The beta coefficient linking the construct of RC to sensemaking indicates a moderate relationship that is positive and statistically significant ($p < 0.01$ $\beta=0.423$; $t=3.111$). The beta coefficient linking the construct of SC to sensemaking is positive and statistically significant at a p-value < .001 ($\beta=0.738$; $t=6.921$) which indicates a strong relationship, whereas a weak but significant relationship exists between HC and sensemaking. The beta coefficient linking the two constructs is ($\beta=0.195$; $t=2.565$; $p < .01$). This overarching result has perhaps even more important implications in terms of the constituent linkages among the sensemaking component processes. The findings of significant relationships between sensemaking and the IC components is not surprising in that the IC literature has shown that there is a relationship among the IC components (Bontis et al 2000, Chen et al 2004, Reed et al 2006) and this relationship would be achieved through managers interpreting, understanding and creating sense for themselves based on the IC information. This is borne out in the qualitative findings which serve to corroborate these quantitative findings.

The results of the qualitative phase identify five attributes, two of which can be considered embodying HC (personal beliefs/value structure and use of prior experience), two SC (formal committees/scheduled meetings and use of stored knowledge) and one RC (sharing perceptions) which represent the construct of sensemaking. This finding posits that the sensemaking of IC information requires the integration of the three components. The managers' expression of their 'use of prior experience' in the sensemaking process is supported in the literature, as Hall (1992) argues that employee know-how which can be seen as a proxy for experience is one of the most critical intangible resources of the firm. Their use of 'personal beliefs and value structure' is also part of the personal competencies relating to the HC construct and Parry (2003) asserts that our beliefs, assumptions and stories help us to bring order to what is going on and make sense of our own reality. The sensemaking process within an organisation is not possible without HC and the stock of HC within the organisation will determine the level of sensemaking that is attainable. Shariq (1998) affirms that in order to make sense or create understanding, humans bring prior knowledge and context to the information and without the human context the

information by itself will have no meaning. Therefore, the process of sensemaking is dependent on the stock of HC within the firm; however it is not only dependent on HC but how it interacts with the other IC components.

The managers argue that they share their perceptions with other managers and depend on other managers' perceptions to make sense of a new situation. This 'sharing of perceptions' is dependent on the level of RC within the entity and is critical to organisational sensemaking. RC within an entity provides for 'employee to employee' relationships as well and employee to other stakeholders' relationships both of which would provide opportunities for sharing perceptions. Allard-Poesi (2005) states that within organisations, an individual's project and actions are dependent upon another individual's projects, actions and interruptions and the process of sensemaking mainly focuses on those interdependent acts that help individuals to complete their various projects or hinder them from doing so. Therefore high levels of RC within the firm will contribute to opportunities for sensemaking as RC provides for a 'nexus of relationships'.

The two sensemaking attributes of 'formal committees/schedule meetings' and 'use of stored knowledge' embody the IC notion of SC. These case studies suggested that daily management briefings/meetings were the norm within the hospitality industry. Such meetings would provide opportunities for sensemaking of IC information. Schwartzman (1989) argued that meetings provide individuals with a way to create and then discover the meaning of what it is they are doing and saying. A meeting thus becomes both a frame for organizational behaviour and a frame for making sense of the current situation. In addition, it was recognized that these two chains had created repositories in the form of manuals for SOPs. Codifying their routines and procedures in these repositories facilitates knowledge management and enables managers to research how a particular problem was handled in the past. The knowledge embedded in difficult to imitate networks of relationships serves to integrate SC and the other components of IC (Grant 2005).

In response to the research question of whether there are demonstrable links between sensemaking and organizational performance, the quantitative results of this study indicate that this hypothesis cannot be supported. The beta coefficient linking the sensemaking construct to performance was insignificant, the p-value =0.790 (β=0.042; t=0.267). This does not support the findings of a prior study by Thomas et al (1993) which found links between sensemaking activities and organisational performance. The qualitative results on the other hand suggest that sensemaking serves to integrate the three IC components and prior studies have shown that there is a significant relationship between IC and organisational performance (Bontis 1998; Bontis et al 2000; Reed et al 2006). Mouritsen and Larsen (2005) argue that employees' skills and knowledge interact with other employees' skills and knowledge and with companies' technologies, processes and customers therefore it is difficult to disentangle human capital from structural and relational capitals. The interrelationship among the three components of IC is accomplished through the process of sensemaking and thus this interaction should enhance performance. The seven characteristics of sensemaking as identified by Weick (1995) were observed in this study. These characteristics were overlapping and not mutually exclusive. Accordingly once people begin to act (enactment), they generate tangible outcomes (cues) in some context (social) and this helps them discover (retrospect) what is occurring (ongoing) what needs to be explained (plausibility) and what would be done next (identify enhancement).

8.4. Contributions of research

This study investigated the characteristics and significance placed on IC in the hospitality industry in the Caribbean and critically assessed the impact of the IC information on corporate performance through the sensemaking process in hotels. The findings of this mixed methods study seek to fill some of the gaps identified in the literature. This section will highlight the potential contribution this study makes to the extant IC and hospitality literatures, to practice within the hospitality industry and to research methods literature.

An initial contribution to the literature is the use of sensemaking and the resource based view of the firm to provide the foundation for understanding how the three components of IC interact to impact different organizational outcomes. There are several empirical studies that have used Penrose's (1959) resource based view of the firm as the theory to underpin their research in IC (Riahi-Belkaoui 2003; Carlucci et al 2004; Reed et al 2006; Menor et al 2007). A limitation of the resource based view is that it assumes that capabilities and resources are wholly contained in the firm. However, Polyanni (1957) has argued that they are relationships that are not wholly contained in the firm that contribute to its success, therefore advocating a social capital view of the firm. This study, recognizing the limitations described in the resource based view, is the first study to integrate the resource based view of the firm with a social capital theory of sensemaking to extend the literature on IC. Therefore, this study contributes to the IC theory development by building a model that incorporates sensemaking and measurement of IC as mediating variables in the IC performance linkage and tests them empirically. Thus it provides insights into the factors that influence organizational effectiveness and competitive advantage.

The catalyst for this study was the dearth of literature on IC within the hospitality industry. Three studies have been identified in the literature review relating to this phenomena, Engrstom et al (2003) single embedded case study on the Radisson chain, Erickson and McCall (2008) survey on IC and performance in the food service industry and Anton et al (2005) study on luxury hotels in Spain which used correlation analysis as the analytical technique for the analysis of the data from twenty four respondents. While these studies have provide some literature on the dynamics of IC within the hospitality industry to some extent, they provided very little empirical evidence and their findings are clearly not generalizable. Therefore this study contributes to the extant literature by furthering our understanding of IC in areas other than knowledge intensive industries. In fact, this study extends the hospitality literature as it relates to intangible drivers of performance and contributes to the IC literature by providing empirical evidence on the IC and performance linkage within the hospitality industry.

The Caribbean as the geographical area of interest for this study is an under researched area in terms of management accounting. This area is characterized as a developing region and the literature review presented in chapter two shows that very little research has been conducted on IC in developing countries with Malaysia (Bontis et al, 2000; Goh and Lim, 2004; Goh, 2005; Tayles et al, 2007 and Zainol et al., 2008) and Sri Lanka (Abeysekera, 2005; 2006; 2008) being the exceptions. Additionally, most of the IC studies have been conducted in Europe, Australia, North America and Asia with no studies conducted on microstates such as the Caribbean. Therefore, this study contributes to the extant literature by providing empirical evidence on IC in developing microstates such as the Caribbean.

Finally, in terms of the contribution to the extant literature this study validates previous research which highlighted that the intangibles assets within organizations contributed to their performance, by testing this emerging theory in a new area. This study also contributes to the IC literature by deconstructing the components of IC to create a taxonomy of terms that can be used to describe the attributes of IC as it relates to the hospitality industry. In addition, the study introduced the construct of community capital as an attribute of IC to highlight the importance of relationships with stakeholders in the community in the development of RC in the hospitality industry in the Caribbean.

The contributions of this research to practice are significant, especially for those firms in the accommodation sector of the tourism industry. An initial contribution of this research to practice is the recognition of how the benefits of intangible assets accrue to hotels within the sector. This study validated the direct effect of HC on performance and highlighted that the implementation of high performance work practices contribute significantly to the development of HC within the hospitality industry. The implication of this is that managers should have an understanding that appropriate HR strategies can develop firm-specific HC. As suggested by the RBV of the firm, an organisation's unique HC and capabilities provide the basis for competitive advantage. Therefore, managers should recognize the importance of training and

comprehensive recruitment schemes in the development of HC and implement HR practices that can leverage the HC within the firms.

The importance of the relationships between the hotels and the community was highlighted as a major factor in the development of RC within the hospitality industry. The implication of this to management is that practices are needed to grow the RC by managing those external relationships with stakeholders in the community. This highlights that it is not only relationships with customers that is critical in the development of RC but the relationship with the community as they supply employees and other critical primary inputs into the production of the hospitality service. In addition, the study provides insights on leveraging value from customer relationship management systems through the integration of SC, HC and RC. The implication of this to practice is that managers should understand the potential economic benefits of having effective customer relationship management systems in place. However, this study suggests that investment in the information systems attribute of SC does not on its own provide the firm with a competitive advantage, but it is the integration of the information systems with the other components of IC to create capabilities that are firm specific and distinctive that provides for a competitive advantage. This insight should enable managers to better allocate their resources towards the creation of capabilities that are firm specific and which would result in the firm achieving a competitive advantage.

The study developed and tested a theoretical model concerning the mediating effect of the measurement of IC on the components of IC and performance. The results indicated the process of measurement impacted significantly on the components of IC and performance linkage. This brings managers' attention to the long term benefits of measuring IC. This study provides a theoretical explanation and empirical evidence as to why managers may want to consider not only the direct effects of HC, RC and SC on performance but also the indirect effect through the mediating variable of measurement of IC. The implication for practice is that management within the

hospitality sector should develop integrated measurement systems that incorporate IC factors with the financial measures.

The final contribution to practice relates to the role of sensemaking in the IC performance linkage. The theoretical model also tested the components of IC and performance linkage mediated by sensemaking. The study found a positive and significant relationship between the components of IC and sensemaking. The sensemaking construct related to the top management team information processing systems. This significant relationship between sensemaking and components of IC, has implications for management, in that the use of formal committees, team work, scheduled meetings, sharing of perceptions and prior experience all provide managers with the opportunities for sensemaking of IC information which will serve to enhance the IC of the firm.

From a methodological perspective, this thesis provided a rigorous study of issues in IC aimed at enhancing the research methods in the field of IC. According to Marr and Chatzkel (2004), the field needs to move forward by adopting more rigorous empirical research methods in theory testing. Adoption of more rigorous methodologies would enable researchers in the field to understand and communicate better the theory and concepts behind the study of IC. This study reinforced the use of qualitative case studies as the precursor to the development of hypotheses.

This thesis confirmed and extended the use of confirmatory factor analysis and structural equation modelling as appropriate methods to develop latent constructs of HC, RC, SC, measurement of IC and sensemaking in IC research. Statistical techniques and methods that are widely used in other social sciences data analysis were incorporated into this study. A full structural equation modelling methodology was used to empirically test the IC performance linkage mediated by sensemaking and measurement of IC. The use of structural equation modelling in both IC and management accounting is still relatively new and most of the prior studies in IC that

used the technique were limited to one of path analysis, partial least squares or confirmatory factor analysis. However, the complex nature of the IC field makes it a suitable candidate for the application of full structural equation modelling.

8.5. Study limitations and future research

The limitations of the study are discussed here in order to establish the boundaries for the interpretation of the results and their application to theory and practice as discussed above. In addition, study limitations help to specify areas for future research. This study used a mixed-methods approach and thus limitations may be appropriate to each phase of the research. First, every study that includes a questionnaire survey is subject to a certain degree of measurement error (Gay and Diehl 1992). The collection of data based entirely on a cross-sectional, self-report survey methodology is a limitation of the present study since problems associated with common method variance – "the conflation of response-response correlations when all data is derived from the same source" (Brewerton & Millward, 2001) – may arise. For, example an overstatement of relationships among the variables studied may be attributed to use of a single source of data, such as self-report questionnaires. Rousseau (1990) advocated the use of multiple methods as a means to addressing the problem of common method variance. Future research might consider use of objective measures of performance so as to control for common method variance.

Second, the survey data relied on perceptual measures of organizational performance. Although objective measures are more desirable, perceptual measures are regularly used in research. While the perceptions of managers on performance was defended as a strength of this study, facilitating consistency, availability, generalisability, and perhaps accuracy of the data used, obvious limitations rest with this approach as well. It is conceivable that managers did not respond to the performance questions in a truthful fashion, particularly if they believed they would somehow be rewarded or punished for the survey findings. Therefore, additional work is needed to test how closely perceptions of performance correlate with actual performance in this sample. In addition, future researchers might consider defining the individual performance

factors more specifically than was done in this study to hone more accurate and specific performance information from respondents.

Third, as with all studies, there are other possible variables that were not examined and may have exogenous effects on the relationships studied. This study focused on the impact of intangible resources on the dependent variable of business performance. There is a possibility that the explained variance offered by each independent variable is biased and or inflated because of omission of the impact of tangible resources (Galbreath and Galvin 2004). Therefore it would be interesting to investigate models that incorporate both tangible and intangible factors of production. Furthermore, the operationalization of the sensemaking construct poses another limitation on the study. In the quantitative phase of this study, sensemaking was conceptualized as top management teams' information processing systems consistent with the Thomas et al (1993) study. However, there are other characteristics of sensemaking that could be captured and incorporated into the construct of sensemaking to test the relationship among sensemaking, IC and performance. It is therefore suggested that future research incorporate into the model other variables of particular relevance to intellectual capital.

Fourth, the current study is of a cross-sectional nature, it cannot purport to provide a causal test of relationships. Causal inferences are stronger with experiential studies where the following conditions apply: (a) association, (b) temporal precedence, and (c) isolation (Gefen et al 2000). Correlation implies association but is not enough. Research has to show that no other event has happened between the cause and effect events (Gefen et al. 2000). SEM as used in this study can establish association with path analysis but it is difficult to establish isolation. There is always the possibility of omitting factors or specifying weak measurements. Therefore, causality inferences in SEM should be supported with strong relevant theory behind the data results. Hay and Diehl (1992) suggest that a correlation study supported by sound theory can lead to a causal–comparative study. In addition, over time, the importance of the various factors of intellectual capital is likely to change, calling for new strategies and redirection of

resources. Longitudinal research could gauge such changes and their effects on overall organizational well-being. Therefore, additional work is needed to test the significance of hypothesized linkages among variables. In particular, future research should clarify the theorized relationships using longitudinal study designs.

Fifth, limiting the scope of this research to hotels with more than forty rooms provides a limitation on how relevant this research is to hotels with less than forty rooms. The boutique hotels, guest houses and condominiums which constitute a large percentage of the accommodation sector in the Caribbean have less than forty rooms. In addition, the research was limited to hotels in the English speaking Caribbean which limited the generalizability of the findings to the wider Caribbean. The ability to generalize these findings to other industries in the Caribbean could be limited to some extent, given that the hospitality sector is more service-oriented compared to the more traditional sectors. Future research might modify and extend the framework to make it more comprehensive or more suited to specific industries or regions.

Finally, a strength of the current thesis is the use of qualitative case studies which enriched the quantifiable information provided by the self-report measure. Any underlying weakness within the qualitative methods relates to the fact that the focus of the case studies was limited to two all-inclusive hotel chains. This can be construed as limiting the generalizability of these findings to other hotels. It is also important to recognize that there may be some issues of researcher biases, i.e. the different interpretation which can be placed on reality by the individual researcher. However, particular techniques mentioned in the research methodology should aid in reducing such biases. Furthermore, the rigorous case study protocol followed in this thesis greatly enhanced the reliability of the case study; therefore this provides the opportunity for other researchers to implement this case study protocol in future studies using the case study approach. As Eisenhard (1989) has noted, case study research can provide rich, descriptive insights into events and bahaviours and can lead to hypotheses for testing and sometimes the development of new theories and explanatory frameworks.

8.6. Conclusion

This research sought to examine the impact of IC on firm performance mediated by measurement of IC and sensemaking in the Caribbean. While a rich source of theoretical and normative research exists, the paucity of empirical research on the topic in developing countries created the catalyst and provided few leads on how to operationalise the constructs of the components of IC in order to study their impacts. The study implemented a mixed method approach employing a sequential exploratory strategy where qualitative case studies were used in the first phase to assist in the formulation of hypotheses to be tested in the quantitative second phase. The second phase of the study employed structural equation modelling which enabled the researcher to reach statistically logical conclusions with confidence. This resulted in the research goals of the study being met, as a hypothesized structural equation model was developed based on the resource-based view of the firm and sensemaking theory which was empirically tested. The SEM model was tested using AMOS software, which determined the strength and direction of causation among the constructs.

The results achieved found theoretical support, adding a degree of validation to the methods adopted. Some unexpected results were also investigated, finding viable explanations in the interaction effects between the main variables. This study provided a unique framework, model, survey instruments and empirical analysis to measure relationships among the constructs of HC, RC, SC, measurement of IC, sensemaking and perceived organizational performance. Empirical results of the current study provide evidence that HC impacted directly on performance; RC and SC impacted indirectly on performance being mediated by measurement of IC; and HC, RC and SC have a positive and significant relationship with sensemaking. In addition, this study provides for an understanding of how a firm can develop firm-specific capabilities through the leverage and interaction of its components of IC. As suggested by the resource based view of the firm, an organisation's unique IC and capabilities provides the basis for competitive advantage.

