APPLYING THE FRAMEWORK OF BRAND CREDIBILITY EFFECTS TO SERVICE CATEGORIES

by

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(Under the Direction of Karen W. King)

ABSTRACT

Using signaling theory, this study attempts to examine whether the framework of brand credibility effects is applicable to service categories and to investigate how the power of brand credibility's impact differs according to service type (hedonic and utilitarian) and involvement (high and low). The theoretical framework proposed in this research expands previous work on brand credibility effects by incorporating a new construct. Structural equation modeling was used to test the proposed model including six latent constructs: brand credibility, perceived quality, perceived value for money, perceived risk, information costs saved, and purchase intention.

The results found that brand credibility exerts a strong effect on purchase intention by increasing perceived quality, perceived value for money, and information costs saved, and by decreasing perceived risk across service categories. The results also indicated that the magnitude of brand credibility's impact on purchase intention varies across different conditions in regard to service type.

INDEX WORDS: Brand credibility, Service brand, Signaling theory, Perceived quality
Perceived value for money, Perceived risk, Information costs saved
Service type, Involvement, Structural equation modeling

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DEDICATION

For

My lord, God

My parents

My wife, Seeun

&

My sister, Jiyeon

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TABLE OF CONTENTS

Page

LIST OF TABLES

Page

LIST OF FIGURES

Page

CHAPTER 1

INTRODUCTION

Understanding the nature of the mechanism through which a brand influences consumer purchase behavior is a long-standing area of inquiry among marketing scholars and practitioners. There are many roles that brands potentially play in influencing consumer choice behavior. In particular, the role of brands in consumer decision making has been examined through a variety of perspectives rooted in cognitive psychology (e.g., brand awareness and associations), sociology (e.g., brand communities), and information economics (e.g., brands as signals) (Erdem, Swait, & Valenzuela, 2006). Among the perspectives, the information economics approach has proven useful for understanding a brand's impact on consumer choice under uncertainty.

Consumers are reluctant to make purchases when uncertain about product or service quality. According to Erdem and Swait (1998), the uncertainty emerges from the condition of information asymmetry. Given the imperfect and asymmetric information between firms and consumers, firms often use brands as signals to convey information about product or service quality to consumers (Spence, 1974; Erdem & Swait, 1998; Rao, Qu, & Ruekert, 1999). Such signals must be credible to be effective (Tirole, 1988). The higher the credibility, the more persuasive the signal. Brands as signals are a driving force of increasing confidence in brands' claims. Central process of brands as signals is via brand credibility (i.e., the credibility of a brand as a signal).

In a landmark work, Erdem and Swait (1998) proposed the framework of brand credibility effects, demonstrating the concept of brand credibility as the most important antecedent of forming consumer-based brand equity. Erdem and Swait (1998) examined how brand credibility affects expected utility through perceived quality, perceived risk, and information costs saved. The main consequence of brand credibility is found to be consumer expected utility, which is characterized by brand choice and consideration (Erdem & Swait, 1998). According to this framework, there are positive paths from brand credibility to perceived quality and to information costs saved, while the path from brand credibility to perceived risk is negative. Consequently, brand credibility through higher perceived quality, lower perceived risk, and lower information costs increases brand choice and consideration. In other words, the effects of brand credibility on purchase intention are mediated by perceived quality, perceived risk, and information costs saved.

However, prior studies on brand credibility have been conducted with products with physical forms (goods) rather than services. Despite the importance of brand credibility in the domain of services marketing, very few studies to date have tested how brand credibility influences consumer purchase intention in services. According to Krishnan and Harline (2001), service brands in the marketing literature have received relatively less attention than their product counterparts even though the service sector has dominated the economy in most advanced countries. Until recently, very little attention has been given to service brands in both the marketing and consumer behavior literature. In this sense, this study can provide insights into understanding the value that service brand credibility holds. To apply the brand credibility framework to service categories, this study expands its framework to an additional construct (i.e.,

perceived value for money), which is considered as a mediator between brand credibility and consumer intention to purchase.

Furthermore, there is not enough guidance to know whether or not service types and involvement really matter to consumers. Brand credibility's impact on consumer intention to purchase may vary depending on service types and consumer involvement. This investigation can yield generalizability and robustness by comparing how the effects of brand credibility work differently across service types and involvement.

