INTELLECTUAL CAPITAL (IC) AND CUSTOMER VALUE IN A RETAILING CONTEXT

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Intellectual Capital (IC) is the intellectual capability of an organization; it drives the usage of other productive resources and adds value to the business structure. Although the expanding literature on IC has enhanced our understanding, the effects of IC with relation to consumers have not been explored in the marketing literature. Thus, this study fills this void by approaching the notion of IC from a customer perspective.

Customer value also has attracted extensive attention in recent years. However, the lack of agreement among scholars with respect to the conceptualization of customer value has resulted in inconsistent empirical measures. Furthermore, despite extensive research focus on IC and customer value separately, there is a void in the literature as far as investigating the relationship between the two is concerned. Thus, this study also empirically investigates the predictive relationships among the various dimensions of IC and perceived customer value.

This dissertation delineates three dimensions of IC (i.e., Human Capital, Structural Capital, and Relational Capital) available to a retail store in creating value for customers. This study tests the psychometric properties of scale items for measuring these three resources in an apparel retailing context. It also tests the effects of IC on customer value using both a student sample and a consumer sample.

This study makes several important contributions to the literature and has the potential to improve marketing practices. First, this study revisits the conceptualization of IC in relation to consumer's perception and to value creation in an apparel retailing context. Second, this study investigates the multidimensional nature of IC and the relative influence of different dimensions on customer value. Lastly, marketing practitioners and retail managers can learn, based on these

results, that the types of resources and their utilization affect the perception by consumers of the value of retail stores.

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CHAPTER 1

INTRODUCTION

Over the past decades, the globalization of markets, short product life cycles, and fast-changing customer demand have driven firms in the retailing industry to focus more on knowledge and intellectual capital (Keller, 2008). In addition, due to aggressive competition in the retail business environment, a retailer's success largely depends on satisfied customers who are willing to purchase products or services repeatedly (Siu & Cheung, 2001; Srinivasan et al., 2002). Retailers increasingly aim to position their chains in the minds of consumers as strong, attractive, and unique brands (Aliawadi & Keller, 2004; Verhoef et al., 2010) within a knowledge-based, fast-changing, and technologically intensive economy (Cañibano et al., 2000, p. 102). Thus, it is imperative for retailers to understand the factors influencing consumers' retail store choices. For example, the emergent centrality of a store brand in the retailing industry may necessitate an organizational shift from the use of marketing communication, to using the store brand as a driving force for organizational structure, differentiation, and innovation, leading to strong customer relationships and success for the retail store (Davey et al., 2009).

Recent changes in today's market places and in consumer trends have spurred changes in both the ways in which consumers perceive value and the strategies firms are using to communicate the value. Hence, in order to response to consumers' ever-changing demands, firms must understand who those consumers are and what motivates them (Grewal et al., 2012). It is not sufficient for marketing practitioners to know the perceptions that consumers have about companies; it is also necessary for them to know the factors causing these perceptions so that marketing practitioners can control these aspects efficiently and effectively (de Leaniz & del Bosque, 2013). Although we know that firm resources result in competitive advantages, which bring profits to firms, only a few empirical studies have investigated the direct effects on customer value that these resources can bring (Chiu, 2013; Miller & Shamsie, 1996; Pennings et al., 1998). In particular, despite the increased focus on retail brand management, limited attention has been paid to the concept of intellectual capital in previous studies. This dissertation argues that for retail businesses, the development of intangible assets, i.e., intellectual capital, is crucial for success as it can lead to the creation of positive consumer perception of a retail firm and the value it offers.

Value has always been the fundamental goal of all marketing activities (Holbrook, 1994, p. 22). Notably, the concepts of value and value creation are elements central to the definition of marketing given by the American Marketing Association (AMA), in which marketing is defined as the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large (AMA, 2007). In addition, a main theme underlying the notions of value and value creation is that both are defined by customers (Vargo & Lusch, 2004; Webster, 1994). Thus, the success of a firm depends on the extent to which it creates value for customers (Mittal and Sheth, 2001; Payne and Holt, 2001). A firm is competitive in the eyes of its customers if it is able to deliver superior value compared to that offered by its competitors (Feurer & Chaharbaghi, 1994). In this context, customers will choose one alternative over another when they perceive that it produces superior value.

Firms create value for customers in different ways. Some of these ways are efficiency-oriented (i.e., a firm measures how well its resources are used to produce output and the focus is on reducing cost), while others are effectiveness-oriented (i.e., a firm measures the extent to which its targets have been reached and the focus is on increasing revenue or market share).

Irrespective of orientation, value is created either by effective integration of activities, or by the use of resources (Kraaijenbrink et al., 2010). From the perspective of the resource-based view (RBV), the value created and the subsequent performance of a firm are based on how well it uses resources and competence (Amit & Schoemaker, 1993; Barney, 1991; Chiu, 2013; Peppard & Rylander, 2001). A firm's resources and capabilities are valuable if, and only if, they reduce a firm's costs or increase its revenues compared to what would have been the case if the firm did not possess those resources and capabilities (Barney, 1997, p. 147). Thus, it is important to examine a firm's ability to use its resources and competence to create value for its customers and the effect of that ability on the firm's performance.

In the current knowledge-based economy, the core value and key resources needed to create competitive advantages in business have changed, and a firm's value is now based on more than just financial capital. In addition, it is commonly observed that there has been a noticeable increase in the discrepancies between a firm's market value and its book value. The market value of a business is the combination of financial value (i.e., tangible assets) and intellectual value (i.e., intangible assets). The former is recorded in the firm's balance sheet and hence is placed in the public domain. The latter, for the most part, is unrecorded and consequently remains largely invisible (Watson et al., 2005).

According to Lev (2001), between 1977 and 2001 the market-to-book value ratios of Standard and Poors (S & P) 500 companies showed that most companies' market values were well above their book values. This implies that a company's financial statements may not represent its true value. Edvinsson and Malone (1997) suggest that such a difference between a company's market value and its book value is related to intangible assets which are not fully reflected in the financial statements. Firms are now trying to be more flexible and innovative in their operations and strategies. They apparently depend more on intangible assets than on traditional physical assets. The sum total of these intangible assets is often termed intellectual capital. This concept of intellectual capital may facilitate a better understanding of a firm’s abilities to use its resources and competence to create value. Previous studies have shown that intellectual capital plays an important role in indicating organizational performance, creating competitive advantage, and improving market value (Bontis, 1998; Bontis et al., 2000; Hsu & Wang, 2012; Vargas-Hernandez & Noruzi, 2010; Huang et al., 2007; Liang et al., 2013; Liu et al., 2010; Marr et al., 2003; Zéghal & Maalooul, 2010).

The notion of intellectual capital has emerged as useful for describing firms’ resources and their ability to create value for customers and stakeholders (Cheng et al., 2010; Tseng & Goo, 2005). It highlights the distinctive value-specific resources among a firm’s general resources (Chiu, 2013). According to Cheng et al. (2010), intellectual capital may constitute 80 percent of an organization’s market value. For this reason, intellectual capital is the most valuable asset and competitive resource of a business. A firm uses its physical and financial capital to improve its performance, but intellectual capital determines how well the financial capital is used (Cañibano et al., 2000). Moreover, when intellectual capital is used in conjunction with physical and financial assets, the value added by means of the physical assets increases (Paul, 2012).

Many, including Davey et al. (2009), have argued that customers are a key resource in the circuit of production and consumption. Thus, firms with an accurate understanding of customer expectations regarding value can be more competent in creating value for their customers (Harmsen & Jensen, 2004, p. 535). In this context, intellectual capital can be interpreted as an effective tool that enables retail firms to create value for their customers and achieve superior market performance through consumer patronage behavior.

1.1 Intellectual Capital (IC)

The term intellectual capital (IC) has been studied extensively since the 1990s (Cheng et al., 2010). Several studies have created various definitions and approaches in an effort to capture the idea of IC (Sydler et al., 2014). Edvinsson and Malone (1997) provide the most explicit definition of IC and the one which has become the predominant definition in the literature (Kim et al., 2012; Sharabati et al., 2010; Yang & Lin, 2009): IC is defined as economic value comprised of three components – human capital (HC), structural capital (SC), and relational capital (RC).

The term IC collectively refers to all resources other than physical and financial ones that determine value, reflecting the level of competitiveness of a firm (Schiuma & Lerro, 2008; Sullivan, 2000), and has been identified as a key resource and driver of organizational performance and value creation (Cheng et al., 2010). Chatzkel (2002) notes that the IC perspective provides a bridge between resources and value by focusing attention on the best methods for extracting and deploying maximum value from available resources. Many of the elements of a company's IC are related to marketing (e.g., trademarks, brands, logos, brand promotions, and advertisements) and are indeed customer related, in the sense that IC includes the know-how used to attract and maintain a company's customers (Davey et al., 2009; King, 2007). Recently, many US and European firms have begun to publicize their IC reports providing better information to their stakeholders by making possible greater insights into their internal knowledge and innovation management process (Phusavat et al., 2011). A firm with a higher level of IC can use its superior market information to fulfill customers' wants and needs, enable customers to better visualize and understand the firm's offerings and values, and build long-term relationships.

IC is increasingly acknowledged as the most important asset for business performance and as the foundation for market leadership and differentiation. However, the role of intangible assets in business is poorly understood and marketing practices take into account only part of the value created by these assets (Davey et al., 2009). Furthermore, in spite of the increased research interest in IC, there is no single commonly accepted definition of IC (de Leaniz & del Bosque, 2013) which takes sufficient account of customer perception.

1.2 Customer Value

The focus on value creation reflects the increased recognition of customer value as one of the most important measures in gaining a competitive advantage (Parasuraman, 1997) and as a key factor in strategic management (LeBlanc & Nguyen, 2001; Burns & Woodruff, 1992). The concept of *customer value* has been viewed from multiple perspectives (Woodall, 2003). Customer value is the difference between the customer's evaluation of all the benefits and all the costs of an offering and their evaluation of the values and costs of the perceived alternatives (Kotler & Keller, 2006, p. 133). Customers' perception of value is based on their subjective judgments. Customer value is thus understood as the benefit perceived by the customer in relation to the demanded price (Mishra, 2009). It is defined as a trade-off between total perceived benefits and the total perceived sacrifice, in which benefits include physical and service attributes, technical support, competence, market position, and social rewards, and sacrifice includes both monetary and non-monetary costs (Nasution & Mavondo, 2008).

The two most prominent perspectives on customer value referenced within the marketing literature are related to the following questions: first, what is gained by the customer from the firms (customer perceived value or customer received value), and second, what is gained by the firms from the customer (value of the customer, now more commonly referred to as customer lifetime value). In this dissertation, the former perspective is adopted - customer value is what customers ‘get’ (their benefits) relative to what they have to ‘give up’ (their costs or sacrifices) (Zeithaml, 1988). Although value creation has been recognized as a key marketing concept that plays a major role in establishing the service perspective on marketing, the concept of value creation has not yet been analyzed sufficiently (Drucker, 1985; Grönroos & Voima, 2013; Sheth & Uslay, 2007) or as playing a key role in establishing the service perspective on marketing (Woodruff & Flint, 2006). Though a number of approaches dominate in the literature, all scales and theories of customer value suggested thus far have been subject to profound criticism (Boksberger & Melsen, 2011).

1.3 Theoretical Framework

In recent years, an increasing number of studies have emphasized the importance of value, value-creating activities and the resources used to create value (Liang et al. 2013). The Resource-Based View of the firm (RBV) is one of the dominant theoretical frameworks used in the literature to addresses the relationship between input resources and performance (Arthurs & Busenitz, 2006; Coates & McDermott, 2002; Helfat & Peteraf, 2003; Kor et al., 2007; Liang et al., 2013; Zhou & Li, 2010). Barney (1991) argues that a firm’s resources must be valuable, rare, and difficult to imitate and substitute so that the firm can generate a sustained competitive advantage. In much of the RBV literature, resources by definition are taken to include all of the assets, capabilities and organizational processes, firm attributes, information, and knowledge controlled by a firm that enable it to conceive and implement strategies that improve efficiency and effectiveness (Barney, 1991; O'Cass & Sok, 2013). Firms must obtain resources that are better than competitors' resources in order to achieve a position of competitive advantage (Golicic et al., 2012).

A related theoretical framework, the Knowledge-Based View of the firm (KBV), is also used in the literature to explain how firms use their assets, especially the intangible ones to create value. In the context of the KBV, assets related to knowledge, are strategic resources and are perceived as key drivers of a sustainable competitive advantage; these assets are often referred to as IC (Curado et al., 2011; Subramaniam & Youndt, 2005; Teece, 2003). The KBV has been characterized as an extension of the RBV, in that it argues that of all the firm's intangible resources that play a critical role in competitive advantage, privately held knowledge is strategically the most important one (Grant, 1996), as it is an antecedent and significant component of all of the firm's capabilities (Conner & Prahalad, 1996). Furthermore, as with the RBV, knowledge-based theorists believe that knowledge resources that are unique, inimitable, and valuable are most likely to provide a sustainable advantage and superior performance outcomes (Barney, 1991; Grant, 1996). The KBV extends the traditional concerns of strategic management to address the nature of coordination within the firm, the firm's organizational structure, and the role of management (Grant, 1996).

Finally, the framework of Service-Dominant Logic (SDL) argues that value is no longer embedded in units of output and exchange but rather is realized through the experience when the customer activates and uses the service provider's offerings and resources (Grönroos, 2008; Lusch et al., 2007; Vargo & Lusch, 2004, 2008). Customers are argued to be value creators in value-generating processes (consumption) and in value-supporting interactions whereas companies are value facilitators and co-creators. In addition, the emergence of SDL has stimulated a stream of research on value that has focused on amongst other things, the process of co-creation. Finally, the co-creating of value is based on the notion that knowledge is a key source of competitive advantage (Grönroos, 2008; Lusch et al., 2007; Vargo & Lusch, 2004, 2008).

1.4 Retailing and IC

Intangible resources play an increasingly important role in differentiating firms and creating competitive advantage. Intangible resources include organizational capabilities, competences, skills and knowledge as well as brands (M'zungu et al., 2010). This is particularly true for retail firms, especially the fashion retail firms, which constitute the focal research context for this dissertation.

According to Hemphill and Suk (2009), today's fashion retailing has evolved into a massive industry with United States sales of more than $200 billion per year, figure higher than that for books, movies, and music combined. The fashion and apparel sector has become one of the largest and most dynamic in the global economy, accounting for nearly four percent of the total global GDP, a sum now in excess of $1 trillion per year (Jimenez et. al., 2010). Specifically, in the fashion industry which is heavily dependent on IC, the ability to create a competitive advantage is likely to depend on a firm's having intangible assets that are difficult to create and difficult to imitate (Teece, 1998). It is also understood that customers are a key resource in the circuit of production and consumption (Davey et al., 2009). This study argues that for retail businesses the development of intangible assets is crucial for success and, in particular, that retailers need to develop their IC.

1.5 Research Questions and Potential Contribution

IC is the intellectual capability of an organization; it drives the usage of other productive resources and adds value to the business structure. Although the expanding literature on IC has enhanced our understanding in the field, there is still no consensus about the definition of IC (de Leaniz & del Bosque, 2013). Furthermore, most studies on IC have been conducted in the field of accounting, and they do not all measure IC in a similar manner. Additionally, the effects of IC with relation to consumers have not been explored in the marketing literature. In order to better understand and measure how IC is related to customers, we need to revisit the conceptualization and measurement of IC. Thus, one objective of this study is to fill this void by approaching the notion of IC from a customer perspective within a fashion retailing context.

Customer value has attracted extensive attention in academia in recent years. However, several issues of fundamental concern remain unresolved: First, there is little consensus in regard to the definition and the concept of customer value. According to Khalifa (2004), customer value has become one of the most misused concepts in the social sciences. Second, the lack of agreement among scholars with respect to the definition and the conceptualization of customer value has resulted in inconsistent empirical measures. Furthermore, despite extensive research focus on IC and customer value separately, there is a void in the literature as far as investigating the relationship between the two is concerned. Thus, this study also empirically investigates the predictive relationships among the various dimensions of IC as perceived by customers and perceived customer value.

This study asks whether it is empirically evident that IC, the key resource of a company, can be responsible for creating a sustainable competitive advantage in a retailing context by creating value for customers. Towards this end, this study addresses the following key research questions:

- Do customers notice various dimensions of IC in a fashion retailing context?
- What role does each dimension of IC play in creating customer value?
- Which dimensions are critical to the creation of customer value from a customer's perspective?
- Are there any moderating variables leveraging the IC and thus leading to enhancement of customer value (e.g., store formats or retailing channels)?

In answering these questions, this study makes several important contributions to the literature and has the potential to improve marketing practices. First, this study revisits the conceptualization and measurement of IC in relation to consumer’s perception and to value creation in a fashion retailing context. The method/indicators used to measure IC by most of today’s firms have been developed from a firm-oriented perspective. To date, IC has not been examined from the consumer’s perspective. Thus this study validates existing measures of IC based on the consumer perspective in a retailing context. Second, this study investigates the multidimensional nature of IC and the relative influence of different dimensions on customer value.

Given the significant growth and importance of retail branding, comprehending the dynamics of a firm’s resources and capabilities can empower marketing practitioners and researchers to enhance the understanding of unique and distinctive consumer behavior and to devise effective marketing strategies including relevant positioning and the pursuit of specific marketing directions.

1.6 Structure of the Dissertation

The remainder of this dissertation is structured as follows. In Chapter 2, the theoretical foundations of this dissertation, including the Resource-Based View of the firm (RBV), the Knowledge-Based View of the firm (KBV), and Service-Dominant Logic (SDL), are discussed. The extant literature on IC, in particular, the three dimensions of IC (HC, SC, and RC), and the literature on customer value are reviewed in-depth. In Chapter 3, all of the key constructs are defined, and the hypothesized relationships between various dimensions of IC and customer value are discussed and presented. Chapter 4 describes the research design and the procedures used to collect data. In Chapter 5, the analyses and findings are presented. Finally, in Chapter 6, the conclusions of the analysis are discussed, after which the conclusion of the study, the study's contributions, and suggestions for future research are presented.

CHAPTER 2

THEORETICAL DEVELOPMENT AND REVIEW OF LITERATURE

This chapter presents a review of the theoretical background and relevant literature leading to the development of the research model and hypotheses of this study. The literature review is further sub-divided into three parts. First, three different streams of literature are reviewed as the theoretical basis of the present study: the Resource-Based View of the firm (RBV), the Knowledge-Based View of the firm (KBV), and the Service-Dominant Logic (SDL). The second section includes a comprehensive review of literature on the strategic importance and the components of IC: HC, SC, and RC. Third, a review of the literature customer value is presented and followed by a brief review of the extant research on store formats and channels.

2. 1 Theoretical Foundations

2.1.1The Resource-Based View of the Firm (RBV)

The Resource-Based View of the firm (RBV) postulates that the exploitation of valuable, rare resources and capabilities contributes to a firm's competitive advantage (Barney, 1991); this view focuses on the quantity and quality of resources and knowledge deployed in the value-creation processes (Rylander & Peppard, 2003; Tseng & Goo, 2005). Much of the RBV literature adopts a definition of resources that includes all the assets, capabilities and organizational processes, firm attributes, information, and knowledge controlled by a firm (Barney, 1991). These resources enable a firm to conceive and implement strategies that improve its efficiency and effectiveness (Barney, 1991) and ultimately lead to improved financial performance.

However, the term resources is interpreted differently by researchers. For example, Edelman et al. (2005) and Wu et al. (2008) define resources as including both assets and capabilities implying that resources and capabilities are the same. However, O'Cass & Sok (2013) argue that resources are different from capabilities. According to them, resources are accumulated tangible assets which can be felt, quantified, valued, and traded, along with intangible assets which are embedded in the firm's culture to protect intellectual property rights. Conversely, capabilities, are bundles of interrelated routines that firms use to carry out specific activities (O'Cass & Sok, 2013; Woldesenbet et al., 2012). From the RBV perspective, a firm's resources can be defined as capital, and this conceptualization is adopted in the present study.

According to the RBV, resources generate comparative advantages when they enable a firm to produce a market offering that is perceived by customers to deliver superior value and/or that can be produced at a lower cost (Hunt & Morgan, 1995). The notion of superior value implies that the firm's resource advantage surpasses that of its competitors in terms of relative cost (i.e., it is an efficiency advantage), relative value (i.e., it is an effectiveness advantage), or both (i.e., an efficiency-effectiveness advantage) (Golicic et al., 2012). The RBV holds that the most desirable resources are firm-specific and intangible; thus, from the RBV, IC is a strategic resource that is used by a firm to gain a sustainable competitive advantage and to create value that the firm can use to enhance its performance (Marr et al., 2003; Wernerfelt, 1984). The RBV indicates what the key resources for creating competitive advantages are, but there is no specific concept, framework, or measurement method to further explain how the resources can be measured, evaluated, and utilized; how to create values using these resources; or how to conceive of the relationship between resources and firm value (Chiu, 2013; Foss & Knudsen, 2003; Peppard & Rylander, 2001).

2.1.2 The Knowledge-Based View of the firm (KBV)

Faced with the rising importance of knowledge-related resources in developing a sustainable competitive advantage (Menor et al., 2007; Nonaka, 1991), firms must understand how to conceptualize and utilize such resources. This dissertation adopts the Knowledge-Based View of the firm (KBV) proposed by Grant (1996), wherein it is argued that knowledge forms the basis for how firms compete and why they exist. The KBV views knowledge as an important asset of a firm. Firms not only must realize that knowledge is a critical resource, but also must try to manage organizational knowledge more intensely and effectively. As scholars have emphasized the importance of capabilities, knowledge has remained at the forefront of how firms must compete. According to Nonaka (2002), knowledge is created and organized by the flow of information, anchored in the commitment and beliefs of its holder. Knowledge integration is the foundation of organizational capabilities (Grant, 1996). Further, a firm's capabilities must be dynamic in order for it to succeed (Teece et al., 1997; Eisenhardt & Martin, 2000; Winter, 2003). Schumpeter (1935) noted that what was important for the understanding of an industry was not its capital stock, but rather its investment in new technologies and ideas. He was concerned with where and how knowledge pushed firms forward. Hayek (1945) argued that the use of knowledge within firms allowed them to change and adapt in order to survive. In his arguments against a centrally planned economy, he also argued for the need to have knowledge dispersed among individuals and individual firms. This would allow firms to make the decisions necessary to prosper.

Scholars have long argued that knowledge is critical to firms' performance and noted that knowledge has come to dominate the strategic management of successful firms. In Penrose's (1959) seminal work, it is argued that the knowledge, skill, and expertise within a firm are the key to its growth and profitability. Scholars generally classify IC resources as human, organizational, and social capital (Youndt & Snell, 2004; Reed et al., 2006). This classification takes away some of the abstraction involved in the study of knowledge by categorizing knowledge resources according to where they reside and treating them as firm assets (Edvinsson, 1997). In sum, knowledge is critical for organizational success, is what is needed to cope with uncertainty and change, and is a resource that should both grow and produce profits for a firm, by creating superior customer value.

2.1.3 Service-Dominant Logic (SDL)

Service-dominant logic (SDL) describes service as the core purpose of exchange and provides a framework for understanding how firms, customers, and other market actors co-create value through their service interactions with each other (Vargo & Lusch, 2004, 2008). The notion of SDL is that a firm's resources and capabilities facilitate value co-creation processes which are critical to a firm's competitive advantage.