The implications from this research are substantial. The empirical findings provided additional precision to the underlying theories. This study provided an 'all-in-one' model and methodology for testing relationships among the components of IC, sensemaking measurement of IC and performance. The uniqueness of this study rests in the fact that it offers a methodology for examining a new combination of constructs arranged in a specific pattern. These ideas and contributions are special, since a newly developed model was added to the IC literature, in that, this study provided a model indicating how IC can be leveraged to have a significant impact on performance. These findings show that hotels can build this strategic capability by management effectively deploying practices which facilitate the interaction and interrelationships among the three components of IC.

Finally, data limitations aside, this research is a step to gaining a further understanding of the beneficial impacts of IC on firm performance. It is hoped that other researchers will adopt and improve on some of the methods pioneered in this thesis, to provide the much needed empirical support to the foundational theories for IC. Based on the findings of this study managers in the hospitality industry and scholars should continue to pursue approaches to better understand the relationship between IC and organisational performance. Ultimately, it will be the timely and specific guidance provided to business leaders, through continuing research on IC, which will help firms of the 21st century thrive and prosper.

References:

ABERNETHY, M. A., CHUA, W. F., LUCKETT, P. F. & SELTO, F. H. (1999) Research in management accounting: Learning from others' experiences. *Accounting and Finance,* 39**,** 1-27.

ABEYSEKERA, I. (2006) The project of intellectual capital disclosure: researching the research. *Journal of Intellectual Capital,* 7**,** 61-77.

ABEYSEKERA, I. (2008) Intellectual capital disclosure trends: Singapore and Sri Lanka. *Journal of Intellectual Capital,* 9**,** 723.

ABEYSEKERA, I. & GUTHERIE, J. (2005) An empirical investigation of annual reporting trends of intellectual capital in Sri Lanka. *Critical perspectives on Accounting,* 16**,** 151-163.

AHRENS, T. (2008) The future of interpretive accounting research. A polyphonic debate *Critical perspectives on Accounting,* 19**,** 840-.

AHRENS, T. & CHAPMAN, C. (2006) Doing qualitative field research in management accounting: Position data to contribute to theory. *Accounting, Organisations and Society,* 31**,** 819-.

AILAWADI, K. L., LEHMANN, D. R. & NESLIN, S. A. (2003) Revenue Premium as an outcome measure of brand equity. *Journal of marketing,* 67**,** 1-17.

ALHIJA, F. N.-A. & WISENBAKER, J. (2006) A Monte Carlo Study Investigating the Impact of Item Parceling Strategies on Parameter Estimates and Their Standard Errors in CFA *Structural equation modeling: A multidisciplinary Journal,* 13**,** 204 – 228.

ALLARD-POESI, F. (2005) The paradox of sensemaking in organizational analysis. *Organization* 12.

ALLEE, V. (2000) The Value Evolution: Addressing larger implications of an intellectual capital and intangibles perspective. *Journal of Intellectual Capital,* 1**,** 17-32.

ALVESSON, M. & SKOLDBERG, M. (2004) *Reflexive Methodology - New Vistas for Qualitative Research,* London, Sage Publications.

AMIR, E. & LEV, B. (1996) A value relevance of non-financial information: the wireless communications industry. *Journal of Accounting and Economics,* 22**,** 3-30.

AMIT, R. & SCHOEMAKER, P. J. H. (1993) Strategic assets and organizational rent. *Strategic Management Journal. ,* 14**,** 33-47.

ANDERSON, E. W., FORNELL, C. & LEHMANN, D. R. (1994) Customer satisfaction, market share, and profitability: Findings from Sweden. *Journal of Marketing,* 58**,** 53-67

ANDERSON, E. W. & MITTAL, V. (2000) Strengthening the satisfaction-profit chain. *Journal of Service Research,* 3**,** 107-131.

ANDERSON, J. & GERBING, D. (1988) Structural equation modeling in practice: A review and recommended two-step approach. *Psychological bulletin,* 103**,** 411-423.

ANDRIENSSEN, D. (2004a) IC Valuation and measurement: Classifying the state of the art. *Journal of Intellectual Capital,* 5.

ANDRIENSSEN, D. (2004b) *The making sense of intellectual capital: Designing a method for valuation of intangibles,* Mass. USA, Elsevier Butterworth-Heinemann.

ANDRIESSEN, D. (2001) Weightless wealth: four modifications to standard IC theory. . *Journal of Intellectual Capital,* 2**,** 204-214.

ANTON, J. M., ANDRADA, L. R. & ALBERDI, C. E. (2005) Proposal of an Intellectual Capital model for the Spanish hospitality sector. *International Journal of learning and intellectual capital,* 2**,** 305-320.

APOSTOLOPOULOS & GAYLE (2002) *Island tourism and sustainable development: Caribbean, Pacific and Mediterranean experiences* Westport, CT, Praeger.

APRIL, K. A., BOSMA, P. & DEGLON, D. A. (2003) IC measurement and reporting: Establishing a practice in SA mining. *Journal of Intellectual Capital,* 4**,** 165-.

ARAGÓN, A., BARBA, J. & SAUZ, R. (2003) Effects of Training on Business Results. *International Journal of Human Resource Management,* 14**,** 956-980.

ARBUCKE, J. (2005) Amos 6.0 User Guide.

ARMSTRONG, H. W. & READ, R. (2000) Comparing the economic performance of dependent territories and sovereign microstates. *Economic Development and cultural change,* 48**,** 285-306.

ARRIDELL, W. A. & VAN DER ENDE, J. (1985) An empirical test of the utility of the observations to variable ratio in factor and component analysis. *Applied psychological measurement,* 9**,** 165-178.

ARROW, K. (1962) The economics implications of learning by doing. *The review of economic studies,* 29**,** 155-173.

ARTHUR, J. B. (1994) Effects of human resource systems on manufacturing performance and turnover. *Academy of Management Journal,* 37**,** 670-687.

ATKINSON, A. & SHAFFIR, W. (1998) Standards for Field Research in Management Accounting. *Journal of Management Accounting Research,* 10**,** 41-68.

AUGIER, M. & TEECE, D. (2006) Understanding complex organizations: the role of know-how, internal structure, and human behavior in the evolution of capabilities. *Industrial and corporate change,* 15**,** 395-416.

BAGOZZI, R. P. & HEATHERTON, T. F. (1994) A general approach to representing multifaceted personality constructs: Application to state self-esteem. *Structural equation modeling:,* 1**,** 35-67.

BAKER, W. (2001) Social Capital. *Future - the Aventis Magazine,* 2.

BALAGUER, J. & CANTAVELLA-JORDA, M. (2002) Tourism as a long-run economic growth factor: the Spanish case. *Applied Economics,* 34**,** 877-884.

BANDALOS, D. L. (2002) The Effects of Item Parceling on Goodness-of-Fit and Parameter Estimate Bias in Structural Equation Modeling. *Structural equation modeling: ,* 9**,** 78-102.

BANDALOS, D. L. & FINNEY, S. J. (2001) Item parceling issues in structural equation modeling. IN MARCOULIDES, G. A. & SCHUMACKER, R. E. (Eds.) *Advanced structural equation modeling: New developments and techniques.* Mahwah, NJ, Lawrence Erlbaum Associates, Inc.

BANKER, R. D., POTTER, G. & SRINIVASAN, D. (2005) Association of Nonfinancial Performance Measures with the Financial Performance of a Lodging Chain. *Cornell Hotel and Restaurant Administration Quarterly,* 46**,** 394-414.

BARNEY, J. B. (1986) Organization culture can it be a source of sustained competitive advantage. *Academy of Management Review,* 11**,** 656-665.

BARNEY, J. B. (1991) Firm resources and sustained competitive advantage. *Journal of Management,* 17**,** 99-120.

BARNEY, J. B. (2001a) Is the resource-based "view" a useful perspective for strategic management research? Yes. . *The Academy of Management Review* 26**,** 41-56.

BARNEY, J. B. (2001b) Resource-based theories of competitive advantage: A ten-year retrospective on the resource-based view *Journal of Management* 27**,** 643-650.

BARON, R. & KENNY, D. (1986) The Moderator-Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations. *Journal of Personality and Social Psychology,* 51**,** 1173-1182.

BASSI, L. J. (1997) Harnessing the power of intellectual capital. *Training and development,* 15**,** 25-30.

BAUER, M. & GASKELL, G. (2005) *Qualitative Researching with Text, Image and Sound,* London, Sage Publications.

BEAMS, F. (1969) Indicators of Pragmatism and Empiricism in Accounting Thought. *The Accounting Review***,** 382-388.

BECHEREL, L. & COOPER, C. (2002) The Impact of Globalization on Human Resource Management in the Tourism Sector. *Tourism Recreation Research* 27**,** 1-12.

BECKER, B. & GERHART, B. (1996) The impact of human resource management on organizational performance: progress and prospects *Academy of Management Journal,* 39**,** 779-801.

BECKER, B. E. & HUSELID, M. A. (1998) High performance work systems and firm performance : A synthesis of research and managerial implications. *Research in Personnel and Human Resource Management,* 16**,** 53-101.

BECKER, B. E., HUSELID, M. A., PICKUS, P. S. & SPRATT, M. F. (1997) HR as a source of shareholder value: Research and recommendations. *Human Resource Management,* 36**,** 39–47.

BENTLER, P. M. (1990) Comparative fit indexes in structural models. *Psychological Bulletin,* 107**,** 238-246.

BENTLER, P. M. & BONETT, D. (1980) Significance tests and goodness of fit in the analysis of covariance structures. *Psychological Bulletin,* 88**,** 588-606.

BENTLER, P. M. & YUAN, K. H. (1999) Structural equation modeling with small samples: test statistics. *Multivariate Behavioral Research,* 34**,** 181-197.

BERGIN-SEERS, S. & JAGO, L. (2007) Performance measurement in small motels in Australia. *Tourism and Hospitality Research,* 7**,** 144-156.

BHARADWAJ, A. (2000) A resource-based perspective on information technology capability and firm performance: An empirical investigation. *MIS Quarterly* 24**,** 169-196.

BHIMANI, A. (2002) European Management Accounting Research: Traditions in the making. *European Accounting Review,* 11**,** 99-.

BOEDKER, C., GUTHRIE, J. & CUGANESAN, S. (2005) An integrated framework for visualizing intellectual capital. *Journal of Intellectual Capital.,* 6**,** 510.

BOLLEN, K. (1989) *Structural equations with latent variables,* USA, John Wiley and Sons.

BONTIS, N. (1996) There is a price on your head: managing intellectual capital strategically. *Business Quarterly,* 60**,** 40-47.

BONTIS, N. (1998a) Intellectual Capital: an exploratory study that develops measures and models *Management Decision,* 36**,** 63-76.

BONTIS, N. (1998b) Managing Organizational knowledge by diagnosing intellectual capital: Framing and advancing the state of the field. *Journal of Technology Management,* 18**,** 433-462.

BONTIS, N. (2001) Assessing Knowledge assets: a review of the models used to measure intellectual capital. *International Journal of Management Reviews,* 3.

BONTIS, N. (2003) Intellectual capital disclosure in Canadian corporations. *Journal of Human Resource Costing and Accounting*.

BONTIS, N. (2004) National Intellectual Capital Index - A United Nations initiative for Arab region. *Journal of Intellectual Capital,* 5**,** 13-39.

BONTIS, N., CHUA, C. K. & RICHARDSON, S. (2000) Intellectual capital and business performance in Malaysian industries. *Journal of Intellectual Capital,* 1**,** 85-100.

BONTIS, N., DRAGONETTI, N., JACOBSEN, K. & ROOS, G. (1999) The Knowledge Toolbox: A Review of the tools available to measure and manage intangible resources. *European Management Journal,* 17**,** 391-402.

BONTIS, N. & FITZ-ENZ, J. (2002) Intellectual capital ROI a causal map of human capital antecedents and consequents. *Journal of Intellectual Capital,* 3**,** 223-247.

BOOTH, R. (1998) The measurement of intellectual capital. *Management Accounting UK,* 76**,** 26-28.

BOUDREAU, J. & M., R. P. (1997) Measuring intellectual capital: Learning from financial history. *Human Resource Management,* 36.

BOUNFOUR, A. (2003) The IC-dVAL Approach. *Journal of Intellectual Capital,* 4**,** 396.

BOURDIEU, P. (1986) The Forms of Capital. IN RICHARDSON, J. G. (Ed.) *Handbook of Theory and Research for the Sociology of Education. .* New York, Greenwood Press.

BOURDREAU, J. W. & RAMSTAD, P. M. (1997) Measuring Intellectual Capital: Learning from financial history. *Human Resource Management,* 36**,** 343-356.

BOWEN, J. T. & CHEN, S.-L. (2001) The relationship between customer loyalty and customer satisfaction. *International Journal of Contemporary Hospitality Management.,* 13**,** 213-218.

BOZZOLAN, S., FAVOTTO, F. & RICCERI, F. (2003) Italian annual intellectual capital disclosure: An empirical analysis. *Journal of Intellectual Capital,* 4**,** 543-.

BOZZOLAN, S., O'REGAN, P. & RICCERI, F. (2006) Intellectual capital disclosure (ICD): a comparison of Italy and the UK. *Journal of Human Resource Costing & Accounting,* 10.

BRADLEY, K. (1997) Intellectual capital and the new wealth of nations II. *Business Strategy Review,* 8**,** 33-45.

BRANDER-BROWN, J. & ATKINSON, H. (2001) Rethinking performance measures: assessing progress in UK hotels *International Journal of Contemporary Hospitality Management,,* 13**,** 128-136.

BRANDER-BROWN, J. & MCDONNELL, B. (1995) The balanced score-card: short-term guest or long-term resident? *International Journal of Contemporary Hospitality Management,,* 7**,** 7-11.

BRENNAN, N. (2001) Reporting intellectual capital in annual reports: Evidence from Ireland. *Accounting, Auditing & Accountability Journal,* 14**,** 423-436.

BRENNAN, N. & CONNELL, B. (2000) Intellectual capital: current issues and policy implications. *Journal of Intellectual Capital,* 1**,** 206.

BREWERTON, P. & MILLWARD, L. (2001) *Organizational research methods: a guide for students and researchers,* London, Sage Publications

BRIGNALL, S. & MODELL, S. (2000) An institutional perspective on performance measurement and management in the 'new public sector. *Management Accounting Research,* 11**,** 281–306.

BRITTON, S. G. (1982) The political economy of tourism in the third world. *Annals of Tourism Research,* 9**,** 331-358.

BROHMAN, J. (1996) New directions in tourism development for third world development. *Annals of Tourism Research,* 23**,** 48-70.

BROOKING, A. (1997) The measurement of Intellectual Capital. *Long range planning,* 30**,** 364-365.

BROWN & BRIGNALL (2007) Reflections on the use of a dual-methodology research design to evaluate accounting and management practice in UK university central administrative services. *Management Accounting Research,* 18**,** 32-.

BROWNE, M. & CUDECK, R. (1993) Alternative ways of assessing model fit. IN BOLLEN, K. & LONG, J. (Eds.) *Testing structural equation models.* Newbury Park, CA, Sage Publications.

BRUMMET, R. L., FLAMHOLTZ, E. & PYLE, W. (1968) Human Resource Measurement: A challenge for Accountants *Accounting Review,* 43**,** 217-224.

BRYMAN, A. (2004) *Social Research Methods,* Oxford, Great Britain, Oxford University Press.

BRYMAN, A. & BELL, E. (2004) *Business Research Methods,* Oxford, Great Britain, Oxford University Press.

BRYMAN, A. & BELLE, E. (2007) *Business Research Methods,* London, Oxford University Press.

BRYMAN, A. & CRAMER, D. (2001) *Quantitative Data Analysis with SPSS. A guide for social scientists,* Sussex, Routledge.

BUKH, P., NIELSEN, C., GORMSEN, P. & MOURITSEN, J. (2005) Disclosure of information on intellectual capital in Danish IPO prospectuses. *Accounting, Auditing & Accountability Journal*.

BUKH, P. N. (2003) Commentary: The relevance of intellectual capital disclosure: A paradox *Accounting, Auditing & Accountability Journal,* 16**,** 49-56.

BUKH, P. N., NIELSEN, C., GORMSEN, P. & MOURITSEN, J. (2005) Disclosure of information on intellectual capital in Danish IPO prospectuses *Accounting, Auditing & Accountability Journal,* 18**,** 713-732.

BURNS, R. (2000) *Introduction to Research Methods,* London, Sage Publications.

BURRELL, G. & MORGAN, G. (2000) *Sociological Paradigm and Organizational Analysis: Elements of the Sociology of Corporate life,* London, Heinemann.

BYRNE, B. (2001) *Structural Equation Modeling With AMOS: Basic Concepts, Applications, and Programming* New York, Routledge.

CAÑIBANO, L., GARCIA-AYUSO, M. & SÁNCHEZ, P. (2000) Accounting for intangibles: a literature review. *Journal of Accounting Literature,* 1**,** 312-327.

CARLUCCI, D., MARR, B. & SCHIUMA, G. (2004) The knowledge value chain: how intellectual capital impacts on business performance. *International Journal of Technology Management,* 27**,** 575-590.

CARMELI, A. & TISHLER, A. (2004) The relationships between intangible organizational elements and organizational performance. *Strategic Management Journal,* 25**,** 1257-1279.

CHAMINADE, C. & JOHANSON, U. (2003) Can guidelines for intellectual capital management and reporting be considered without addressing cultural differences? *Journal of Intellectual Capital,* 4**,** 528-542.