Characteristics of services

Several scholars suggest that services are perceived with more uncertainty than goods or products (Finn, 1985; Murray & Schlacter, 1990; Zeithaml & Bitner, 2000). There are many distinctive characteristics that differentiate services from products (Abernethy & Butler, 1992; Murray & Schlacter, 1990; Zeithaml, Parasuraman, & Berry, 1985). As compared with products, the inherent properties of services include intangibility, inseparability, heterogeneity, perishability, and ownership (Mortimer, 2002).

Intangibility is defined as "the lack of physical evidence" and "the degree to which a product or a service cannot provide a clear concrete image" (McDougall & Snetsinger, 1990). Since services cannot be seen, felt, tasted, or touched (Kandampully, 2002), it is not surprising that they are considered intangible. Intangibility is positively associated with uncertainty (Finn, 1985; McDougall & Snetsinger, 1990; Mitchell & Greatorex, 1993; Murray & Schlacter, 1990; Zeithaml & Bitner, 2000). The intangibility dimension of services leads to the suggestion that branding may be more important for services because a brand can provide consumers with a symbolic meaning that assists in both the recognition of services and the image creation.

Inseparability of service is the idea that a service is simultaneously produced and consumed. Kandampully (2002) suggests that while products are typically produced first and then consumed, services are normally sold, and then produced and consumed at the same time. In short, the production, distribution, and consumption of services are simultaneous processes (Svensson, 2003).

Perishability means that services cannot be saved, stored for reuse at a later date, resold, or returned (Lovelock & Gummesson, 2004). Heterogeneity refers to the potential for high variability in the quality of a service offering (i.e., all service providers and service offering are somewhat different) (Kinard & Capella, 2006). The essence of a service can vary from company to company, from consumer to consumer, and from day to day (Zeithaml, Parasuraman, & Berry, 1985). Consumers may perceive a difference in the quality of a service offering, depending on which service provider performs the service and where the service is performed (Kinard & Capella, 2006).

Product brand versus service brand

There has been a great deal of research with respect to the power of brands. A brand is "a name, term, sign, symbol, or design, or a combination of them which is intended to identify the goods and services of one seller or a group of sellers and to differentiate them from those of competitors" (Kotler, 1997, p. 443). Since the natural inclination in marketing centers on product brands, marketers and advertisers try to leverage the materiality of products in their brand development by using product packaging, logo design and advertising (Berry, 2000). For example, the brand name is attached to the product and utilized in advertising associated with distinctive

symbols (e.g., Nike's swoosh logo), signature statements (e.g., "Just Do It"), and endorsers (e.g., Michael Jordan).

A brand is especially important in service companies because a strong service brand increases consumers' trust about the invisibility of services (Berry, 2000). A service can be defined as "a *holistic process* which provides focus to the internal relationship between the service company and the employees, and comes alive in the external relationship between consumer and service provider" (Riley & Chernatony, 2000, p. 148). Noteworthy in their definitions of service is the reference not only to consumers but also service companies and employees in the relationship. A service brand is a specific company or organization (e.g., credit card company, hospital, and restaurant) that provides a service for consumers to buy.

The intense competition within service markets (Chen & He, 2003) and the inherent difficulty in differentiating services that lacks physical differences (Zeithaml, 1981) may encourage service companies to establish their strong brands. According to Berry (2000), a strong service brand enables consumers to better visualize and understand the intangible aspects of services. It also plays a special role in reducing consumers' perceived monetary, social, or safety risk in buying services. Therefore, building strong brands is a top priority for service companies today.

Service brands differ from product brands. A service brand is driven by the process of the core service while a product brand is influenced by the core product function sought by consumers (O'Cass & Grace, 2004). For example, when consumers use banking services, they are paying for the process of their accounts being managed. In other words, the fee charged for the banking services is external to the process itself. Internal to the process is transferring money, securing personal information, and associating employee expertise with the banking services.

There are key differences between service brands and product brands. Dobree and Page (1990) point out that consumers tend to perceive the company as a single brand because all services offered by a company contribute to the overall stature and image of the organization (Knisely, 1979). Consistent with past studies, Berry (2000) asserts that the company is the primary brand in services marketing whereas the product is the primary brand in packaged product marketing. For example, consumers may acknowledge Prell, Comet, Pampers or Charmin but may not care that the manufacturer is Proctor & Gamble. With services, consumers may select or reject company brands such as Avis, H&R Block, or Federal Express (Berry & Parasuranman, 1991).