Of particular consequence in making the theoretical link between the RBV, the KBV and SDL is the distinction among several types of resources. A key assumption in SDL is that resources – categorized as "operand" and "operant" – do not do not have value *per se*, but value is created by customers when resources are used, hence the term value-in-use (Vargo & Lusch, 2004). SDL categorizes operand resources as typically physical resources and operant resources as typically human resources, such as knowledge, skills, and information (Hunt & Derozier, 2004). Vargo and Lusch (2011, p.183) define these resource types in the following terms: as, "operand resources are those that require some action to be performed on them to have value (e.g. natural resources) and operant, those that can be used to act (e.g. human skills and knowledge).” Briefly, a key feature of SDL is the notion that operant resources (i.e., knowledge) stand as the locus of a sustained competitive advantage (Vargo & Lusch, 2004).

In addition, SDL understands the roles of the customer and provider in creating value differently from the way they are traditionally seen. Specifically, SDL makes explicit the notion of ‘co-created value.’ Among the most important canons of the SDL paradigm is the contention that value is no longer created merely through the expression of a firm-level value proposition to the market but via the interactions of a firm with a broad set of external stakeholders (Lusch & Webster, 2011). SDL views value as a being created by the interactions with customers taking place throughout the relational process. In this view, firms do not deliver value, but instead offer propositions that have the potential to co-create value with customers (Kowalkowski, 2011; Vargo & Lusch, 2008).

In summary, these three related theoretical frameworks suggest that it is the operant resource of knowledge that helps firms and consumers co-create value. This study uses the notion of IC to represent the sum total of all knowledge in a firm.

2.2 Intellectual Capital (IC)

The term *intellectual capital* captures the intangible properties of a firm, which play a critical role in the creation of value for both firms and customers. The perspective of IC places greater emphasis on resources used in action, creation, and deployment (Rylander & Peppard, 2003). This implies that IC may be either accumulated as a form of capital, or equated with the knowledge-based corporate processes (Dzinkowski, 2000). In order to survive in today’s competitive environment, a firm needs to reflect on its strategic vision regarding the use of its resources. The term IC is sometimes considered a synonym for intellectual properties, intellectual assets, or knowledge assets. The review of extant literature suggests that strategic management depends on employing IC and possessing the capability to create customer value. In this sense, IC is critical to the knowledge-based economy (Rooney et al., 2005), as it predicts the future earning capabilities of a company (García-Meca et al., 2005). IC hence determines the value of a company (Goh & Lim, 2004; Oliveira et al., 2010). In other words, IC is an important reference indicator of the firm value (Chen, 2001) and is something any company must rely on as an indicator of efficient business operations (Edvinsson, 2000).

2.2.1 Definition of IC

The notion of IC is a complex concept, and IC has been identified as a prerequisite for firm's success. Although the expanding literature on this issue has provided some understanding, it is still problematic to find a commonly accepted definition of IC. According to de Leaniz & del Bosque (2013), there is no single commonly accepted definition of IC. Most definitions of IC in the literature share the same characteristics. IC consists of different capitals that are rooted in employees, organizational structure, intellectual property, and relationships with customers, suppliers, distributors, and partners (Choo & Bontis, 2002). Klein & Prusak (1994) define IC generically as the intellectual material that has been formalized, captured, and leveraged to produce higher-valued assets. Edvinsson (2000) also defines IC as knowledge that can be converted into value. Sullivan (2000) defines IC as knowledge that can be converted into future profits and as comprising resources such as ideas, inventions, technologies, designs, processes and informative programs. In addition, Brooking (1996) identifies IC with the difference between the book value of the firm and the market value. Edvinsson and Malone (1997) provide the most explicit definition of IC by adopting a more holistic view of a firm's critical resources

(Kim et al., 2012; Sharabati et al., 2010; Yang & Lin, 2009). They define IC as economic value comprising three aspects, HC, SC, and RC. Stewart (1997) defines IC as intellectual material – knowledge, information, intellectual property, and experience – that can be put to use for the purpose of creating wealth. He later describes IC as knowledge, skills, and abilities that can create wealth or needs can be converted into valuable outputs. Further, Edvinsson (2000) views IC as the future earning potential derived from a combination of HC and the potential of an organization's employees, while Chen (2001) defines IC as covering all the skills, knowledge, information, experiences, problem-solving capabilities, and wisdom of a company, as incorporated into the human, structural, and relationship capitals. Finally, according to Youndt et al. (2004), IC is the sum of all intangible knowledge resources a business can utilize as a source of competitive advantage, including social capital, organizational capital, and HC associated with higher corporate financial performance.

In sum, IC can be defined as the intellectual resources, knowledge, information, experience, and intellectual property that can be formalized, captured, and leveraged to create wealth (Harrison & Sullivan, 2000; Roos et al., 1997; Stewart, 1997, 1999). The conceptualizations of IC examined in previous studies are presented in Appendix A.

2.2.2 Dimensions of IC

Previous studies examining the concept of IC have identified several dimensions of IC (Guthrie et al., 2012). Early literature on IC (Edvinsson, 1997; Edvinsson & Malone, 1997; Roos et al., 1997; Sveiby, 1997) focuses on identifying the main components of IC, looking for causal relations between them (Petty & Guthrie, 2000). For example, Stewart (1997) argues that IC includes three types of capital: HC, SC, and customer capital. He defines HC as the sum of innovations, employees' mindsets, seniority, turnover rate, experiences, and learning ability; SC as the existing knowledge efficiently collected, tested, organized, and integrated, with irrelevant components sifted out; and customer capital as the way a specific organization deals with all relevant parties, which involves the customers' satisfaction, retention rate, and loyalty. Sveiby (1997) notes that IC is comprised of individual competencies and the internal and external structures of a firm. The term individual competencies refers to an employee's ability to take actions under various situations (e.g., ability in the form of explicit knowledge, skills, experiences, value judgments, and social networks). Internal structure involves patents, concepts, patterns/models, computer, and management systems, while external structure involves the brand, goodwill, trademark, and any other component of company-customer or company-supplier relationships. Johnson (1999) argues that IC consists of HC, SC, and RC. Specifically, he defines HC as idea capital (e.g., the manpower for knowledge-based tasks and employee aptitudes/attitudes) and leadership capital (e.g., the qualities of an expert/manager), and he defines SC as innovation capital (e.g., patents, trademarks, copyright, and knowledge archives) and process capital (e.g., work processes and trade secrets). He further defines RC as a corporate organization's relationships with customers and suppliers. As Knight (1999) contends, IC comprises human, structural, and external capitals along with financial performance. HC is related to employee turnover rate, employee satisfaction, and the number of new products/ideas conceived and recommended for delivery/reception; SC involves the operating-capital turnover rate, the ratio of salespersons to general/administrative staff, and the length of time it takes to launch a new product; external capital is the persistency and satisfaction of customers, the list of customers that bring the greatest profits, and indicators of suppliers' product quality and reliability; and financial performance involves the Economic Value Added (EVA).

Researchers such as Bontis et al. (2000), Chen (2001), and Edvinsson and Malone (1997) propose three dimensions to measure IC: HC, SC, and RC. They conceptualize HC as the knowledge, skills, and experiences of a company's entire staff and management; SC as a firm's overall system/procedures for problem-solving and value creation; and RC as the establishment, maintenance, and development of an organization's external relationships with customers, suppliers, and business partners. In the work of Watson et al. (2005), IC comprises four elements, namely HC, SC, RC, and competitive capital, which are unrelated, and IC may flow from one element to another (Leliaert et al., 2003). Youndt et al. (2004) suggest that IC consists of human, organizational, and social capital. Similarly, Guthrie et al. (2006) propose that IC contains three families of intangible assets: individual competence, such as the competence of R&D people and factory workers; external structure such as the relationships with customers and suppliers, along with corporate image; and internal structure, such as patents and systems. Cheng et al. (2010) define four components of IC, innovation, process, human, and customer capital, which are seen from a managerial perspective.

In summary, this dissertation relies on the works of Bontis et al. (2000), Chen (2001), and Edvinsson and Malone (1997) and uses HC, SC, and RC as three dimensions of IC. Table 2.1

provides a list of core components used to measure IC which have been identified in the accounting and management literature.

Table 2.1. Core Components of IC Dimensions in the Literature

Human Capital (HC)	Structural Capital (SC)	Relational Capital (RC)
skills, knowledge, know-how, education, training, experience, attitudes, expertise, problem solving capability, leadership, innovativeness, motivation, adaptation ability, learning ability, creativity, effectiveness and efficiency, quality, productivity (effectiveness/efficiency), communication skills	corporate culture, communication system, financial structure, business operation, quality of product/service, hardware/software, technology (e.g., information and communication), innovation, transaction time, computer system, trade secrets, intellectual property, patents, licenses, copyrights, trademarks (labels, brand logo), database, R&D, corporate culture/mission, marketing strategy, operations, procedures, processes, manuals, system, structure, corporate operating efficiency, information system (share of knowledge, availability of enterprise information), new markets, channels, use of communication (online, offline), efficiency	relationships with stakeholders (suppliers, customer), customer relationship, customer satisfaction, number of customers, customer loyalty, competitor orientation, customer retention, repeat purchase, visit frequency, CRM (Customer Relationship Management), basic marketing capability (identifying ability of customer's needs), market intensity (brand and trademark reputation, construction of sales channel), branding (brand equity, brand alliances, brand image, brand recognition, brand trust, brand reputation, brand preference), distribution channels, advertisement

2.2.2.1 Human Capital (HC)

Human resources are critical for sustaining a firm's development (Kim et al., 2012). Since these resources are intricately connected to a firm's employees, it is difficult to define, describe, and transfer them. Specifically, these resourcess' uniqueness and difficult-to-imitate characteristics, as conceived of in the RBV, are the source of a firm's competitive advantages (Chiu, 2013). The RBV focuses on the resources that may give a firm a competitive advantage, such as highly skilled and effective individuals and institutional leaders. Barney (2002, p. 155) further defines these "too-costly-to-copy resources" as possessing resource immobility.

The term HC refers to the sum of skills, experiences, attitudes, ideas, values and competencies of the people in a firm which are employed to accomplish work and organizational objectives (Youndt & Snell, 2004; Watson et al., 2005). Vergauwen et al. (2007, p. 1172) also define HC as "employees' education and skills, professionalism, and the effectiveness and efficiency of employees to improve the productivity of the firm." In sum, this type of capital relates essentially to the tacit knowledge required to perform roles in the organization and is more mobile than other intangible resources (DeNisi et al., 2003), which means that this type of capital is not owned by a firm. Table 2.2 presents the components of HC which have been examined by researchers.

Given the notions presented in this dissertation takes the stance that HC becomes evident to the consumers as the employees of a retail store demonstrate that they have knowledge and are able to use their knowledge. Hence, based on the extant literature (Homburg et al., 2009; Reed et al., 2006; Subramaniam & Youndt, 2005), this study conceptualizes HC as consisting of two dimensions – utilized knowledge and intrinsic knowledge assets. This is consistent with some of the works in the field of knowledge management (Csikszentmihalyi, 1990; Nonaka, 1991), which suggests that knowledge resides within human beings and it manifests into value when humans use their knowledge.

Table 2.2 Conceptualization of HC in the Literature

Author	Year	Conceptualization or Components	Relevant Components
Human Capital (HC)			
Smith	1904	physical, intellectual, and psychological dexterity, skills, and judgment of an individual	skills
Schultz	1961	skill, knowledge, and similar attributes that affect particular human capabilities to do productive work	skills, knowledge
Becker	1993	knowledge, skills, know-how, education level, work-related competencies, and psychometric assessments, **education, training**	skills, knowledge, know-how, education, training
Hudson	1993	combination of genetic inheritance; education; experience, and attitudes about life and business	education, experience, attitudes
Brooking	1996	Know-how, expertise, leadership, managerial skills, creativity, problem solving capability	know-how, expertise, skills, problem solving capability, leadership
Edvinsson and Malone (Skandia Value Scheme)	1997	Talent, knowledge, skills, ability, Innovativeness, values	knowledge, skills, innovativeness
Roos & Roos	1997	Know-how, skills, leadership qualities of top management, innovativeness, motivation (financial/non financial incentive), adaptation ability	skills, know-how, innovativeness, leadership, motivation, adaptation ability
Roos et al.	1997	employee's competence, attitude, intellectual agility; skills, education, work behavior, changing practice, innovative problem solving skills	attitude, skills, education, problem solving capacity
Stewart	1997	innovations, employees' mindsets, seniority, turnover rate, experiences, and learning ability	innovativeness, experiences
Sveiby	1997	employees' education, education through training, experience, management	education, training, experience
Bontis	1998	Human intellect, internal within employee node, volume appropriateness	
Lynn	1998	Intelligence, learning capability, skills, expertise, innovativeness, creativity, changing capability	knowledge, learning ability, skills, expertise, innovativeness, creativity, adaptation ability
Pennings et al.	1998	expertise, skills, experience, competence, creativity, commitments, teamwork capacity, loyalty, training and education, know-how, problem-solving capability, attitude, and loyalty among individuals in company	skills, experience, creativity, attitude, education, training, know-how, problem solving capacity
Sveiby	1998	explicit knowledge, skills, experiences, value judgments and social networks	knowledge, skills, experience
Bontis	1999	expertise, skills, experience, competence, creativity, attitudes, commitments, teamwork capacity, loyalty, training and education, know-how, problem-solving capability, attitude, and loyalty among individuals in company	skills, knowledge, experience, expertise, creativity, attitude, education, training, know-how, problem solving capability
Brennan	1999	know-how, education, vocational qualification, work-related knowledge, work-related competencies, entrepreneurial spirit	know-how, education, qualification, knowledge, competencies
Johnson	1999	expertise, skills, experience, competence, creativity, attitudes, commitments, teamwork capacity, loyalty, training and education, know-how, problem-solving capability, attitude, and loyalty among individuals in company	skills, knowledge, experience, expertise, creativity, attitude, education, training, know-how, problem solving capability
Bontis et al.	2000	knowledge, skills, information, and experiences of a company's entire staff and management	skills, knowledge
Lynn	2000	expertise, skills, experience, competence, creativity, attitudes, commitments, teamwork capacity, loyalty, training and education, know-how, problem-solving capability, attitude, and loyalty among individuals in company	skills, knowledge, experience, expertise, creativity, attitude, education, training, know-how, problem solving capability
Chen	2001	knowledge, skills, information, and experiences of a company's entire staff and management	skills, knowledge

Table 2.2 Continued.

Author	Year	Conceptualization or Components	Relevant Components
Human Capital (HC)			
Hitt et al.	2001	employees who are knowledgeable, skillful, creative, and wise	skills, knowledge, creativity
Ballester et al.	2002	labor cost for HC	
Bontis & Fitz-Enz	2002	Compensation factor, training cost per trained employee, voluntary turnover, education, experience in industry	training, education, experience
Riahi-Belkaoui	2003	employee capabilities and innovativeness for creating new products or services or improving business processes	innovativeness
Bozbura	2004	expertise, skills, experience, competence, creativity, attitudes, commitments, teamwork capacity, loyalty, training and education, know-how, problem-solving capability, attitude, and loyalty among individuals in company	skills, knowledge, experience, expertise, creativity, attitude, education, training, know-how, problem solving capability
Chen et al.	2004	Employees' competence, attitude, creativity: leadership, quality, learning ability, efficiency of training, identification with corporate values, turnover rate, satisfaction degree, average serviceable life, creative ability, income on employees' original ideas	attitude, leadership, quality, learning ability
Elias & Scarbrough	2004	expertise, skills, experience, competence, creativity, attitudes, commitments, teamwork capacity, loyalty, training and education, know-how, problem-solving capability, attitude, and loyalty among individuals in company	skills, knowledge, experience, expertise, creativity, attitude, education, training, know-how, problem solving capability
Shaikh	2004	know-how, education, vocational qualification, work-related knowledge, work-related competencies, entrepreneurial spirit, innovativeness, proactive and reactive abilities, changeability	knowledge, know-how, quality, education, innovativeness, competencies
Youndt & Snell	2004	skills, experiences, attitudes, ideas, values and competencies of the people in a firm to accomplish work and organizational objectives	skills, experience, attitude
Youndt et al.	2004	expertise, skills, experience, competence, creativity, attitudes, commitments, teamwork capacity, loyalty, training and education, know-how, problem-solving capability, attitude, and loyalty among individuals in company	skills, knowledge, experience, expertise, creativity, attitude, education, training, know-how, problem solving capability
Bollen et al.	2005	Employees' intelligence, learning capability, knowledge, skills, education (through training), experience, motivation (non-financial incentive), problem-solving capability, changing capability	knowledge, learning ability, skills, expertise, innovativeness, creativity, adaptation ability
Chao	2005	knowledge, skills and hands-on experiences of the entire staff as well as the management of a firm	skills, knowledge, experience
Jacobson	2005	expertise, skills, experience, competence, creativity, attitudes, commitments, teamwork capacity, loyalty, training and education, know-how, problem-solving capability, attitude, and loyalty among individuals in company	skills, knowledge, experience, expertise, creativity, attitude, education, training, know-how, problem solving capability
Johanson	2005	expertise, skills, experience, competence, creativity, attitudes, commitments, teamwork capacity, loyalty, training and education, know-how, problem-solving capability, attitude, and loyalty among individuals in company	skills, knowledge, experience, expertise, creativity, attitude, education, training, know-how, problem solving capability
Subramaniam & Youndt	2005	employees' skill, expertise, creativity, knowledge, and new ideas	skills, knowledge, expertise, creativity
Watson et al.	2005	skills, experiences, attitudes, ideas, values and competencies of the people in a firm to accomplish work and organizational objectives	skills, experiences, attitude
Chen et al.	2006	sum of the knowledge, techniques, innovative power, and employee abilities to achieve corporate goals	knowledge, innovativeness
Guthrie et al.	2006	individual competence such as the competence of R&D people and factory workers	innovativeness

Table 2.2 Continued.

Author	Year	Conceptualization or Components	Relevant Components
Human Capital (HC)			
Reed et al.	2006	knowledge stocks (e.g. hiring of educated individuals) and knowledge flows (e.g. developing high levels of codified and tacit knowledge about a specific business and its particular market conditions)	training, knowledge
Cohen and Kaimenakis	2007	expertise, skills, experience, competence, creativity, attitudes, commitments, teamwork capacity, loyalty, training and education, know-how, problem-solving capability, attitude, and loyalty among individuals in company	skills, knowledge, experience, expertise, creativity, attitude, education, training, know-how, problem solving capability
Tayles et al.	2007	knowledge, professional skill and experience, and creativity of employees	skills, knowledge, experience, creativity
Vergauwen et al.	2007	employee's education and skills, professionalism, and the effectiveness and efficiency of employee to improve the productivity of the firm	skills, education, effectiveness and efficiency
Schiuma et al.	2008	expertise, skills, experience, competence, creativity, attitudes, commitments, teamwork capacity, loyalty, training and education, know-how, problem-solving capability, attitude, and loyalty among individuals in company	skills, knowledge, experience, expertise, creativity, attitude, education, training, know-how, problem solving capability
Davey et al.	2009	individual's competences, experiences, training and education, Innovation and creativity, entrepreneurial spirit, work-related knowledge/competence, know-how/awards	knowledge, know-how, education, training, experience, innovativeness, creativity
Hsu & Fang	2009	expertise, skills, experience, competence, creativity, attitudes, commitments, teamwork capacity, loyalty, training and education, know-how, problem-solving capability, attitude, and loyalty among individuals in company	skills, knowledge, experience, expertise, creativity, attitude, education, training, know-how, problem solving capability
Jaradaat & AL-Saleh	2010	Learning, training, experience, skill	skills, training, experience, learning ability
Giuliani & Marasca	2011	Production competence, loyalty, quality of workplace relationships	quality
Hirmiga et al.	2011	expertise, skills, experience, competence, creativity, attitudes, commitments, teamwork capacity, loyalty, training and education, know-how, problem-solving capability, attitude, and loyalty among individuals in company	skills, knowledge, experience, expertise, creativity, attitude, education, training, know-how, problem solving capability
Phusavat et al.	2011	collective capabilities of a company's workforce to solve customer and operational problems (e.g., quality, productivity, technical)	quality, problem-solving capacity, productivity (effectiveness/efficiency)
Castro & Delgado-Verde	2012	education and training, motivation, experience and abilities	education, training, experience, motivation
Hsu & Wang	2012	educational level of employee, work ability, employee added value (uniqueness of the organizational workforce); adapted from Edvinsson and Malone (1997), Youndt et al. (2004), Wang (2008)	education
Toth & Jonas	2012	Employee's intelligence (e.g., capabilities, creativity, knowledge, skills, competences, experience)	skills, knowledge, experience, creativity
Chiu	2013	overall skill, expertise, and knowledge levels of a firm's employees	skills, knowledge, expertise
Rexhepi et al.	2013	knowledge, skills, abilities, and the sum of experiences; employee education level, satisfaction, attitudes, values, organizational commitment, motivation, intelligence, creativity, teamwork, problem solving and communication skills, self-confidence, desire to share knowledge, entrepreneurship and leadership skills, innovation	skills, knowledge, experience, education, motivation, problem solving capacity, leadership, innovativeness, communication skills
Sydler et al.	2013	total labor expenditures, labor cost as a proxy for HC	

2.2.2.2 Structural Capital (SC)

The term SC refers to the overall system, processes, infrastructure, and institutionalized knowledge resources owned by a firm and used to solve problems and create value (Watson et al., 2005). Edvinsson & Malone (1997) classified SC into process capital and innovation capital. Process capital is the knowledge resources that are concerned with a business's operation, improvement of efficiency, and development of quality. Innovation capital is related to business renewal in terms of new product/service developments and intellectual property. In contrast to HC, SC is explicit, independent of individuals, and embedded in the entire organization rather than in its employees (Chen et al., 2006; Hormiga et al., 2011).

SC is defined as the sum of an organization's hardware/software, database, organizational culture, patents, technical information systems, organizational image, and capabilities (Edvinsson & Malone, 1997; Roos & Roos, 1997). Ambrosini & Bowman (2001) state that SC consists of business routines, regulations, and internal knowledge and culture. Riahi-Belkaoui (2003) also defines SC as organizational knowledge, such as technology, innovations, data, published materials, strategies and cultures, structures and systems, and rules and procedures. Youndt et al. (2004) indicate that SC represents the systematic knowledge and recorded experiences encapsulated in an organization's database, business routines, patents, manuals, and structures. Petty & Cuganesan (2005) propose that SC is the knowledge embedded in development, technology, and systems.

Bontis et al. (2000) find a positive relationship between financial performance and SC and observe that investment in HC has an indirect effect on performance through SC. According to Reich & Kaarst-Brown (2003), many firms invest in information and communications technologies and use them to achieve a dominant position. For instance, McEvily &

Chakravarthy (2002) find that complex know-how and internal professional knowledge enables firms to possess difficult-to-imitate patents and superior innovative abilities. Additionally, their study finds that having more SC enables employees to obtain essential knowledge and reduces the error rates of a firm's products and services, which in turn reduces operating costs. Pan (2007) suggests a significant positive interrelationship between SC and marketing performance. This is in line with the study by Lin & Lin (2005), who scrutinize the different influences of IC upon a business' performance. The value of SC involves the use of research and development (R&D) expenditure by a firm. Lev and Sougiannis (1996) find that the value of R&D is significantly associated with stock prices, while Hirschey and Weygandt (1985) conclude that R&D expenditures have a positive impact on a firm's Tobin's Q. Table 2.3 exhibits the components of SC which were examined by researchers.