CHARIES, O. E. (2004) Managing knowledge and intellectual capital for improved organizational innovations in the industry: an examination of critical success factors. *Engineering, construction and architectural Management.,* 8**,** 301.

CHATZKEL, J. (2003) The collapse of Enron and the role of intellectual capital. *Journal of Intellectual Capital*.

CHEN, C.-Y., LEE, Y.-J., TUNG, C.-T. & KAO, K.-S. (2008) The Influences on Innovative Activities, Intellectual Capital towards Corporate Development: Evidence and Insights from Taiwanese-publicly Listed IT Corporations *The Business Review,* 10**,** 236-246.

CHEN, J., ZHU, Z. & XIE, H. Y. (2004) Measuring intellectual capital: a new model and empirical study. *Journal of Intellectual Capital,* 5**,** 195-213.

CHEN, M.-C., CHENG, S.-J. & YUHCHANG, H. (2005) An empirical investigation of the relationship between intellectual capital and firm's market value and financial performance. *Journal of Intellectual Capital,* 6**,** 159-177.

CHIN, W. (1998) Issues and opinion on structural equation modelling. *Management Information Systems Quarterly,* 22.

CHOO, C. W. (1998) *The Knowing Organization - How organizations use information to construct meaning, create knowledge and make decisions,* Oxford, Oxford University Press.

CHOU, C. P., BENTLER, P. M. & SATORRA, A. (1991) Scaled test statistics and robust standard errors for non-normal data in covariance structure analysis: A Monte-Carlo study. *British Journal of Mathematics and Statistical Psychology,* 44**,** 347-357.

CHRISTENSON, C. (1983) The methodology of Positive Accounting. *The Accounting Review,* LVIII.

CHUA, F. W. (1986) Radical developments in Accounting thought. *Accounting Review,* 61**,** 601-632.

CHURCHILL, G. (1979) A paradigm for developing better measures of marketing constructs. *Journal of marketing research,* 16**,** 64-73.

CLANCY, M. J. (1999) Tourism and development: Evidence from Mexico. *Annals of Tourism Research,* 26**,** 1-20.

CLEARY, P. (2009) Exploring the relationship between management accounting and structural capital in a knowledge intensive sector. *Journal of Intellectual Capital,* 10**,** 37-52.

CLEARY, P., KENNEDY, T., O'DONNELL, D., O'REGAN, P. & BONTIS, N. (2007) Positioning management accounting on the intellectual capital agenda. *International Journal of Accounting Auditing and Performance evaluation,* 4**,** 336-359.

CLOTIER, L. M. & GOLD, E. R. (2005) Legal perspective on Intellectual Capital. IN MARR, B. (Ed.) *Perspectives on Intellectual Capital.* Boston, Elsevier Butterworth Heinemann.

COFFMAN, D. L. & MACCALLUM, R. C. (2005) Using Parcels to Convert Path Analysis Models Into Latent Variable Models. *Multivariate Behavioral Research,* 40**,** 235-259.

COLEMAN, J. (1988) Social Capital in the Creation of Human Capital. *The American Journal of Sociology, ,* 94, S95-S120.

COLEMAN, J. (1990) *Foundations of Social Theory,* Boston, MA, Harvard Business.

COLIN & BAUM (1995) *Island Tourism: Management principles and practice,* Chichester, , John Wiley and Sons.

COLLIS, J. & HUSSEY, R. (2003) *Business Research,* Basingstoke, Palgrave MacMillan.

COMBS, J., LIU, Y., HALL, A. & KETCHEN, D. (2006) How do high-performance work practices matter? A meta analysis of their effects on organisational performance. *Personnel Psychology,* 59**,** 501-528.

COMREY, A. L. & LEE, H. B. (1992) *A first course in factor analysis,* New Jersey, Lawrence Erlbaum Associates Inc.

CONNER, K. R. (1991) A Historical Comparison of the Resource-Based Theory and Five Schools of Thought Within Industrial Organization Economics: Do I Have a New Theory of the Firm, . *Journal of Management* 17**,** 121-154.

CONNER, K. R. & PRAHALAD, C. K. (1996) A resource-based theory of the firm: Knowledge versus opportunism. *Organizational Science* 7**,** 477-492.

CONNOLLY, P. & MCGING, G. (2007) High performance work practices and competitive advantage in the Irish hospitality sector. *International Journal of Contemporary Hospitality Management.,* 19**,** 201-.

COOPER, C. (2006) Knowledge management and tourism *Annals of Tourism Research,* 33**,** 47-64.

CORBETTA, P. (2003) *Social Research Theory, Methods and Techniques,* London, Sage Publications.

COYNE, I. T. (1997) Sampling in qualitative research. Purposeful and theoretical sampling; merging or clear boundaries? *Journal of Advanced Nursing* 26**,** 623-630.

CRESWELL, J. W. (1998) *Qualitative inquiry and research design: Choosing among five traditions*, Sage Publications.

CRUZ, I. (2007) How might hospitality organizations optimize their performance measurement systems? *International Journal of Contemporary Hospitality Management,,* 19**,** 574 - 588.

CULPAN, R. (1987) International tourism model for developing countries. *Annals of Tourism Research,* 14**,** 541-552.

CURRAN, P. J., WEST, S. G. & FINCH, J. (1996) The robustness of test statistics to non-normality and specification error in confirmatory factor analysis. *Psychological methods,* 1**,** 16-29.

DANCEY, C. & REIDY, J. (2004) *Statistics without Maths for Psychology - Using SPSS for Windows,* New York, Prentice Hall.

DARLINGTON, Y. & SCOTT, D. (2002) *Qualitative Research in Practice: stories from the field,* Buckingham, Open University Press.

DATI (1998) Intellectual Capital Accounts - Reporting and managing intellectual capital Danish Agency for Trade and Industry

DAVENPORT, T. H. & PRUSAK, L. (1998) *Working Knowledge,* Boston, Mass, Harvard Business School Press.

DAVEY, A., SAVLA, J. & LUO, Z. (2005) Issues in Evaluating Model Fit With Missing Data. *Structural equation modeling:,* 12**,** 578-597.

DAVID, M. & SUTTON, C. (2004) *Social Research Methods,* Oxford, Oxford University Press.

DAVIES, J. & WADDINGTON, A. (1999) The management and measurement of intellectual capital. *Management Accounting,* 77**,** 34-.

DE RUYTER, K. & WETZELS, M. (1999) Commitment in auditor-client relationships: Antecedents and consequences. *Accounting, Organizations and Society,* 24**,** 57-76.

DEEGAN, C. (2000) *Financial Accounting Theory,* Sydney, McGraw Hill.

DEMAREST, M. (1997) Understanding Knowledge management. *Long range planning,* 30**,** 374-384.

DEMAS, W. (1965) *The economics of development in small countries with special reference to the Caribbean,* Montreal, McGill University.

DENG, Z., LEV, B. & NARIN, F. (1999) Science and technology as predictors of stock performance. *Financial Analysts Journal,* 55**,** 20-33.

DENZIN, N. & LINCOLN, Y. (1998) *Collecting and interpreting qualitative materials,* Thousand Oaks California, Sage Publications.

DEPABLOS, O. (2002) Evidence of intellectual capital measurement from Asia, Europe and the Middle East. *Journal of Intellectual Capital,* 3**,** 277-286.

DEPABLOS, O. (2003) Intellectual capital reporting in Spain a comparative view. *Journal of Intellectual Capital,* 4**,** 34-48.

DEPABLOS, O. (2005) Intellectual capital reports in India lesson from a case study. *Journal of Intellectual Capital,* 6**,** 105-140.

DESS, G. & ROBINSON, R. (1984) Measuring organizational performance in the absence of objective measures: The case of the privately-held firm and conglomerate business unit. *Strategic Management Journal,* 5**,** 265-267.

DEV, C. S., ERRAMILLI, M. K. & AGARWAL., S. (2002) Brands across borders: Determining factors in choosing franchising or management contracts for entering international markets. *Cornell Hotel and Restaurant Administration Quarterly,* 43**,** 91-105.

DIAMOND, J. (1977) Tourism's role in economic development: The case reexamined. *Economic Development and Cultural Change,* 25**,** 539-553.

DIERICKX, I. & COOL, K. (1989) Asset Stock Accumulation and Sustainability of Competitive Advantage,. *Management Science* 35**,** 1504-1511.

DO ROSARIO CABRITA, M. & BONTIS, N. (2008) Intellectual capital and business performance in the Portuguese banking industry. *International Journal of Technology Management,* 43**,** 212-.

DO ROSARIO CABRITA, M. & LANDEIRO VAZ, J. (2006) Intellectual capital and value creation: evidence from the Portuguese banking industry. *The Electronic Journal of Knowledge Management,* 4**,** 11-20.

DOLL, W. & XIA, W. (1997) Confirmatory factor analysis of the End-User Computing Satisfaction instrument: A replication. *Journal of End User Computing,* 9**,** 24-32.

DYER, J. H. & SINGH, H. (1998) The relational view: Cooperative strategy and sources of inter-organizational competitive advantage. *The Academy of Management Review,* 23**,** 660-680

DZINKOWSKI, R. (1999) Managing the brain trust. *CMA Management,* 73**,** 14-19.

DZINKOWSKI, R. (1999) Mining Intellectual Capital. *Strategic Finance,* 81**,** 42-47.

DZINKOWSKI, R. (2000a) The measurement and management of intellectual capital: An introduction. *Management Accounting,* 78**,** 32-36.

DZINKOWSKI, R. (2000b) The value of Intellectual capital. *Journal of Business Strategy,* 21**,** 3-6.

EASTON, V. & MCCOLL, H. (1997) Statistics Glossary. University of Glasgow.

EDVINSSON, L., KITTS BRENDAN & BEDING TORD (2000) The next generation of intellectual capital measurement - the digital IC-landscape. *Journal of Intellectual Capital,* 1**,** 263-273.

EDVINSSON, L. & MALONE, M. (1997) *Intellectual capital: Realizing your company's true value by finding its hidden brainpower,* New York, Harper Collins.

EDVINSSON, L. & SULLIVAN, P. (1996) Developing a model for managing intellectual capital. *European Management Journal,* 14**,** 356.

EISENHARDT, K. M. (1989) Building theories from case study research. *Academy of Management Review,* 14.

EISENHARDT, K. M. & MARTIN, J. A. (2000) Dynamic Capabilities: What are they? *Strategic Management Journal,* 21**,** 1105-1121.

ENGSTORM, T. E. J., WESTNES, P. & WESTNES, S. (2003) Evaluating intellectual capital in the hotel industry. *Journal of Intellectual Capital,* 4**,** 289-303.

ERICKSON, G. S. & MCCALL, M. (2008) Intellectual capital and the hospitality industry. *Competition Forum,* 6.

EVANS, N. (2005) Assessing the balanced scorecard as a management tool for hotels. *International Journal of Contemporary Hospitality Management* 17**,** 376-390.

FABRIGAR, L. R., WEGENER, D. T., MACCALLUM, R. & STRAHAN, E. (1999) Evaluating the use of exploratory factor analysis in psychological research. *Psychological methods,* 4**,** 272-299.

FAHY, J. (2000) The resource-based view of the firm: some stumbling-blocks on the road to understanding sustainable competitive advantage. . *Journal of European Industrial Training* 24**,** 94-104.

FARKAS, A. J. & TETRICK, L. E. (1989) A Three-Wave Longitudinal Analysis of the Causal Ordering of Satisfaction and Commitment on Turnover Decisions. *Journal of Applied Psychology,* 74**,** 855-868.

FIELD, A. (2000) *Discovering statistics using SPSS for Windows : advanced techniques for the beginner. ,* London, Sage Publications.

FINKELSTEIN, L. (2005) Problems of measurement in soft systems. *Measurement,* 38**,** 267-274.

FIRER, S. & WILLIAMS, S. (2003) Intellectual Capital and traditional measures of corporate performance. *Journal of Intellectual Capital,* 4**,** 348-360.

FITZGERALD, L., JOHNSTON, R., BRIGNALL, S., SILVESTRO, R. & VOSS, C. (1991) *Performance Measurement in Service Businesses* London, CIMA.

FITZGERALD, L. & MOON, P. (1996) *Performance Measurement in Service Industries: Making it Work* London, CIMA.

FLAMHOLTZ, E. (1974) Human resource accounting: a review of theory and research. *The Journal of Management Studies*.

FLAMHOLTZ, E. (1980) The process of measurement in managerial accounting: A Psycho-technical systems perspective. *Accounting, Organizations and Society*.

FLAMHOLTZ, E., BULLEN, M. & HUE, W. (2002) Human Resource Accounting: A historical perspective and future implications *Management Decision London,* 40**,** 948-955.

FLAMHOLTZ, E., SEARFOSS, D. & COFF, R. (1988) Developing Human Resource Accounting as a Human Resource Decision Support System. *Accounting Horizons*.

FLATT, S. J. & KOWALCZYK, S. J. (2008) Creating competitive advantage through intangible assets: The direct and indirect effects of corporate culture and reputation. *Advances in Competitiveness Research,* 16**,** 13-31.

FLICK, U. (2002) *An Introduction to Qualitative Research,* London, Sage Publications.

FOMBRUN, C. & SHANLEY, M. (1990) What's in a Name? reputation Building and Corporate Strategy. . *Academy of Management Journal,* 32**,** 233-256.

FORNELL, C. & LARKER, D. (1981) Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research,* 18**,** 39-50.

FOSS, N. J. (1999) Edith Penrose, economics and strategic management. . *Contributions to Political Economy* 18**,** 87-104.

FOSTER, J. (2002) *Data Analysis Using SPSS for Windows,* London, Sage Publications.

GALBREATH, J. & GALVIN, P. (2004) Which Resources Matter? A Fine-Grained Test Of The Resource-Based View Of The Firm. Academy of Management Proceedings.

GARCÍA, M. (2005) Training and business performance: The Spanish case. *International Journal of Human Resource Management,* 16**,** 1671-1710.

GARCIA-MECA, E. (2005) Bridging the gap between disclosure and use of intellectual capital information. *Journal of Intellectual Capital,* 6**,** 427-440.

GAY, L. & DIEHL, P. (1992) *Research methods for business and management,* New York, Macmillan

GEFEN, D., STRAUB, D. & BOUDREAU, J. (2000) Structural equation modeling and regression: Guidelines for research practice. *Communications of the Association for Information Systems,* 4**,** 1-70.

GILBERT, N. (2001) *Researching Social Life,* London, Sage Publications.

GIOIA, D. A. & PITRE, E. (1990) Multi-paradigm perspectives on theory building. *The Academy of Management Review,* 15**,** 584-603.

GIOIA, D. A. & THOMAS, J. B. (1996) Identity, image, and issue interpretation: Sensemaking during strategic change in academia. *Administrative Science Quarterly,* 41**,** 370-104.

GLASER, B. G. & STRAUSS, A. L. (1967) *The Discovery of Grounded Theory: Strategies for Qualitative Research,* London, Weidenfeld and Nicolson.

GOH, P. C. (2005) Intellectual capital performance of commercial banks in Malaysia. *Journal of Intellectual Capital,* 6**,** 385-396.

GOH, P. C. & LIM, K. P. (2004) Disclosing intellectual capital in company annual reports: Evidence from Malaysia. *Journal of Intellectual Capital,* 5**,** 500-511.

GOMM, R., HAMMERSLEY, M. & FOSTER, P. (2000) *Case Study method: key issues, key texts,* London, Sage Publications.

GRANT, D. (2003) A Study of Customer Service, Customer Satisfaction and Service Quality in the Logistics Function of the UK Food Processing Industry. *Management School and Economics.* Edinburgh, The University of Edinburgh.

GRANT, R. (1996a) Prospering in dynamically-competitive environments: Organizational capability as knowledge integration. *Organization Science,* 7**,** 375-387.

GRANT, R. (1996b) Towards a knowledge based theory of the firm. *Strategic Management Journal,* 17**,** 109-122.

GRANT, R. M. (2005) *Contemporary Strategic Analysis,* Oxford, Blackwell Publishing.

GRAPENTINE, T. (2000) Path analysis vs. structural equation modeling. *Marketing Research,* 12**,** 12-20.

GREEN, W. (2000) *Econometric Analysis,* Upper Saddle River, Prentice Hall.

GRUCA, T. S. & REGO, L. L. (2005) Customer Satisfaction, Cash Flow, and Shareholder Value. *Journal of Marketing,* 69**,** 115-.

GUTHERIE, J. (2001) The management, measurement and the reporting of intellectual capital. *Journal of Intellectual Capital,* 2**,** 27-41.

GUTHERIE, J. & PETTY, R. (1999) Managing intellectual capital: From theory to practice. *Australian CPA,* 69**,** 18-21.

GUTHERIE, J. & PETTY, R. (2000a) Intellectual capital literature review: Measurement, reporting and management *Journal of Intellectual Capital,* 1**,** 155-176.

GUTHERIE, J. & PETTY, R. (2000b) Intellectual capital: Australian annual reporting practices. *Journal of Intellectual Capital,* 1**,** 241-251.

GUTHERIE, J., PETTY, R. & RICCERI, F. (2006) The voluntary reporting of intellectual capital- comparing evidence from Hong Kong and Australia. *Journal of Intellectual Capital,* 7**,** 254-271.

GUTHERIE, J., PETTY, R., YONGVANICH, K. & RICCERI, F. (2004) Using content analysis as a research method to inquire into intellectual capital reporting. *Journal of Intellectual Capital,* 5**,** 282-294.