Purpose of the study

Drawing on the interest in understanding the role of brand credibility that influences consumer purchase behavior in the domain of services marketing, the objective of the study is to test the applicability of Erdem and Swait's (1998) brand credibility framework to the realm of service categories. More specifically, this research aims to explore the underlying information economics process of service brands in consumer purchase decision making, focusing on brand credibility's impact on purchase intention though perceived quality, perceived value for money, perceived risk, and information costs saved. Investigation of the role of brand credibility can provide important insights into consumer purchasing decision processes in the services arena.

Furthermore, this study attempts to examine how the power of brand credibility's impact differs according to service types and involvement levels. It is important to note that the aim of this study is not to investigate the main effect of service types and involvement levels on brand credibility. Rather, the focus will be directed at examining how the service classification scheme

moderates the impact of brand credibility on purchase intention. An examination of the mechanisms through which brand credibility influences consumer purchase intention within the service category classification scheme (i.e., hedonic vs. utilitarian service and high vs. low involvement) may be of practical interest to marketing and advertising practitioners because it is very useful for developing an integrated marketing communication for strategy differentiation.

The results of this research will contribute to the field of advertising and services marketing. Advertising as a form of mass communication has the ability to stimulate communication effects such as altering brand attitude and brand purchase intention. According to Percy and Elliott (2001), advertising play an important role in reaching a brand's marketing objective. To determine the most effective brand communication strategy, it is essential to implement the strategic planning process for advertising and other marketing communication. At the heart of this process may be an understanding of brand management.

In response to a need for brand management during advertising and marketing communication planning, the current study will help advertisers and brand managers in service sectors understand how brand credibility works in the context of services. Several recommendations for advertising and marketing communication strategy will be discussed.

CHAPTER 2

LITERATURE REVIEW

Signaling theory

Signaling theory has been used to explain the framework of brand credibility effects (Erdem & Swait, 1998; Erdem, Swait, & Louviere, 2002; Erdem & Swait, 2004; Erdem, Swait, & Valenzuela, 2006). It stems from an information economics perspective (Spence, 1974). Research on the economics of information is based on the assumption that buyers and sellers have different amounts of information when facing a market interaction (Kirmani & Rao, 2000). In short, a different level of information flows between consumers and firms causes the problem of information asymmetry.

This problem of information asymmetry implies consumer uncertainty about the quality of the product or service provided by firms. Given that firms know more about the quality of their own products or services than do consumers, the problems caused by information asymmetry make consumers unable to differentiate high-quality products from low-quality products prior to purchase (Almutairi, 2006). For example, information asymmetry often occurs for some products or services that have experience properties, such as the durability of a shoes or the reliability of a personal computer because the products can only be evaluated after purchase (Nelson, 1974).

One possible solution to this problem that arises under asymmetric information is the use of *signals*. A signal is defined as "an action that the seller can take to convey information credibly about unobservable product quality to the buyer" (Rao, Qu, & Ruekert, 1999, p. 259).

Approaching from a communication-based marketing perspective, Duncan and Moriarty (1998) assert that "a signal is a sign that cues or influences some action or interpretation by customers, competitors, or other stakeholders, and it is very much a communication function" (p. 6). Regardless of the applied nature of this concept, a signal could be considered as an action taken to reveal information regarding an unobservable condition (e.g., product quality or firm's credibility).

Signals may be used to evaluate unobservable quality when (1) consumers are not familiar with the product or service (Kirmani and Rao, 2000), (2) consumers have an information search preference and a need for additional information (Nelson, 1970, 1974), (3) there is a need to reduce the perceived risk of purchase (Jacoby, Olson, & Haddock, 1971; Olson, 1977), (4), consumers lack the expertise and, consequently, the ability to assess quality (Rao & Monroe, 1988), (5) consumer involvement is low (Celsi & Olson, 1988), or (6) objective quality is too complex to assess or consumers may not be in the habit of spending time objectively assessing quality (Allison & Uhl, 1964; Hoch & Ha, 1986).

Signaling theory was first proposed by Spence (1973) to demonstrate how job seekers can signal their ability to employers by investing in education. To reduce employers' uncertainty about the ability of workers in the job market, education serves as a signal because education itself may or may not increase the individual's productive capabilities. Previous scholars suggest that signaling theory provides theoretical insights into understanding the imperfect and asymmetrical information structure of the market (Boulding & Kirmani, 1993; Kirmani & Rao, 2000; Wernerfelt, 1998). When adopting the signaling theory in the field of marketing communications, competing firms try to communicate the level of some unobservable elements

(e.g., product/service quality and performance) in a transaction by providing observable signals (e.g., advertising, warranty, and brand name).