Summarizing this section, this study takes the stance that SC is a complex and multidimensional construct. According to the extant literature (Reed et al., 2006; Subramaniam & Youndt, 2005), SC consists of eight key dimensions that are fundamentally owned by the firms. These eight dimensions are labeled financial strength, product innovation, technology, corporate social responsibility, security, convenience, transaction processes, and store atmosphere. This dissertation argues that, in a retailing context, consumers notice these aspects of a retail store and make assessments about whether they will get good value from the store or not.

Table 2.3 Conceptualization of SC in the Literature

Author	Year	Conceptualization or Components	Relevant Components
Structural Capital (SC)			
Fornell	1992	Market intensity and marketing capabilities, which are used to describe relationships with stakeholders	
Brooking	1996	Infrastructure Assets: All the technologies, processes and methodologies that enable company to function; Information database, communication systems, corporate culture, financial structure	technologies, information database, corporate culture, communication system, financial structure
Edvinsson and Malone (Skandia Value Scheme)	1997	Process capital is the knowledge resources that are concerned with a business operation, improvement of efficiency, and development of quality, while innovation capital is related to business renewal in terms of new product/service developments and intellectual property/ database, hardware, software, org culture	business operation, quality of product/service, intellectual property, corporate culture, hardware/software
Grantham & Nichols	1997	organization's hardware/software, database, organizational culture, patents, technical information systems, organizational image, and capabilities	hardware/software, database, corporate culture, patents, technology
Roos & Roos	1997	Organizational Structure: organization's hardware/software, database, organizational culture, patents, technical information systems, organizational image, and capabilities / policies, proprietary software, corporate culture, networks	hardware/software, database, corporate culture, patents, technology
Stewart	1997	Knowledge embedded in information technology	technology
Bontis	1998	Non-human assets or organizational capabilities used to meet market requirements; mechanisms and structures of the organization that support employees in their performance, whence, also overall business performance/ tech, processes, information system, supportive culture, transaction times, efficiency, procedural innovativeness, org routines	technology, corporate culture, innovation, transaction time
Lynn	1998	systems that program intellectual efforts in order to provide more routine means of replicating them/ policies, proprietary software, corporate culture, networks/ policies, proprietary software, corporate culture, networks	hardware/software, database, corporate culture, patents, technology
Sveiby	1998	Internal (patents, concepts, patterns/models, computer, and management systems); external structure (brand, goodwill, trademark, and any other component of company-customer or company-supplier relationships)	patents, computer system
Brennan	1999	intellectual property(patents, copyrights, trademarks), management philosophy, corporate culture, management processes, information system, networking systems, financial relations	patents, copyrights, trademarks, corporate culture, processes, systems
Johnson	1999	innovation capital (e.g., patents, trademarks, copyright, and knowledge archives) and process capital (e.g., work processes and trade secrets)	patents, trademarks, copyright, work processes, trade secrets
Bontis et al.	2000	a firm's overall system/procedures for problem-solving and value creation	system, procedures
Dzinkowski	2000	corporate culture, management processes, databases, organizational structure, patents, trademarks, and financial relations	patents, trademarks, database, corporate culture
Chen	2001	a firm's overall system/procedures for problem-solving and value creation	system, procedures
Guthrie	2001	Organization's strategy, culture, mission, management philosophy, processes, information technology/systems, patents, copyrights, trademark/secrets, logos, databases, R&D, innovation	patents, copyrights, trademarks, database, R&D, innovation, corporate culture/mission

Table 2.3 Continued.

Author	Year	Conceptualization or Components	Relevant Components
Structural Capital (SC)			
Ambrosini & Bowman	2002	business routines, regulations, or internal knowledge, and culture	database, corporate culture
McEvily & Chakravarthy	2002	the complex know-how and internal professional knowledge enables firms to possess difficult-to-imitate patents and superior innovative abilities	patents, innovation
Reich & Kaarst-Brown	2003	many firms invest in information and communications technologies and use them to achieve a dominant position	technology (information and communication)
Riahi-Belkaoui	2003	organizational knowledge, such as technology, innovations, data, published materials, strategies and cultures, structures and systems, and rules and procedures	technology, innovation, corporate culture, marketing strategy, procedures, structure
Bozbura	2004	Organization's strategy, culture, mission, management philosophy, processes, information technology/systems, patents, copyrights, trademark/secrets, logos, databases, R&D, innovation	patents, copyrights, trademarks, database, R&D, innovation, corporate culture/mission
Carson et al.	2004	Processes and procedures that are created by and stored in a firm's technology system that speeds the flow of knowledge through the organization	technology, processes, procedures
Chen et al.	2004	Corporate culture, organizational structure, organizational learning, operation process **(product quality level, corporate operating efficienc**y), information system (share of knowledge, **availability of enterprise information**, mutual support and cooperation between employees)	corporate culture, **product quality, corporate operating efficiency**, information system (share of knowledge, **availability of enterprise information**)
De Brentani & Kleinschmidt	2004	operations, procedures, and process of knowledge management	operations, procedures, processes
Lim and Dallimore	2004	new markets or channels, average market loss, customer satisfaction, market share, liquidity of customers, number of customers, repeat orders, and the cost of obtaining new customers	new markets, channels
Marr et al.	2004	culture assets (corporate culture, value), practices and routine assets (procedures, processes, manuals), and intellectual property assets (patents, copyrights, trademarks, brands)	corporate culture, processes, procedures, manuals, patents, copyrights, trademarks
Shaikh	2004	patents, copyrights, trademarks, management philosophy, corporate culture, management processes, information systems, networking systems, financial relations	patents, copyrights, corporate culture, processes, information systems, networking systems
Youndt et al.	2004	systematic knowledge and recorded experiences encapsulated in an organization's database, business routines, patents, manuals, and structures	patents, database, structure, process (manuals)
Bollen et al.	2005	Infrastructural assets, database, hardware, software, communication system, corporate culture, network, transaction time	hardware/software, database, corporate culture, patents, technology, transaction time
Jacobsen et al.	2005	includes intellectual properties (e.g., patents, licenses, trademarks)	patents, licenses, trademarks
Marr & Roos	2005	includes intellectual properties (e.g., patents, licenses, trademarks)	patents, licenses, trademarks
Petty & Cuganesan	2005	the knowledge embedded in development, technology and systems	technology, system
Subramaniam & Youndt	2005	includes intellectual properties (e.g., patents, licenses, trademarks); patents, license, manuals, database, organizational culture (stories, rituals), knowledge and information in structures, systems, and processes	patents, licenses, trademarks, corporate culture, database, structure

Table 2.3 Continued.

Author	Year	Conceptualization or Components	Relevant Components
Structural Capital (SC)			
Watson et al.	2005	overall system, processes, infra-structure, or institutionalized knowledge resources owned by a firm to solve problems and create value	processes, structure, processes
Chen et al.	2006	includes intellectual properties (e.g., patents, licenses, trademarks)	patents, licenses, trademarks
Guthrie et al.	2006	internal structure such as patent and systems	patents and systems
Reed et al.	2006	knowledge created by and stored in a firm's information technology systems, its structure and operating procedures, and culture and informal routines	technology, corporate culture, procedures, structure
Tayles et al.	2007	Innovation Capital (intellectual assets such as patents) and Process Capital (organizational procedures and processes)	patents, procedures, processes
Davey et al.	2009	the knowledge embedded in organizational structures and processes including patents, R&D, technology and systems; patents, copyrights, trademarks (labels, brand logo), infrastructure assets, Mgt philosophy, corporate culture, Mgt processes, technology, financial relations	patents, technology, copyrights, trademarks (labels, brand logo), corporate culture, R&D, database
Jaradaat & AL-Saleh	2010	Systems, patents, database	Systems, patents, database
Giuliani & Marasca	2011	Procedures, manuals, database, strategic software	procedures, manuals, database, software
Hormiga et al.	2011	independent of individuals and is generally explicit	
Phusavat et al.	2011	organizational capital (working philosophy and systems)	corporate culture, system
Castro & Delgado-Verde	2012	Organizational Capital: innovation, culture, CEO commitment toward innovation, use of communication and information technology in management activities (CITs)	innovation, corporate culture, innovation, use of communication, technology
Hsu & Wang	2012	organizational processes (ratio of administrative expense to total revenue) and information systems (information technology expense ratio); adopted from Canibano et al. (2000), Liu et al. (2009)	technology
Toth & Jonas	2012	Organizational structure, routines, processes, culture, systems, databases, intangible property, learning	structure, processes, corporate culture, database, system, intellectual property
Chiu	2013	a firm's ability to appropriate and store knowledge in physical organization-level repositories (e.g., database, efficiency, and information system)	database, efficiency, information system
Rexhepi et al.	2013	Organization's strategy, culture, mission, management philosophy, processes, information technology/systems, patents, copyrights, trademark/secrets, logos, databases, R&D, innovation	corporate culture/mission, processes, technology, patents, copyrights, trademarks, databases, R&D, innovation, logo
Sydler et al.	2013	R&D expenditure	R&D

2.2.2.3 Relational Capital (RC)

In the literature, the term RC has been used interchangeably with the terms customer capital and social capital. RC is defined as the interaction and close relationship between organizations and customers (Stewart, 1997) and is the value of a firm's relationships with the people and organizations with which it conducts business (Hormiga et al., 2011). It encompasses the knowledge regarding marketing, distribution, customers, suppliers, governments, and partners (Bontis, 1998; Walsh et al., 2008). de Leaniz & del Bosque (2013) conclude that RC is a firm's most important intangible resource. Like HC, RC cannot be owned by a firm (Watson et al., 2005).

Although there is no single definition of RC, the various conceptualizations have in common the relationship between the business and its customers, or the value of this relationship (Hsu & Wang, 2012). Long-term relationships with customers represent a foundation for success in competitive markets. Thus, RC comprises the relationships between customers and businesses, the knowledge contained in marketing channels and customer relationships, and the value of the relationships between the business and its customers (Duffy, 2000; Edvinsson & Malone, 1997; van Buren, 1999).

RC is the only subcomponent of IC that resides outside of, or is external to, a firm, and the knowledge within this component is the most difficult to develop and codify as compared to the knowledge involving HC and SC (Bontis, 1999). Some categorize RC as a subcomponent under SC (Edvinsson & Malone, 1997), while others conceptualize it as an independent component under IC (Stewart, 2007).

Prior research has provided some indicators of RC to measure the value of customer relationships. Van Buren (1999) proposes elective measures including market growth, customer needs met, marketing effectiveness, annual sales per customer, market share, average customer size, the five largest customers as percentage of revenues, days spent visiting customers, support expense per customer, and image-enhancing customers as a percentage of revenues. Lim and Dallimore (2004) investigate indicators of RC from the perspective of strategic management. They find that the most essential indicators are new markets or channels, average market loss, customer satisfaction, market share, liquidity of customers, number of customers, repeat orders, and the cost of obtaining new customers.

Several researchers have examined the relationship between RC and a firm's performance. Lee et al. (2001) suggest that a firm's RC and its connection with resource networks have a positive impact on its performance. Galbraith (1973) and Youndt & Snell (2004) propose that with higher levels of RC, a firm can gain greater market share, a higher rate of sales growth, and better overall performance. This is in line with Chen et al.'s (2005) findings, which indicate that RC is the main determinant of business performance. Hsu (2006) suggests that among the various dimensions of IC, RC has a significantly positive influence on both organizational performance and SC. Furthermore, Huang et al. (2009) propose that RC can be measured using six aspects: basic marketing capability, the ability to expand the market, market intensity, customer response, brand equity, and channel compliance.

The knowledge of marketing channels and customer relationships plays a major role in RC and is primarily derived from the knowledge embedded in relationships that are external to the company (Bontis, 1998). Prahalad and Ramaswamy (2000) suggest that customers become a new source of competence for firms. Furthermore, other aspects relating to suppliers and competitors contribute to RC. Fornell (1992) finds that customer satisfaction enhances business relationships, decreases the elasticity of product price, and improves company prestige. For a brief review for the conceptualization of RC in the literature, see Table 2.4.

In summary, this study takes the stance that RC is a multidimensional and complex construct. Adopting notions from the extant literature (Reed et al., 2006; Subramaniam & Youndt, 2005; Yoo & Donthu, 2001), this study uses the sub-dimensions of customer affection, customer orientation, and customer loyalty to capture the broad constructs of RC.

Table 2.4 Conceptualization of RC in the Literature

Author	Year	Conceptualization or Components	Relevant Components
Relational Capital (RC)			
Coleman	1988	Social Capital: obligations and expectations, information channels, and social norms	social norms
Fornell	1992	Market intensity and marketing capabilities, which are used to describe relationships with stakeholders	relationships with stakeholders
Brooking	1996	Distribution channels, customer relationship, customer satisfaction, number of customers, repeat business	customer relationship, customer satisfaction, number of customers, repeat purchase
Kaplan & Norton	1996	satisfaction, customer loyalty	customer satisfaction and customer loyalty
Saint-Onge	1996	Customer Capital: The depth (penetration), width (coverage), attachment (loyalty), and profitability of customers	customer satisfaction and customer loyalty
Roos & Roos	1997	Relationships with internal and external stakeholders; Customer relationship, customer satisfaction, number of customers, knowledge of suppliers, number of suppliers	relationships with stakeholders (suppliers, customer), customer satisfaction, number of customers
Stewart	1997	Customer Capital: Market information used to capture retain customers; The value of an organization's relationship is with the people with whom it does business	relationships with stakeholders
Sveiby	1997	customer satisfaction, customer relations, knowledge of supplier relations, number of suppliers	relationships with stakeholders (suppliers, customer), customer satisfaction, number of customers
Bontis	1998	Customer Capital: knowledge of marketing channels, knowledge of customer relationships, customer orientation (feedback), image, relations with other organizations, competitor orientation, long-term focus (customers, suppliers), profit objective (customers, suppliers)	relationships with stakeholders (suppliers, customer), customer satisfaction, number of customers, brand image, competitor orientation
Bontis	1999	knowledge embedded in customers, suppliers, the government or related industry associations	relationships with stakeholders
Brennan	1999	brands, customers, customer loyalty, company names, distribution channels, business collaborations, licensing agreements, favorable contracts	brand, customer loyalty, brand names, distribution channels, brand alliances
Horibe	1999	customer loyalty	customer loyalty
Johnson	1999	a corporate organization's relationships with customers and suppliers	relationships with stakeholders
Olve et al.	1999	customer satisfaction	customer satisfaction
Van Buren	1999	customer satisfaction, customer retention, product and service quality, the average duration of a customer relationship, and repeat purchase / elective measures including market growth, customer needs met, marketing effectiveness, annual sales per customer, market share, average customer size, and five largest customers as percentage of revenues, days spent visiting customers, support expense per customer, and image-enhancing customers as percentage of revenues	customer relationship, customer satisfaction, number of customers, retention, brand image

Table 2.4 Continued

Author	Year	Conceptualization or Components	Relevant Components
Relational Capital (RC)			
Duffy	2000	Customer relationship, customer satisfaction	customer relationship, customer satisfaction
Putnam	2000	Social capital: social trust, good hospitality, positive community spirit	trust, CRM
Bontis et al.	2000	Establishment, maintenance and development of an organization’s external relationships with customers, suppliers and business partners	relationships with stakeholders
Chen	2001	Establishment, maintenance and development of an organization’s external relationships with customers, suppliers and business partners	relationships with stakeholders
MERIUM	2001	RC: all resources linked to the external relationships of the firm (e.g., customers, suppliers or R&D partners)	relationships with stakeholders
Das et al.	2003	added value for all parties (customers, partners, investors, suppliers, distributors, and government); customer relations, customer loyalty/satisfaction, business recognition, distribution channels, brand equity, alliances, licensing agreements	relationships with stakeholders, customer satisfaction, customer loyalty, brand equity, brand alliances
Kostova & Roth	2003	organization's implicit set of available resources and ongoing relationships implemented through interactions among individuals or organizations	relationships with stakeholders
Riahi-Belkaoui	2003	Customer Capital: market share, customer retention and loss ratios, and each customer's rate of return	customer retention
Chen et al.	2004	Customer Capital: Basic marketing capability (construction and utilization of the customer database, customer service capability, identifying ability of customer's needs), market intensity (market share, market potential, unit sales to customer, brand and trademark reputation, construction of sales channel), customer loyalty indices (customer satisfaction, customer complaint, customer outflow, investment on customer relationship)	Basic marketing capability (identifying ability of customer's needs), market intensity (brand and trademark reputation, construction of sales channel), customer loyalty and customer satisfaction
Lim and Dallimore	2004	new markets or channels, average market loss, customer satisfaction, market share, liquidity of customers, number of customers, repeat orders, and the cost of obtaining new customers	customer satisfaction, customer loyalty, customer retention, number of customers, repeat purchase
Marr et al.	2004	Relationships with external stakeholders, networks with suppliers, distributors, lobby organizations, partners, customer relationships (e.g., image-building, loyalty, network partners and investors) and branding (e.g., attitude, preference, reputations, and brand recognition)	relationships with stakeholders, customer satisfaction, customer loyalty, branding (brand equity, brand alliances, brand reputation, brand preference)
Shaikh	2004	brands, customers, customer loyalty, company names, distribution channels, business collaborations, licensing agreements, favorable contracts, franchising agreements	brands, customer loyalty, brand name, distribution channels, brand alliances
Bollen et al.	2005	Distribution channel, customer relationship, image, customer satisfaction, competitor orientation, long-term focus (customer, supplier)	customer relationship, customer satisfaction, brand image, competitor orientation
Jacobsen et al.	2005	Relationships with external stakeholders, networks with suppliers, distributors, lobby organizations, partners, customer relationships (e.g., image-building, loyalty, network partners and investors) and branding (e.g., attitude, preference, reputations, and brand recognition)	relationships with stakeholders, customer satisfaction, customer loyalty, branding (brand equity, brand alliances, brand reputation, brand preference)
Subramaniam & Youndt	2005	relationships with customers, suppliers, alliance partners	relationships with stakeholders

Table 2.4 Continued.

Author	Year	Conceptualization or Components	Relevant Components
Relational Capital (RC)			
Flostrand	2006	Customers' repeat purchase, churn, sales volume growth, product returns ratio to gross sales, website visit hits	repeat purchase, visit frequency
Guthrie et al.	2006	External structure such as the relationships with customers and suppliers, and corporate image	relationships with stakeholders, brand image
Lou et al.	2006	the ability to expand the market, market intensity, customer response, brand equity, and channel compliance	brand equity, brand reputation
Reed et al.	2006	Social Capital: relationship with customers (customer needs, competitor moves)	relationship with customers
Shipilov & Dants	2006	organization's implicit set of available resources and ongoing relationships implemented through interactions among individuals or organizations	relationships with stakeholders
Tayles et al.	2007	knowledge of market channels, customer and supplier relationships, and governmental or industry networks	relationships with stakeholders
Walsh et al.	2008	knowledge of marketing, distribution, customers, suppliers, governments, and partners	relationships with stakeholders
Davey et al.	2009	Brand sponsorship, advertisement, customer awareness, customer satisfaction, customer loyalty, company names, distribution channels, favorable suppliers, business collaborations, licensing agreement, favorable contracts, franchising agreements	relationships with stakeholders, customer satisfaction, customer loyalty, brand image, ***distribution channels***, advertisement, brand sponsorship and alliances
Jaradaat & AL-Saleh	2010	Social Capital: internal processes, external processes	relationships with stakeholders
Giuliani & Marasca	2011	Relationships with customer, suppliers, institutions, and brands	relationships with stakeholders, branding
Phusavat et al.	2011	customer (value relationships with customers, suppliers, industry associations, and markets)	relationships with stakeholders
Castro & Delgado-Verde	2012	Relationships with customers and suppliers, reputation, allies' relationship	relationships with stakeholders, brand reputation, brand alliance
Hsu & Wang	2012	customer relationship; Lynn & Dallimoe (2002), Van Buren (1999), Pablos (2003)	customer relationship
Sussan	2012	the potential an organization has due to ex-firm intangibles include the knowledge embedded in customers, suppliers, the governmental or related industry association	relationships with stakeholders
Toth & Jonas	2012	Relationships with customers and suppliers, brand names, trademark, image and reputation, strategic alliance	relationships with stakeholders, brand reputation, brand image, brand alliance
Chiu	2013	Customer Capital: relationship between a firm and customer	relationships with stakeholders
Rexhepi et al.	2013	added value for all parties (customers, partners, investors, suppliers, distributors, and government); customer relations, customer loyalty/satisfaction, business recognition, distribution channels, brand equity, alliances, licensing agreements	relationships with stakeholders, customer satisfaction, customer loyalty, brand image, distribution channels, brand equity, brand sponsorship and alliances
Sydler et al.	2013	Advertising expenses	advertisement

2.2.3 The Conceptualization of IC in the Present Study

Though the dimensions of IC are termed differently by different researchers, the conceptualization of IC in most studies comprises HC, SC, and RC. As mentioned above, IC refers to HC (the knowledge embedded in people), SC (the knowledge embedded in the organization and its systems), and RC (the knowledge embedded in customers and other relationships external to the organization) (Guthrie et al., 2012). This categorization of IC is adopted in the present study because of its heterogeneous elements, which are also consistent with the general conception of IC (Stewart, 1997).

Further, HC deals with all the tacit knowledge embedded in the firm such as expertise, skills, experience, competence, creativity, attitudes, commitments, teamwork capacity, loyalty, training and education, know-how, problem-solving capability, attitude, and loyalty among individuals in a company (Bontis, 1999; Cohen & Kaimenakis, 2007; Hormiga et al., 2011; Johnson, 1999; Pennings et al., 1998; Schiuma & Lerro, 2008; Youndt et al., 2004). In this study, HC is conceptualized as a multidimensional construct consisting of intrinsic knowledge and utilized knowledge assets. Next, SC, as an organized capacity, includes an organization's hardware/software, databases, organizational culture, patents, technology, innovation, R&D investment, organizational image, and capabilities (Edvinsson & Malone, 1997; Roos & Roos, 1997). Like HC, SC is also conceptualized a multidimensional construct in this study, consisting of eight key sub-dimensions – financial strength, product innovation, technology, corporate social responsibility, security, convenience, transaction, and store atmosphere. Lastly, RC is the knowledge embedded in relationships with external stakeholders, networks with suppliers, distributors, lobby organizations, partners, customer relationships (e.g., image-building, loyalty, network partners, and investors) and branding (e.g., attitude, preference, reputations, and brand recognition) (Jacobsen et al., 2005; Marr et al., 2003). However, since this dissertation focuses on the customer perspective, only a firm's relationship with customers is considered for RC, which is conceptualized as a three dimensional construct – customer affection, customer orientation, and customer loyalty towards the retail firm.

2.3. Customer Value

Customer value is a critical variable for firms in their effort to maintain their market position. It is also the main factor that governs customers' purchase decisions (Sweeney & Soutar, 2001). Customers seek value – the amount of utility they derive from a product/service – and aim to maximize it in any particular act of buying or consuming (Woo, 1992). Customers perceive value in firms' competencies, availability, solution delivery, and understanding of the customers' needs and wants (Möller, 2006). Accordingly, specific competencies which lead to the creation of value have been identified.

Many researchers find that customer value is an antecedent of customer satisfaction (Ravald & Grönroos, 1996; Varki & Colgate, 2001). Chi et al. (2008) propose that customer value has a positive effect on customer satisfaction and behavioral intentions. This implies that the higher the customer perceived value the higher the customer satisfaction and purchase intention will be.