HAIR, J. F., BLACK, W. E., ANDERSON, R. E. & TATHAM, R. L. (2006) *Multivariate data analysis,* Upper Saddle River, Pearson/Prentice Hall.

HAKTANIR, M. & HARRIS, P. (2005) Performance measurement practice in an independent hotel context: A case study approach. *International Journal of Contemporary Hospitality Management,,* 17**,** 39-51.

HALL, R. (1992) The Strategic Analysis of Intangible Resources.. *Strategic Management Journal,* 13**,** 135-144. .

HALL, R. (1993) A Framework linking Intangible Resources and capabilities to sustainable competitive advantage. *Strategic Management Journal,* 14**,** 607-618.

HALL, R. J., SNELL, A. F. & FOUST, M. S. (1999) Item parceling strategies in SEM: Investigating the subtle effects of unmodeled secondary constructs. *Organizational Research Methods,* 2**,** 233–256.

HAN, J. K., KIM, N. & SRIVASTIVA, R. (1998) Market orientation and organizational performance: is innovation a missing link? . *Journal of marketing,* 62**,** 30-45.

HANKE, J. E. & REITSCH, A. G. (1994) *Understanding business statistics,* Burr Ridge, IL, Irwin.

HAU, K.-T. & MARCH, H. (2004) The use of item parcels in structural equation modelling: Non-normal data and small sample sizes. *British Journal of Mathematical Statistical Psychology* 57**,** 327-351.

HEKIMIAN, J. S. & JONES, C. (1967) Put people on your balance sheet. *Harvard Business Review,,* 43**,** 105-113.

HERMANSON, R. (1964) Accounting for Human Assets. IN RESEARCH, E. L. B. O. B. A. E. (Ed.), Michigan State University.

HERSHBERGER, S. (2003) The growth of structural equation modeling: 1994-2001. *Structural equation modeling: A multidisciplinary Journal* 10**,** 35-46.

HILLS, T. & LUNDGREN, J. (1977) The impact of Tourism in the Caribbean - A methodological study. *Annals of Tourism Research,* 4**,** 248-267.

HITT, M. A., BIERMAN, L., SHIMIZU, K. & KOCHHAR, R. (2001) Direct and moderating effects of human capital on strategy and performance in professional service firms: A resource-based perspective. *Academy of Management Journal* 44**,** 13-28.

HJALAGER, A.-M. (2002) Repairing innovation defectiveness in tourism *Tourism Management* 23**,** 465-474.

HOGARTY, K. Y., HINES, C., KROMREY, J., FERRON, J. & MUMFORD, K. (2005) The quality of factor solutions in exploratory factor analysis. The influence of sample size, communality and over determination. *Journal of Educational and Psychological Measurement,* 65**,** 202-226.

HOLLAND, J. (1999) Fund Management, Intellectual Capital, Intangibles and Private Disclosure. *International Symposium: Measuring and Reporting Intellectual Capital: Experience, Issues and Prospects.* Amsterdam.

HOLLAND, J. (2006) Fund Management, Intellectual Capital, Intangibles and Private Disclosure. *Managerial Finance,* 32**,** 277-316.

HOOPER, K., KEARINS, K. & GREEN, R. (2005) Knowing 'the price of everything and the value of nothing': accounting for heritage assets

Accounting, Auditing & Accountability Journal, 18**,** 410-433.

HOPPER, T. & POWELL, A. (1985) Making sense of research into organizational and social aspects of management accounting: A review of underlying assumptions. *Journal of Management Studies,* 22**,** 427-464.

HOQUE, Z. (2005) Linking environmental uncertainty to non-financial performance measures and performance: a research note *The British Accounting Review,* 37**,** 471-481

HOQUE, Z. & JAMES, W. (2000) Linking balanced scorecard measures to size and market factors: Impact on organizational performance. *Journal of Management Accounting Research,* 12**,** 1-18.

HOYLE, R. H. (1995) *Structural equation modeling: Concepts, issues, and applications. ,* Thousand Oaks, CA, , Sage Publications, Inc.

HU, L. & BENTLER, P. (1995) Evaluating model fit. IN HOYLE, R. H. (Ed.) *Structural equation modeling. Concepts, issues, and applications.* London, Sage Publications.

HUANG, C. C., LUTHER, R. & TAYLES, M. (2007) An evidence-based taxonomy of intellectual capital *Journal of Intellectual Capital* 8**,** 386-408.

HUANG, C. J. & LIU, C. J. (2005) Exploration for the relationship between innovation, IT and performance. *Journal of Intellectual Capital,* 6**,** 237 - 252.

HUANG, S.-M., OU, C.-S., CHEN, C.-M. & LIN, B. (2006) An empirical study of relationship between IT investment and firm performance: A resource-based perspective. *European Journal of Operational Research,* 16**,** 984-.

HUSELID, M. (1995) The impact of human resources management practices on turnover, productivity and corporate financial performance. *Academy of Management Journal,* 38**,** 635-653.

HUSELID, M., JACKSON, S. & SCHULER, R. (1997) Technical and strategic human resource management effectiveness as determinants of firm performance. *The Academy of Management Journal*.

HYVONEN, J. (2007) Strategy, performance measurement techniques and information technology of the firm and their links to organizational performance. *Management Accounting Research,* 18**,** 343-366.

IBRAHIM, M. F. & WEE, N. C. (2002) The importance of entertainment in the shopping center experience: Evidence from Singapore. *Journal of Real Estate Portfolio Management,* 8**,** 239-255.

IJIRI, Y. (1967) *The foundations of Accounting measurement: A mathematical, economic and behavioural inquiry,* New Jersey, Prentice Hall.

ITTNER, C. D. & LARCKER, D. F. (1998) Are nonfinancial measures leading indicators of financial performance? An analysis of customer satisfaction. *Journal of Accounting Research,* 36**,** 1-36.

ITTNER, C. D. & LARKER, D. (2001) Assessing empirical research in managerial accounting a value base management perspective. *Journal of Accounting and Economics,* 32**,** 349-410.

ITTNER, C. D. & LARKER, D. F. (1999) Are non-financial measures leading indicators of financial performance? An analysis of customer satisfaction. *Journal of Accounting research,* 36**,** 1-35.

ITTNER, C. D. & LARKER, D. F. (2002) Empirical managerial accounting research: Are we just describing management consulting practice? *European Accounting Review,* 11**,** 789-.

JACKSON, S. E. & SCHULER, R. S. (1995) Understanding Human Resource Management in the Context of Organizations and their Environments. *Annual Review of Psychology,* 46**,** 237-264.

JAWORSKI, B. J. & KOHLI, A. K. (1993) Market Orientation: Antecedents and Consequences *Journal of Marketing,* 57**,** 53-70.

JENKINS, C. L. & HENRY, B. M. (1982) Government involvement in tourism in developing countries. *Annals of Tourism Research,* 9**,** 499-521.

JOHANSON, U. (2003) Why are capital market actors ambivalent to information about certain indicators on intellectual capital *Accounting, Auditing & Accountability Journal,* 16**,** 31-38.

JOHANSON, U., MARTENSSON, M. & SKOOG, M. (2001) Measuring to understand intangible performance drives. *The European Accounting Review,* 10**,** 407-437.

JOHNSON, W. (1999) An integrative taxonomy of intellectual capital: measuring the stock and flow of intellectual capital components in the firm. *International Journal of Technology Management,* 18**,** 562-575.

JORESKOG, K. G. (1993) Testing structural equation models. IN BOLLEN, K. & LONG, J. (Eds.) *Testing structural equation models.* Newbury Park, CA, Sage Publications Inc.

JOSUNE, S. (2005) Human Capital indicators, business performance and market to book ratio. *Journal of Intellectual Capital,* 6**,** 374-384.

KAISER, H. F. & RICE (1974) Little Jiffy Mark IV. *Educational and Psychological Measurement,* 34**,** 111-117.

KAISER, H. F. & RICE, J. (1974) Little Jiffy, Mark IV. *Educational and Psychological Measurement,* 34**,** 111-117.

KAKKURI-KNUUTTILA, M., LUKKA, K. & KUORICK, O. (2008) Straddling between paradigms: A naturalistic philosophical case study on interpretive research in management accounting. *Accounting, Organizations and Society,* 33**,** 267-.

KALE, S. (2003) CRM in gaming: It's no crapshoot. *UNLV Gaming Research & Review Journal* 7**,** 43-.

KALLEBERG, A., MARSDEN, P., ALDRICH, H. & CASSELL, J. (1990) Comparing organizational sampling frames. *Administrative Science Quarterly,* 35**,** 658.

KAMATH, G. B. (2008) Intellectual capital and corporate performance in Indian pharmaceutical industry. *Journal of Intellectual Capital,* 9**,** 684-.

KAPBORG, I. & BERTERO, C. (2003) The phenomenon of caring from the novice student nurse's perspective: a qualitative content analysis. *International Nursing Review,* 50**,** 183-192.

KAPLAN, B. & MAXWELL, J. (1994) *Qualitative Research Methods for Evaluating Computer Information Systems,* Thousand Oaks, CA, Sage.

KAPLAN, R. S. & JOHNSON, H. T. (1987) *Relevance Lost: The rise and fall of management accounting*.

KAPLAN, R. S. & NORTON, D. (1996) Using the balance scorecard as a strategic management system. *Harvard Business Review,,* 74**,** 75-86.

KAPLAN, R. S. & NORTON, D. P. (1992) The Balanced Scorecard - measures that drive performance. *Harvard Business Review,* 70**,** 71-79.

KAUFMANN, L. & SCHNEIDER, Y. (2004) Intangibles: A synthesis of current research. *Journal of Intellectual Capital,* 5**,** 366-388.

KEATING, P. J. (1995) A framework for classifying and evaluating the theoretical contributions of case research in management accounting *Journal of Management Accounting Research,* 7**,** 66-.

KHAN, M. (1997) Tourism development and dependency theory: mass tourism vs. ecotourism. *Annals of Tourism Research,* 24**,** 988-991.

KHANDEKAR, A. & SHARMA, A. (2005) Managing human resource capabilities for sustainable competitive advantage: An empirical analysis from Indian global organisations *Education and Training,* 47**,** 628-639.

KHONG, K. W. & NAIR, M. (2006) The effects of customer service management on business performance in Malaysian banking industry: an empirical analysis. *Asia Pacific Journal of Marketing and logistics,* 18**,** 111-129.

KHONG, K. W. & YAH, B. W. (2006) Examining the effects of customer service management on perceived business performance via structural equation modelling. *Applied Stochastic Models Business and Industry,* 22**,** 587-605.

KING, A. W. & ZEITHAML, C. P. (2001) Competencies and Firm Performance: Examining the Causal Ambiguity Paradox *Strategic Management Journal,* 22, 75-99

KINNARD, W. N., WORZALA, E. M. & SWANGO, D. L. (2001) Intangible assets in an operating first-class downtown hotel. *The Appraisal Journal,* 69**,** 68-83.

KLINE, P. (1994) *An easy guide to factor analysis,* New York, Routledge.

KLINE, R. B. (1998) *Principles and Practice of Structural Equation Modeling,* New York, The Guildford Press.

KOGUT, B. & ZANDER, U. (1992) Knowledge of the firm, combinative capabilities and the replication of technology. *Organization Science,* 3**,** 383-397.

KOHLBACHER, F. (2005) The use of Qualitative Content Analysis in Case Study Research. . *Forum: Qualitative Social Research [on-line journal].*

KOLB, D. (1996) Management and the learning process. IN STARKEY, K. (Ed.) *How organizations learn.* London, International Thomson Business Press.

KOR, Y. Y. & MAHONEY, J. T. (2004) Edith Penrose's (1959) Contributions to the Resource-based View of Strategic Management. . *Journal of Management Studies,* 41**,** 183-191.

KOTHA, S., RAJGOPAL, S. & RINDOVA, V. (2001) Reputation building and performance: An empirical analysis of the top-50 pure Internet firms. *European Management Journal,* 19, 570-.

KRACAUER, S. (1952) The challenge of qualitative content analysis. *The Public Opinion Quarterly,* 16**,** 631-642.

KRIPPENDORF, K. (2004) *Content Analysis,* Thousand Oaks CA, Sage Publications.

KUSLUVAN, S. & KARAMUSTAFA, K. (2001) Multinational hotel development in developing countries: an exploratory analysis of critical policy issues. *The International Journal of Tourism Research,* 3**,** 179-197.

LACITY, M. & JANSON, M. (1994) Understanding qualitative data: A framework of text analysis methods. *Journal of Management Information Systems,* 11**,** 137.

LAMBERT, D. & HARRINGTON, T. (1990) Measuring non-response bias in customer service mail surveys. *Journal of Business Logistics,* 11**,** 5-25.

LARSSON, S., POUSETTE, A. & TORNER, M. (2008) Psychological climate and safety in the construction industry-mediated influence on safety behaviour. *Safety Science,* 46**,** 405-412.

LEV, B. (2001) *Intangibles: Management, Measurement, and Reporting* Washington, D.C., Brookings Institution Press.

LEV, B. & SCHWARTZ, A. (1971) On the use of the economic concept of human capital in financial statements. *The Accounting Review,* 46**,** 103-113.

LEV, B. & ZAMBON, S. (2003) Intangibles and intellectual capital an introduction to a special issue. *European Accounting Review,* 12**,** 287-309.

LILLIS, A. (1999) A framework for the analysis of interview data from multiple field research sites. *Accounting and Finance,* 39**,** 75-105.

LILLIS, A. & MUNDY, J. (2005) Cross-sectional field studies in management accounting research- closing the gaps between surveys and case studies. *Journal of Management Accounting Research,* 17**,** 119-141.

LINGLE, J. H. & SCHIEMANN, W. A. (1996) From balanced scorecard to strategic gauges: Is measurement worth it? *Management Review,* 85**,** 56-62.

LITSCHKER, M., MARKOM, A. & SCHUNDER, S. (2006) Measuring and analyzing intellectual assets: an integrative approach. *Journal of Intellectual Capital,* 7**,** 160-174.

LITTLE, T. D., CUNNINGHAM, W. A., SHAHAR, G. & WIDAMAN, K. F. (2002) To Parcel or Not to Parcel: Exploring the Question, Weighing the Merits. *Structural equation modeling:,* 9**,** 151-173.

LLEWELYN, S. (2003) What counts as "theory" in qualitative management and accounting research? Introducing five levels of theorizing. *Accounting, Auditing and Accountability,* 16**,** 662-708.

LOCKETT, A. (2005) Edith Penrose's legacy to the resource-based view. . *Managerial and Decision Economics* 26.

LOCKETT, A. & THOMPSON, S. (2004) Edith Penrose's Contributions to the Resource-based View: An Alternative Perspective. . *Journal of Management Studies,* 41**,** 193-203.

LOFLAND, J. & LOFLAND, L. (1984) *A guide to Qualitative Observation and Analysis,* Belmont, CA, Wadsworth Publishing Company.

LOPEZ, V. A. (2003) Intangible resources as drivers of performance evidences from Spanish study of manufacturing firms *Irish Journal of Management* 24.

LOVINGSSON, F., DELL'ORTO, S. & BALADI, P. (2000) Navigating with new managerial tools. *Journal of Intellectual Capital,* 1**,** 147-.

LUFT, J. & SHIELDS, M. (2002) Zimmerman's contentious conjectures. Describing the present and prescribing the future of empirical management accounting research. *European Accounting Review,* 11**,** 795-.

LUKKA, K. & MOURITSEN, J. (2002) Homogeneity and heterogeneity of research in management accounting. *European Accounting Review,* 11**,** 805-811.

LUTHY, D. (1998) Intellectual Capital and its measurement.

LYNN, B. E. (1998) Intellectual capital. *The management accounting magazine,* 72**,** 10-16.

MAITLAS, S. (2005) The social process of organizational sensemaking. *Academy of Management Journal,* 48**,** 21-49.

MAKADOK, R. (2001) Towards a synthesis of the resource-based and dynamic capability views of rent creation. *Strategic Management Journal,* 22**,** 387-401.

MALHOTRA, N. & BIRKS, D. (2003) *Marketing Research: An Applied Approach* London, Prentice Hall.

MARCH, H., BALLA, J. & MCDONALD, R. (1988) Goodness-of-fit indexes in confirmatory factor analysis. The effect of sample size. *Psychological bulletin,* 103**,** 391-410.

MARCH, H., HAU, K.-T., BALLA, J. & GRAYSON, D. (1998) Is more ever too much? The number of factors in confirmatory factor analysis. *Multivariate Behavioral Research,* 33**,** 181-220.

MARDIA, K. V. (1970) Measures of multivariate skewness and kurtosis with applications. *Biometrika,* 57**,** 130-149.

MARI, L. (2003) Epistemology of measurement. *Measurement,* 34**,** 17-30.

MARR, B., GRAY, D. & NEELY, A. (2003) Why do firms measure their intellectual capital? *Journal of Intellectual Capital,* 4**,** 441-464.

MARR, B., GRAY, D. & NEELY, A. (2003a) Why do firms measure their intellectual capital? *Journal of Intellectual Capital,* 4**,** 441-464.

MARR, B., MOURITSEN, J. & BUKH, P. N. (2003) Perceived wisdom, *Financial Management (UK)***,** 32-.

MARR, B. & ROOS, G. (2005) A Strategy perspective on intellectual capital. IN MARR, B. (Ed.) *Perspectives on intellectual capital: multidisciplinary insights into management, measuring and reporting.* Oxford, Elsevier Butterworth Heinemann.

MARSH, H. W. & O'NIELL, R. (1984) Self Description Questionnaire III (SDQIII): The construct validity of multidimensional self-concept ratings by late-adolescents. *Journal of Educational Measurement,* 21**,** 153–174.