Several marketing mix elements have been used as signals of product or service quality, including price (Bagwell & Riordan, 1991; Caves & Greene, 1996; Tellis & Wernerfelt, 1987), warranty (Boulding & Kirmani, 1993; Kelly, 1988; Wiener, 1985), and advertising (Kirmani, 1990, 1997; Kirmani & Wright, 1989). Marketing mix elements not only provide direct information, but also convey indirect information on product or service attributes about which consumers are imperfectly informed (Erdem & Swait, 1998). Thus, marketing mix elements may serve effectively as signals. Table 1 presents an overview of empirical research on signaling in various marketing mix elements.

Advertising may serve as a signal of a firm's commitment to its product or service quality (Nelson, 1974). Consumers also use their perceptions of advertising expenditures of firms as cues to infer quality when lacking information about product quality (Kirmani, 1990). Since high advertising costs are incurred only by high quality firms that can recover their advertising expenditures from future sales (Rao, Qu, & Ruekert, 1999), such firms use advertising as a signal to ensure that their product or service claims are credible. If low quality firms spend large sums of money on advertising, they would not recover their advertising costs because consumers would recognize their low quality after purchase and repeat purchase would not occur.

Similarly, a high price may signal a high quality by guiding inferences about high demand or supply-related quality information (Erdem & Swait, 1998). It is found that a high price may reveal either a high demand for superior quality or the high production costs related to high quality (Spence, 1974; Tirole, 1988). Warranty also may act as a signal of a firm's confidence in the quality of its product or service (Boulding & Kirmani, 1993). Firms with low

quality products or services cannot afford to offer good warranties because they are likely to have relatively high failure rates. Prior studies showed that there is a positive relationship between warranty as a signal and the quality of a product or service (Kelly, 1988; Wiener, 1985).

Table 1

Summary of empirical research on signaling in marketing mix elements.

Authors	Type of signal	Results
Kirmani (1990)	Advertising	▪ Perceived advertising costs are positively related to brand perceptions, but extremely high costs lead to negative brand perceptions. ▪ the level of involvement and informativeness of ad content moderate this relationship.
Kirmani (1997)	Advertising	▪ There is an inverted U relationship between advertising repetition and product quality perceptions. ▪ The relationship between ad repetition and perceived brand quality is mediated by perceptions of manufacturer's credibility.
Kirmani & Wright (1989)	Advertising	▪ Perceived advertising expense positively influences perceived product quality.
Caves & Greene (1996)	Advertising & price	▪ Price serves as a signal of quality for convenience products.
		▪ Advertising is a source of information rather than a signal of product quality.
Bagwell & Riordan (1991)	Price	▪ High prices lead to higher quality.
Tellis & Wernerfelt (1987)	Price	▪ Correlations between price and quality are high for durable product because consumers are sensitive to the quality of such products.
Boulding & Kirmani (1993)	Warranties	▪ Warranties are positive signals of quality in the high-credibility firms.
Kelly (1988)	Warranties	▪ Warranties are positively related with product quality.
Wiener (1985)	Warranties	▪ Warranties are accurate signals of product reliability.

In essence, there is a need for individual marketing mix elements to signal credibility. Tirole (1988) points out that market signals should be credible to convey information effectively. However, such signals may or may not be credible depending on market condition such as competitive conditions and consumer behavior (Erdem, Swait, & Valenzuela, 2006). Hertzendorf (1993) suggests that signals may not be credible when the signaling channel is so noisy that consumers forget that the firm has used a costly signal.

Brands as signals

Branding becomes a cost-effective way to communicate unobservable quality (Nelson, 1974). It is a common practice for firms to use brands as signals to reduce consumer uncertainty about product or service quality in a marketplace in which asymmetric information exist. Several scholars argue that a brand has been found to be the most widely used signal when considering unobservable quality (Park & Lessing, 1981; Rao & Monroe, 1989; Morrin, 1999; Dawar & Parker, 1994; Erdem, Swait, & Valenzuela, 2006). In general, consumers tend to perceive branded products as higher in quality than unbranded products. If consumers believe this logic, they will accept the branded product's quality claim as true. Therefore, brands can be effective signals of unobservable quality (Rao, Qu, & Ruekert, 1999).