2.3.1 Definition of Customer Value

Different names for the demand side of value can be found in the literature. The most commonly used terms are value (Berry & Yadav, 1996; De Ruyter et al., 1997; Ostrom & Iacobucci, 1995), buyer value (Slater & Narver, 1994), customer value (Anderson & Narus, 1990; Dodds et al., 1991; Holbrook, 1999; Woodruff, 1997), consumer value (Holbrook, 1999), perceived value (Liljander & Strandvick, 1992; Patterson & Spreng, 1997), value for the customer (Reichheld, 1996; Treacy & Wiersema, 1993), customer perceived value (Grönroos, 1997), perceived customer value (Lai, 1995), service value (Bolton & Drew, 1991), subjective expected value (Bolton, 1998), perceived value for money (Sweeney & Soutar, 2001), net customer value (Butz & Goodstein, 1996), perceived service value (LeBlanc & Nguyen, 2001), and expected value (Huber et al., 1997).

A widely cited definition of customer value is the one by Zeithaml (1988, p. 14): “perceived value is the consumer’s overall assessment of the utility of a product based on perceptions of what is received and what is given.” In other words, customer value is a result of the consumers’ pre-purchase perception, evaluation during the transaction, and post-purchase assessment (Chen & Dubinsky, 2003; Dev & Schultz, 2005). However, despite of numerous studies on value conceptualization in a marketing context, there is still relatively little knowledge about what value is, what its characteristics are, or how consumers determine it (Flint & Woodruff, 2001).

While the marketing literature contains a variety of definitions stressing different aspects of the concept, some characteristics of value can be identified: (1) value is a subjective concept (Kortge & Okonkwo, 1993); (2) value is conceptualized as a trade-off between benefits and sacrifices (Zeithaml, 1988); (3) value perceptions are relative to competition (Gale, 1994); (4) value creation is a relational activity, implying that value is created at the relational interface rather than embedded in the offerings of products/services per se (Prahalad & Ramaswamy, 2004; Srivastava & Singh, 2010; Ulaga & Chacour, 2001); and most importantly, (5) value is created through customer perceptions (Ulaga & Chacour, 2001). Furthermore, Woodruff (1997,

p. 142) also defines customer value from a pre-purchase, transaction, and post- purchase perspective: "customer value is a customer's perceived preference for an evaluation of those product attributes, attribute performances, and consequences arising from use that facilitate (or block) achieving the customer's goals and purposes in use situations."

2.3.2 Dimensions of Customer Value

The conceptualization of customer value has evolved from an approach based on measuring functional aspects – limited to measuring the quality-price relationship (Sweeney & Soutar, 2001) – to an approach that also includes intangible elements which are more emotional and social in nature. Holbrook (1994, p. 22) defines customer value as an "interactive relativistic preference experience" and proposes eight types of value including efficiency (output/input ratio or convenience), excellence (quality), politics (success), esteem (reputation), play (fun), aesthetics (beauty), morality (virtue), and spirituality (faith or ecstasy). In addition, Parasuraman & Grewal (2000) argue that acquisition, transaction, redemption, and in-use are four types of customer value. Based on the framework of consumption values (Sheth et al., 1991), Sweeney & Soutar (2001) develop a multiple item scale of customer value (PERVAL). This scale consists of (1) emotional value, which is feelings and emotional states generated in the consumer (Sales & Gil, 2007); (2) social value, which is related to interaction among reference groups of consumers (Sheth et al., 1991); and (3) functional value or expected utility (Sheth et al., 1991) which includes two sub-dimensions – price and quality (Sales & Gil, 2007). Further, Petrick (2002) has developed a multiple item measurement (SERV-PERVAL).

According to previous research, overall value has two dimensions: perceived transaction value and perceived acquisition value (Grewal et al., 1998; Monroe & Chapman, 1987; Thaler, 1985). Grewal et al. (1998) define perceived transaction value as the additional value, beyond the perceived acquisition value, that results from the buyer's perceived net gains by acquiring a product or service. In particular, several prior studies have found that perceived transaction value and perceived acquisition value are separate from each other, and that the two values are interrelated (Grewal et al., 1998). More importantly, Grewal et al. (1998) find that perceived transaction value is an antecedent of perceived acquisition value. Therefore, it has been assumed that consumers' ultimate choice can be directly influenced by the transaction value they perceive. Table 2.5 summarizes the literature that discusses customer value.

In summary, this study takes the stance that customer value consists of two dimensions – perceived transaction value and perceived acquisition value. As expressed in the existing literature on value (Grewal et al., 1998; Monroe, 1990; Zeithaml, 1988), perceived transaction value is the feeling of gain from the transaction itself, and perceived acquisition value is the sum total of all value, including the transactional value.

Table 2.5 Summary of Customer Value

Sánchez-Fernández et al. (2009)	Efficiency Quality Social value Play Aesthetics Altruistic value	Interviews	Vegetarian restaurants
Huber et al. (2007)	Risk components Logical components Practical components Emotional components	Surveys (six service episodes)	Customers of car dealers
Sánchez et al. (2006)	GLOVAL Functional value establishment Functional value person Functional value product Functional value price Emotional value Social value	Interviews	Tourism packages
Rintamäki et al. (2006)	Utilitarian value Social value Hedonic value	Survey	Shopping
Heinonen (2004)	Technical value Functional value Temporal value Spatial value	Interviews	Online banking
Wang et al. (2004)	Functional value Social value Emotional value Perceived sacrifices	Mail survey	Security service
Petrick (2002)	SERV-PERVAL Quality Emotional response Monetary price Behavioural price Reputation	Mail survey	Cruising
Agarwal and Teas (2001)	Perceived quality Perceived sacrifice Performance risk Financial risk Perceived value	Experiment	Hand-held business calculators, wrist-watches
Sweeney and Soutar (2001)	PERVAL Functional value Emotional value Functional value (price) Social value	Mail survey	Furniture, car stereo
Cronin et al. (2000)	Sacrifice Service quality performance: Overall service quality Service value	Interview	Health care, fast food, entertainment

2.3.2.1 Perceived Transaction Value

Several researchers define perceived transaction value as the degree of psychological satisfaction or pleasure that a consumer feels as a result of taking advantage of a deal (Lichtenstein et al., 1990; Monroe & Chapman, 1987; Thaler, 1985; Urbany et al., 1989). Most previous research has had trouble measuring perceived transaction value, which is distinct from perceived acquisition value. Grewal et al. (1998) suggest measuring perceived transaction value by using three items based on a previous study by Lichtenstein et al. performed in 1990. These scale items support the idea of perceived transaction value, which is defined as consumers' evaluations of the psychological satisfaction or pleasure that may result from the financial terms of a price deal (Monroe, 1990). Previous research has demonstrated the psychological and context-dependent nature of perceived transaction value (Grewal et al., 1998). Thus, perceived transaction value will be changed by other extrinsic cues (e.g., brand image) and by consumer purchasing situations (e.g., price sensitivity and customer characteristics). In sum, consumers' perceived economic benefits lead to perceived transaction value (Yadav & Monroe, 1993).

2.3.2.2 Perceived Acquisition Value

Perceived acquisition value is conceptualized as the consumers' perceived net gains derived from the acquisition of products or services (Dodds et al., 1991; Grewal et al., 1998; Zeithaml, 1988). Therefore, the perception of acquisition value is determined by a trade-off between the benefits of the product and its costs (Monroe, 1990; Zeithaml, 1988). The perception of acquisition value can be positively affected by the benefits obtained by acquiring a product, but it can also be negatively affected by the financial sacrifice incurred when acquiring the product (Grewal et al., 1998). Much of the previous literature on price-value perceptions has used the term “perceived value of the offer” instead of “perceived acquisition value of the offer” (Dodds et al., 1991; Lichtenstein & Bearden, 1989; Monroe & Krishnan, 1985; Urbany et al., 1989). The present study uses the term perceived acquisition value in order to make a distinction with perceived transaction value.

2.3.3 Conceptualization of Customer Value in the Present Study

Extensive efforts have been made to examine how brand is related to customer value. In order to be competitive and profitable, a firm must provide value for its customers, and the value of its offering has to be higher than that of its competitors in the eyes of the customer (Ambrosini & Bowman, 2001). Customer value has recently received considerable attention in the field of marketing strategy (Ulaga & Eggert, 2006). This is because it plays a critical role in predicting purchase behavior (Chen & Dubinsky, 2003), achieving sustainable competitive advantages (Khalifa, 2004; Lindgreen & Wynstra, 2005), and effective relationship management (Payne & Holt, 2001).

For this study, a widely accepted definition of customer value is employed: customer value is the trade-off between the benefits (“what you get”) and the sacrifices (“what you give”) in a market exchange (Zeithaml, 1988). From this definition, it can be inferred that customer value is a highly subjective concept emerging from the comparison between consumers’ perceived benefits and sacrifices (Zeithaml, 1988). Customer value is also a relative concept, since it allows for internal comparisons between benefits and costs in a final assessment by the consumer (Gallarza et al., 2011). Given that perceived value is the consumer’s perception of brand utility on the basis of simultaneous considerations of what is received and what is given up to receive it, two dimensions of customer value will be considered and employed: perceived transaction value and perceived acquisition value.

2.4 Moderating Variables in the Present Study

The inclusion of a moderating variable leads to a richer theoretical model that researchers can use to explain relationships with greater accuracy. It is expected that store formats and retailing channels may moderate the effect of the relationship of each component of IC and the customer value. The moderating role of each of these constructs on the IC-customer value relationship is an unexplored area.

2.4.1 Moderating Role of Store Formats and Retailing Channels

It is expected that different types of industries may place higher values on specific types of IC in different ways. For example, a consumer goods firm may consider RC (e.g., brand equity or customer relationship management) to be a key to value creation, while a software development firm may place more focus on SC (e.g., innovation, patents, and intellectual property). Recently, the relative market power of retailers versus manufacturers has been influenced by several key variables such as national brand concentration, advertising, spending, distribution, and retail brand share, all of which vary across product categories (Ailawadi & Harlam, 2004). For example, a large portion of most retailers' revenue and profit comes from selling manufacturer (national) brands, and thus most retailers carrying manufacturer brands, increasingly also offer retail brands (Ailawadi & Keller, 2004).

Over the past decades, due to aggressive competition in the retail business environment, a company's success has depended largely on satisfied customers who are willing to purchase products or services repeatedly (Siu & Cheung, 2001; Srinivasan et al., 2002). Thus, retailers must understand the factors influencing consumer brand choice.

Most importantly, this study employs the distribution of the brand as another moderating factor in examining the relationship between IC and value creation. In this context, distribution does not mean the physical movement of apparel around the world. Rather, it means the channel through which the apparel reaches the ultimate customer - in other words, the method or platform used to sell the apparel. E-commerce opens up new sources of value creation since relational capabilities and new complementarities among a firm's resources and capabilities can be exploited (e.g., between online and offline capabilities) (Amit & Zott, 2001). It is thus expected that different retail formats (e.g., the department store, the full discount store, or the off-price store) use different kinds of IC in order to create value for customers, and customers will determine such value based on their own evaluations. Most firms use the Internet as a tool for communication and for creating new transaction platforms as a competitive strategy (Celuch et al., 2007).

CHAPTER 3

HYPOTHESES DEVELOPMENT

In this chapter, arguments and evidence supporting both the posited relationships between the dimensions of IC (i.e., HC, SC, and RC) and customer value (perceived transaction and perceived acquisition value) and the hypothesized relationships between the focal constructs are presented.

3.1 HC and Customer Value

Previous studies have established that HC is a key determinant of firm performance (Bontis, 1998; Bontis et al., 2000; Bruderl et al., 1992; Gimeno et al., 1997; Pennings et al., 1998). According to the results of previous studies by Kamath (2007), Yalama & Coskun (2007), and Ting & Lean (2009), HC is an important factor for a firm and has a positive relationship with the firm's performance. This is in line with the findings of studies (Chen et al., 2005; Cheng et al., 2010; Hsieh & Tsai, 2007; Hsu & Wang, 2012) stating that the quality of HC is significantly related to organizational performance and financial performance.

Consistent with the definition of HC by Hsu & Wang (2012) stating that HC is the sum of knowledge, skills, and hands-on experience deployed by employees of a firm, HC is conceptualized in this study as a multidimensional construct consisting of intrinsic knowledge and utilized knowledge assets. Knowledge, more specifically knowledge about product, customer, and competitor codified into the firm and firm's employees, is an inimitable resource for value creation (Kang et al., 2007). Hitt et al. (2001) also state that HC has always been considered an important resource in firms because employees who are knowledgeable, skillful, creative, and wise can provide ideas to create new products or improve business processes and make the enterprise more competitive. For example, employees have a significant impact on customer perceptions of both the brand and the organization (Balmer & Wilkinson, 1991; Schneider & Bowen, 1985). Gordon et al. (1993) indicate that the purchasing decisions of customers depend not only on product functionality but also on the customers' evaluation of employees. Empirical research has shown that better skilled employees have an effect on how corporate brand equity is perceived by customers (van Riel et al., 2005). For retailers, the services provided by store employees can have a major impact on store patronage decisions (McGoldrick, 2002). The manner in which employees relate to customers can create loyalty and retention to the retailer (Watson et al., 2005). Consumers may believe that knowledgeable employees of a retail store help them make better decisions about buying. In turn, consumers may perceive that a retail store with quality HC creates value for them. Hence, the perception of customer value depends upon the employees' knowledge and their use of knowledge. Thus, the following hypotheses are proposed:

H1: (a) Utilized Knowledge Assets and (b) Intrinsic Knowledge Assets are related to Perceived Transaction Value.

H2: (a) Utilized Knowledge Assets and (b) Intrinsic Knowledge Assets are related to Perceived Acquisition Value.

3.2 SC and Customer Value

A firm's processes along with its positions and paths determine competitive advantage, which ultimately leads to the firm's performance and value (Teece et al., 1997). These processes have been empirically validated as significantly affecting the creation of customer value and ultimately the performance of the firm (Ramaswami et al., 2009). Porter (1985) also points to these processes as primary functions of the firm as it strives to create value for customers. Bontis (1998) believes that SC is embedded in a firm's structure, and this structure can assist employees in deploying their resources and improving the firm's performance. A firm with greater SC can not only reduce its operating costs but also expand customer benefits and improve its performance (Chiu, 2013; Youndt & Snell, 2004).

According to the value-based theory and strategy of the firm, a firm's processes can be turned into value creation which is the firm's activity that provides a greater level of novel and appropriate benefits than target users or customers currently possess (Lepak et al., 2007). Previous research suggests that there are capabilities and processes of a firm such as R&D capability (Krasnikov and Jayachandran, 2008), information processing capability (Hillebrand et al., 2011; Jayachandran et al., 2005), new product development and product management (Morgan, 2012) for creations aspect, which increases intrinsic use value. For example, Mizik and Jacobson (2003) view R&D as value creation and empirically show that emphasis on value creation increases the financial performance of the firm. Likewise, product innovation involves enhancing benefits and value for customers in the form of a firm's offerings. The term product innovation refers to the extent to which the products and services a firm produces are new and creative in fulfilling customers' needs (Damanpour & Gopalakrishnan, 2001). The goal of product innovation is to create and enhance the intrinsic value of the product, which is one of the significant value creation processes. In order to achieve product innovation, firms need technological competence (Danneels, 2002). This technological competence can be achieved through the R&D activities of the firm. In addition, effective organizational structure of a firm, along with ease of transactions, convenience, advanced technology, and a pleasant shopping atmosphere may help customers access product/service offerings, and ultimately customers may feel reassured that they will get the best value owing to such effective structure in a firm. Based on its review of the extant literature, this study conceptualizes SC as having eight dimensions (financial strength, product innovation, technology, corporate social responsibility, security, convenience, transaction processes, and store atmosphere) in a retailing context. Thus, the following hypotheses are to be tested:

H3: (a) Financial Strength, (b) Product Innovation, (c) Technology, (d) Corporate Social Responsibility (CSR), (e) Security, (f) Convenience, (g) Transaction, and (h) Store Atmosphere of a retail store are related to Perceived Transaction Value.

H4: (a) Financial Strength, (b) Product Innovation, (c) Technology, (d) Corporate Social Respo nsibility (CSR), (e) Security, (f) Convenience, (g) Transaction, and (h) Store Atmosphere of a ret ail store are related to Perceived Acquisition Value.

3.3 RC and Customer Value

Hitt et al. (2011) define RC as an organization's efforts to establish, maintain, and develop external relationships with customers. RC is determined by the firm's relationships with its customers (Duffy, 2000; Edvinsson & Malone, 1997; van Buren, 1999). Prior research has shown empirical evidence that management of customer relationships influences the performance of the firm and has provided some indicators of RC to measure customer relationships. Youndt and Snell (2004) also suggest that RC can exert influence on a firm's performance and show that the interaction with customers can increase employee problem-solving capabilities and improve the quality, reliability, and flexibility of their products and services. Such interactions help employees get a better understanding of customers' issues and expectations, and provide new solutions to meet market requirements.

Generally, customer satisfaction has been found to be a useful measure for RC in the IC literature (Duffy, 2000; Kovesi et al., 2011; Sveiby, 1997). Van Buren (1999) also states that the core indicators of RC include customer satisfaction, customer retention, the average duration of a customer relationship, and repeat purchase. Other researchers find that customer value is an antecedent of customer satisfaction, trust, commitment, and customer loyalty (Dagger & Sweeney, 2007; Kim et al., 2008; Liang & Wang, 2007). In addition, Dagger & Sweeney (2007) indicate that customer value is a mediator between service quality and customer behavioral intentions as well as between marketing mix elements and total brand equity. These studies support the findings of Woodruff (1997), who concludes that the measurement of customer satisfaction without achieving customer value cannot truly meet the customer's requirement. Chi et al. (2008, p. 131) further support this view, stating "customer satisfaction will change as long as the performance of product attributes and product benefits in the value hierarchy change." Customer value has either a direct impact on trust (Kim et al., 2008) or an indirect impact on trust through customer satisfaction (Moliner et al., 2007). It also has an indirect impact on commitment through trust (Kim et al., 2008) or through customer satisfaction (Moliner et al., 2007). In summary, customers access and perceive value from the quality of their relationship with a firm. They are more satisfied with a firm that uses a customer-centric approach. A customer-centric firm builds long-lasting relationships by focusing on what satisfies and retains customers. In other words, customers have positive feeling toward a firm when a firm is more customer-oriented. Such positive and strong relationships contribute to trust and increased customer loyalty. Consistent with the conceptualization of RC as comprising the three dimensions of customer affection, customer orientation, and customer loyalty, this study tests the following hypotheses:

H5: (a) Customer Affection, (b) Customer Orientation, and (c) Customer Loyalty are related to Perceived Transaction Value.

H6: (a) Customer Affection, (b) Customer Orientation, and (c) Customer Loyalty are related to Perceived Acquisition Value.

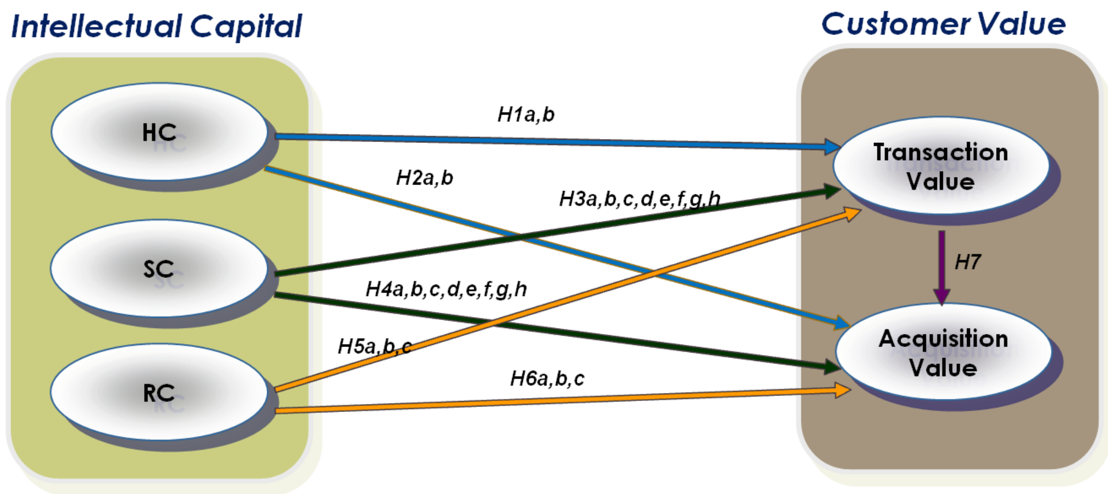
3.4 Perceived Transaction Value and Perceived Acquisition Value

According to previous research, overall value has two dimensions: perceived transaction value and perceived acquisition value (Grewal et al., 1998; Monroe & Chapman, 1987; Thaler, 1985). Grewal et al. (1998) define perceived transaction value as the additional value, beyond the perceived acquisition value, that makes up the buyer's perceived net gains by acquiring a product or service. In particular, several prior studies have found that perceived transaction value and perceived acquisition value are separate from each other, and that both values are interrelated (Grewal et al., 1998). More importantly, Grewal et al. (1998) find that perceived transaction value is an antecedent of perceived acquisition value. This implies that consumers' ultimate choices can be directly influenced by their perceived transaction value. Thus, this study posits the following hypothesis:

H7: Perceived Transaction Value is related to Perceived Acquisition Value.

In sum, IC can thus be viewed in and of itself as a resource because investment in IC differentiates a firm from its competitors. Based on an extensive literature review, this study posits that IC consists of HC, SC, and RC. More importantly, this study posits that it is critical to identify the vital components of IC that contribute most to customer value. All firms essentially house valuable intellectual resources. However, the ultimate competitiveness of a firm is determined by its ability to identify and leverage those resources. Thus, this study investigates hypotheses regarding the impact of IC on customer value. These hypothesized relationships are presented in Figure 3.1.

Figure 3.1 Research Model



CHAPTER 4

METHODOLOGY

This chapter describes in detail the research method used in this dissertation, i.e., measurement instrument development, data collection, assessment of psychometric properties, and finally the data analyses for hypotheses testing). To start with, details of the research design are provided. This is followed by a description of the development of the measurement instrument, as well as the two pre-tests and the final study.

4.1 Measurement Instrument

Measures for the focal constructs (HC – utilized knowledge and intrinsic knowledge assets; SC – financial strength, product innovation, technology, corporate social responsibility, security, convenience, transaction, and store atmosphere; RC – customer affection, customer orientation, and customer loyalty; perceived transaction value; and perceived acquisition value) were motivated by and adapted from the existing literature. The final survey instrument consisted of four parts. The first part of the survey collected data concerning consumers' recent purchases of clothing at a retail store, and their preferred store format – online or offline. The second part of the survey measured the construct of IC (i.e., HC, SC, and RC). The third part of the survey collected data on consumers' perception of the value which is created by a retail store. Responses to the questions measuring these focal constructs were acquired using a seven point Likert type scale anchored between "Strongly disagree (1)" and "Strongly agree (7)." The final part of the survey collected data on demographic variables such as age, income, ethnicity, and education level.

After the initial draft of the survey instrument was developed using previously-published scale items, it was examined for relevance (to the fashion retailing context), grammatical accuracy, language clarity, and face validity by a panel of experts (five doctoral students at a college of business). They were also asked to review whether each adapted item clearly represented the focal construct. Their feedback was used to reword some of the questions for better clarity. This version was next used to collect primary data from student respondents in Pre-test I, and subsequently, using the refined measurement instrument, in Pre-test II and the final study.