MARSHALL, C. & ROSSMAN, G. (1999) *Designing Qualitative Research,* London, Sage Publications.

MARTIN, J. W. (2004) Demonstrating knowledge value: a broader perspective on metrics. *Journal of Intellectual Capital,* 5**,** 77-91.

MARTIN-DE-CASTRO, G., NAVAS-LOPEZ, J. E., LOPEZ-SAEZ, P. & ALAMA-SALAZAR, E. (2006) Organizational capital as competitive advantage of the firm. *Journal of Intellectual Capital,* 7**,** 324-337.

MASON, J. (1996) *Qualitative Researching,* London, Sage Publications.

MAVRIDIS, D. & KYRMIZOGLOU, P. (2005) Intellectual capital performance drivers in the Greek banking sector. *Management Research News,* 28**,** 43-63.

MAYRING, P. (2000) Qualitative Content Analysis. . *Forum: Qualitative Social Research.1(2), Art. 20, http://nbnresolving. de/urn:nbn:de:0114-fqs0002204.*

MCELROY, J. & DEALBUQUERQUE, K. (1998) Tourism penetration index in small Caribbean Islands. *Annals of Tourism Research,* 25**,** 145-168.

MEER-KOOISTRA, J. V. D. & ZIJLSTRA, S. M. (2001) Reporting on intellectual capital *Accounting, Auditing & Accountability Journal,* 14**,** 456-476.

MENOR, L. J., KRISTAL, M. M. & ROSENZWEIG, E. D. (2007) Examining the influence of operational intellectual capital on capabilities and performance. *Manufacturing and Service Operations Management,* 9**,** 559-578.

MERITUM PROJECT (2001) Guidelines for Managing and Reporting on Intangibles (Intellectual Capital Report).

MERRIAM, S. B. (1998) *Qualitative Research and Case Study Applications in Education.,* San Francisco, Jossey-Bass Publishers.

MESO, P. & SMITH, R. (2000) A resource-based view of organizational knowledge management systems. *Journal of Knowledge Management. ,* 4**,** 224.

MESSENGER, S. J. & MUGOMEZA, C. (1995) An exploratory study of productivity and performance measurement in Zimbabwean hotels. *International Journal of Contemporary Hospitality Management,,* 7.

MICHALISIN, M., SMITH, R. & KLINE, D. (1997) In search of strategic assets. . *International Journal of Organizational Analysis* 5**,** 360-387.

MICHALISIN, M. D., KLINE, D. M. & SMITH, R. D. (2000) Intangible strategic assets and firm performance: A multi-industry study of the resource-based view. . *Journal of Business Strategies* 17**,** 93-117.

MIHALIC, T. (2002) Tourism and economic development and issues. IN SHARPLY, R. & TELFER, D. (Eds.) *Tourism and development: concepts and issues.* Clevedon, Channel View Publications.

MILES, M. B. & HUBERMAN, A. M. (1994) *Qualitative data analysis: An expanded sourcebook,* California, Sage Publications Inc.

MITTAL, V., ANDERSON, E. W., SAYRAK, A. & TADIKAMALLA, P. (2005) Dual Emphasis and the Long-Term Financial Impact of Customer Satisfaction. *Marketing Science,* 24**,** 544-569

MOCK, T. & GROVE, H. (1979) *Measurement, Accounting and Organisational information,* New York, Wiley

MODELL, S. (2005) Triangulation between case study and survey methods in management accounting research: An assessment of validity implications. *Management Accounting Research,* 16**,** 231-254.

MOON, Y. & KYM, H. G. (2006) A model for the value of Intellectual Capital. *Canadian Journal of Administrative Sciences,* 23**,** 253-269.

MOORE, D. & MCCABE, G. (1999) *Introduction to the practice of statistics,* USA, W. H. Freeman and Company.

MOORE, N. G. (1996) Measuring Corporate IQ. *Chief Executive,* 118**,** 36-39.

MORGAN, A. (1998) Social action research in practice. *Health Sociology Review*.

MORROW, S. L. (2005) Quality and trustworthiness in qualitative research in counseling psychology. *Journal of Counseling Psychology,* 52**,** 250-260.

MOURITSEN, J. (1998) Driving growth: Economic value added versus intellectual capital. *Management Accounting Research,* 9**,** 461-482.

MOURITSEN, J. (2003) Overview: Intellectual capital and the capital market: The circulability of intellectual capital *Accounting, Auditing & Accountability Journal,* 16**,** 18-30.

MOURITSEN, J., BUKH, P. N., FLAGSTAD, K., THORBJØRNSEN, S., ROSENKRANDS, M., KOTNIS, S., THORSGAARD LARSEN, H., NIELSEN, C., KJÆRGAARD, I., KRAG, L., JEPPESEN, G., HAISLER, J. & STAKEMANN, B. (2003) Intellectual Capital Statements – The New Guideline. Danish Ministry of Science, Technology and Innovation.

MOURITSEN, J. & LARSEN, H. T. (2005) The 2nd wave of knowledge management: The management control of knowledge resources through intellectual capital information. *Management Accounting Research,* 16**,** 371-394.

MOURITSEN, J., LARSEN, H. T. & BUKH, P. N. (2001) Valuing the future: Intellectual capital supplements at Skandia, *Accounting, Auditing & Accountability Journal,* 14**,** 392-422.

M'PHERSON, P. & PIKE, S. (2001) Accounting, empirical measurement and intellectual capital. *Journal of Intellectual Capital,* 2**,** 246-261.

MUNDFROM, D. J., SHAW, D. G. & KE, T. L. (2005) Minimum Sample Size Recommendations for Conducting Factor Analyses. *International Journal of Testing,* 5**,** 159-168.

MUTHEN, B. O. (2002) Beyond SEM: General latent variable modeling. *Behaviormetrika,* 26, 81-117

NACHITIGALL, C. K. & ULF; FUNKE, F., STEYER, ROLF (2003) Why should we use SEM? Pros and Cons of Structural Equation Modeling. . *Methods of psychological research,* 8**,** 1-22.

NAHAPIET, J. & GHOSHAL, S. (1998) Social Capital, Intellectual Capital, and the organizational Advantage. . *Academy of Management Review,* 23**,** 242-266.

NARVEKAR, R. S. & JAIN, K. (2006) A new framework to understand the technological innovation process. *Journal of Intellectual Capital,* 7**,** 174-187.

NARVER, J. C. & SLATER, S. F. (1990) The Effect of a Market Orientation on Business Profitability *Journal of Marketing,* 54**,** 20-35.

NAYYAR, P. R. (1995) Stock Market Reactions to Customer Service Changes *Strategic Management Journal,* 16**,** 39-53.

NELSON, R. & WINTER, S. (1982) Towards an evolutionary theory of economic capabilities. *American Economic Review,* 63**,** 440-440.

NEUMAN, W. (2003) Social research methods: qualitative and quantitative approaches. 5 ed. New York, Allyn and Bacon.

NILSSON, M., HARRIS, P. & KETT, R. (2002) Valuing hotels as business entities. *Journal of leisure property,* 2**,** 17-28.

NONAKA, I. (1994) A dynamic theory of organizational knowledge creation. *Organization science,* 5.

NONAKA, I. (1996) The knowledge-creating company. IN STARKEY, K. (Ed.) *How do organizations learn.* London, International Thomson Business Press.

NONAKA, I. & TAKEUCHI, H. (1995) *The Knowledge Creating Company.,* New York, Oxford University Press.

NUNNALLY, J. C. (1978) *Psychometric theory,* New York, McGraw Hill.

OECD. (1999) Measuring and Reporting Intellectual Capital: Experience, Issues and Prospects: Results of an International Symposium, Amsterdam 9-11 June 1999, OECD, Paris. OECD.

OLIVEIRA, L., RODRIGUES, L. L. & CRAIG, R. (2006) Firm-specific determinants of intangibles reporting: evidence from the Portuguese stock market. *Journal of Human Resource Costing & Accounting,* 10 11-33.

OLIVERAS, E., GOWTHORPE, C., KASPERSKAYA, Y. & PERRAMON, J. (2008) Reporting intellectual capital in Spain. *Corporate Communications: An International Journal,* 13 168 – 181.

OLSON, E. M. & SLATER, S. F. (2002) The balanced scorecard, competitive strategy, and performance. *Business Horizons,* 45**,** 11-.

O'NEILL, J. W. (2005) Figuring intangibles. *Lodging Hospitality,* 61.

O'NEILL, J. W. & BELFRAGE, E. E. (2005) A strategy for establishing identified intangible asset value: Hotel affiliation contribution. *The Appraisal Journal,* 73**,** 78-86.

OPPERMANN, M. (1993) Tourism space in Developing Countries. *Annals of Tourism Research,* 20**,** 535-556.

ORDONEZ DE PABLOS, P. (2002) Direct and indirect effects of intellectual capital on organizational competitive advantage: empirical evidence. *The Transparent Enterprise. The Value of Intangibles.* Madrid.

ORDONEZ DE PABLOS, P. (2003) Intellectual capital reporting in Spain: a comparative view. . *Journal of Intellectual Capital,* 4**,** 61-81.

ORFILA-SINTES, F. & MATTSSON, J. (2009) Innovation behavior in the hotel industry. *Omega,* 37**,** 380.

OTLEY, D. T. (1994) Management control in contemporary organizations: towards a wider framework. *Management Accounting Research,* 5**,** 289-299.

OTLEY, D. T. (1999) Performance management: a framework for management control systems research. *Management Accounting Research,* 10**,** 363-382.

OTTENBACHER, M. & GNOTH, J. (2005) How to Develop Successful Hospitality Innovation. *Cornell Hotel and Restaurant Administration Quarterly,* 46**,** 205-223.

PALLANT, J. (2005) *SPSS survival manual : a step by step guide to data analysis using SPSS for Windows* Maidenhead, Open University Press.

PARRY, J. (2003) Making sense of executive sensemaking - A phenomenological case study with methodological criticism. *Journal of Health Organization and Management,* 17.

PATTON, M. Q. (2002) *Qualitative Evaluation and Research Methods,* Newbury Park Ca, Sage Publications.

PENROSE, E. T. (1959) *The Theory of Growth of the Firm,* London, Oxford University Press.

PESLAK, A. R. (2003) A firm level study of information technology productivity using financial and market based measures. *The Journal of Computer Information Systems,* 43**,** 72-.

PETER, J. P. (1979) Reliability: A review of psychometric basis and recent marketing practices. *Journal of marketing research* 16**,** 6-17.

PETERAF, M. (1993) The Cornerstones of Competitive Advantage: A Resource-based View, *Strategic Management Journal,* 14**,** 179-191.

PETTY, R. & GUTHRIE, J. (2000) Intellectual Capital Literature Review: Measurement, Reporting and Management. *Journal of Intellectual Capital,* 1**,** 155-176.

PETTY, R., RICCERI, F. & GUTHRIE, J. (2008) Intellectual capital: a user's perspective. *Management Research News,* 31**,** 434-.

PFAFFENBERGER, B. (1988) *Microcomputer Application in Qualitative Research,* Newbury Park CA, Sage Publications.

PFEFFER, J. (1998) Seven practices of successful organizations. *California Management Review,* 40**,** 96–124.

PHILLIPS, P. & LOUVIERIS, P. (2005) Performance Measurement Systems in Tourism, Hospitality, and Leisure Small Medium-Sized Enterprises: A Balanced Scorecard Perspective *Journal of Travel Research,* 44**,** 201-211.

PIKE, S. & ROOS, G. (2004) Mathematics and modern business management. *Journal of Intellectual Capital,* 5**,** 243-257.

POLANYI, K. (1957) *The Great Transformation: The Political and Economic origins of our Time,* Boston, Beacon Press.

POMEDA, J., MORENO, C., RIVERA, C. & MARTIL, L. (2002) Towards an Intellectual Capital Report of Madrid: New Insights and Developments. . *The Transparent Enterprise. The Value of Intangibles.* Madrid, Spain.

PORTER, M. E. (1980) *Competitive strategy,* New York, The Free Press.

POWELL, T. C. (1996) How much does industry matter? An alternative empirical test. . *Strategic Management Journal,* 17**,** 323 – 334.

POWELL, T. C. & DENT-MICALLEF, A. (1997) Information technology as competitive advantage: The role of human, business, and technology resources. *Strategic Management Journal,* 18**,** 375-405. .

PRAHALAD, C. (1983) Developing strategic capability: An agenda for top management *Human Resource Management,* 22**,** 237-254.

PRAHALAD, C. K. & HAMEL, G. (1990) The Core Competence of the Organization,. *Harvard Business Review,* May-June**,** 79-93.

PRIEST, H., ROBERTS, P. & WOODS, L. (2002) An overview of three different approaches to the interpretation of qualitative data. Part 1: theoretical issues. . *Nurse Researcher,* 10**,** 30-42.

PULIC, A. (2000) MVA and VAIC Analysis of randomly selected companies from FSTE 250.

PULIC, A. (2002) So we know if we create or destroy value.

RAPOPORT, R. N. (1970) Three Dilemmas in Action Research. *Human Relations,* 23**,** 499-513.

RATNATUNGA, J. (2002) The valuation of capabilities: A new direction for Management Accounting research. *Journal of Applied Management Accounting Research,* 1.

RATNATUNGA, J., GRAYB, N. & BALACHANDRAN, K. (2004) CEVITA: the valuation and reporting of strategic capabilities. *Management Accounting Research,* 15**,** 77-105.

RAY, G., BARNEY, J. B. & MUHANNA, W. A. (2004) Capabilities, business processes, and competitive advantage: choosing the dependent variable in empirical tests of the resource-based view *Strategic Management Journal* 25**,** 23.

RAYMOND (2001) Estimating the impact of economic factors on tourism: evidence from Hong Kong. *Tourism Economics,* 7**,** 277-293.

REED, K., LUBATKIN, M. & SRINIVASAN, N. (2006) Proposing and Testing an Intellectual Capital-Based View of the Firm. *Journal of Management Studies,* 43**,** 867-893.

REYNOLDS, A. (1986) Attributing hotel income to real estate and to personalty. *The Appraisal Journal,* 54**,** 615-617.

RIAHI-BELKAOUI, A. (2003) Intellectual capital and firm performance of US multinational firms. A study of the resource based and stakeholders views. *Journal of Intellectual Capital,* 4**,** 202-214.

RIGBY, D. K., REICHHELD, F. F. & SCHEFTER, P. (2002) Avoid the four perils of CRM. *Harvard Business Review,* 80**,** 101.

RINDOVA, V., WILLIAMSON, I. O., PETKOVA, A. P. & SEVER, J. M. (2005) Being Good or Being Known: An Empirical Examination of the Dimensions, Antecedents, and Consequences of Organizational Reputation. *Academy of Management Journal,* 48**,** 1033-.

ROBERTS, P. & DOWLING, G. (2002) Corporate Reputation and Sustained Superior Financial Performance. . *Strategic Management Journal,* 23**,** 1077-1093.

ROCCO, T., BLISS, L., GALLAGHER, S. & PEREZ-PRADO, A. (2003) Taking the next step: Mixed methods research in organizational systems. *Information technology, learning and performance journal,* 21**,** 19.

ROOS, G. (2005) An epistemology perspective on intellectual capital IN MARR, B. (Ed.) *Perspectives on Intellectual Capital: multidisciplinary insights into management, measuring and reporting.* Oxford, Elsevier Butterworth Heinemann.

ROOS, G. & ROOS, J. (1997) Measuring your company's intellectual performance. *Long range planning,* 30**,** 413-426.

ROOS, J., ROOS, G., DRAGONETTI, N. & EDVINSSON, L. (1997) *Intellectual Capital: Navigating the new business landscape,* London, Macmillan Press Ltd.

ROSE, D. & SULLIVAN, O. (1996) *Introducing Data Analysis for Social Sciences,* Buckingham, Open University Press.

ROSLENDER, R. (2000) Accounting for Intellectual Capital: A contemporary management accounting perspective *Management Accounting,* 78**,** 34-37.

ROSLENDER, R. & FINCHAM, R. (2001) Thinking critically about intellectual capital accounting, *Accounting, Auditing & Accountability Journal,* 14**,** 383-398.

ROSLENDER, R. & FINCHAM, R. (2004) Intellectual capital accounting in the UK: A field study perspective *Accounting, Auditing & Accountability Journal,* 17**,** 178-209.

ROUBI, S. (2004) The valuation of intangibles for hotel investments. *Property Management,* 22**,** 410-423.

ROUSE, M. J. & DAELLENBACH, U. S. (1999) Rethinking research methods for the resource-based perspective: Isolating sources of sustainable competitive advantage. *Strategic Management Journal,* 20**,** 487-494.

ROUSE, M. J. & DAELLENBACH, U. S. (2002) More thinking on research methods for the resource-based perspective. *Strategic Management Journal,* 23**,** 963-967.

ROUSSEAU, D. M. (1990) New hire perceptions of their own and their employer's obligations: A study of psychological contracts. *Journal of organizational behavior,* 11**,** 389-400.

ROWBOTTOM, N. (2002) The application of intangible asset accounting and discretionary policy choices in the UK football industry. *The British Accounting Review,* 34**,** 335-355.

RUGMAN, A. M. & VERBEKE, A. (2002) Edith Penrose's contribution to the resource-based view of strategic management. . *Strategic Management Journal* 23**,** 769-780.

RUGMAN, A. M. & VERBEKE, A. (2004) A Final Word on Edith Penrose. . *Journal of Management Studies,* 41**,** 205-217.