Drawing on the signaling approach, previous research has suggested that brands are sources of information that differentiate themselves in the marketplace (Wernerfelt, 1988) and provides condensed information that cues certain meaning about a product or service (Rao & Rueker, 1994). Furthermore, brands have significant monetary value (Aaker, 1991). Several scholars argue that signaling theory in information economics informs the monetary underpinning of a brand (Rao & Ruekert, 1994; Rao, Qu, & Ruekert, 1999; Wernerfelt, 1988;

Erdem & Swait, 1998). For example, firms that make false and dishonest claims associated with a brand would receive negative monetary consequences because consumers would punish the brand if the claims turn out to be false. Consumer punishment may include negative word of mouth or call for regulatory action (Rao, Qu, & Ruekert, 1999). In short, the many roles that brands play in consumer purchase decision making can be explained by signaling theory from information economics.

A brand signal provides a consumer with a quick heuristic to evaluate the quality of a product or service (Dawar & Parker, 1994). According to Erdem and Swait (1998), a brand signal consists of "a firm's past and present marketing mix strategies and activities associated with that brand. In other words, a brand becomes a signal because it embodies (or symbolizes) a firm's past and present marketing strategies" (p. 135). This implies that brands may serve as credible signals because they are embodied in the cumulative efforts of prior marketing mix strategies and activities and represent a firm's reputation (Erdem & Swait, 1998).

A basic premise underlying the use of brands as signals can emerge from the concept of credibility. Signaling theory suggests that the credibility is a key determinant of a market signal to convey information effectively (Tirole, 1988). Along this line, Erdem and Swait (1998) found that the existence of credible signals tends to enhance consumers' perceptions of quality and reduce perceived risk. To become a credible signal, a brand must have a "bonding" component (Ippolito, 1990). A firm should incur a cost (e.g., loss of brand investment and reputation) if the signal (e.g. brand) is false. In other words, if firms cheat consumers by conveying false signals of a brand, they will lose return on their brand investments and their reputations for high quality (Erdem & Swait, 1998; Erdem, 1998).

According to Rao, Qu, and Ruekert (1999), a brand signal which may meet the credibility criteria can emerge from two sources: a dissipative and nondissipative signal. A dissipative signal is based on past investments in brand equity such as brand advertising while a nondissipative signal is based on future sales and profits at risk such as brand alliances. In conclusion, it is important to emphasize that brand credibility (i.e., the credibility of a brand as signal) determines whether a marketing signal conveys information effectively.

Conceptualization of brand credibility

Erdem and Swait (2004) define brand credibility as "the believability of the product information contained in a brand, which requires that consumers perceive that the brand has the ability and willingness to continuously deliver what has been promised" (Erdem & Swait, 2004, p. 192). The concept of brand credibility has two main components: trustworthiness and expertise (Erdem & Swait, 1998, 2004; Erdem, Swait, & Louviere, 2002). Trustworthiness refers to the willingness of firms to deliver what they have promised. Expertise is defined as the ability of firms to deliver what they have promised. Since the trustworthiness and expertise of a brand embody the cumulative impacts of all previous and present marketing strategies and actions, it is not surprising that brand credibility reflects the consistency of marketing mix and brand investments. Indeed, brand credibility relies heavily on consistency, brand investments, and clarity. According to Erdem and Swait (1998), brand credibility would be greater with higher marketing mix consistency over time, higher brand investments, and higher clarity.

Consistency refers to "the degree of harmony and convergence among the marketing-mix elements and the stability of marketing-mix strategies and attributes levels over time" (Erderm, Swait, & Valenzuela, 2006, p. 35). Roberts and Urban (1988) point out that consistency

in product quality leads to a low level of inherent product variability. In addition, brand investments are viewed as a firm's resource spending on brands in order to demonstrate long-term brand commitment and to assure consumers that brand promises will be kept. (Klein & Leffler, 1981). On the other hand, Erdem and Swait (1998) define clarity as the lack of ambiguity of the product information contained in a brand. It is suggested that the clarity is seen as an antecedent of brand credibility (Erdem and Swait, 1998).

Pervious research on brand credibility

To date, there has been a great deal of research on brand credibility effectiveness (Erdem & Swait, 1998; Erdem, Swait, & Louviere, 2002; Erdem & Swait, 2004; Erdem, Swait, & Valenzuela, 2006). Aaker (1991) suggests that higher perceived quality, lower information costs, and lower risks relevant to credible brands can increase brand evaluations. Erdem, Swait, and Louviere (2002) examined the effects of brand credibility on consumer choices and price sensitivity across product categories (e.g., frozen concentrated juices, jeans, shampoos, and PCs), specifically highlighting tangible and intangible product attributes. The results showed that brand credibility exerts a positive impact on price sensitivity. More importantly, the effects of brand credibility on consumer choice and price sensitivity vary across product categories because there are differences in the potential consumer uncertainty and sensitivity to such uncertainty about each product category characteristic.