4.1.1Human Capital (HC)

HC relates to how consumers perceive the employees of a retail store in terms of utilized knowledge and intrinsic knowledge assets. The items for these two dimensions of HC are adopted from previous studies (Homburg et al., 2009; Reed et al., 2006; Subramaniam & Youndt, 2005). The dimension of *utilized knowledge* includes five items: 1) The employees of this store treat customers well, 2) The employees of this store have excellent leadership, 3) The employees maintain high standards in the way they treat customers, 4) The employees are well-managed, and 5) The employees know what they are doing. The dimension of intrinsic knowledge assets measures a customer’s perception of how easy it is to do business with a particular store given the helpfulness of its employees, and how knowledgeable the employees are about the store, products, and/or brands. The scale includes eight items: 1) The employees are experts, 2) The employees are competent, 3) The employees are proficient, 4) The employees are highly skilled, 5) The employees are creative, 6) The employees are knowledgeable, 7) The employees are well trained, and 8) I can get helpful guidance from the employees of this store.

4.1.2 Structural Capital (SC)

SC relates to how consumers perceive value from the overall system, processes, infra-structure, organization culture, or institutionalized knowledge resources owned by a firm. The scale of SC consists of twenty-nine items measuring eight dimensions: financial strength, product innovation, technology, corporate social responsibility, security, convenience, transaction, and store atmosphere.

Financial strength. The scale measures the extent to which a customer believes that a particular retail store is performing well financially and is expected to continue being successful. This scale is adapted from the previous study done by Walsh & Beatty (2007). This scale is composed of four items: 1) This store looks like it has strong prospects for future financial growth, 2) This store seems to be doing well financially, 3)This store seems to have a clear vision of its financial future, and 4) This store seems to be financially well managed.

Product Innovation. Consumers perceive value from the development and successful introduction of new products and services by a retailer. Product innovation is measured with a four item scale adapted from a study by (Vorhies & Morgan, 2005): 1) This store introduces new products (clothing) very often, 2) This store’s products (clothing) are up-to-date, 3) This store’s products (clothing) are stylish, and 4) This store’s products (clothing) are attractive.

Technology. With today’s technology, consumers now have unlimited access to a wide variety of product information at any time or any place via a number of electronic devices (e.g., mobile shopping) or shopping channels (e.g., websites, blogs, social network sites). The scale items to measure technology were adapted from a study by Reed et al. (2006). These three items are: 1) This store uses social media for communicating, coordinating, and distributing information (e.g., Facebook, Twitter), 2) This store appears to be well qualified in the area of e-commerce, and 3) This store uses up-to-date technology.

Corporate Social Responsibility. Corporate social responsibility (CSR) of a retail store in this study is a new variable that has never been included in any previous studies on SC. Today's consumers put more value on the organizational culture which is embedded in a firm. Consumers believe that a retail store with a strong CSR creates value and makes a good impression on customers. CSR arose as a result of consumer perceptions of the definition of value creation. The six items of CSR, adapted from previous studies (Biehal & Sheinin, 2007; Wagner et al., 2009), measure a consumer's belief that a firm is likely to be responsible and/or successful in a variety of ways: 1) This store's values are consistent with my ethical values, 2) This store has a common set of values, creeds, and symbols, 3) This store is a socially responsible company, 4) This store operates in an environmentally friendly manner, 5) This store is concerned to improve the well-being of society, and 6) This store follows high ethical standards.

Security. The items in this category are used to measure the degree to which a customer believes that a certain retail store is responsible in the way it treats personal information about consumers. There are three items, are adapted from a study by Lwin et al. (2007): 1) I believe that this store would not use my personal consumer information for purposes other than those initially stated, 2) I believe that this store would not share my personal consumer information with other parties unless it has been authorized by me, and 3) I believe that this store's databases containing my personal information are protected from hacking.

Convenience. When selecting a store at which to shop, consumers seek out various kinds of retail shopping convenience to ensure that they will obtain value and that their shopping experience will be as quick and easy as possible. The three items, adapted from a study by

Seiders et al. (2007), measure the degree to which a consumer believes a particular store is easy to shop at in terms of its location, business hours, and parking: 1) This store offers convenient parking, 2) This store offers convenient locations, and 3) This store offers convenient store hours.

Transaction. The scale uses three items to measure the degree to which a customer believes there are benefits to shopping at a particular retail store because it makes a certain activity easier to accomplish. The items, based on a previous study by Wagner et al. (2009), are: 1) Being a customer of this store helps me save time and effort, 2) Being a customer of this store helps make my transactions more easily, and 3) I can quickly find information before I shop to decide if the store has what I am looking for.

Store atmosphere. According to Foxall (1997, p. 506), atmospherics are "a consumption environment engendering emotional reactions in customers, encouraging them to stay in the setting, browse, evaluate, and purchase; or discouraging any of these activities." Atmosphere is often more influential than the product itself in the purchase decision (Kotler, 1974) and helps consumers enjoy a more valuable shopping experience. Based on the scale from Kwon & Lennon (2009), three items measure a customer's attitude regarding the quality of a store in terms of the visual appeal of its interior: 1) The interior of this store is nice, 2) This store is well laid out, and 3) This store offers a pleasant shopping atmosphere.

4.1.3 Relational Capital (RC)

RC is defined as the interaction and close relationship between organizations and customers (Stewart, 1997). As a strategy, retailers should focus on the appropriate deployment of store resources to build and maintain customer relationships. The thirty-one items measure three dimensions of RC: customer affection, customer orientation, and customer loyalty.

Customer affection. The items in this category are intended to measure the degree to which a customer identifies with a retail store and views the relationship as a bond or connection that produces positive feelings. The scale items are adapted from a study by Chaudhuri & Ligas (2009): 1) I love this store, 2) I feel good when I shop at this store, 3) I enjoy my visits at this store, and 4) This store puts me in a good mood.

Customer Orientation. Six items are used in this category to measure the degree to which a customer believes that a certain retail store cares about customers and builds strong relationship with customers. Based on a study by Walsh & Beatty (2007), the items used for the scale are: 1) This store treats customers courteously, 2) This store treats customers fairly, 3) The intention of this store is to assist me as much as possible, 4) This store puts its customers first, 5) This store keeps my best interest in mind, and 6) This store devotes time and effort to the relationship with customers.

Customer loyalty. Aaker (1991, p. 39) defines brand loyalty as "the attachment that a customer has to a brand." In this study, customer loyalty refers to the tendency to be loyal to a certain retail store, which is demonstrated by the intention to shop at the store as a primary choice. To measure a customer's level of attachment to a retail store, this scale uses eight items. Specifically, three items are adapted from Yoo & Donthu (2001): 1) I consider myself to be loyal to this store, 2) This store would be my first choice, and 3) Even if another store has the same clothing, I would prefer to buy clothing at this store. Another two items are modified from a study by Yoo et al. (2000): 1) I would prefer to buy clothing at this store and 2) I am willing to pay a bit more for the clothing sold at this store. Lastly, three are adapted from Cho's (2006) study: 1) Even if this store would be more difficult to reach, I would still keep buying there, 2) If it is the same clothing, the likelihood that I would recommend this store to a friend is high, and 3) I look forward to visiting this store again.

4.1.4 Customer Value

The dependent construct in this study is perceived customer value which consists of perceived transaction value and perceived acquisition value. Based on previous studies (Grewal et al., 1998; Monroe & Chapman, 1987), these two dimensions of customer value measure a consumer's perception of value. Specifically, the scale of perceived transaction value includes three items: 1) The time I spent in this store in order to buy clothing is very reasonable, 2) The effort involved in buying clothing at this store is very worthwhile, and 3) I rate my overall experience with this store as extremely good value. Customer perceived acquisition value is measured with a 4-item scale (Dodds et al., 1991). The scale items are: 1) This store is good, 2) This store is pleasant, 3) This store is favorable, and 4) This store is valuable.

4.2 Research Design – Data Collection

This study uses the apparel retailing industry as the research context to understand how each dimension of IC is related to customer value in the apparel retailing sector. The reason for selecting the apparel industry is that apparel has diverse and ever-changing product assortments, and it is consumed universally. In addition, prices for apparel range widely, and affordable retail brands suitable for different customers are available (Ramirez & Goldsmith, 2009). Moreover, apparel functions as a means for creating and communicating a customer's identity. Hence, there are many intangible resources associated with apparel purchases and consumers use all available cues to assess the value of their purchases. These resources are part of IC.

Data were collected in three stages – two pre-tests and one main study. The first pre-test was conducted to test the reliability and validity of the measurement scales and to purify the measures. This is consistent with suggestions made by authors like Peter (1981), who suggests that pre-testing the instrument is an important process in the marketing studies to advance marketing as a science. A pre-test helps to establish the reliability and validity of the measures and to refine the measurement instrument. Accordingly, the data from student respondents in Pre-test I were used to assess the psychometric properties of the measurement instrument and to refine the scale items. This refined version was next used to collected data from student respondents in Pre-test II and non-student respondents (using MTurk) in the final study.

Data collection at all three stages was done using a self-administrated questionnaire using Qualtrics (an online survey website). Online surveys fit the population in the study, which is comprised of young, heavy users of the Internet, who are fashion conscious and are consumers of fashion retailers, and who shop at both brick and mortar and online stores.

This study employed a convenience sampling method using students enrolled in a Southwestern University in the U.S. for the Pre-test I and II. While the use of student samples has been criticized by some, undergraduate students are an appropriate sample for this study given its research purpose. Undergraduate students are highly representative of the population of interest - i.e., younger consumers who are very fashion conscious and are customers of fashion retail stores. Students also shop at both online and offline stores. Finally, a student sample provides a homogeneous sample that helps in theory extraction and also reduces Type II errors as compared to a relatively more heterogeneous sample of the general population (Calder et al., 1981; Lynch, 1982, 1983). Not with standing these supporting arguments, this study also gathered data from non-students using MTurk. Together, the use of both student and non-student data should enhance the generalizability of the findings of this study.

4.3 Pre-test I

In Pre-test I, data were collected from 250 undergraduate students using a self-administered first version of the online survey instrument. After checking for incomplete and suspicious responses had been done, 204 surveys were retained as a pre-test sample. These data from Pre-test I were used to assess the psychometric properties (reliability and validity) of the measurement scales, and also to further refine and purify the measurement scales. The data were first subjected to exploratory factor analysis (EFA) using principal component analysis with varimax rotation (McDonald, 1985). After multiple iterations, the items were retained based on high correlations within constructs and no cross loadings above .50. These analyses resulted in the scale items grouping into three broad dimensions of IC - HC (utilized knowledge assets and intrinsic knowledge assets), SC (financial strength, product innovation, technology, corporate social responsibility, security, convenience, transaction, and store atmosphere), and RC (customer affection, customer orientation, and customer loyalty); and two value dimensions (perceived transaction value and perceived acquisition value). All factors achieved acceptable internal consistency (Cronbach alpha > .70), as suggested by Nunnally (1978). The inter-item correlations were also examined and in general the construct correlations were greater than across construct correlations between scale items. The refined measurement instrument was next used in Pre-test II.

4.4 Pre-test II

In order to test the initial factors identified in Pre-test I, the items of IC scale from the first pre-test were analyzed using new sample of 286 students. Here again, the internal consistencies of each scale were assessed through computation of Cronbach's alpha which were all above the 0.7 threshold. Convergent and discriminant validity were first assessed using inter-item correlation, and were found to be acceptable – with construct inter-item correlations were greater than across construct correlations (Churchill, 1979).

Further, the items were subjected to CFA using LISREL® 8.8 Structural Equation Modeling Software 8 (Jöreskog & Sörbom, 2006).This tested how well the data set fits the hypothesized measurement structure (Dabholkar et al., 1996). In addition, Goodness of Fit Indices were conducted such as the goodness-of-fit index (GFI), root of mean square error of approximation (RMSEA), adjusted goodness-of-fit index (AGFI), normed fit index (NFI), non-normed fit index (NNFI), comparative fit index (CFI), incremental fit index (IFI), relative fit index (RFI), and root mean square residual (RMR) (see Hair et al. 2010). For assessing the discriminant and convergent validity, inter-item correlation was performed (Churchill, 1979). The results of Pre-test II are presented in the next chapter.

4.5 Main Study

A final set of sixty seven scale items obtained from the pre-tests, measuring thirteen dimensions of IC and two dimensions of customer value, was used in the main study. To generalize the pre-test results, it was critical to recruit a representative consumer sample from the population. For the main study, a pool of consumer panel participants who had had shopping experiences in purchasing clothing was recruited through Amazon Mechanical Turk (MTurk).

Beginning in 2005, Internet retailer Amazon.com launched Mechanical Turk (MTurk) as a crowdsourcing service for labor intensive tasks, and more recently, MTurk has become a source of participants for social science research (Paolacci et al., 2010). The website is a platform where researchers put their surveys and potential participants take the surveys for some rewards. MTurk provides easy, quick, and inexpensive access to online participants (Buhrmester et al., 2011; Horton et al., 2011; Mason & Suri, 2012). For this study, the participants were restricted to U.S. resident, and they were paid $0.50 for filling out the survey. As in the pre-tests, an online questionnaire using Qualtrics was used for data collection. The first question in the survey was used as a screening question: "Have you purchased clothing at a retail store within the past six months?" If the participants had not shopped for clothing at a retail store in the past six months, they were automatically dismissed for the survey. If the participants had shopped for clothing at a store, they were allowed to continue with the survey. Additionally, three "attention filter" questions were inserted in the middle of the research questions. These attention filter questions asked participants to select specific responses to ensure that sufficient attention was being given to the questions and to avoid random choices. If participants failed to answer the attention filter questions, their responses were excluded from the analysis. A total of 520 complete responses were retained for subsequent analysis.

4.6 Summary

A self-administered online questionnaire containing measures for thirteen sub-dimensions of IC and two dimensions of customer value was used to collect data for this study in three stages – Pre-test I and II, and a final study. The data were collected using both convenience sampling (Pre-test I – 204 students and Pre-test II –286 students) and non-student consumer samples through MTurk (main study, n=520 consumers). The data from Pre-test I and II were used to refine the scale items and assess their psychometric properties (reliability and validity). Finally, multiple regression was employed to test the relationship between various dimensions of IC and customer value. To test the hypotheses, composite scores of all of the constructs of IC (i.e., HC, SC, and RC) were employed as independent variables and the two dimensions of customer value (i.e., perceived transaction value and perceived acquisition value) were employed as dependent variables. The results of the analyses are presented in the next chapter.

CHAPTER 5

DATA ANALYSES AND RESULTS

This chapter presents the details of the data analyses and the results of these analyses. To start with, the data were analyzed for the purpose of determining the sample characteristics using descriptive statistics. This was followed by factor analyses and the assessment of psychometric properties – reliability and validity of the measurement scales. Finally, the data were analyzed in order to find support for the hypothesized relationships using the multivariate regression method.

5.1 Pre-tests

5.1.1 Sample Characteristics

For both Pre-test I and II, a convenience sampling method using students was employed. For Pre-test I, data were collected using a self-administered online survey from 250 students at a Southwestern University in the U.S. Of that total, 204 fully completed questionnaires were retained for further analyses. About 77% of the respondents were female, and approximately 82% were between the ages of 18 and 25 years. Finally, about 49% of the respondents were Caucasian.

For Pre-test II, data were collected using an online survey from 286 student respondents from the same university where Pre-test I was conducted. Once again, those sampled were students between the ages 18 to 52.   About 73% of the respondents were female. Approximately 89% were between the ages of 18 to 25 years. About 53% of the respondents were Caucasian. Table 5.1 exhibits the detail of the demographic distribution of the sample from Pre-test I and II.

Table 5.1 Demographic Characteristics (Pre-tests)

		Pre-test I		Pre-test II	
		Frequency	Percentage	Frequency	Percentage
Gender	Male	47	23.0%	77	26.9%
	Female	157	77.0%	209	73.1%
Age (years)	18-25	167	81.9%	253	88.5%
	26-33	25	12.3%	27	9.3%
	34-40	9	4.0%	5	0.9%
	41-49	1	0.5%	2	0.6%
	50 and over	2	1.0%	1	0.3%
Ethnicity	Native American Indian	2	1.0%	2	0.7%
	Asian	23	11.3%	18	6.3%
	Black or African American	37	18.1%	53	18.5%
	Hispanic or Latino	29	14.2%	41	14.3%
	Mixed race	13	6.4%	20	7.0%
	White or Caucasian	100	49.0%	152	53.1%

5.1.2 Exploratory Factor Analysis

Prior to performing a confirmatory factor analyses using data from Pre-test II, data from Pre-test I were first subjected to exploratory factor analyses using principal component analyses with varimax rotation. Items were removed from the scales if they did not satisfy criteria established by Churchill (1979) and Nunnally (1978). These criteria were – main factor loadings higher than 0.5, low cross-loadings (lower than the main loadings), an assessment of the value of the item for the construct, Cronbach's Alpha scores of more than 0.7, and inter-item correlations within construct lower than across constructs. In this study, for both Pre-test I and Pre-test II data, all factor loadings were above 0.70 and all of the Cronbach's alphas sores were above 0.90. Finally, the inter-item correlations between items within construct were greater than correlations across constructs. After several iterations, the exploratory factor analyses resulted in a final set of sixty seven scale items measuring 15 constructs. These items were next used to collect data from 286 student respondents in Pre-test II. These data from pre-test were next subjected to confirmatory factor analyses using LISREL.

5.1.3 Confirmatory Factor Analysis (CFA)

LISREL® 8.8 Structural Equation Modeling Software (Jöreskog & Sörbom, 2006) was used to test the measurement models using the data from Pre-test II. The results suggested acceptable global fit: $\chi2$ (1632) = 4097.57 (p =.000), $\chi2$/df = 2.51, confirmatory fit index (CFI) = .98, normed fit index (NFI) = .96, non-normed fit index (NNFI) = .98, goodness of fit index (GFI) = .78 and root mean square error of approximation (RMSEA) = .067.

In addition, reliability and validity were assessed using several statistics. First, Cronbach's alpha was used to check for the reliability of the measurement scales. All Alpha estimates were above the threshold value of 0.70 indicating acceptable reliability (Nunnally, 1978). Further, all item-total correlations were above .40. All item loadings (λ estimates) were significant ($p < .01$) and exceeded the value of .60. Composite reliability (CR) exceeded the threshold level of .60. The average variance explained (AVE) estimates were above .50 and exceeded the corresponding squared phi (within construct) estimates, indicating construct validity. Collectively, the test results provided evidence of construct validity (Bagozzi & Yi, 1988; Fornell & Larcker, 1981). Table 5.2 provides the final scale items used in CFA analysis along with the standardized λ loadings. Table 5.3 provides evidence of reliability and convergent and discriminant validity of the measurement model along with the coefficient alpha, mean, and standard deviation of the constructs.

Table 5.2 CFA of Measurement Model (Pre-test II, n=286)

CFA	Standardized λ Estimates	t-value
HCA-Utilized Knowledge Assets		
The employees of this store treat customers well	0.80	16.32
The employees of this store have excellent leadership	0.86	17.98
The employees maintain high standards in the way they treat customers	0.89	19.15
The employees are well-managed	0.85	17.55
The employees know what they are doing	0.83	17
HCB-Intrinsic Knowledge Assets		
The employees are experts	0.84	17.47
The employees are competent	0.83	17.19
The employees are proficient	0.87	18.35
The employees are highly skilled	0.84	17.5
The employees are creative	0.75	14.7
The employees are knowledgeable	0.86	17.97
The employees are well trained	0.88	18.64
I can get helpful guidance from the employees of this store	0.84	17.33
SCA-Financial Strength		
This store looks like it has strong prospects for future financial growth	0.88	18.18
This store seems to be doing well financially	0.82	16.53
This store seems to have a clear vision of its financial future	0.84	17.17
This store seems to be financially well managed	0.73	13.92
SCB-Product Innovation		
This store introduces new products (clothing) very often	0.75	14.8
This store’s products (clothing) is up-to-date	0.89	19.28
This store’s products (clothing) is stylish	0.96	21.68
This store’s products (clothing) is attractive	0.90	19.34
SCC-Technology		
This store uses social media for communicating, coordinating, and distributing information (e.g., Facebook, Twitter)	0.77	14.65
This store appears to be well qualified in the area of e-commerce	0.83	16.27
This store uses up-to-date technology	0.84	16.62

Table 5.2 Continued

CFA	Standardized λ Estimates	t-value
SCD-Corporate Social Responsibility		
This store's values are consistent with my ethical values	0.79	15.63
This store has a common set of values, creeds, and symbols	0.78	15.46
This store is a socially responsible company	0.82	16.55
This store operates in an environmentally friendly manner	0.83	16.93
This store is concerned to improve the well-being of society	0.81	16.23
This store follows high ethical standards	0.90	19.46
SCE-Security		
I believe that this store would not use my personal information of consumers for purposes other than those initially stated	0.92	19.89
I believe that this store would not share my personal information with other parties unless it has been authorized by me	0.94	20.61
I believe that this store's databases containing my personal information are protected from hacking	0.73	14.07
SCF-Convenience		
This store offers convenient parking	0.81	15.76
This store offers convenient locations	0.89	18.17
This store offers convenient store hours	0.82	16.24
SCG-Transaction		
Being a customer of this store helps me save time and effort	0.84	16.75
Being a customer of this store helps make my transaction easier	0.94	19.92
I can quickly find information before I shop to decide if the store has what I am looking for	0.63	11.41
SCH-Store Atmosphere		
The interior of this store is nice	0.88	18.5
This store is well laid out	0.84	17.31
This store offers pleasant shopping atmosphere	0.95	21.15

Table 5.2 Continued

CFA	Standardized λ Estimates	t-value
RCA-Customer Affection		
I love this store	0.91	19.99
I feel good when I shop at this store	0.95	21.6
I enjoy my visits at this store	0.95	21.51
This store puts me in a good mood	0.93	20.85
RCB-Customer Orientation		
This store treats customers courteously	0.79	15.7
This store treats customers fairly	0.74	14.49
The intention of this store is to assist me as much as possible	0.83	16.96
This store puts its customers first	0.90	19.55
This store keeps my best interest in mind	0.87	18.28
This store devotes time and effort to the relationship with customers	0.84	17.44
RCC-Customer Loyalty		
I consider myself to be loyal to this store	0.83	16.87
This store would be my first choice	0.89	19.16
It makes sense to shop at this store instead of any other stores even if they are the same	0.91	19.74
Even if another store has the same clothing, I would prefer to buy clothing at this store	0.84	17.51
I am willing to pay a bit more for the clothing sold at this store	0.73	14.03
Even if this store would be more difficult to reach, I would still keep buying there	0.78	15.44
If it is the same clothing, the likelihood that I would recommend this store to a friend is high	0.74	14.53
I look forward to visiting this store again	0.75	14.79
Perceived Transaction Value		
The time you spent in this store in order to buy clothing is very reasonable	0.64	11.78
The effort involved in buying clothing at this store is very worthwhile	0.75	14.4
I rate my overall experience with this store as extremely good value	0.86	17.46
Perceived Acquisition Value		
This store is good	0.89	19.2
This store is pleasant	0.87	18.3
This store is favorable	0.89	18.93
This store is valuable	0.74	14.48

Global fit indices: $\chi 2$ = 4097.57, df = 1632, p-value = .000; RMSEA = .067, RMR = .1, NFI = .96, NNFI = .98, CFI = 0.98, IFI = .98

Table 5.3 Measurement Model: Evidence of Reliability, Convergent and Discriminant Validity of IC Scale (Pre-Test II, n=286)

	HCA	HCB	SCA	SCB	SCC	SCD	SCE	SCF	SCG	SCH	RCA	RCB	RCC		Mean	Std.	α	AVE	CR
HCA	**0.85**														5.28	1.11	0.93	0.72	0.93
HCB	0.94	**0.84**													5.09	1.12	0.95	0.7	0.95
SCA	0.55	0.57	**0.82**												5.72	0.95	0.89	0.67	0.89
SCB	0.38	0.41	0.55	**0.88**											5.99	0.98	0.93	0.77	0.93
SCC	0.3	0.31	0.42	0.65	**0.81**										5.48	1.18	0.86	0.66	0.86
SCD	0.57	0.59	0.51	0.3	0.27	**0.82**									5.07	1.03	0.93	0.68	0.93
SCE	0.46	0.5	0.47	0.37	0.29	0.64	**0.87**								5.37	1.15	0.9	0.75	0.9
SCF	0.41	0.44	0.5	0.28	0.19	0.46	0.52	**0.84**							**5.76**	**1.03**	0.88	0.71	0.88
SCG	0.46	0.46	0.53	0.39	0.41	0.49	0.43	0.49	**0.81**						5.47	1.11	0.83	0.66	0.85
SCH	0.69	0.71	0.6	0.53	0.39	0.54	0.47	0.5	0.52	**0.89**					5.52	1.26	0.92	0.79	0.92
RCA	0.58	0.58	0.56	0.56	0.34	0.55	0.51	0.46	0.52	0.75	**0.93**				5.67	1.22	0.97	0.87	0.97
RCB	0.8	0.81	0.6	0.37	0.31	0.68	0.56	0.47	0.59	0.74	0.63	**0.83**			5.36	1.1	0.93	0.69	0.93
RCC	0.47	0.47	0.5	0.47	0.42	0.53	0.35	0.31	0.51	0.57	0.75	0.59	**0.81**		4.91	1.35	0.94	0.66	0.94

Notes: The numbers in diagonal cells are √AVE; lower diagonal numbers are interfactor correlation (Φ).... (Hair et al.,2006).