RUSSO, M. V. & FOUTS, P. A. (1997) A Resource-based Perspective on Corporate Environmental Performance and Profitability,. *Academy of Management Journal* 40**,** 534-559.

RUST, R. T., AMBLER, T., CARPENTER, G. S., KUMAR, V. & SRIVASTAVA, R. K. (2004) Measuring Marketing Productivity: Current Knowledge and Future Directions. *Journal of Marketing,* 68**,** 76-.

RYAN, R., SCAPENS, R. & THEOBALD, M. (2002) *Research Method and Methodology in Finance and Accounting,* UK, Thomson.

SAINT-ONGE, H. (1996) Tacit Knowledge: the key to the strategic alignment of Intellectual capital. *Strategy and Leadership,* 24**,** 10-14.

SALTERIO, S. (1998) Discussion of a methodology for developing measurement criteria for assurance services: An application in information systems assurance. *Auditing.,* 17**,** 93-99.

SANCHEZ, P., CHAMINADE, C. & OLEA, M. (2000) Management of intangibles: An attempt to build a theory. . *Journal of Intellectual Capital,* 1**,** 312-327.

SASS, D. A. & SMITH, P. L. (2006) The Effects of Parceling Unidimensional Scales on Structural Parameter Estimates in Structural Equation Modeling. *Structural equation modeling:,* 13**,** 566-586.

SATORRA, A. & BENTLER, P. M. (1988) Scaling corrections for chi-square statistics in covariance structure analysis. *The Business and Economic Statistics Section of the ASA* Alexandria, VA:, The American Statistical Association.

SATORRA, A. & BENTLER, P. M. (2000) A scaled difference Chi-square test statistic for moment structure analysis. *Psychometrika,* 66**,** 507-514.

SATORRA, A. & BENTLER, P. M. (2001) A scaled difference chi-square test statistic for moment structure analysis-. *Psychometrika,* 66**,** 507–514.

SCAPENS, R. (1990) Researching management accounting practice: the role of case study methods. *British Accounting Review,* 22**,** 259-281.

SCHULER, R. S. & JACKSON, S. E. (1997) Linking Competitive Strategies with Human Resource Management Practices. *The Academy of Management Executive* 1**,** 207-219.

SCHUMACKER, R. E. & LOMAX, R. G. (2004) *A beginner's guide to structural equation modeling* Mahwah, New Jersey, Lawrence Erlbaum Associates.

SCHWARTZMAN, H. B. (1989) *The meeting: gatherings in organizations and communities,* New York, Plenum Press.

SHARIQ, S. Z. (1998) Sense making and artifacts: An exploration into the role of tools in knowledge management. *Journal of Knowledge Management.,* 2.

SHARPIRO, C. (1989) The Theory of Business Strategy. *Journal of Economics,* 20**,** 125-137.

SHIU, H.-J. (2006) The application of the value added Intellectual Coefficient to measure corporate performance: Evidence from Technology Firms. *International Journal of Management,* 23**,** 356-366.

SIGUAW, J. A. & ENZ, C. A. (1999) Best practices in information technology. *Cornell Hotel and Restaurant Administration Quarterly,* 40**,** 58-72.

SILVERMAN, B. (1999) Technological resources and the direction of corporate diversification: Toward an integration of the resource-based view and transaction cost economics. *Management Science* 45**,** 1109-1124.

SILVERMAN, D. (1993) *Interpreting Qualitative Data - Methods for Analyzing Talk, Text and Interaction,* London, Sage Publications.

SILVERMAN, D. (1998) *Qualitative Research - Theory, Method and Practice,* London, Sage Publications.

SINCLAIR, M. T. (1998) Tourism and economic development: A survey. *The Journal of Development Studies,* 34**,** 1-51.

SINGH, I. & VAN DER ZAHN, M. J.-L. (2008) Determinants of Intellectual capital disclosure in prospectuses of initial public offerings. *Accounting and Business Research,* 38**,** 409-432.

SKANDIA (1996) Customer Value - Supplement to Skandia's 1996 Annual Report. Skandia

SMITH, D. & LANGFIELD-SMITH, K. (2004) Structural equation modelling in management accounting research: critical analysis and opportunities. *Journal of Accounting literature,* 10.

SMITH, M. (2003) *Research methods in accounting,* London, Sage Publications.

SMITH, M. (2003) *Social Science in question,* London, Sage Publications.

SMITH, M. (2005) *Performance Measurement and Management - A strategic approach to management accounting,* London, Sage Publications.

SPENDER, J. C. (1996a) Making knowledge the basis of a dynamic theory of the firm. *Strategic Management Journal,* 17**,** 45-62.

SPENDER, J. C. (1996b) Organisational Knowledge, Learning and Memory: Three Concepts in Search of a Theory. *Journal of Organisational Change Management,* 9**,** 63-78.

STEENKAMP, J. B. & VAN TRIJP, H. C. (1991) The use of LISREL in validating marketing constructs. *International Journal of Research in Marketing,* 8**,** 283-299.

STEWART, T. (1997) *Intellectual capital: The wealth of organizations,* London, Nicholas Brealey Publishing.

SUDARSAM, S., SORWAR, G. & MARR, B. (2005) A finance perspective of intellectual capital. IN MARR, B. (Ed.) *Perspectives on intellectual capital: multidisciplinary insights into management, measuring and reporting.* Oxford, Elsevier Butterworth Heinemann.

SVEIBY K (2005) Measuring Models for Intangible Assets and Intellectual Capital

SVEIBY, K.-E. (1997) *The New Organizational Wealth: Managing and Measuring Knowledge based assets,* San Francisco, Berrett-Koehler.

SVEIBY, K.-E. (1998) Intellectual capital: Thinking ahead. *Australian CPA,* 68**,** 18-22.

TABACHNICK, B. G. & FIDELL, L. S. (2001) *Using multivariate statistics,* Boston, Mass. , Alwyn and Bacon.

TAN, H. P., PLOWMAN, D. & HANCOCK, P. (2007) Intellectual capital and financial returns of companies. *Journal of Intellectual Capital,* 8**,** 76.

TAYLES, M., BRAMLEY, A., ADSHEAD, N. & FARR, J. (2002) Dealing with the management of intellectual capital: The potential role of strategic management. *Accounting, Auditing & Accountability Journal,* 15**,** 251-267.

TAYLES, M., PIKE, R. & SOFIAN, S. (2007) Intellectual capital, management accounting practices and corporate performance; perceptions of managers. *Accounting, Auditing & Accountability Journal,* 20**,** 522.

TEECE, D. J. (1998) Capturing Value from Knowledge Assets: The New Economy, Markets for Know-How, and Intangible Assets, . *California Management Review* 40**,** 55-79.

TEECE, D. J. & PISANO, G. (1994) The Dynamic capabilities of firms: An introduction. *Industrial and corporate change,* 3.

TEECE, D. J., PISANO, G. & SHUEN, A. (1997) Dynamic Capabilities and Strategic Management. *Strategic Management Journal,* 18**,** 509-533.

THOMAS, J. B., CLARK, S. M. & GIOIA, D. A. (1993) Strategic Sensemaking and Organisational Performance: Linkages among Scanning, Interpretation, Action and Outcomes. *Academy of Management Journal,* 36**,** 239-270.

THOMAS, J. B. & MCDANIEL, R. R. (1990) Interpreting Strategic Issues: Effects of Strategy and the Information-Processing Structure of Top Management Teams *The Academy of Management Journal,* 33**,** 286-306.

TIMMERMAN, J. C. (2009) A Systematic Approach for Making Innovation a Core Competency. *The Journal for Quality and Participation,* 31**,** 4-11.

TINSLEY, H. E. A. & BROWN, S. D. (2000) *Handbook of applied multivariate statistics and mathematical modeling,* San Diego, CA, Academic Press.

TOBIN, J. (1969) A general equilibrium approach to monetary theory. *Journal of Money, Credit and Banking,* 1**,** 15-29.

TSAI, W. & GHOSHAL, S. (1998) Social capital and value creation: The role of intrafirm networks. *Academy of Management Journal,* 41**,** 464-477.

TSENG, C.-Y. & GOO, Y.-J. J. (2005) Intellectual Capital and Corporate value in an emerging economy: empirical study of Taiwanese manufacturers. *R & D Management,* 35**,** 187-201.

ULLMAN, J. B. (2001) Structural equation modeling. . *Using multivariate statistics.* Boston, Alwyn and Bacon.

ULLMAN, J. B. (2006) Structural equation modeling: Reviewing the basics and moving forward. *Journal of personality assessment,* 87**,** 35-50.

USOFF, C. A., THIBODEAU, J. C. & BURNABY, P. (2002) The importance of intellectual capital and its effect on performance measurement systems. *Managerial Auditing,* 17**,** 9-15.

VAN DER STEDE, W. A. (2000) The relationship between the consequences of budgetary controls: budgetary slack creation and managerial short-term orientation. *Accounting, Organizations and Society,* 25**,** 609-622.

VAN DER STEDE, W. A. (2001) The effect of corporate diversification and business unit strategy on the presence of slack in business unit budgets. *Accounting, Auditing & Accountability Journal,* 14**,** 30-52.

VAN DER STEDE, W. A., CHOW, C. W. & LIN, T. W. (2006) Strategy, Choice of Performance Measures and Performance. *Behavioral Research in Accounting,* 18**,** 185-206.

VANDEMAELE, S. N., VERGAUWEN, P. G. M. C. & SMITS, A. J. (2005) Intellectual capital disclosure in The Netherlands, Sweden and the UK: A longitudinal and comparative study. *Journal of Intellectual Capital,* 6 417 – 426.

VANEGAS, M. & CROES, R. (2003) Growth, Development and Tourism in a small economy: evidence from Aruba. *The International Journal of Tourism Research,* 5**,** 315-330.

VERGAUWEN, P. & VAN ALEM, F. (2005) Annual report IC disclosures in The Netherlands, France and Germany. *Journal of Intellectual Capital, 2005,* 6**,** 89-105.

VERGIN, R. C. & QORONFLEH, M. W. (1998) Corporate Reputation and the Stock Market,. *Business Horizons* 41**,** 1926.

VICENTE-LORENTE, J. D. (2001) Specificity and Opacity as resource-based determinants of capital structure. Evidence for Spanish manufacturing firms. *Strategic Management Journal,* 22**,** 157-177.

VICTORINO, L., VERMA, R., PLASCHKA, G. & DEV, C. S. (2005) Service innovation and customer choices in the hospitality industry. *Managing Service Quality,* 15**,** 555-577.

WALL, B. & DOERFLINGER, M. (1999) Making Intangible Assets Tangible. . *Knowledge Management Review,* 10**,** 28-33.

WANG, J.-C. (2008) Investigating market value and intellectual capital for S&P 500. *Journal of Intellectual Capital,* 9**,** 546.

WANG, W.-Y. & CHANG, C. (2005) Intellectual capital and performance in causal models: Evidence from the information technology industry in Taiwan. *Journal of Intellectual Capital,* 6**,** 222-236.

WEICK, K. (1979) *The social psychology of organizing,* Reading (Mass), Addison-Wesley.

WEICK, K. (1995) *Sensemaking in Organizations,* London, Sage.

WENGRAF (2001) *Qualitative Research Interviewing: Semi-structured, Biographical and Narrative Methods,* Thousand Oaks, CA, Sage.

WERNERFELT, B. (1984) A Resource Based View of the Firm. *Strategic Management Journal,,* 5**,** 171-180.

WERNERFELT, B. (1995) The Resource Based View of the Firm. Ten years after *Strategic Management Journal, ,* 16 171 -174.

WEST, S. G., FINCH, J. & CURRAN, P. J. (1995) Structural Equation Models with Non-normal variables: Problems and remedies. IN HOYLE, R. H. (Ed.) *Structural equation modeling: concepts, issues and applications.* Thousand Oaks, CA, Sage Publications.

WIDENER, S. (2006) Associations between strategic resource importance and performance measure use: The impact on firm performance *Management Accounting Research,* 17**,** 433-457.

WILEY, N. (1988) The Micro-Macro Problem in Social Theory. *Sociological Theory,* 6.

WILKINSON, P. (1989) Strategies for tourism in island microstates. *Annals of Tourism Research,* 16**,** 153-177.

WILLIAMS, L. J. & HAZER, J. T. (1986) Antecedents and Consequences of Satisfaction and Commitment in Turnover Models: A Reanalysis Using Latent Variable Structural Equation Methods. *Journal of Applied Psychology,* 71**,** 219-231.

WILLIAMS, M. (2000) Is a company's intellectual capital performance and intellectual capital disclosure practices related? Evidence from publicly listed companies from the FTSE 100 *McMasters Intellectual Capital Conference.* Hamilton, Canada.

WILLIAMS, R. S. (2002) *Managing employee performance: design and implementation in organizations,* London, Thomson Learning.

WILLIAMS, S. (2001) Is a company intellectual capital performance and intellectual capital disclosure practices related.

WOLVERTON, M. L., LENNHOFF, D. C., VERNOR, J. & MARCHITELLI, R. (2002) Allocation of Business Assets into tangible and intangible components: A new lexicon. *The Appraisal Journal,* 70**,** 46-83.

WTTC (2005) The Caribbean - The impact of travel and tourism on Jobs and the economy. United Kingdom, World Travel and Tourism Council.

WTTC (2009) The Caribbean - The impact of travel and tourism on Jobs and the economy. United Kingdom, World Travel and Tourism Council.

WU, S.-H., LIN, L.-Y. & HSU, M.-Y. (2007) Intellectual capital, dynamic capabilities and innovative performance of organizations. *International Journal of Technology Management,* 39**,** 279-.

WU, Y.-C. J. & CHOU, Y. H. (2007) A new look at logistics business performance: intellectual capital perspective. *The International Journal of Logistics Management* 18**,** 41-63.

YEUNG, M. C. H. & ENNEW, C. T. (2001) Measuring the impact of customer satisfaction on profitability: A sectoral analysis. *Journal of Targeting, Measurement and Analysis for Marketing,* 10**,** 106-117.

YIN, R. K. (1989) Research Design Issues in Using the Case Study Method to Study

Management Information Systems. IN CASH, J. & LAWRENCE, P. (Eds.) *The Information Systems Research Challenge: Qualitative Research Methods.* Boston, Harvard Business School Press.

YIN, R. K. (2002) *Case Study Research: Design and Methods,* Newbury Park, Sage Publications.

YIN, R. K. (2003) *Applications of case study research,* Newbury Park, CA, Sage Publications.

YOO, D. K. & PARK, J. A. (2007) Perceived service quality; Analyzing relationships among employees, customers, and financial performance. *The International Journal of Quality & Reliability Management,* 24**,** 908.

YOUNDT, M., SNELL, S. A., DEAN, J. W. J. & LEPAK, D. P. (1996) Human Resource Management, Manufacturing Strategy, and Firm Performance. *Academy of Management Journal,* 39**,** 836-866

YOUNDT, M. A. & SNELL, S. A. (1998) Human resource management, intellectual capital and organizational performance. *The National Academy of Management Meeting.* San Diego.

YOUNDT, M. A. & SNELL, S. A. (2004) Human resource configurations, intellectual capital and organizational performance. *Journal of management issues,* 16**,** 337-361.

YOUNG, C.-S. (2005) Top management teams' social capital in Taiwan: The impact on firm value in an emerging economy. *Journal of Intellectual Capital,* 6**,** 177-190.

YUAN, K. H. & BENTLER, P. M. (2006) Asymptotic robustness of standard errors in multilevel structural equation models. *Journal of Multivariate Analysis,* 97**,** 1121-1141.

ZAINOL, A., NAIR, M. & KASIPILLAI, J. (2008) R&D reporting practice: case of a developing economy. *Journal of Intellectual Capital,* 9**,** 122-.

ZHANG, M. J. (2007) Assessing the performance impacts of information systems from the resource-based perspective: an empirical test of the indirect effect of is. *Journal of Business Strategies,* 24**,** 141-164.

ZHU, Z. & NAKATA, C. (2007) Reexamining the link between customer orientation and business performance: The role of information systems. *Journal of Marketing Theory and Practice.,* 15**,** 187.

ZIKMUND, W. (2000) *Business Research Methods,* New York, Harcourt College Publishers.

ZIMMERMAN, J. (2001) Conjectures regarding managerial accounting research. *Journal of Accounting and Economics,* 32**,** 411-427.

ZOLLO, M. & WINTER, S. (2002) Deliberate learning and evolution of dynamic capabilities. *Organization Science,* 13**,** 339-351.

Appendix 1: Interview Protocol

1. Pre-test interview questions – 2 M.Sc. – Tourism and Hospitality Management students at the University of the West Indies, who are practicing managers within their respective hotels.
2. Make appointment to see the respective interviewee
3. Introduce the objectives of the research
4. Discuss ethical and confidentiality issues
5. Request permission to record the interview

6. Interview Guide

Yin (2003) identified five levels of questions in conducting a case study.