Erdem and Swait (2004) verified the impact of brand credibility on brand choice and consideration across multiple product categories, such as athletic shoes, cellular telecommunications services, headache medications, juices, personal computers, and hair shampoos. In this research, brand credibility's influence over brand choice versus consideration

was also examined. The findings showed that brand credibility is a more important determinant for brand consideration than for brand choice. In terms of the two sub-dimensions of brand credibility, the trustworthiness of brands has a greater influence on consumer brand choices and consideration rather than the expertise of brands.

Recently, Erdem, Swait, and Valenzuela (2006) examined how brand credibility affects consumer brand choice and consideration across countries, such as Brazil, Germany, India, Japan, Spain, Turkey, and the United States, in order to generalize the framework of brand credibility effects created by Erdem and Swait (1998). The authors assume that Hofstede's (1980) cultural dimensions, especially collectivism/ individualism and uncertainty avoidance, may moderate the effects of brand credibility on consumer brand choice and consideration. More interestingly, the authors added "relative price" construct to the model of brand credibility effects as a new mediator to control for the relative price positioning of the brands in each country. Using surveys and experimental data on orange juices representing low-involvement and low-price products and personal computers representing high-involvement and high-price products, Erdem, Swait, and Valenzuela (2006) found empirical evidence for the importance of brand credibility. The findings of this study indicated that the positive effect of brand credibility on brand choice is greater for consumers in cultures which include either a high level of uncertainty avoidance or collectivism. This implies that uncertainty avoidance moderates the impact of brand credibility on brand choice and consideration by decreasing perceived risk and information costs, whereas collectivism moderates the impact of brand credibility on brand choice and consideration by increasing perceived quality.

Mediators of the brand credibility effects

This study investigates whether or not perceived quality, perceived value for money, perceived risk, and information costs saved play a mediating role in the relationship between brand credibility and brand purchase intention in service settings.

Perceived quality

In this research, the focus is on consumer perceptions of brand quality. The notion of perceived brand quality emerges from the quality literature. The definition of quality includes as follows: (1) consumer satisfaction or delight, or exceeded expectations, (2) product or service features that satisfy stated or implied needs, (3) conformance to clearly specified requirements, and (4) fitness for use, whereby the product or service meets the consumers' needs and is free of deficiencies (Chelladurai & Chang, 2000).

Perceived quality is defined as "the consumer's judgment about the superiority or excellence" of a product or service (Zeithaml, 1988, p. 5). Existing marketing literature has suggested that perceived quality is similar to attitude (Bitner, 1990; Parasuraman, Zeithaml, & Berry, 1988) and it may influence behavioral intentions (Monroe, 1990; Steenkamp, 1989). Central to the perceived quality of a product or service is the premise that strong brands add value to consumers' purchase evaluations (Low & Lamb, 2000). For instance, Sethuraman and Cole (1997) revealed that perceived quality explains a significant portion of the variance in the price premium and it encourages consumers to be willing to pay for national brands.

According to signaling theory, higher signal credibility leads to consumer perceptions of quality because consumers may infer that more credible brands are higher in quality than less credible brand (Wernerfelt, 1988). With respect to brand credibility, credible brands may increase

consumers' quality perceptions (Aaker, 1991) because brand signals may affect the psychophysical process through which objective quality levels are transferred into perceived levels (Park & Srinivasan, 1994). For example, even though two brands hold the same objective quality levels, these brands may be associated with different perceived quality levels because of different brand credibility levels. However, this argument does not mean that high brand credibility is associated only with high perceived quality. That is, low to medium quality brands also can have high levels of brand credibility if they are truthful about their brand positioning by consistently delivering what they promise (Erdem, Swait, & Louviere, 2002).