HCA: Human Capital - Utilized Knowledge Assets
HCB: Human Capital - Intrinsic Knowledge Assets
SCA: Structural Capital - Financial Strength
SCB: Structural Capital - Product innovation
SCC: Structural Capital - Technology
SCD: Structural Capital - Corporate Social Responsibility
SCE: Structural Capital - Security
SCF: Structural Capital - Convenience
SCG: Structural Capital - Transaction
SCH: Structural Capital - Store Atmosphere
RCA: Relational Capital - Customer Affection
RCB: Relational Capital - Customer Orientation
RCC: Relational Capital - Customer Loyalty

5.1.4 Hypotheses Testing

The relationship between focal constructs (i.e., dimensions of IC and perceived customer value) were next tested using multivariate regression analysis. For this, the values for scale items were averaged to create composite scores for each construct. The dependent variables were perceived transaction value (Model 1) and perceived acquisition value (Model 2), with thirteen sub-dimensions of IC: two dimensions of human capital (i.e., utilized knowledge assets and intrinsic knowledge assets), eight dimensions of structural capital (i.e., financial strength, product innovation, technology, corporate social responsibility, security, convenience, transaction, and store atmosphere), and three dimensions of relational capital (customer affection, customer orientation, and customer loyalty). Finally, in Model 3, perceived acquisition value was regressed on thirteen sub-dimensions of IC and perceived transaction. Thus, Model 3 is an extension of Model 2, with perceived transaction value added as the 14th independent variable. The adjusted R-squared values for the three models were fairly high – i.e., .363 (Model 1), .510 (Model 2), and .741 (Model 3) respectively. Each regression model is significant at p-value < .000. This indicates support for the notion that that there is an overall relationship between dimensions of IC and customer value.

The findings (in Model 1) confirm that the ease of transaction of structural capital (β = .144, $p < .05$), along with customer affection toward retailer (β = .298, $p < .001$) and customer loyalty of relational capital (β = .171, p < .05) positively affect perceived transaction value. These findings provide support for H3g, H5a, and H5c.

For Model 2, which tests the relationship between IC and perceived acquisition value, results suggests that utilized knowledge assets of human capital (β = .205, $p < .05$), along with customer affection (β = .323, $p < .001$), and customer loyalty of relational capital (β = .221, p <

.001) are positively related to perceived acquisition value. Thus, H2a, H6a, and H6c are supported. Meanwhile, the technology dimension of structural capital (β = -.126, $p < .05$) is negatively related to customers' perceived acquisition value. This result supports H4c.

Model 3 was tested after adding perceived transaction value was added to the independent variables which were used in Model 2. This addition increased the value of the adjusted r-squared for Model 3 to 0.741. In addition to the significant positive relationship between perceived transaction value and perceived acquisition value (β = .605, $p < .001$), the results show that the utilized knowledge assets dimensions of human capital (β = .115, $p < .10$), customer affection (β = .142, $p < .05$) and customer loyalty of relational capital (β = .118, $p < .05$) are positively related to perceived acquisition value. Thus, H2a, H6a, H6c, and H7 are supported. In addition, technology of structural capital (β = -.075, $p < .05$) is negatively related to perceived acquisition value, supporting H4c. Specifically, the adjusted r-squared for Model 3 is highest, at 0.741, suggesting that perceived transaction value does enhance perceived acquisition value, above and beyond the sub-dimensions of IC.

In sum, the results show that dimensions of relational capital (i.e., customer affection and customer loyalty) influence both perceived transaction value and perceived acquisition value. Of the dimensions of structural capital, the transactional dimension of structural capital has a positive influence, and the technology dimension has a negative influence on the perceived acquisition value. Of the dimensions of human capital, only the utilized knowledge has a positive influence on perceived acquisition value. Finally, perceived transaction value positively influences perceived acquisition value. Table 5.4 presents the regression results of the relationships between IC and customer value using the student data.

Table 5.4 Multiple Regression Models with Customer Value as Dependent Variable (Pre-test II)

	Model 1 (DV: Transaction Value)			Model 2 (DV: Acquisition Value)			Model 3 (DV: Acquisition Value)			Hypotheses (direction): Supported/not-Supported
	Std. β	*t*	*Sig.*	*Std. β*	*t*	*Sig.*	*Std. β*	*t*	*Sig.*	
(Constant)		5.94	.000		7.66	.000		4.620	.000	
HC-Utilized Knowledge Assets	.149	1.408	.160	**.205**	**2.211**	**.028**	**.115**	**1.703**	**.090**	H1a(+): NS **H2a (+): S**
HC-Intrinsic Knowledge Assets	-.013	-.114	.909	-.010	-.103	.918	-.002	-.034	.973	H1b(-), H2b(-): NS
SC-Financial Strength	-.001	-.022	.982	.048	.803	.423	.049	1.127	.261	H3a (-), H4a(+): NS
SC-Product Innovation	-.046	-.663	.508	-.001	-.012	.991	.027	.612	.541	H3b (-), H4b(-): NS
SC-Technology	-.085	-1.372	.171	**-.126**	**-2.325**	**.021**	**-.075**	**-1.894**	**0.59**	H3c (-): NS, **H4c(-):S**
SC-CSR	.025	.359	.720	-.032	-.526	.599	-.047	-1.065	.288	H3d (+), H4d(-): NS
SC-Security	-.005	-.075	.940	.007	.125	.901	.010	.244	.807	H3e (-), H4e(+): NS
SC-Convenience	.081	1.361	.175	.039	.740	.460	-.010	-.272	.786	H3f (+), H4f(+): NS
SC-Transaction	**.144**	**2.24**	**.026**	.054	.946	.345	-.034	-.813	.417	**H3g (+): S** H4g(+): NS
SC-Store Atmosphere	.034	.426	.671	.033	.474	.636	.013	.248	.804	H3h (+), H4h(+): NS
RC-Customer Affection	**.298**	**3.433**	**.001**	**.323**	**4.236**	**.000**	**.142**	**2.523**	**.012**	**H5a (+), H6a(+): S**
RC-Customer Orientation	-.021	-.216	.829	.060	.726	.469	.073	1.205	.229	H5b (-), H6b(+): NS
RC-Customer Loyalty	**.171**	**2.276**	**.024**	**.221**	**3.355**	**.001**	**.118**	**2.438**	**.015**	**H5c (+), H6c(+): S**
Perceived transaction value							**.605**	**15.649**	**.000**	**H7(+): S**
R	.626			.729			.868			
R-Sq	.393			.532			.754			
Adj. R-Sq.	.363			.510			.741			
Std-Error of Est.	.81367			.66523			.48304			
F	13.518			23.788			59.385			
Sig	.000			.000			.000			

5.2 Main Study

5.2.1 Sample Characteristics

Of the 520 participants recruited through Amazon Mechanical Turk (MTurk), 57.1 % were female. Approximately 52% were between the ages of 26 and 40 years. About 78% of the respondents were Caucasian. Table 5.5 exhibits the details of the demographics.

Table 5.5 Demographic Characteristics

		Frequency	Percentage
Gender	Male	223	42.9%
	Female	297	57.1%
Age (years)	18-25	93	14.6%
	26-35	204	39.3%
	36-45	107	20.6%
	46-55	64	12.3%
	56 and over	52	10.0%
Ethnicity	Native American Indian	4	0.8%
	Asian	42	8.1%
	Black or African American	27	5.2%
	Hispanic or Latino	28	5.4%
	Mixed race	13	2.5%
	White or Caucasian	406	78.1%

5.2.2 Confirmatory Factor Analysis (CFA)

The scale items were subjected to CFA using LISREL® 8.8 Structural Equation Modeling Software 8 (Jöreskog & Sörbom, 2006). This analysis showed acceptable fit measures: χ^2 (2039) = 6597.03 (p < .001), χ^2/df = 3.23, comparative fit index (CFI) = .98, goodness of fit index (GFI) = .72, adjusted goodness of fit index (AGFI) = .69, normed fit index (NFI) = .97, non-normed fit index (NNFI) = .98, and standardized root mean square (SRMR) = .052. Composite reliabilities (CR) of all constructs are above .7, supporting convergent validity. All the average variance extracted (AVE) were above .5 and exceeded the corresponding squared phi coefficient, supporting discriminant validity. Together, these results provide support for construct validity (Fornell & Larcker, 1981).

In addition, Cronbach's alpha was also used to check the reliability of the constructs with a threshold value of 0.70 for acceptable reliability (Nunnally, 1978). The acceptable value of convergent validity is also indicated by an all item-total correlation greater than 0.40. All item loadings were significant ($p < .01$) and exceeded the .60 parameter value. Composite reliability (CR) exceeded the threshold of .60 and average variance extracted (AVE) were above .50 and exceeded the corresponding squared phi coefficient, indicating construct validity. Together, the test results provide evidence of construct validity (Bagozzi & Yi, 1988; Fornell & Larcker, 1981). Table 5.6 provides the scale items and their standardized loadings from the CFA analysis. Table 5.7 provides evidence of reliability and convergent and discriminant validity of the measurement model along with the coefficient alpha, mean, and standard deviation of the constructs.

Table 5.6 CFA of Measurement Model (Main Study, n=520)

CFA	Standardized λ Estimates	t-value
HCA-Utilized Knowledge Assets		
The employees of this store treat customers well	0.82	22.4
The employees of this store have excellent leadership	0.81	22.13
The employees maintain high standards in the way they treat customers	0.90	26.07
The employees are well-managed	0.86	24.26
The employees know what they are doing	0.80	21.82
HCB-Intrinsic Knowledge Assets		
The employees are experts	0.82	22.53
The employees are competent	0.86	24.6
The employees are proficient	0.87	24.97
The employees are highly skilled	0.83	23.26
The employees are creative	0.73	19.12
The employees are knowledgeable	0.89	25.8
The employees are well trained	0.87	25.04
I can get helpful guidance from the employees of this store	0.77	20.84
SCA-Financial Strength		
This store looks like it has strong prospects for future financial growth	0.86	24.3
This store seems to be doing well financially	0.90	25.94
This store seems to have a clear vision of its financial future	0.91	26.75
This store seems to be financially well managed	0.89	25.64
SCB-Product Innovation		
This store introduces new products (clothing) very often	0.74	19.49
This store's products (clothing) is up-to-date	0.90	26.34
This store's products (clothing) is stylish	0.94	28.15
This store's products (clothing) is attractive	0.91	26.81
SCC-Technology		
This store uses social media for communicating, coordinating, and distributing information (e.g., Facebook, Twitter)	0.71	17.7
This store appears to be well qualified in the area of e-commerce	0.86	22.84
This store uses up-to-date technology	0.82	21.53

Table 5.6 Continued

CFA	Standardized λ Estimates	t-value
SCD-Corporate Social Responsibility		
This store's values are consistent with my ethical values	0.80	21.67
This store has a common set of values, creeds, and symbols	0.70	17.92
This store is a socially responsible company	0.84	23.46
This store operates in an environmentally friendly manner	0.79	21.34
This store is concerned to improve the well-being of society	0.85	23.86
This store follows high ethical standards	0.88	25.1
SCE-Security		
I believe that this store would not use my personal information of consumers for purposes other than those initially stated	0.92	25.99
I believe that this store would not share my personal information with other parties unless it has been authorized by me	0.90	25.31
I believe that this store's databases containing my personal information are protected from hacking	0.69	17.48
SCF-Convenience		
This store offers convenient parking	0.59	13.28
This store offers convenient locations	0.83	19.89
This store offers convenient store hours	0.77	18.16
SCG-Transaction		
Being a customer of this store helps me save time and effort	0.83	21.76
Being a customer of this store helps make my transaction easier	0.92	25.3
I can quickly find information before I shop to decide if the store has what I am looking for	0.51	11.87
SCH-Store Atmosphere		
The interior of this store is nice	0.88	25.09
This store is well laid out	0.85	23.44
This store offers pleasant shopping atmosphere	0.92	26.84

Table 5.6 Continued

CFA	Standardized λ Estimates	t-value
RCA-Customer Affection		
I love this store	0.86	24.6
I feel good when I shop at this store	0.94	28.31
I enjoy my visits at this store	0.92	27.54
This store puts me in a good mood	0.90	26.32
RCB-Customer Orientation		
This store treats customers courteously	0.78	20.94
This store treats customers fairly	0.76	20.36
The intention of this store is to assist me as much as possible	0.83	22.98
This store puts its customers first	0.89	25.99
This store keeps my best interest in mind	0.88	25.45
This store devotes time and effort to the relationship with customers	0.82	22.42
RCC-Customer Loyalty		
I consider myself to be loyal to this store	0.85	24.08
This store would be my first choice	0.84	23.28
It makes sense to shop at this store instead of any other stores even if they are the same	0.78	20.95
Even if another store has the same clothing, I would prefer to buy clothing at this store	0.79	21.47
I am willing to pay a bit more for the clothing sold at this store	0.66	16.76
Even if this store would be more difficult to reach, I would still keep buying there	0.70	17.98
If it is the same clothing, the likelihood that I would recommend this store to a friend is high	0.80	21.58
I look forward to visiting this store again	0.85	23.87
Perceived Transaction Value		
The time you spent in this store in order to buy clothing is very reasonable	0.73	18.32
The effort involved in buying clothing at this store is very worthwhile	0.78	19.97
I rate my overall experience with this store as extremely good value	0.82	21.43
Perceived Acquisition Value		
This store is good	0.95	29.01
This store is pleasant	0.94	28.51
This store is favorable	0.93	27.74
This store is valuable	0.73	19.25

Global fit indices: $\chi 2$ = 6597.03, df = 2039, p-value = .000; RMSEA = .066, RMR = .091, NFI = .97, NNFI = .98, CFI = .98, IFI = .98, GFI= .72

Table 5.7 Measurement Model: Evidence of Reliability, Convergent and Discriminant Validity of IC Scale (Main Study, n=520)

	HCA	HCB	SCA	SCB	SCC	SCD	SCE	SCF	SCG	SCH	RCA	RCB	RCC		Mean	Std.	α	AVE	CR
HCA	**0.84**														5.24	1.01	0.92	0.7	0.92
HCB	0.93	**0.83**													5	1.06	0.95	0.69	0.95
SCA	0.43	0.37	**0.89**												5.57	1.08	0.94	0.79	0.94
SCB	0.48	0.5	0.57	**0.88**											5.66	1.12	0.93	0.77	0.93
SCC	0.34	0.34	0.63	0.62	**0.8**										5.14	1.21	0.84	0.64	0.84
SCD	0.59	0.58	0.27	0.34	0.29	**0.81**									4.67	1.02	0.92	0.66	0.92
SCE	0.47	0.49	0.33	0.38	0.23	0.56	**0.84**								4.82	1.32	0.87	0.71	0.88
SCF	0.3	0.25	0.35	0.28	0.25	0.2	0.16	**0.73**							5.65	1.01	0.76	0.54	0.78
SCG	0.42	0.37	0.45	0.38	0.42	0.44	0.36	0.44	**0.77**						5.39	1.06	0.78	0.6	0.81
SCH	0.62	0.61	0.48	0.64	0.42	0.47	0.39	0.49	0.41	**0.88**					5.42	1.2	0.91	0.78	0.91
RCA	0.65	0.64	0.43	0.55	0.35	0.67	0.54	0.32	0.53	0.7	**0.9**				5.24	1.27	0.95	0.82	0.95
RCB	0.81	0.81	0.46	0.6	0.46	0.67	0.59	0.31	0.53	0.72	0.77	**0.83**			5.2	1.09	0.93	0.69	0.93
RCC	0.65	0.63	0.44	0.53	0.38	0.71	0.57	0.3	0.58	0.61	0.85	0.78	**0.79**		4.71	1.25	0.93	0.62	0.93

Notes: The numbers in diagonal cells are √AVE; lower diagonal numbers are interfactor correlation (Φ).... (Hair et al.,2006).

HCA: Human Capital - Utilized Knowledge Assets
HCB: Human Capital - Intrinsic Knowledge Assets
SCA: Structural Capital - Financial Strength
SCB: Structural Capital - Product innovation
SCC: Structural Capital - Technology
SCD: Structural Capital - Corporate Social Responsibility
SCE: Structural Capital - Security
SCF: Structural Capital - Convenience
SCG: Structural Capital - Transaction
SCH: Structural Capital - Store Atmosphere
RCA: Relational Capital - Customer Affection
RCB: Relational Capital - Customer Orientation
RCC: Relational Capital - Customer Loyalty

5.2.3 Hypotheses Testing

The relationships between the focal constructs (i.e., dimensions of IC and customer value) were tested using multivariate regression analysis. The dependent variables were perceived transaction value (Model 1) and perceived acquisition value (Model 2), with thirteen factors of IC: two variables measuring human capital (i.e., utilized knowledge assets and intrinsic knowledge assets), eight variables measuring structural capital (i.e., financial strength, product innovation, technology, corporate social responsibility, security, convenience, transaction, and store atmosphere), and three variables measuring relational capital (customer affection, customer orientation, and customer loyalty). Finally, Model 3 was regressed to test the effect of perceived transaction value on perceived acquisition value in the presence of the dimensions of IC. In other words, Model 3 is an enhanced version of Model 2 with perceived transaction value added to the independent variables. For each regression model, the independent variables were entered into the model in one block. There was a high correlation among the variables, as indicated by the adjusted R-squared of .392 (Model 1), .612 (Model 2), and .722 (Model 3) respectively. Each regression model is significant at p-value < .000. This indicates support for the notion that there is a relationship between IC and customer value.

The results of Model 1 confirm that the ease of transaction of structural capital (β = .263, p < .001), along with customer affection toward retailer (β = .110, p < .01), customer orientation (β = .293, p < .001), and customer loyalty of relational capital (β = .144, p < .05) positively affect perceived transaction value. These results provide support for H3g, H5a, H5b, and H5c. Further, intrinsic knowledge assets of human capital (β = -.127, p < .10) is negatively related to perceived transaction value, thus supporting H1b.

For Model 2, which was designed to measure the relationship between IC and perceived acquisition value, results suggest that 'utilized knowledge assets' of human capital (β = .114, p < .05) and 'transaction' of structural capital (β = .159, p < .001) along with 'customer affection' (β = .360, p < .001) and 'customer orientation' of relational capital (β = .314, p < .001) are positively related to perceived acquisition value. Thus, H2a, H4g, H6a, and H6b are supported.

Model 3 was tested after perceived transaction value was added to the independent variables which were used in Model 2. This addition increased the value of the adjusted R-squared for Model 3 to .722. In addition to the significant positive relationship between perceived transaction value and perceived acquisition value (β = .426, p < .001), the results show that 'utilized knowledge assets' of human capital (β = .113, p < .05) along with 'customer affection' (β = .313, p < .001) and 'customer orientation' of relational capital (β = .190, p < .001) are positively related to perceived acquisition value. Thus, H2a, H6a, H6c, and H7 are supported.

In sum, the results show that the dimensions of relational capital (i.e., customer affection, customer orientation, and customer loyalty) are the most important predictors of perceived transaction value and perceived acquisition value. Table 5.8 presents the regression results of the relationships between IC and customer value.

Table 5.8 Multiple Regression Models (Main Study; Using MTurk; n=520)

	Model 1 (DV: Transaction Value)			Model 2 (DV: Acquisition Value)			Model 3 (DV: Acquisition Value)			Hypotheses (direction): Supported/not-Supported
	Std. β	*t*	*Sig.*	*Std. β*	*t*	*Sig.*	*Std. β*	*t*	*Sig.*	
(Constant)		5.94	.000		7.66	.000		2.921	.000	
HC-Utilized Knowledge Assets	.004	.056	.955	**.114**	**1.946**	**.052**	**.113**	**2.262**	**.024**	H1a (+):NS, **H2a (+): S**
HC-Intrinsic Knowledge Assets	**-.127**	**-1.699**	**.090**	-.092	-1.533	.126	-.038	-.738	.461	**H1b(-):S**, H2b(-): NS
SC-Financial Strength	.021	.444	.657	-.021	-.562	.574	-.030	-.943	.346	H3a (+), H4a(+): NS
SC-Product Innovation	-.013	-.252	.801	.004	.102	.919	.010	.279	.780	H3b (-), H4b(+): NS
SC-Technology	-.067	-1.424	.155	-.057	-1.507	.132	-.028	-.882	.378	H3c (-), H4c(-): NS
SC-CSR	.032	.638	.524	.026	.651	.516	.012	.367	.714	H3d (+), H4d(+): NS
SC-Security	.042	.938	.348	-.029	-.824	.410	-.047	-1.562	.119	H3e (+), H4e(-): NS
SC-Convenience	.065	1.642	.101	.003	.097	.923	-.025	-.916	.360	H3f (+), H4f(-): NS
SC-Transaction	**.263**	**5.767**	**.000**	**.159**	**4.367**	**.000**	.047	1.478	.140	**H3g (+), H4g(+): S**
SC-Store Atmosphere	-.014	-.264	.792	.030	.693	.489	.036	.985	.325	H3h (-), H4h(+): NS
RC-Customer Affection	**.110**	**1.712**	**.088**	**.360**	**7.004**	**.000**	**.313**	**7.172**	**.000**	**H5a (+), H6a(+): S**
RC-Customer Orientation	**.293**	**4.017**	**.000**	**.314**	**5.398**	**.000**	**.190**	**3.786**	**.000**	**H5b (+), H6b(+): S**
RC-Customer Loyalty	**.144**	**2.284**	**.023**	.064	1.279	.201	.003	.073	.942	**H5c (+):S,** H6c(+): NS
Perceived transaction value							**.426**	**14.159**	**.000**	**H7(+): S**
R	.638			.789			.854			
R-Sq	.407			.622			.729			
Adj. R-Sq.	.392			.612			.722			
Std-Error of Est.	.74369			.64444			.54577			
F	26.710			63.980			97.153			
Sig	.000			.000			.000			

5.3 Post-hoc Analysis

Competition across retail channels and formats appears to be much more intense now than ever before (Berry et al., 2010). For example, consumers shop at different store formats for similar merchandise categories and therefore can usually distinguish between pricing strategies within a format or across formats (Inman et al., 2004). Given the abundant choices of retail formats and diverse product categories and brands available to consumers, competition for patronage and loyalty continues to intensify (Carpenter & Moore, 2006). Thus, in order to understand the role of retailer-specific attributes, additional post-hoc analyses were run. Specifically, this study investigated how different channels of stores (e.g., brick and mortar stores vs. online stores) affect the relationship between IC and customer value. However, in this study, the channels were not found to be a significant factor influencing customers' perception of value creation by a store. In addition, gender was used as a control variable and found to have no effect on customer value.