Level 1 - Questions asked of specific interviewees
Level 2- Questions asked of the individual case (questions in the case study protocol to be answered by the investigator)
Level 3- Questions asked of the pattern of findings across multiple cases
Level 4- Questions asked of an entire study
Level 5- normative questions about policy recommendations and conclusions, going beyond the narrow scope of the study

Research question
How do managers determine the significance of the contributions of the various IC components to the overall performance of a company? (Level 4)

Research question
- ✓ What components of the intellectual capital constructs are captured in the internal reports of management? (Level 2)

1. Describe the things that have made this hotel successful. (Level 1)

Probe

a) *Focusing on the factors that your hotel have that your competitors do not have, how important are these to the success of the hotel?*
b) *How important are these in the eyes of your customers?*
c) *What attempts are made by the hotel to record and report these factors?*
d) *How are managers made aware of the importance of these factors?*

2. How well-known is your hotel and your brand?

Probe

a) *Does your brand have a dollar value?*
b) *Why do customers like this hotel?*
c) *Why do they come to you rather than your competitor?*
d) *How would you describe your position in the market?*
e) *What types of loyalty programmes does your hotel have?*

3. Which external relationships are necessary for you to deliver excellent service to your customers?

Probe

a) *How are these external relationships documented and used within the organisation?*
b) *How do you use this information?*

4. What systems, technologies and procedures does your hotel have that allow it deliver service to your customers?

Probe

a) How are these systems and procedures documented within the organisation?
b) How do you use these systems, technologies and procedures in your daily work?
c) In the absence of documented information how do you make decisions in the organization?

5. How would you describe the workforce/personnel of this hotel?

Probe

a) Describe the significant characteristics of your workforce.
b) Which people are essential for the continuity of this hotel?
c) Which roles and tasks are necessary for delivery of service to customers?
d) If key employees were to leave, how easy is it for the hotel to replace them?
e) How easy is it for a replacement to "hit the ground running" on appointment here to a key position?
f) What attempts are made by the hotel to record and document the contributions made by these employees?

Research question

Do managers view measurement of IC as something that will assist them operationally by augmenting decisions relating to staffing, supplier and customer relationships?

6. How do you know that the hotel is performing?

Probe

a) What do you measure in this hotel?
b) How do the results of these measurements assist you in doing your job?
c) Are they other things that could be measured that currently are not measured?
d) How would these additional measures assist you in your job?
e) Can you measure everything that is of value to the business?

Research question

What mechanisms are implemented within the organisation through which IC factors are integrated in order to develop capabilities?

7. What would you consider to be the unique areas of knowledge and skills in the hospitality sector?
   a) How much of this is noticed by the customer

Show the interviewee the following information on a card

Think of a combination of skills, knowledge, processes and culture that together form a unique competence/ability. This unique competence/ability set the hotel apart from the rest of other hotels in your area.

8. *Starting with the words "the ability to ……." describe this uniqueness.*
    a) How did your hotel achieve this ability?
    b) How can your hotel maintain this ability?

Research question

What is the impact of managers' interpretation and sense-making of intellectual capital information within the organizations?

9. Think about a major issue (decision) for example entering a new market, or providing a new service, within the hotel, describe this issue and how it was dealt with.

Probe

a) Who were involved in this issue? What were they roles? How did the major players perform their roles?
b) What materials, reports, persons were consulted and how were they used to assist in resolving the issue? Why were these materials, reports, persons used?
c) Were there meeting(s) convened to deal with the issue and how was these meeting(s) organised?
d) What happen during these meeting?
e) How were similar issues in the past dealt with?

Alternative question

Identify a recent landmark in the hotel's success, what factors have contributed to that success?

Appendix 2: Questionnaire items coded by themes

Themes as derived from the case study:

Human capital

H2	We use performance appraisals in the hotel to determine compensation	H1	Our hotel has the best employees in the industry
H3	Our employees learn from each other	H4	Our employees are generally experts in their particular jobs and functions
H5	Our hotel encourages employees to upgrade their skills and education whenever they express the need	H6	The employees of our hotel are considered creative and intelligent
H7	The hotel get the most out of its employees when they interact with one another in teams	H10R	Our employees seldom think about the consequences of their actions
H8	If certain individuals in the hotel unexpectedly left, we would be in serious trouble	H11	Our employees easily adapt to new ideas and knowledge
H9	Our comprehensive recruitment programme enables us to hire the best candidates available	H12	Our employees are committed to making this hotel better than others in the industry
H14	Our employees generally focus on the quality of service provided to customers	H13	Our employees have a broad knowledge of many of the hotel operations
		H15	Our employees are highly skilled
1.	Human Resources Practices	2.	Employee Competence

Structural capital

S2	Our information system makes it easy to access relevant information	S3R	The hotel is a bureaucratic nightmare
S4	Our computer system has been customized to address our specific needs	S5	Our hotel encourages knowledge sharing and encourages learning
S13	Our information systems are integrated with each other	S6	Much of the hotel knowledge is documented in our manuals and databases.
S14	The hotel provides a sufficiently high annual information technology budget allocation	S7	The hotel has a supportive organizational culture.
S8	Hotel systems and procedures support innovation	S9	Our organizational structure encourages employees to integrate
S12	Our hotel developed several new ideas and services/products compared to others in the industry	S10	Our hotel embeds much of its knowledge and information in its systems and procedures.
S1	Our hotel has the most effective processes (for example check-in/out, booking, cleaning, serving) compared to our competitors.	S11	The time it takes to go through a process (check-in/out, booking, cleaning, serving) has been decreasing over the years.

1. Information system; 2. Organization – management processes, organization knowledge, management philosophy; 3. Innovation

Relational capital

R1	Our hotel tries to offer customers the best service in the industry	R10	Our hotel is heavily customer and market focused
R2	Our hotel maintains long-standing relationships with a number of important suppliers and trade partners	R11	Our employees understand the target market and customer profiles of the hotel
R3	Our business decisions are driven by customer satisfaction	R12R	Generally, we do not care about what our customers think or desire from us
R4	Our hotel maintains good relationships with all civic groups and persons within our community	R13	Our brand brings us a lot of new guests each year
R5	At our hotel we listen and responds to customer's complaints	R14	We have greatly reduced the time it takes to resolve a customer complaint/problem
R6	Our customers are loyal to our hotel	R15	Our hotel has a higher percentage of returning customers than our competitors
R7	A survey of customers would indicate that they are generally satisfied with the hotel	R16	Our hotel has a high turnover ratio of distributors [for example Tour operators and other travel affiliates]
R8	Our employees partner with customers, suppliers, distributors (tour operators) to develop business solutions	R17	We quite often use "mystery guests" to evaluate our customer service
R9	Our hotel introduces new things only to discover the customers do not want them.	R18	Our brand is one of the most recognized in the industry
		R19	Our hotel computes the ratio of revenue earn per employee
RM1	Measuring customer satisfaction	RM2	Measuring customer complaints
RM3	Measuring customer retention	RM4	Measuring market share

1. Customer Capital = customer base, customer satisfaction, customer retention
2. Community Capital
3. Brand

Sense-making

SM1	Individuals in teams interact with each other on an informal basis	SM5	All members of the management team participate in strategic decision making on a regular basis
SM2	In the hotel there is free and open exchange of ideas among members of the team	SM6	Decision making in the hotel is interactive
SM3	Decision making in this hotel is participative	SM7R	One or two members of the team dominate the decision making
SM4	Committees, teams, task groups are regularly formed to deal with strategic issues.	SM8	Written rules and procedures are followed when addressing issues

Measurement

M1	We use performance appraisals in the hotel to determine compensation	M2	Our hotel tracks the number of hours of training for each employee
M3	We have greatly reduced the time it takes to resolve a customer complaint/problem	M4	Our hotel has a higher percentage of returning customers than our competitors
M5	Our hotel has a high turnover ratio of distributors [for example Tour operators and other travel affiliates]	M6	We quite often use "mystery guests" to evaluate our customer service
M7	Our hotel computes the ratio of revenue earn per employee	M8	Employees are more responsive because they know they are being evaluated
M9	Our hotel developed several new ideas and services/products compared to others in the industry	M10	We measure customer satisfaction
M11	We measure employee satisfaction	M12	We measure customer complaints
M13	We measure customer retention	M14	We measure employee training
M15	We measure market share		

Appendix 3: Pilot Intellectual Capital Questionnaire

This questionnaire relates to aspects of intangibles and performance within your hotel. The questions cover areas of customer relations, employee relations and organizational processes. As a representative of your hotel, please answer the questions as accurately as possible by placing a tick ☑ in the box [Strongly disagree =1, strongly agree = 7] to indicate the answer that corresponds most closely to your views.

	Employees	1	2	3	4	5	6	7
1.	Our hotel has the best employees in the industry	☐1	☐2	☐3	☐4	☐5	☐6	☐7
2.	We use performance appraisals in the hotel to determine compensation	☐1	☐2	☐3	☐4	☐5	☐6	☐7
3.	Our employees learn from each other	☐1	☐2	☐3	☐4	☐5	☐6	☐7
4.	Our employees are generally experts in their particular jobs and functions	☐1	☐2	☐3	☐4	☐5	☐6	☐7
5.	Our hotel encourages employees to upgrade their skills and education whenever they express the need	☐1	☐2	☐3	☐4	☐5	☐6	☐7
6.	The employees of our hotel are creative and intelligent	☐1	☐2	☐3	☐4	☐5	☐6	☐7
7.	The hotel gets the most out of its employees when they interact with each other in teams	☐1	☐2	☐3	☐4	☐5	☐6	☐7
8.	If certain individuals in the hotel unexpectedly left, we would be in serious trouble	☐1	☐2	☐3	☐4	☐5	☐6	☐7
9.	Our comprehensive recruitment programme enables us to hire the best candidates available	☐1	☐2	☐3	☐4	☐5	☐6	☐7
10.	Our employees seldom think about the consequences of their actions	☐1	☐2	☐3	☐4	☐5	☐6	☐7
11.	Our employees easily adapt to new ideas and knowledge	☐1	☐2	☐3	☐4	☐5	☐6	☐7
12.	Our employees are committed to making this hotel better than others in the industry	☐1	☐2	☐3	☐4	☐5	☐6	☐7
13.	Our employees have a broad knowledge of many of the hotel operations	☐1	☐2	☐3	☐4	☐5	☐6	☐7
14.	We frequently measure employee satisfaction within the hotel	☐1	☐2	☐3	☐4	☐5	☐6	☐7
15.	Our hotel tracks the number of hours of training for each employee	☐1	☐2	☐3	☐4	☐5	☐6	☐7
16.	Individuals in teams interact with each other on an informal basis	☐1	☐2	☐3	☐4	☐5	☐6	☐7
17.	In the hotel there is free and open exchange of ideas among members of the team	☐1	☐2	☐3	☐4	☐5	☐6	☐7
18.	Our employees generally focus on the quality of service provided to customers	☐1	☐2	☐3	☐4	☐5	☐6	☐7
19.	Our employees are highly skilled	☐1	☐2	☐3	☐4	☐5	☐6	☐7
	Customers							
20.	Our hotel tries to offer customers the best service in the industry	☐1	☐2	☐3	☐4	☐5	☐6	☐7
21.	Our hotel maintains long-standing relationships with a number of important suppliers and trade partners	☐1	☐2	☐3	☐4	☐5	☐6	☐7
22.	Our business decisions are driven by customer satisfaction	☐1	☐2	☐3	☐4	☐5	☐6	☐7
23.	Our hotel maintains good relationships with all civic groups and persons within our community	☐1	☐2	☐3	☐4	☐5	☐6	☐7
24.	At our hotel we listen and respond to customer's complaints	☐1	☐2	☐3	☐4	☐5	☐6	☐7

		1	2	3	4	5	6	7
25.	A survey of customers would indicate that they are generally satisfied with the hotel	☐1	☐2	☐3	☐4	☐5	☐6	☐7
26.	Our employees partner with customers, suppliers, distributors (tour operators) to develop business solutions	☐1	☐2	☐3	☐4	☐5	☐6	☐7
27.	Our customers are loyal to our hotel	☐1	☐2	☐3	☐4	☐5	☐6	☐7
28.	Our hotel introduces new things only to discover the customers do not want them.	☐1	☐2	☐3	☐4	☐5	☐6	☐7
29.	Our hotel is heavily customer and market focused	☐1	☐2	☐3	☐4	☐5	☐6	☐7
30.	Our employees understand the target market and customer profiles of the hotel	☐1	☐2	☐3	☐4	☐5	☐6	☐7
31.	Generally, we do not care about what our customers think or desire from us	☐1	☐2	☐3	☐4	☐5	☐6	☐7
32.	Our brand brings us a lot of new guests each year	☐1	☐2	☐3	☐4	☐5	☐6	☐7
33.	We have greatly reduced the time it takes to resolve a customer complaint/problem	☐1	☐2	☐3	☐4	☐5	☐6	☐7
34.	Our hotel has a higher percentage of returning customers than our competitors	☐1	☐2	☐3	☐4	☐5	☐6	☐7
35.	Our hotel has a high turnover ratio of distributors [for example Tour operators and other travel affiliates]	☐1	☐2	☐3	☐4	☐5	☐6	☐7
36.	We quite often use "mystery guests" to evaluate our customer service	☐1	☐2	☐3	☐4	☐5	☐6	☐7
37.	Our brand is one of the most recognized in the industry	☐1	☐2	☐3	☐4	☐5	☐6	☐7
38.	Our hotel computes the ratio of revenue earn per employee	☐1	☐2	☐3	☐4	☐5	☐6	☐7
39.	A survey of customers would indicate that they are generally satisfied with the hotel	☐1	☐2	☐3	☐4	☐5	☐6	☐7
40.	Our employees partner with customers, suppliers, distributors (tour operators) to develop business solutions	☐1	☐2	☐3	☐4	☐5	☐6	☐7
41.	Our customers are loyal to our hotel	☐1	☐2	☐3	☐4	☐5	☐6	☐7
42.	Our hotel introduces new things only to discover the customers do not want them.	☐1	☐2	☐3	☐4	☐5	☐6	☐7
43.	Our hotel is heavily customer and market focused	☐1	☐2	☐3	☐4	☐5	☐6	☐7
44.	Our employees understand the target market and customer profiles of the hotel	☐1	☐2	☐3	☐4	☐5	☐6	☐7
45.	Generally, we do not care about what our customers think or desire from us	☐1	☐2	☐3	☐4	☐5	☐6	☐7
46.	Our brand brings us a lot of new guests each year	☐1	☐2	☐3	☐4	☐5	☐6	☐7
47.	We have greatly reduced the time it takes to resolve a customer complaint/problem	☐1	☐2	☐3	☐4	☐5	☐6	☐7
48.	Our hotel has a higher percentage of returning customers than our competitors	☐1	☐2	☐3	☐4	☐5	☐6	☐7
49.	Our hotel has a high turnover ratio of distributors [for example Tour operators and other travel affiliates]	☐1	☐2	☐3	☐4	☐5	☐6	☐7
50.	We quite often use "mystery guests" to evaluate our customer service	☐1	☐2	☐3	☐4	☐5	☐6	☐7
51.	Our brand is one of the most recognized in the industry	☐1	☐2	☐3	☐4	☐5	☐6	☐7

		1	2	3	4	5	6	7
52.	Our hotel computes the ratio of revenue earn per employee	☐1	☐2	☐3	☐4	☐5	☐6	☐7
	Organization							
53.	Our hotel has the most effective processes (for example check-in/out, booking, cleaning, serving) compared to our competitors.	☐1	☐2	☐3	☐4	☐5	☐6	☐7
54.	Our information system makes it easy to access relevant information	☐1	☐2	☐3	☐4	☐5	☐6	☐7
55.	The hotel is a bureaucratic nightmare	☐1	☐2	☐3	☐4	☐5	☐6	☐7
56.	Our computer system has been customized to address our specific needs	☐1	☐2	☐3	☐4	☐5	☐6	☐7
57.	Our hotel encourages knowledge sharing and encourages learning	☐1	☐2	☐3	☐4	☐5	☐6	☐7
58.	Much of the hotel knowledge is documented in our manuals and databases.	☐1	☐2	☐3	☐4	☐5	☐6	☐7
59.	The hotel has a supportive organizational culture.	☐1	☐2	☐3	☐4	☐5	☐6	☐7
60.	Hotel systems and procedures support innovation	☐1	☐2	☐3	☐4	☐5	☐6	☐7
61.	Our organizational structure encourages employees to integrate	☐1	☐2	☐3	☐4	☐5	☐6	☐7
62.	Decision making in this hotel is participative	☐1	☐2	☐3	☐4	☐5	☐6	☐7
63.	Written rules and procedures are followed when addressing issues	☐1	☐2	☐3	☐4	☐5	☐6	☐7
64.	Committees, teams, task groups are regularly formed to deal with strategic issues.	☐1	☐2	☐3	☐4	☐5	☐6	☐7
65.	All members of the management team participate in strategic decision making on a regular basis	☐1	☐2	☐3	☐4	☐5	☐6	☐7
66.	Decision making in the hotel is interactive	☐1	☐2	☐3	☐4	☐5	☐6	☐7
67.	The time it takes to go through a process (check-in/out, booking, cleaning, serving) has been decreasing over the years.	☐1	☐2	☐3	☐4	☐5	☐6	☐7
68.	Employees are more responsive because they know they are being evaluated	☐1	☐2	☐3	☐4	☐5	☐6	☐7
69.	One or two members of the team dominate the decision making	☐1	☐2	☐3	☐4	☐5	☐6	☐7
70.	Our hotel developed several new ideas and services/products compared to others in the industry	☐1	☐2	☐3	☐4	☐5	☐6	☐7
71.	Our hotel embeds much of its knowledge and information in its systems and procedures.	☐1	☐2	☐3	☐4	☐5	☐6	☐7
72.	Our information systems are integrated with each other	☐1	☐2	☐3	☐4	☐5	☐6	☐7
73.	The hotel provides a sufficiently high annual information technology budget allocation	☐1	☐2	☐3	☐4	☐5	☐6	☐7

Performance

In your assessment, how has the hotel performed in recent years compared to others in the industry? Please use the scale [poor = 1, excellent = 7]

Performance indicators	1	2	3	4	5	6	7
RevPar [revenue per available room]	☐1	☐2	☐3	☐4	☐5	☐6	☐7
Occupancy percentage	☐1	☐2	☐3	☐4	☐5	☐6	☐7
Growth in profits	☐1	☐2	☐3	☐4	☐5	☐6	☐7
Labour productivity	☐1	☐2	☐3	☐4	☐5	☐6	☐7
Sales growth	☐1	☐2	☐3	☐4	☐5	☐6	☐7
Customer satisfaction	☐1	☐2	☐3	☐4	☐5	☐6	☐7
Market share	☐1	☐2	☐3	☐4	☐5	☐6	☐7
After-tax return on investment	☐1	☐2	☐3	☐4	☐5	☐6	☐7
Overall performance	☐1	☐2	☐3	☐4	☐5	☐6	☐7

The following section relates to the demographics of your hotel. This section will enable me to classify the research findings into different groups. Please fill in the box provided the relevant information as it pertains to your hotel. This information is for classification purposes only and will not be shared with anyone.