Perceived value (for money)

There are several conceptual definitions of perceived value found in the consumer behavior literature. Zeithaml (1988) defines perceived value as "the consumer's overall assessment of the utility of a product (or service) based on perceptions of what is received and what is given" (, p. 14). This assessment refers to a comparison of a product or service's 'get' and 'give' components. Spreng, Dixon, and Olshavsky (1993) identify perceived value as a consumer's expectation about the consequence of purchasing a product or service on the basis of future benefits and sacrifices. As Chen and Dubinsky (2003) note, perceived value refers to "a consumer's perception of the net benefits gained in exchange for the costs incurred in obtaining the desired benefits" (p. 326). In terms of branding, perceived value can be defined as "the perceived brand utility relative to its costs, assessed by the consumer and based on simultaneous considerations of what is received and what is given up to receive it" (Lassar, Mittal, & Sharma, 1995, p. 13).

The most common definition of perceived value is the ratio or trade-off between quality and price (Zeithaml, 1988; Carvens et al., 1988; Dodds, Monroe & Grewal, 1991; Sweeney, Soutar, & Johnson, 1997; Monroe, 1990), which is a value-for-money conceptualization. Previous researchers have suggested that quality and price is an antecedent of value. According to Dodds, Monroe and Grewal (1991), price exerts a negative effect on perceived value, but a positive effect on perceived quality and purchase intention. The authors conclude that there is a curvilinear relationship between price and perceived value.

However, the arguments advanced by Zeithaml (1988), Dodds et al. (1991), and Sweeney et al. (1997) have been criticized. Some critics believe that previous research on perceived value focusing solely on quality and price has failed to capture all of the elements of perceived value (e.g., Sweeney & Soutar, 2001). Bolton and Drew (1991), for example, argue that viewing perceived value as a trade-off between only quality and price is too simplistic and narrow.
A great deal of empirical research has been conducted to investigate the antecedents of perceived value. Kerin, Jain, and Howard (1992) examined how price, product quality, and shopping experience influence perceived value of a retail store, concluding that the effect of shopping experience on store value perception is greater than the effects of price or product quality on store value perception. As Ostrom and Iacobucci (1995) assert, perceived value is linked to not only price and quality, but also service friendliness and service customizations.

Sweeney and Soutar (2001) developed the perceived value (PERVAL) scale to assess consumers' perceptions of the value of a consumer durable good at a brand level. Assuming that focusing on quality and price does no provide a complete picture of perceived value, Sweeney and Soutar (2001) suggest that the fundamental dimensions of perceived value are emotional, social, quality, and price constructs.

With respect to the brand-perceived value linkage, much of the past scholarly research has focused primarily on how brands influence perceived value (Lassar, Mittal, & Sharma, 1995). For example, Martin and Brown (1990) suggest that five dimensions of brand equity are perceived quality, perceived value, image, trustworthiness, and commitment. Richardson, Jain, and Dick (1996) found that perceived value for money of private brands is related to private brand proneness. Most interestingly, perceived value plays a special role in determining the relationship between trustworthiness and purchase intention. For example, Chong, Yang, and Wong (2003) developed a conceptual framework on consumer perception of online auctions in the United States and China. They also found that there is an interrelationship among trust, perceived value, and purchase intention, suggesting that perceived value partially mediates the relationship between trust and purchase intention.

Perceived value positively influences perceptual outcomes (e.g., willingness-to-buy (Baker, 1990; Dodds et al., 1991) and behavioral outcomes (e.g., purchase behavior) (Swait & Sweeney, 2000). Drawing from the discussion of mediating role of perceived value, it is expected that brand credibility will be positively related to perceived value for money, and thus perceived value for money will exert a greater impact on purchase intention.

Perceived value versus perceived quality

Since the consumers' perceptions of value and quality might share a similar conceptualization, perceived value can easily be confused with perceived quality. However, these constructs differ in some ways. First, value is a higher level abstraction than quality (Zeithaml, 1988). For instance, value may be similar to the "emotional payoff" (Young & Feigin, 1975), to an "abstract, multidimensional, and difficult to measure attribute" (Geistfeld, Sproles, &

Badenhop, 1977), and to "instrumental values" (Olson & Reynolds, 1983). Second, value involves a tradeoff of 'give' and 'get' components whereas quality is considered as the only "get" component (Zeithaml, 1988). Therefore, it needs to be clarified that perceived value is different from perceived quality.

Perceived risk

The concept of perceived risk has received extensive attention from both academics and practitioners over the past three decades (Bauer, 1960; Cox & Rich, 1964; Peter & Ryan, 1976; Mitchell & Greatorex, 1993; Mitchell, 1999; Mitra, Reiss, & Capella, 1999; Macintosh, 2002). It has been applied in a wide range of areas including advertising effectiveness (Barach, 1969), brand loyalty (Cunningham, 1967), information acquisition in services marketing (Mitra, Reiss, & Capella, 1999; Gemunden, 1985), and online retailing (Chen & He, 2003). Understanding the notion of perceived risk is important because consumers are more often motivated to avoid mistakes than to maximize utility in purchasing (Mitchell, 1999).