CHAPTER 6

DISCUSSION, IMPLICATIONS, AND LIMITATIONS

This chapter provides a discussion of the results of this study, particularly in light of the original research questions. In addition, theoretical implications of the findings, along with their managerial and methodological implications are discussed. Finally, potential limitations of the study are acknowledged, and suggestions for future research are offered.

6.1 Discussion

This study focuses on the role of the IC of a retailer in creating superior value for its customers. Retailers today face myriad challenges in creating superior value for their customers and in sustaining adequate profitability. Intense competition and declining margins in the context of volatile market dynamics have forced many retailers to critically examine and redesign their operations in an effort to improve their performance. The focus has shifted to strategies that can enable retailers to retain their existing customers, while continuing to operate in a cost-efficient way. In fact, the success of a retailer is connected, in part, to its available resources and to the ways in which these resources are utilized (Wernerfelt, 1984; Barney, 1991). What, then, is the role of a firm's resources in creating value for customers? The purpose of this study is to show how IC impacts customer value. As a means to achieve this goal, three theoretical frameworks have been used to anchor this study: the Resource-Based View of the firm (RBV), the Knowledge-Based View of the firm (KBV), and Service-Dominant Logic (SDL). The RBV sees firms as bundles of resources which are "all assets, capabilities, organizational processes, firm attributes, information, knowledge, etc., controlled by a firm that enable the firm to conceive of and implement strategies that improve its efficiency and effectiveness" (Barney, 1991, p. 101).

Although all resources are desirable for a firm's survival and success, the KBV focuses more on knowledge, which is the foundation of a firm's capabilities that have the potential to become sustained competitive advantages for a firm. SDL embraces concepts of co-creation of value rather than value-in-exchange. Thus, instead of firms marketing to customers, they are instructed to market with customers. In particular, literature on SDL highlights the notion that service ultimately must be experienced by the customer (Vargo & Lusch, 2008). In accordance with SDL, value is not created and delivered by a firm but emerges during the use of resources, in the customer's process of value creation; and knowledge is the operant resource, which resonates with the KBV of value creation (Grönroos, 2011; Grönroos & Ravald, 2011; Grönroos & Voima, 2013).

This dissertation delineates three dimensions of IC (i.e., HC, SC, and RC) available to a retail store in creating value for customers. The pre-tests of this study test the psychometric properties (reliability and validity) of scale items for measuring these three resources in a retailing context. Pre-test II also attempts to test the relationships between various dimensions of IC and customer value using student data. Finally, the main study reconfirms the psychometric properties of the IC scale and tests its effects on customer value including perceived transaction value and perceived acquisition value using non-student data. Conceptually, this study argues that a retailer's IC (i.e., resources and capabilities) can effectively create value for its customers, and this value, in turn, can be a source of competitive advantages. Overall, the results of this study suggest that while increasing investments in human resources is effective, the commitment to improving relational capabilities with customers is more valuable for retailers with a high level of customer orientation.

The broad research question examined herein has been, “How does IC create customer value and competitive advantage?” The present study shines some light on this research question. It was demonstrated that there is a direct linkage between RC and customer value including both perceived transaction value and perceived acquisition value (H5a, H5b, H5c, H6a, and H6b). This would lead one to believe that as long as a retailer is very customer oriented, in addition to providing quality products and services that drive positive customer affection and loyalty, customers will believe they are getting value from the retailer. Support was also found for the existence of a significant relationship between the “utilized knowledge assets” of HC and customer value (H2a). This can be interpreted as meaning that having good, solid sales representatives translates into successful value creation, even without market-based assets such as physical facilities and tangible materials. This result is in line with results from a previous study which concluded that providing a statement of an organization’s human resources can directly impact customer perceptions about service quality (Kamakura et al., 2002). According to Baker (2010), many consumer reports and shopper satisfaction surveys have consistently found one of the major shopping annoyances for customers to be the difficulty in finding a sales representative who is useful in helping them with their purchase decisions. In addition, Hooley et al. (2005) tested for and found a significant relationship between human resource assets and customer performance (primarily customer loyalty and customer satisfaction). That is, if human resources are valuable, they are expected to positively impact the satisfaction levels of a customer base. In turn, higher levels of satisfaction among customers can create a competitive advantage that leads to above-average financial returns (Aksoy et al., 2008). Interestingly, the result of this study shows that the intrinsic knowledge assets of a sales representative resulted in a negative effect on perceived transaction value

(H1b). This could be explained by saying that today's consumers might research and have enough information about certain products/services even before going to a store for a purchase; they might prefer to look for advice from peers or information from the Internet (e.g., SNS, company websites, blogs, etc.). Thus, they do not need any information or help from sales representatives and rather feel bothered by their assistance. This finding may provide a springboard for future research on how consumer characteristics (e.g., market mavenism and/or opinion leadership) affect the relationship that is presented. One key issue raised by the results of this study is the importance of sales representatives in a retail store with relation to value creation. Each sales representative in a retail store contributes to the creation of value in the eyes of the customer. As noted, sales representatives at a store are a more important asset for firms than the firm's SC, such as infrastructure or business processes (e.g., tangible, market-based, and firm-based resources). Even a well-crafted retailing strategy will fail if sales representatives are not equipped to complete their jobs effectively, are not well-suited for the role they play in a store, or are not motivated to carry out their role. Superior HC cannot be created over-night; it requires continual training and development. It is often more of a challenge to establish such resources because they are frequently based on tacit knowledge and skills and are not as easily acquired as are other market-based assets (Hooley et al., 2005).

The term SC refers to the overall system, processes, infra-structure, or institutionalized knowledge resources owned by a firm and which can be employed to solve problems and create value (Watson et al., 2005); and to the sum of an organization's hardware/software, databases, organizational culture, patents, technical information systems, organizational image, and capabilities (Edvinsson & Malone, 1997; Roos & Roos, 1997). Riahi-Belkaoui (2003) also defines SC as organizational knowledge, including aspects such as technology, innovations, data, published materials, strategies and cultures, structures and systems, and rules and procedures. Previous research indicates that consistent norms and roles (Hyatt & Ruddy, 1997) and greater standardization of work practices (Gilson et al., 2005) tend to lead to greater customer-perceived satisfaction levels; R&D, marketing, and operations, and in particular marketing capabilities, have been considered the most valuable features of SC (Krasnikov & Jayachandran, 2008). Hence, business processes dictate the way in which the resources of a firm are utilized. They represent the step-by-step actions that must be taken in order for a business to achieve its goals. Business processes also guide a firm in utilizing its resources and capabilities to allow the firm to achieve its business goals. The quality of the business processes will influence the quality of the performance of a firm.

Although previous literature has stated that SC is capable of creating customer value and providing competitive advantages, interestingly, in this study it was found that most components of SC other than “ease of transaction” were not significantly related to customer value. A reason could be that SC may be mediated by the impact of RC on perceived customer value. In other words, SC is believed to be a pre-requisite for other dimensions of IC (i.e., HC and RC) which have a strong relationship with customers. For example, customers may think that a retailer who with each transaction provides reliable security, a pleasant ambience, the ethical values of a good citizen, up-to-date technology, and so on, will deploy RC. In turn, this retailer will easily be believed to create value for customers. As noted earlier in this section, “transaction” of SC was found to be a significant indicator in creating customer value (H3g and H4g). These findings indicate that there is indeed a linkage between IC and customer value. As has been empirically demonstrated in previous studies (Grewal et al., 1998; Monroe & Chapman, 1987), this study also found that perceived transaction value is the antecedent of perceived acquisition value (H7) and enhances the relationship between IC and perceived acquisition value.

From a resource-based perspective, RC provides a competitive advantage because it is difficult or costly to imitate, and it is capable of creating superior financial performance (Barney, 1991; Srivastava et al., 2001). For example, perceived relational quality can lead to increased satisfaction (Zeithaml et al., 1996), and satisfied consumers, in turn, may be more likely to pay higher prices (Homburg et al., 2005), provide positive word of mouth (Brown et al., 2005), and develop loyalty toward firms which consistently satisfy them (Oliver, 1999).

The result of this study shows that RC is a more significant predictor of customer value as compared to other resources such as HC and SC. Specifically, customer relationships are formed on the basis of value delivered to customers (Srivastava et al., 2001). Hence, the success of customer relationship depends on the value which is created by the resources of a firm. This means that firms strategically decide on the emphasis of organizational capabilities and competencies in order to build successful customer relationship management. If a retailer makes a strategic investment in developing strong customer relationships, it is critical that retailers produce positive feelings and care in relation to customers and treat them fairly.

Finally, one of the goals of the present study has been to address a shortcoming often cited by critics of the Resource-Based View (RBV) of the firm. These critics claim that the RBV of the firm does little to integrate resources that are endogenous to the firm with exogenous elements. In this study, it has been demonstrated that endogenous resources (i.e., HC and SC) do have an impact on exogenous elements (i.e., customer value). Perhaps most importantly, the current study has empirically tested one way in which are connected.

In today's competitive market, retailers must continually improve the quality of their products and services to stay ahead of other competitors. Assets alone do not provide a competitive advantage, and just accumulating resources is not enough to create superior returns. It is the interaction of strong internal resources (i.e., HC and SC) with effective external resources (i.e., RC) that creates customer value. This study argues that firms have to cultivate and deploy these resources as well. In this context, assessing types of IC is essential because it enables retailers to assess where they stand in comparison to their competitors and focus on the resources that they manage better in order to create the best value for their customers. In addition, such an assessment process may provide the opportunity to recognize problems and engage in the right marketing activities by managing and sustaining the resources that are most beneficially focused on. Retailing is a dynamic area of business and is the one which is perhaps most immediately concerned with competition and competitive strategies. Successful utilization of resources and competencies by a retailer is required if the retailer is to deliver superior value to its customers and if the retail store is to enjoy profitable outcomes. Hence, utilizing the right resources at the right time and place for the right customers to gain the right outcomes is a challenge for all retailers.

6.2 Implications

6.2.1 Theoretical Implications

One of the major objectives of marketing researchers is to stipulate, test, and validate a theoretical basis for understanding marketing phenomena. In theoretical terms, the results of this study add to the continuing work in marketing theory (Srivastava et al., 2001; Krasnikov & Jayachandran, 2008). Specifically, this study provides greater insight into the role of IC in creating customer value. The magnitude and types of IC used by retail stores are critical for creating customer value. However, not all resources are equally effective for value creation. In fact, only when retail stores utilize the right resources at the right place and time for the right consumers do they achieve desirable outcomes. As mentioned earlier, RC (i.e., the relationship between consumers and retail stores) remains one of their most valuable assets.

To the best of this author's knowledge, this is the first study that identifies various dimensions that make up IC from the customer perspective, and hence, it contributes to the literature and adds to the broad discussion on certain current conceptualizations and measures of IC which have never been examined in a marketing context. The proposed set of scale items may be helpful to both theory and practice in the area of retailing. For example, this measurement of IC can be used to re-assess the value of retail stores, brands, or products with regard to store equity, customer relationship marketing, and marketing related activities. Another important use for this measurement is that it can be employed to evaluate retail stores based on their resources and customer value. This IC measurement can be a means to evaluate retail stores along three dimensions (i.e., a retail store might be high or low on each of the dimensions). In addition, this measurement may help to segment different groups of consumers based on their perceptions of the IC of retail stores. The evaluation of retail stores could allow for new segmentation and positioning strategies.

As proposed in the previous chapter, RC is a critical dimension in creating value for customers. This result could be explained by saying that consumer perception of high RC may be based on the quality of HC and SC. Hence, it is supposed that there may be a causal relationship between the dimensions of IC. If there is a strong interaction among the dimensions, marketing practitioners may devise effective strategy in the utilization of each dimension of IC in order to manage resources more efficiently. Furthermore, this IC measurement can be used to investigate the consequences of IC and see if their evaluation changes when new dimensions are used. Therefore, the relationships between consumer-perceived IC and new relevant variables could be studied. The scale could also be broadly used to measure the value of any product category by retailers of products ranging from clothing (as in this study) to automobiles, service, and electronics.

6.2.2 Managerial Implications

In today's competitive market, retailers must continually improve the quality of their products and services to stay ahead of other competitors. The findings of this study encourage managers, in order to enhance the measurement of IC from a consumer perspective, to re-assess their retail stores with respect to HC, SC, and RC. This study reconfirms the importance of resources and competencies held by retail stores in relation to value creation for customers. Marketing practitioners and retail managers can learn, based on these results, that the types of resources and their utilization affect the perception by consumers of the value of retail stores. Specifically, the valid, reliable, and parsimonious scale employed by the present study will provide practitioners with an easy way to measure this value using the three dimensions that consumers have perceived. Therefore, this measure will allow practitioners to assess whether a store is succeeding or failing in the use of certain resources. This could in turn allow them to efficiently allocate resources in order to create value for customers. However, not every retail store will obtain the same benefits from attempts to develop their IC in relation to customer value. In this light, assessment of types of IC is essential because it enables retailers to determine where they stand in comparison to their competitors and focus on the resources that they manage better in order to create the best value for their customers. In addition, such assessment may provide retailers with the opportunity to recognize problems and engage in the right marketing activities by managing and sustaining their most valuable resources.

In addition, this study may aid in the study of the relationship between value creation and market performance, including profits, market share, market growth, and so on. Marketing practitioners should consider the set of resources representing their firm, along with their firm's human resources, structure, process, culture, and strategies when deciding how much to invest in creating value for customers. Depending on the current positions and the strategic emphasis of the retail stores in the marketplace, effective utilization of each type of resource (e.g., focused sales training for sales representatives, customer relationship management, and corporate social responsibility) will provide retailers with a competitive advantage. In practice, managers dealing with customers on a daily basis should make sure that their retail stores have high quality of RC and should check on customers' feelings about the retail stores, the strength of their relationships with them, and their loyalty to the stores. They must also be aware of the fact that achieving a sustainable competitive advantage is more likely if human resource-based assets are combined with strong relational resources.

6.2.3 Methodological Implications

This study also makes a potential contribution within the domain of measurement and methodology. The identification and validation of three dimensions of IC represent an important methodological contribution. In addition, this study incorporates several concerns regarding procedures that the existing studies have yet to fully adopt. Proper methods or procedures are important to ensure the validity of any research. A summary of the literature related to IC and customer value is presented in Appendix A. This is one of the contributions of this study in terms of meta-analysis. Finally, it can be inferred from the findings that consumers perceive IC to include three dimensions: HC, SC, and RC. Consumers want a retail store to have high quality in the resources which create value for consumers.

6.3 Limitations and Future Research

Although the present research has added substantively to the marketing literature, some considerations of its limitations are in order. The limitations of this study provide a springboard for future research.

First, generalization of the results should be cautioned against since the study focused on one industry (fashion) and one product category (clothing). This fact presents opportunities for future research to see if industry/product category factors might moderate some of the relationships that are presented. Thus, a replication of this study would prove desirable, particularly if that study employed other product categories and/or brands. For example, future studies investigating the types of IC across other service industries or channels (e.g., online retailing) are warranted. Additionally, this study focused only on domestic retailers in the U.S. Thus, it would be interesting to implement a cross-cultural study to see how and which of the dimensions of IC create value for customers. Second, although a consumer sample was used in the main study, a student sample was also employed for the two pre-tests. This student sample was geographically collected from the Southwestern part of United States, and was younger than the population at large. However, it is proven that students represent a segment of consumers who have experience with purchasing clothing at retail stores. Given the generalizability of the sample, there was however a limitation in the sample size of both the student sample and the consumer sample with regard to the number of respondents (student sample = 204 and 286 respectively for the pre-tests; consumer sample = 520 for the main study). These limitations pose generalizability questions, and a larger sample would be more appropriate for future research. Third, the research is based on cross-sectional data rather than on longitudinal data. Given that retailing is a process consisting of several stages, perhaps a longitudinal study is needed. Finally, the thirteen factors capturing IC may not be an exhaustive set of the resources enjoyed by a firm. There may be other antecedents of IC, such as the compensation structure of human resources or types of organizational structures that could be included. In addition, it is expected that there may be other factors moderating the relationship between the dimensions of IC and customer value. For example, consumers' preference for certain retail stores will affect the process of value creation. Preference to the consumers may mean that the store will always be the first choice from the consideration sets. Those consumers will always be willing to buy the product or service at that preferred store, no matter what. Such a preferred store commands loyalty. Thus, for this IC measurement from a consumer perspective, the notion of preference may capture the extent to which a retail store can be the consumers' first choice, how loyal consumers are to the specific retail store (product, service, or brand), the extent to which they will not shop at other stores if that specific product is available at the store, and how committed they are to continuing to purchase the product at the store.

Although extensive conceptual and empirical work lies ahead, this study posits a number of interesting directions for future research. The following research questions and future tasks were indicated as a result of this study:

1. Testing and validating the scale using a larger and diverse sample (e.g., cross-cultural study).

2. Testing and validating the scale using other product categories and industries (e.g., service industry).

3. Postulating the dimensions of IC to see if there should be more extended sub-dimensions.

4. Postulating and testing to determine if there should be more of an emphasis on the network of relationships that exist both up and down the value chain (i.e., suppliers, vendors, and channel intermediaries) with regard to RC rather than on just the relational dyad that exists between a retailer and a customer which is the scope of this dissertation.

5. How do firms relate to their competitors? What is the role of brand equity?

6. How do knowledge-intensive firms' strategic approach to customers and their use of the IC assets above and beyond HC vary and operate to impact their performance?

7. Postulating and testing of the cause-and-effect linkages between the dimensions of the IC scale.

8. Postulating and testing whether or not SC and HC act as substitutes or complements to each other.

9. The specification of intra-organizational conditions, specifically core business processes, as a component of IC.

In sum, this study has demonstrably answered the following fundamental research questions: 1) which dimensions of IC identified by consumers are critical to customer value, 2) how these dimensions can be interrelated to measure customer value effectively. Through this research, relevant answers to each question were attained. However, as is usually true with ambitious research, more new research questions were inspired than were resolved. There are three dimensions to the consumer-perceived IC measurement: HC, SC, and RC. These dimensions clearly measure customer value effectively with a very high reliability and validity using both a student sample and a consumer sample (Amazon Mechanical Turk). The model and findings of the present research not only contribute to the marketing discipline's body of knowledge but also open up a broader path through which future inquiry into IC in retailing contexts can be conducted. Given market dynamism and turbulence, retail stores that understand and anticipate changes in their competitive market can achieve a competitive advantage. IC is built upon information concerning a particular market's stakeholders (Nonaka & Takeuchi, 1995). The embedded knowledge collected from a retailer can be used to anticipate changes in customer demand, speed new product development, block competitors, and create value for customers. Specifically, the IC scale that is validated in this study suggests numerous new directions for future study and exploration.