Number of rooms		Occupancy - 2006	
Number of employees		RevPAR 2006	

In the industry our hotel would be classified as	☐ 5 Stars	☐ 4 Stars	☐ 3 Stars	☐ 2 Stars	☐ 1 Star
The meal plan we provide our customers is	☐ AP	☐ MAP	☐ CP	☐ EP	☐ All-Inc
Kindly circle the position that most closely indicate your position in the hotel	General Manager	Account/ Finance Manager	HR/ Training Manager	Marketing Manager	Hotel Operations Manager

Thank you.

Thank you for taking the time to complete the questionnaire. Kindly return the questionnaire in the envelope provided.

Appendix 4: Final Questionnaire

Appendix 5: Total variance explained

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	13.281	28.872	28.872	12.895	28.033	28.033	5.489	11.932	11.932
2	4.221	9.175	38.047	3.789	8.237	36.270	4.900	10.653	22.585
3	2.444	5.312	43.359	2.028	4.409	40.679	4.082	8.875	31.459
4	2.150	4.674	48.033	1.748	3.800	44.479	3.210	6.977	38.437
5	1.602	3.483	51.516	1.175	2.555	47.034	2.829	6.149	44.586
6	1.491	3.241	54.757	1.071	2.329	49.363	1.307	2.842	47.428
7	1.409	3.063	57.819	.944	2.052	51.415	1.086	2.360	49.789
8	1.226	2.664	60.483	.811	1.763	53.178	.972	2.113	51.901
9	1.155	2.510	62.994	.729	1.584	54.762	.936	2.035	53.936
10	1.034	2.248	65.242	.612	1.330	56.092	.846	1.839	55.775
11	1.020	2.218	67.460	.556	1.209	57.301	.702	1.527	57.301
12	.946	2.057	69.517						
13	.876	1.904	71.422						
14	.872	1.896	73.317						
15	.831	1.807	75.125						
16	.770	1.673	76.798						
17	.735	1.599	78.396						
18	.683	1.486	79.882						
19	.663	1.441	81.323						
20	.640	1.391	82.715						
21	.617	1.341	84.056						
22	.570	1.239	85.295						
23	.521	1.134	86.428						
24	.487	1.059	87.488						
25	.481	1.046	88.534						
26	.427	.929	89.463						
27	.410	.891	90.353						
28	.397	.864	91.217						
29	.373	.811	92.028						
30	.367	.798	92.826						
31	.335	.727	93.553						
32	.327	.710	94.264						
33	.288	.626	94.890						
34	.260	.565	95.455						
35	.252	.548	96.003						
36	.232	.503	96.506						
37	.225	.488	96.995						
38	.216	.470	97.465						
39	.212	.461	97.926						
40	.173	.376	98.302						
41	.160	.349	98.651						
42	.145	.315	98.965						
43	.144	.313	99.278						
44	.122	.265	99.543						
45	.117	.253	99.797						
46	.094	.203	100.000						

Extraction Method: Principal Axis Factoring.

Appendix 6: Rotated Factor Matrix

Rotated Factor Matrix[a]

	Factor									
	1	2	3	4	5	6	7	8	9	10	11
HC1 ...best employees in the industry	.634										
HC2 ...performance appraisals ...							.541				
HC3 ... employees learn from each other						.591					
HC4 ... employees are generally experts ...	.568										
HC5 ... employees to upgrade their skills and education ...											
HC6 ... employees of our hotel are creative and intelligent	.564										
HC7 ... gets the most out of its employees when they interact ...						.487					
HC8 ... serious trouble if certain individuals ... unexpectedly left								.791			
HC9 ...comprehensive recruitment programme ...	.476										
HC10R ... employees seldom think about the consequences ...										.620	
HC11 ... employees easily adapt to new ideas and knowledge	.684										
HC12 ... employees are committed to making this hotel better	.709										
HC13 ... employees have a broad knowledge ...	.716										
HC14 ... employees generally focus on the quality of service....	.714										
HC15. . employees are highly skilled	.770										
RC1 ... hotel tries to offer customers the best service...			.635								
RC2 ... maintains long-standing relationships with ...suppliers and trade partners		.476	.589								
RC3 ...business decisions are driven by customer satisfaction			.617								
RC4 ... maintains good relationships with all civic groups ...			.536								
RC5 ... listen and respond to customer's complaints			.695								
RC6 ... customers are loyal to our hotel			.558								
RC7 A survey of customers would indicate that they are generally satisfied...			.676								
RC8...employees partner with customers, suppliers, distributors ...											
RC9 ...introduces new things only to discover the customers do not want them.					-.540						
RC10 ...hotel is heavily customer and market focused			.528								
RC11... employees understand the target market and customer profiles ...	.484										
RC12R ... we do not care about what our customers think ...											
RC13 ...brand brings us a lot of new guests each year				.471							
RC14....reduced the time it takes to resolve a customer complaint...											
RC15...hotel has a higher percentage of returning customers ...					.551						
RC16. . . hotel has a high turnover ratio of distributors									.574		
SC1 ... hotel has the most effective processes ...				.571							
SC2 ...information system makes it easy to access relevant information				.498							
SC3R ...hotel is a bureaucratic nightmare					.738						
SC4...computer system has been customized ...											
SC5 ... encourages knowledge sharing and encourages learning		.509									
SC6... hotel knowledge is documented		.550									
SC7... has a supportive organizational culture.		.795									
SC8 Hotel systems and procedures support innovation		.845									
SC9 ...organizational structure encourages employees to integrate		.689									
SC10 ...much of its knowledge and information is in its systems and procedure		.705									
SC11 The time it takes to go through a process .... has been decreasing...					.491						
SC12 ...developed several new ideas and services/products ...				.454							
SC14 ...information systems are integrated with each other				.556							
SC15 ... a sufficiently high annual information technology budget allocation				.619							
RC17...brand is one of the most recognized				.598							

Extraction Method: Principal Axis Factoring.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 19 iterations.

Appendix 4: Final Questionnaire

Intellectual Capital Questionnaire

This questionnaire relates to aspects of intangibles and performance within your hotel. The questions cover areas of customer relations, employee relations and organizational processes. As a representative of your hotel, please answer the questions as accurately as possible by placing a tick ☑ in the box **[strongly disagree =1, strongly agree = 7]** to indicate the answer that corresponds most closely to your views.

	Employees	1	2	3	4	5	6	7
1.	Our hotel has the best employees in the industry	☐1	☐2	☐3	☐4	☐5	☐6	☐7
2.	We use performance appraisals in the hotel to determine compensation	☐1	☐2	☐3	☐4	☐5	☐6	☐7
3.	Our employees learn from each other	☐1	☐2	☐3	☐4	☐5	☐6	☐7
4.	Our employees are generally experts in their particular jobs and functions	☐1	☐2	☐3	☐4	☐5	☐6	☐7
5.	Our hotel encourages employees to upgrade their skills and education whenever they express the need	☐1	☐2	☐3	☐4	☐5	☐6	☐7
6.	The employees of our hotel are creative and intelligent	☐1	☐2	☐3	☐4	☐5	☐6	☐7
7.	The hotel gets the most out of its employees when they interact with each other in teams	☐1	☐2	☐3	☐4	☐5	☐6	☐7
8.	If certain individuals in the hotel unexpectedly left, we would be in serious trouble	☐1	☐2	☐3	☐4	☐5	☐6	☐7
9.	Our comprehensive recruitment programme enables us to hire the best candidates available	☐1	☐2	☐3	☐4	☐5	☐6	☐7
10.	Our employees seldom think about the consequences of their actions	☐1	☐2	☐3	☐4	☐5	☐6	☐7
11.	Our employees easily adapt to new ideas and knowledge	☐1	☐2	☐3	☐4	☐5	☐6	☐7
12.	Our employees are committed to making this hotel better than others in the industry	☐1	☐2	☐3	☐4	☐5	☐6	☐7
13.	Our employees have a broad knowledge of many of the hotel operations	☐1	☐2	☐3	☐4	☐5	☐6	☐7
14.	Our hotel tracks the number of hours of training for each employee	☐1	☐2	☐3	☐4	☐5	☐6	☐7
15.	Individuals in teams interact with each other on an informal basis	☐1	☐2	☐3	☐4	☐5	☐6	☐7
16.	In the hotel there is free and open exchange of ideas among members of the team	☐1	☐2	☐3	☐4	☐5	☐6	☐7
17.	Our employees generally focus on the quality of service provided to customers	☐1	☐2	☐3	☐4	☐5	☐6	☐7
18.	Our employees are highly skilled	☐1	☐2	☐3	☐4	☐5	☐6	☐7
	Customers							
19.	Our hotel tries to offer customers the best service in the industry	☐1	☐2	☐3	☐4	☐5	☐6	☐7
20.	Our hotel maintains long-standing relationships with a number of important suppliers and trade partners	☐1	☐2	☐3	☐4	☐5	☐6	☐7
21.	Our business decisions are driven by customer satisfaction	☐1	☐2	☐3	☐4	☐5	☐6	☐7
22.	Our hotel maintains good relationships with all civic groups and persons within our community	☐1	☐2	☐3	☐4	☐5	☐6	☐7
23.	At our hotel we listen and respond to customer's complaints	☐1	☐2	☐3	☐4	☐5	☐6	☐7
24.	Our customers are loyal to our hotel	☐1	☐2	☐3	☐4	☐5	☐6	☐7

please turn to the next page →

		1	2	3	4	5	6	7
25.	A survey of customers would indicate that they are generally satisfied with the hotel	☐1	☐2	☐3	☐4	☐5	☐6	☐7
26.	Our employees partner with customers, suppliers, distributors (tour operators) to develop business solutions	☐1	☐2	☐3	☐4	☐5	☐6	☐7
27.	Our hotel introduces new things only to discover the customers do not want them.	☐1	☐2	☐3	☐4	☐5	☐6	☐7
28.	Our hotel is heavily customer and market focused	☐1	☐2	☐3	☐4	☐5	☐6	☐7
29.	Our employees understand the target market and customer profiles of the hotel	☐1	☐2	☐3	☐4	☐5	☐6	☐7
30.	Generally, we do not care about what our customers think or desire from us	☐1	☐2	☐3	☐4	☐5	☐6	☐7
31.	Our brand brings us a lot of new guests each year	☐1	☐2	☐3	☐4	☐5	☐6	☐7
32.	We have greatly reduced the time it takes to resolve a customer complaint/problem	☐1	☐2	☐3	☐4	☐5	☐6	☐7
33.	Our hotel has a higher percentage of returning customers than our competitors	☐1	☐2	☐3	☐4	☐5	☐6	☐7
34.	Our hotel has a high turnover ratio of distributors [for example Tour operators and other travel affiliates]	☐1	☐2	☐3	☐4	☐5	☐6	☐7
35.	We quite often use "mystery guests" to evaluate our customer service	☐1	☐2	☐3	☐4	☐5	☐6	☐7
36.	Our brand is one of the most recognized in the industry	☐1	☐2	☐3	☐4	☐5	☐6	☐7
37.	Our hotel computes the ratio of revenue earn per employee	☐1	☐2	☐3	☐4	☐5	☐6	☐7
	Organization	1	2	3	4	5	6	7
38.	Our hotel has the most effective processes (for example check-in/out, booking, cleaning, serving) compared to our competitors.	☐1	☐2	☐3	☐4	☐5	☐6	☐7
39.	Our information system makes it easy to access relevant information	☐1	☐2	☐3	☐4	☐5	☐6	☐7
40.	The hotel is a bureaucratic nightmare	☐1	☐2	☐3	☐4	☐5	☐6	☐7
41.	Our computer system has been customized to address our specific needs	☐1	☐2	☐3	☐4	☐5	☐6	☐7
42.	Our hotel encourages knowledge sharing and encourages learning	☐1	☐2	☐3	☐4	☐5	☐6	☐7
43.	Much of the hotel knowledge is documented in our manuals and databases.	☐1	☐2	☐3	☐4	☐5	☐6	☐7
44.	The hotel has a supportive organizational culture.	☐1	☐2	☐3	☐4	☐5	☐6	☐7
45.	Hotel systems and procedures support innovation	☐1	☐2	☐3	☐4	☐5	☐6	☐7
46.	Our organizational structure encourages employees to integrate	☐1	☐2	☐3	☐4	☐5	☐6	☐7
47.	Decision making in this hotel is participative	☐1	☐2	☐3	☐4	☐5	☐6	☐7
48.	Written rules and procedures are followed when addressing issues	☐1	☐2	☐3	☐4	☐5	☐6	☐7
49.	Committees, teams, task groups are regularly formed to deal with strategic issues.	☐1	☐2	☐3	☐4	☐5	☐6	☐7
50.	All members of the management team participate in strategic decision making on a regular basis	☐1	☐2	☐3	☐4	☐5	☐6	☐7
51.	Decision making in the hotel is interactive	☐1	☐2	☐3	☐4	☐5	☐6	☐7
52.	The time it takes to go through a process (check-in/out, booking, cleaning, serving) has been decreasing over the years.	☐1	☐2	☐3	☐4	☐5	☐6	☐7
53.	Employees are more responsive because they know they are being evaluated	☐1	☐2	☐3	☐4	☐5	☐6	☐7

please turn to the next page →

54. One or two members of the team dominate the decision making	☐1	☐2	☐3	☐4	☐5	☐6	☐7
55. Our hotel developed several new ideas and services/products compared to others in the industry	☐1	☐2	☐3	☐4	☐5	☐6	☐7
56. Our hotel embeds much of its knowledge and information in its systems and procedures.	☐1	☐2	☐3	☐4	☐5	☐6	☐7
57. Our information systems are integrated with each other	☐1	☐2	☐3	☐4	☐5	☐6	☐7
58. The hotel provides a sufficiently high annual information technology budget allocation	☐1	☐2	☐3	☐4	☐5	☐6	☐7

Performance

In your assessment, how has the hotel performed in recent years compared to others in the industry? Please use the scale **[poor = 1, excellent = 7]**

Performance indicators	1	2	3	4	5	6	7
RevPar [revenue per available room]	☐1	☐2	☐3	☐4	☐5	☐6	☐7
Occupancy percentage	☐1	☐2	☐3	☐4	☐5	☐6	☐7
Growth in profits	☐1	☐2	☐3	☐4	☐5	☐6	☐7
Labour productivity	☐1	☐2	☐3	☐4	☐5	☐6	☐7
Sales growth	☐1	☐2	☐3	☐4	☐5	☐6	☐7
Customer satisfaction	☐1	☐2	☐3	☐4	☐5	☐6	☐7
Market share	☐1	☐2	☐3	☐4	☐5	☐6	☐7
After-tax return on investment	☐1	☐2	☐3	☐4	☐5	☐6	☐7
Overall performance	☐1	☐2	☐3	☐4	☐5	☐6	☐7

Measurement

In your assessment, what is the extent to which the following are measured in your hotel? Please use the scale **[Infrequently = 1, very frequently = 7]**

	1	2	3	4	5	6	7
Customer satisfaction	☐1	☐2	☐3	☐4	☐5	☐6	☐7
Employee satisfaction	☐1	☐2	☐3	☐4	☐5	☐6	☐7
Customer complaints	☐1	☐2	☐3	☐4	☐5	☐6	☐7
Customer retention	☐1	☐2	☐3	☐4	☐5	☐6	☐7
Employee training	☐1	☐2	☐3	☐4	☐5	☐6	☐7
Market share	☐1	☐2	☐3	☐4	☐5	☐6	☐7

The following section relates to the demographics of your hotel. This section will enable me to classify the research findings into different groups. Please fill in the box provided the relevant information as it pertains to your hotel. This information is for classification purposes only and will not be shared with anyone.

Number of rooms		Occupancy - 2006	
Number of employees		RevPAR 2006	

Kindly indicate currency

In the industry our hotel would be classified as	☐ 5 Stars	☐ 4 Stars	☐ 3 Stars	☐ 2 Stars	☐ 1 Star
The meal plan we provide our customers is	☐ AP	☐ MAP	☐ CP	☐ EP	☐ All-Inc
Kindly circle the position that most closely indicate your position in the hotel	General Manager	Account/ Finance Manager	HR/ Training Manager	Marketing Manager	Hotel Operations Manager

Thank you

Thank you for taking the time to complete the questionnaire. Kindly return the questionnaire in the envelope provided.

Would you provide the following information, which will only be used to send you a summary report of my findings. It will not be recorded or revealed to third parties. You may attach your business card or leave all of this blank.

Name or Job Title	
Hotel Name	
Address	

If you have any questions please do not hesitate to contact me.

Donley Carrington
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Address in the Caribbean

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