APPENDIX A. CONCEPUTALIZATION OF IC IN THE LITERATURE

Author(s)	Year	Journal	Definition/Indication/Categorization	Dimensions
Itami	1991	Harvard University Press	Intangible assets are invisible assets that include a wide range of activities such as technology, consumer trust, brand image, corporate culture, and management skills	
Hall	1992	Strategic Management Journal	Intangible assets are value drivers that transform productive resources into value-added assets	assets (e.g., brand, trademark, contracts, database) or skills (e.g., know-how of employees, organizational culture)
Klein & Prusak	1994	Ernst and Young: Cambridge, MA	packaged useful knowledge	
Bontis	1996	Business Quarterly	IC is elusive, but once it is discovered and exploited, it may provide an organization with a new resource-base from which to compete and win	HC, SC, Communication Capital
Edvinsson & Sullivan	1996	European Management Journal	Knowledge that can be converted into value	human capital, structural business assets, and intellectual property
Spender	1996	Strategic Management Journal	Social knowledge	Explicit/tacit and individual/social knowledge
Bassi	1997	Training and Development	All types of organizationally relevant knowledge and its basic components are HC, SC and customer capital	HC, SC, Customer Capital
Boudreau & Ramstad	1997	Human Resource	IC is closely related to human resource management	Human Resource (people)
Bradley	1997	Business Strategy Review	Ability to transform knowledge and intangible assets into wealth-creating resources, both for companies and countries.	Human Capital
Brooking	1996	London: International Thomson Business Press	combined intangible assets of – market, intellectual property, human-centered and infrastructure – which enable the company to function	Human-centered assets, infrastructure assets, intellectual property, market assets
Brooking	1997	London: International Thomson Business Press	The difference between the book value of the company and the amount of money someone is prepared to pay for it	HC, Structural capital relationships, structural capital renewal and intellectual property
Edvinsson & Malone	1997	Harper Business, New York: NY	The procession of knowledge, applied experience, organizational technology. Customer relationships and professional skills that provide Skandia with a competitive edge in the mark	Skandia value scheme: HC, SC, Customer capital; Individual competence, internal structure, external structure
Roos & Roos	1997	International Journal of Strategic Management	The sum of the hidden assets of the company not fully captured on the balance sheet, and thus includes both what is in the heads of organizational members and what is left in the company when they leave	Human-centered assets, Infrastructure assets, Market assets, Intellectual Property
Roos et al.	1997	New York University Press	IC includes all the processes and the assets which are not normally shown on the balance sheet and all the intangible assets (trademarks, patents and brands) which modern accounting methods consider; it includes the sum of the knowledge of its members and the practical translation of his/her knowledge	Human-centered assets, Infrastructure assets, Market assets, Intellectual Property
Stewart	1997	Nicholas Brealey Publishing, London	Intellectual material – knowledge, information, intellectual property, experience – that can be put to use to create wealth	HC, SC, Customer Capital
Sveiby	1997	Barrett-Kohler, San Francisco: CA	Composed of individual competence, internal structure and external structure	Intangible asset monitor: Competence of personnel, Internal Structure, External Structure
Bontis	1998	Management Decision	pursuit of effective use of knowledge (the finished product) as opposed to information (the raw material)	HC, SC (excluding intellectual property), and Customer Capital

Author(s)	Year	Journal	Definition/Indication/Categorization	Dimensions
Booth	1998	Management Accounting	A company's ability to deploy its resources probability into new markets; The ability to translate new ideas into products or services	Human, Market (customer relationship, reputation), Knowledge, infrastructure, property
Lynn	1998	Ivey Business Journal	Wealth of ideas and the ability to innovate, both being factors that determine the future of the organization.	HC, SC, RC
Nahapiet & Ghoshal	1998	Academy of Management Review	Knowledge and knowing capability of a social collectivity, such as an organization, intellectual community or professional practice	Social Capital: Structural dimension, cognitive dimension, relational dimension
Bontis	1999	International Journal of Technology Management	Collection of intangible resources and their flows, where intangible resources contribute to the value creating process of the company and are under the control of the company	HC, SC and Customer Capital
Granstrand	1999	Edward Elgar Publishing, Cheltenham	IP is property directly related to the creativity, knowledge and the identity of an individual	Intellectual Property (IP); creativity, knowledge, identity of individuals
Olve et al.	1999	Chichester: John Wiley & Son	An element of the company's market value as well as a market premium	
Andriessen & Tiessen	2000	Pearson Education, London	Assets and endowments, skills and tacit knowledge, primary and management processes, technology and explicit knowledge, and collective values and norms	Intangibles
Bontis et al.	2000	Journal of Intellectual Capital	Intellectual capital as an important component between a firm's market value and the cost of replacing its assets.	HC, SC, and Customer Capital
Brennan & Conell	2000	Journal of Intellectual Capital	Intangible assets that would enable a company to sustain its operations; n the knowledge-based equity of a company	Internal structure, external structure and human capital; human resources, customer loyalty, company reputation
Harrison & Sullivan	2000	Journal of Intellectual Capital	Knowledge that can be converted into profit	Human capital, intellectual asset including intellectual property
Michalisin et al.	2000	Journal of Business Strategies	Intangible resources	Reputation, know-how, organization structure
Petty & Guthrie	2000	Journal of Intellectual Capital	Indicative of the economic value of two categories (organization and HC) of the intellectual asset of a company	HC, SC
Sanchez et al.	2000	Journal of Intellectual Capital	Intangibles	HC, SC, and RC
Sullivan	2000	Wiley, New York: NY	IC is knowledge that can be converted into profit; knowledge, lore, ideas and innovations	Human capital, intellectual asset including intellectual property
Chan et al.	2001	Journal of Finance		R&D, advertising
FASB NN	2001	Harvard Management Update	Intangible assets are non current, nonfinancial claims to future benefits that lacks a physical or financial term	Intangible assets
Gu & Lev	2001	Boston University and New York University, New York: NY	Assets exclude financial assets" IA cannot stand alone Intangibles are defined by their value drivers (RD, advertising, IT, capital expenditures, and human resources practices)	Advertising, IT, capital expenditures and human resources practices
Gunther	2001	from Choong	Immaterial values	Internal structure, external structure and employee competence

Author(s)	Year	Journal	Definition/Indication/Categorization	Dimensions
Heisig et al.	2001	Springer, Berlin	IC is valuable, yet invisible	
Lev	2001	The Brookings Institution	An intangible asset is a claim to future benefit that does not have a physical or financial (a stock or a bond) embodiment	innovation, organizational designs and human resources
Marr & Schiuma	2001	Gee Publisher, London	Knowledge assets	organizational actors (relationships, HR) and infrastructure (virtual and physical)
Daum	2002	Wiley, Chichester	Intangibles are characterized by a set of attributes, and they can bring in economic benefits rather quickly, and they often show network effects	Labor, customers (brands, trademarks), Innovation (R&D, Adaptive Capacity)
MERITUM	2002	MERITUM, Madrid	Intangibles and IC	Human resources, structural resources and relational resources
Mouritsen et al.	2002	Journal of Intellectual Capital	IC is knowledge management	Human capital, organizational capital and customer capital
Pablos	2002	Journal of Intellectual Capital	resources created from internal learning and development of valuable relationships	HC, Organization Capital, RC
Funk	2003	MIT Sloan Management Review	Intangibles	management creditability, innovativeness, brand identity, ability to attract talents, research leadership, social and environmental responsibility
Marr et al.	2003	Journal of Intellectual Capital	Knowledge assets	Strategy, influencing behavior and external validation
Pablos	2003	Journal of Intellectual Capital	The difference between the company's market value and its book value. Knowledge- based resources that contribute to the sustained competitive advantage of the firm from IC	HC, SC, RC
Rastogi	2003	Journal of Intellectual Capital	The holistic or meta-level capability of an enterprise to coordinate, orchestrate and deploy its knowledge resources towards creating value in pursuit of its future vision	social capital, human capital (HC), and knowledge management (KM)
Andriessen and Stem	2004	Center for Research in IC	all intangible resources that are available to an organization, that gives a relative advantage, and which in combinations are able to produce future benefits	Human Resources, Organizational Resources, Communication Resources
Baxter & Matear	2004	Industrial Marketing Management	intangible resources	Structural intangible value (competence, attitude, intellectual agility), Human Intangible Value (relationships, organization, renewal and development)
Chen et al.	2004	Journal of Intellectual Capital	the largest and most valuable asset for the enterprises	HC, SC, Customer capital, Innovation capital
IASB	2004	International Accounting Standards Board, London	An identifiable IA as a "non-monetary asset without physical substance held for use in the production or supply of goods or services, for rental to others, or for administrative purposes	Advertising (marketing), distributing, training (human resource), start-up, RD, brands, copyrights, covenants not to complete, franchise, future interests, licenses, operating rights, patents, record masters, secret processes and trademarks (trade names)
Lim & Dallimore	2004	Journal of Intellectual Capital	Intangible assets and knowledge capital which are the driver of value in an organization	HC, Corporate Capital, Business Capital, Functional Capital, Customer Capital, Supplier Capital, Alliance Capital, Investor Capital
Marr et al.	2004	Business Process Management Journal	Knowledge Assets: gained through experience and learning can be used to achieve the strategic objectives of all kinds of intangible assets	Stakeholder Resources (Stakeholder relationships, HR), Structural Resource (physical and virtual infrastructure)

Author(s)	Year	Journal	Definition/Indication/Categorization	Dimensions
Marr et al.	2004	Journal of Intellectual Capital	Organizational Assets	financial assets, physical assets, relationship assets, human assets, culture assets, practices and routine assets, and intellectual property assets
Mavridis	2004	Journal of Intellectual Capital	An intangible or invisible driver (intangible competencies) for the creation of value; it creates not only intangible goods (e.g., know-how, license, patents, franchises, copyrights, trademarks, software and methods) but also invisible competences or competitive advantages and lastly real common tangible assets	HC and Physical Capital
Bollen et al.	2005	Management Decision	Unique resources, capabilities, and endowments in order to create and sustain a competitive advantage	SC, HC, RC, Intellectual Property
Chen et al.	2005	Journal of Intellectual Capital	An important strategic asset of sustainable corporate competitive advantage	HC efficiency, SC efficiency, Capital employed efficiency; value creation efficiency (physical capital, HC, and SC)
Hermans & Kauranen	2005	R&D Management	Value creation potential and high anticipated future sales	HC, SC, RC
Johannessen et al.	2005	International Journal of Information Management	Intellectual capital as a holistic management philosophy	HC, SC, network capital, and system capital
Mouritsen et al.	2005	Journal of Intellectual Capital	A firm's capabilities, competencies, and knowledge resources	Human capital, organizational capital and customer capital
Roos et al.	2005	Elsevier, Oxford	All non-monetary and non-physical resources that are fully or partly controlled by the organization and that contribute to the organization's value creation.	HC, organizational capital, and RC
Subramaniam & Youndt	2005	Academy of Management Journal	IC is the sum of all knowledge stacks firms utilize for competitive advantage	HC, Organization Capital, Social Capital
Tseng & Goo	2005	R&D Management	Measures for corporate value	HC, OC, RC, Innovation Capital
Wang & Chang	2005	Journal of Intellectual Capital	IC is viewed as the most valuable asset and the most powerful competitive weapon in business.	HC, Customer Capital, Innovation Capital, Process Capital
Martinez-Torres	2006	Information & Management	Intellectual wealth of a learning organization	HC, SC, Customer Capital
Reed et al.	2006	Journal of Management Studies	This study suggests that IC interactions are best understood within the very specific industry conditions in which they are developed	HC, Organizational Capital, and Social Capital
Roos	2006	Butterworth- Heineman, Elsevier, New York	An extension of strategic innovation, an integrated part of any business model thinking and an extension of the resource and competence based views of the firm	financial, competence, physical, organizational and relational assets
Cohen & Kaimenakis	2007	The Learning Organization	Combination of knowledge-bearing intangible resources that the firm has at its disposal and whose effective management can provide the firm with a sustainable competitive advantage	human capital, organizational capital and customer capital
King	2007	Journal of Database Marketing & Customer Strategy Management	Intangible Assets: most important asset of many of the world's largest and most powerful companies; it is the foundation for the market dominance and profitability of leading corporations.	marketing related (trademarks, brands, logos, brand promotions, advertisements) and customer related (know-how used to attract and maintain a company's customers)
Nazari & Herremans	2007	Journal of Intellectual Capital	Higher value asset	HC, SC, and RC
Peng et al.	2007	Journal of Intellectual Capital	The set of critical resources used by firms to facilitate productive activities and generate economic rents	HC, Organizational Capital, RC

Author(s)	Year	Journal	Definition/Indication/Categorization	Dimensions
Tayles et al.	2007	Accounting, Auditing & Accountability Journal	Possession of knowledge and experience, professional knowledge and skill, good relationships, and technological capacities, which when applied will give organizations competitive advantage	HC, SC, RC
Tovstiga & Tulugurova	2007	Journal of Intellectual Capital	represents a competitive lever that presents itself to the small innovative enterprise; in fact, intellectual capital is increasingly becoming the primary resource available to the enterprise in technology-intensive environments	HC and SC
Choong	2008	Journal of Intellectual Capital	IC has been defined to include expenditures on advertising (marketing), training, start-up, R&D activities, human resource expenditures, organizational structure, and values that come from brand names, copyrights, covenants not to compete, franchises, future interests, licenses, operating rights, patents, record masters, secret processes, trademarks and trade names	HC, SC, Customer Capital, Intellectual property capital
Zerenler et al.	2008	Journal of Technology Management & Innovation	Total stocks of all kinds of intangible assets, knowledge, capabilities and relationships etc. at employee and organization level	employee capital, structural capital, and customer capital
Davey et al.	2009	Journal of Intellectual Capital	Most important asset for business performance and the foundation for market leadership and differentiation	HC, Organizational Capital, Customer Capital
Dumay	2009	Journal of Intellectual Capital	Intangible resources	HC, SC, and RC
Kim & Kumar	2009	Journal of Intellectual Capital	IC as the mixture of human, structural and relational resources of an organization based on MeritumProject (2002)	HC, SC, and RCIC indicators: workforce satisfaction, process effectiveness, and customer satisfaction.
Cheng et al.	2010	Journal of Intellectual Capital	Intangible assets; very important and may constitute 80 percent of an organization's market value	HC, SC, and Customer Capital
Jaradaat & AL-Saleh	2010	Interdisciplinary Journal of Contemporary Research in Business	All the knowledge owned by the organization and exploit them to serve the organization	HC, SC, Social Capital, Psychological capital
Giuliani & Marasca	2011	Journal of Intellectual Capital	IC is invisible, closely related to knowledge, and offers better opportunities for an organization to succeed in the future	HC, SC, RC
La'lbar et al.	2012	Journal of Basic and Applied Scientific Research	There is a meaningful relationship between the efficiency coefficient of physical capital, HC, and SC	Physical capital, HC, SC
Phusavat et al.	2011	Industrial Management & Data Systems	Skill, education, experiences, infrastructure, social network, capability of information and communication technology, leadership, intellectual property, and trusts	HC, SC, Innovation Capital
Castro & Delgado-Verde	2012	Journal of CENTRUM Cathedra	Intangible or knowledge assets	HC, Organizational Capital, RC, and Technology Capital
Hsu & Wang (2012)	2012	British Journal of Management	One of the key drivers of firm-level performance	HC, SC, RC
Sussan	2012	Journal of Intellectual Capital	Adapted from Edvinsson and Malone (1997), Jacobson et al. (2005), and Stewart (1997)	HC, SC, RC (B2C and C2C interaction)
Toth & Jonas	2012	International Journal of Quality and Service Sciences	IC is something invisible and is closely related to the knowledge, experience and skills of employees as well as external relationships and processes of an organization.	HC, SC, RC
Chiu	2013	Business and Information	Intangible asset which consists of knowledge and resources	HC, Organizational Capital, and Customer Capital
Demartini & Paoloni	2013	Journal of Intellectual Capital	Intangible Capital	HC, SC, and RC
Harlow	2013	European Conference on Intellectual Capital	Proxy for knowledge and tacit knowledge	HC, SC, and Social Capital
Rexhepi et al.	2013	Social and Behavioral Sciences	Intangible/invisible assets	HC, SC, RC
Sydler et al.	2013	European Management Journal	Edvinsson and Malone (1997) definition	HC, SC, and RC
Ramirez and Gordillo	2014	Journal of Intellectual Capital	Collection of intangibles which allows an organization to transfer a collection of material, financial and human resources into a system capable of creating value for the stakeholders	HC, SC, and RC

APPENDIX B. MEASUREMENT INSTRUMENTS

SECTION 1

Q1. **Recall one of your recent purchases of CLOTHING** and provide the information of the purchase.

Product Category (e.g., pants, shirts)	**Brand Name**	**Store Name**	**Total spent during this trip ($)**

Q2. Where did you purchase the aforementioned clothing?

_____ Physical (Off-line) store _____ On-line store

Q3. This store offers an on-line store

_____ YES _____ NO

Q4. Now, based on your answers to the question #1, please print the name of the Store from which you made the recent purchase of CLOTHING:

____

Q5. Please respond to the following statements pertaining to your ***purchase of clothing at your choice of store***. Please mark the degree to which you AGREE or DISAGREE with each of the following statements.

		Strongly Disagree 1						Strongly Agree 7
		1	2	3	4	5	6	7
1.	The employees of this store treat customers well	○	○	○	○	○	○	○
2.	The employees of this store have excellent leadership	○	○	○	○	○	○	○
3.	The employees maintain high standards in the way they treat customers	○	○	○	○	○	○	○
4.	The employees are well-managed	○	○	○	○	○	○	○
5.	The employees know what they are doing	○	○	○	○	○	○	○
6.	The employees are experts	○	○	○	○	○	○	○
7.	The employees are competent	○	○	○	○	○	○	○
8.	The employees are proficient	○	○	○	○	○	○	○
9.	The employees are highly skilled	○	○	○	○	○	○	○
10.	The employees are creative	○	○	○	○	○	○	○
11.	The employees are knowledgeable	○	○	○	○	○	○	○
12.	The employees are well trained	○	○	○	○	○	○	○
13.	I can get helpful guidance from the employees of this store	○	○	○	○	○	○	○
14.	This store looks like it has strong prospects for future growth	○	○	○	○	○	○	○
15.	This store is doing well financially	○	○	○	○	○	○	○
16.	This store seems to have a clear vision of its future	○	○	○	○	○	○	○
17.	This store seems to be financially well-managed	○	○	○	○	○	○	○
18.	This store introduce new products (clothing) very often	○	○	○	○	○	○	○

Q6. Please respond to the following statements pertaining to your purchase of clothing at your choice of store. Please mark the degree to which you AGREE or DISAGREE with each of the following statements.

		1 Strongly Disagree	2	3	4	5	6	7 Strongly Agree
1.	This store's product (clothing) is up-to-date	○	○	○	○	○	○	○
2.	This store's product (clothing) is stylish	○	○	○	○	○	○	○
3.	This store's product (clothing) is attractive	○	○	○	○	○	○	○
4.	This store uses social media for the quality of communication, coordination, and information distribution (e.g., Facebook, twitter)	○	○	○	○	○	○	○
5.	This store appears to be well qualified in the area of e-commerce	○	○	○	○	○	○	○
6.	I believe that this store incorporates up-to-date technology to develop products (clothing)	○	○	○	○	○	○	○
7.	This store's values are consistent with my ethical values	○	○	○	○	○	○	○
8.	This store has a common set of values, creeds, and symbols	○	○	○	○	○	○	○
9.	This store is a socially responsible company	○	○	○	○	○	○	○
10.	This store operates in an environmentally friendly manner	○	○	○	○	○	○	○
11.	This store is concerned to improve the well-being of society	○	○	○	○	○	○	○
12.	This store follows high ethical standards	○	○	○	○	○	○	○
13.	I believe that this store would not use my personal information of consumers for purposes other than those initially stated	○	○	○	○	○	○	○
14.	I believe that this store would not share my personal information with other parties unless it has been authorized by me	○	○	○	○	○	○	○
15.	I believe that this store's databases containing my personal information are protected from hacking	○	○	○	○	○	○	○
16.	This store offers convenient parking	○	○	○	○	○	○	○
17.	This store offers convenient locations	○	○	○	○	○	○	○
18.	This store offers convenient store hours	○	○	○	○	○	○	○
19.	Being a customer of this store helps me save time and effort	○	○	○	○	○	○	○
20.	Being a customer of this store helps make my transaction easier	○	○	○	○	○	○	○
21.	I can quickly find information before I shop to decide if the store has what I am looking for	○	○	○	○	○	○	○
22.	The interior of this store is nice	○	○	○	○	○	○	○
23.	This store is well laid out	○	○	○	○	○	○	○
24.	This store offers pleasant shopping atmosphere	○	○	○	○	○	○	○
25.	I love this store	○	○	○	○	○	○	○
26.	I feel good when I shop at this store	○	○	○	○	○	○	○
27.	I enjoy my visits at this store	○	○	○	○	○	○	○
28.	This store puts me in a good mood	○	○	○	○	○	○	○
29.	This store treats customers courteously	○	○	○	○	○	○	○
30.	This store treats customers fairly	○	○	○	○	○	○	○
31.	The intention of this store is to assist me as much as possible	○	○	○	○	○	○	○
32.	This store puts its customers first	○	○	○	○	○	○	○
33.	This store keeps my best interest in mind	○	○	○	○	○	○	○
34.	This store devotes time and effort to the relationship with customers	○	○	○	○	○	○	○
35.	I consider myself to be loyal to this store	○	○	○	○	○	○	○
36.	This store would be my first choice	○	○	○	○	○	○	○
37.	It makes sense to shop at this store instead of any other stores even if they are the same	○	○	○	○	○	○	○
38.	Even if another store has the same clothing, I would prefer to buy clothing at this store	○	○	○	○	○	○	○

Q7. Please respond to the following statements pertaining to your ***purchase of clothing at your choice of store***. Please mark the degree to which you AGREE or DISAGREE with each of the following statements.

		Strongly Disagree 1						Strongly Agree 7
		1	2	3	4	5	6	7
1.	I am willing to pay a bit more for the clothing sold at this store	○	○	○	○	○	○	○
2.	Even if this store would be more difficult to reach, I would still keep buying at this store	○	○	○	○	○	○	○
3.	If it is the same clothing, the likelihood that I would recommend this store to a friend is high	○	○	○	○	○	○	○
4.	I look forward to visiting this store again	○	○	○	○	○	○	○
5.	This store is reliable	○	○	○	○	○	○	○
6.	I feel I can trust this store	○	○	○	○	○	○	○
7.	This store delivers what it promises	○	○	○	○	○	○	○
8.	This store's product claims are believable	○	○	○	○	○	○	○
9.	This store has a name that you can trust	○	○	○	○	○	○	○
10.	Generally, technology appeals to me	○	○	○	○	○	○	○
11.	I am very savvy in computer technology	○	○	○	○	○	○	○
12.	When a new technology product comes out, I tend to buy it and try it earlier than others	○	○	○	○	○	○	○
13.	Clothing is part of my self-image	○	○	○	○	○	○	○
14.	Clothing portrays an image of me to others	○	○	○	○	○	○	○
15.	Clothing is important to me	○	○	○	○	○	○	○
16.	Clothing tells me about other people	○	○	○	○	○	○	○

SECTION 2

Please evaluate the store that you have used in order to answer the previous questions:

The price that you pay for the clothing at the choice of your store is a:

very poor deal *very good deal*

○ ○ ○ ○ ○ ○ ○

The time spent in buying clothing at the choice of your store is:

very unreasonable *very reasonable*

○ ○ ○ ○ ○ ○ ○

The effort involved in buying clothing at the choice of your store is:

Not at all worthwhile *very worthwhile*

○ ○ ○ ○ ○ ○ ○

How would you rate your overall experience with the choice of your store?

Extremely poor value *extremely good value*

○ ○ ○ ○ ○ ○ ○

How would you rate this store on the following aspects?

bad							*good*
○	○	○	○	○	○	○	
unpleasant							*pleasant*
○	○	○	○	○	○	○	
unfavorable							*favorable*
○	○	○	○	○	○	○	
Not valuable							*valuable*
○	○	○	○	○	○	○	

SECTION 3

Q1.Please rank these retail stores in order from Most FAVORITE (**number 1) to LEAST favorite (number 4**)?

Target	Target (online)	Macy's	Macy's (online)
( )	( )	( )	( )

Q2. Assume that you are going to buy clothing from the store listed below including both offline and offline. **How much would you be willing to pay for each product that is currently sold at these retail stores?**

Products and Stores	**Target Store**	**Target Online**	**Macy's Store**	**Macy's Online**
Jeans	$	$	$	$
Cotton Shirts	$	$	$	$

Q3. Now, could you tell us **how much would you be willing to pay for the specific clothing brands sold at these retail stores?**

Products and Stores	**Target Store**	**Target Online**	**Macy's Store**	**Macy's Online**
Levi's Jeans	$	$	$	$
Polo Ralph Lauren Shirts	$	$	$	$

Q4. **Recall your choice of store for the question #1 where you made the recent purchases of CLOTHING.** Assume that the same CLOTHING item is currently sold at these retail stores. **How much would you be willing to pay for the CLOTHING item?**

Target Store	**Target Online**	**Macy's Store**	**Macy's Online**
$	$	$	$
$	$	$	$

Q5. On average, I spend about $____for apparel purchases each month.

_____ Under $25 _____ $26-$50 _____ $51-$100 _____ $101-$125 _____ $126-$150 _____ Over &150

= == = = = = = = = = = = = = =

SECTION 4

PLEASE ANSWER each of the following. Please be assured that all data will be reported in the aggregate for research purposes only, and your ANONYMITY is assured

My GENDER is …………………………….	_______ Male	_______ Female				
My Current AGE is……………………….	__________					
My ACADEMIC LEVEL is……………….	_____ Freshman	_____ Sophomore	_____ Junior	_____ Senior	_____ Graduate	
My MARITAL STATUS is ....`	_____ Single	_____ Married	_____ Married with kids	_____ Divorced/Separated		
My EMPLOYMENT STATUS is..........`	_____ Employed full-time	_____ Employed part-time	_____ Unemployed	_____ Other		
My ANNUAL INCOME is	_____ under $20,000	_____ $20,001-40,000	_____ $40,001-60,000	_____ $60,001-80,000		
	_____ $80,001-100,000	_____ over $100,000				
My ETHNICITY is	_____ African –American	_____ Caucasian/Non-Hispanic	______ Asian			
	_____ Hispanic	_____ Native American	______ other			
My Favorite APPAREL BRAND is.......	____					
My Favorite APPAREL STORE is	____					
I spend about $_____ for apparel purchases each month	_____ $0-$25	_____ $26-$50	_____ $51-$100	_____ $101-$125	_____$126-$150	_____over $150

Thank you for your participation!

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