The conceptualization of perceived risk has been widely acknowledged by many scholars on the basis of the premise that includes the two main components: uncertainty and negative consequences of a choice (Cunningham, 1967). These dimensions of perceived risk have been widely adopted by some scholars. Shiffman and Kanuk (2000) define perceived risk as "the uncertainty consumers face when they cannot foresee the consequences of their purchase decisions" (p. 153). According to Taylor (1974), the concept of perceived risk bears a closer relationship to uncertainty. In addition, Robertson, Zielinski, and Ward (1984) mention that "any action of a consumer will produce consequences which he cannot anticipate with anything approximating certainty, and some of which at least are likely to be unpleasant" (p. 184).

In general, perceived risk can be classified into six dimensions: (1) financial, (2) performance, (3) social, (4) psychological, (5) physical, and (6) time risk (Bettman, 1973; Cunningham, 1967; Roselius, 1971; Mitra, Reiss, & Capella, 1999; Chen & He, 2003). Financial risk represents the likelihood that a purchased product or service will result in the loss of money. Performance risk represents the likelihood that a purchased product or service will result in the failure to function or perform as expected. Social risk represents the likelihood that a purchased product or service will result in disapproval by family or friends. Psychological risk represents the likelihood that a purchased product or service will result in inconsistency with self-image. Physical risk represents the likelihood that a purchased product or service will result in personal injury. Time risk represents the likelihood that a purchased product or service will result in the loss of time or convenience. Therefore, perceived risk is the aggregate impact of these various facets (Chen & He, 2003).

Consumers are motivated to reduce their risk perceptions through the use of brands (Bauer, 1960; Peter & Ryan, 1976) or through the use of extensive information search (Mitra, Reiss, & Capella, 1999). It is found that perceived risk associated with a product or service purchase can be reduced through increasing brand loyalty (Bauer, 1967; Lutz & Reilly, 1973).

It is important to note that perceived risk is linked to information search behavior. High perceived risk encourages consumers to gather and process a large amount of information because the level of information acquisition depends on perceived risk (Erdem & Swait, 1998). That is, perceived risk is considered to increase information search since there is a need to obtain more information in order to reduce uncertainty and risk.

Several researchers have attempted to examine the role of perceived risk in the services marketing (Zeithaml, 1981; Murray & Schlater, 1990; Guseman, 1981; Brown & Fern, 1981). Murray and Schlacter (1990) suggest that the purchase of services is more uncertain than the purchase of products. That is, the consumption of services is likely to be riskier than the consumption of products. Since consumers find it difficult to search for information about service, they have the perception of high risk and rely on personal information sources (Shostack, 1977; Zeithaml, 1981; Murray, 1991). Murray and Schlacter (1990) found that perceived risk was increased when dealing with services as opposed to products. They suggest that it is more difficult to evaluate services due to their inherent intangibility. As Zeithaml and Bitner (2000) demonstrate, "While some degree of perceived risk probably accompanies all purchase transactions, more risk would appear to be involved in the purchase of services than in the purchase of goods because services are intangible" (p. 34).

Information costs saved

Under uncertainty, consumers tend to search for more information about product or service quality before making a decision (Money, Gilly, & Graham, 1998; Shimp & Bearden, 1982). Although few conceptual definitions of information costs saved are found in the consumer behavior literature, Erdem and Swait (1998) assert that information costs saved can be conceptualized by lowering information gathering and processing costs. They summarize the characteristics of information gathering and processing costs as follows: "Information-gathering costs include expenditure of time, money, and psychological costs, and the like. Similarly, information-processing costs (e.g., thinking costs) include time and psychological costs" (p. 138). Therefore, the notion of information costs represents information search behavior.

Information search behavior plays an integral role in consumers' decision-making processes. Bettman (1979) suggests that the process of information search consists of two components: internal and external search. Consumers tend to utilize both components to gather information and deal with consumer uncertainty. Internal search is fundamentally linked to memory retrieval that involves the accessibility of relevant information in memory (Bettman, 1979; Leigh & Rethans, 1984; Lynch & Srull, 1982). In other words, consumers first examines information stored in their memories about past purchase experiences when they are faced with purchase decisions. Such past experiences generate knowledge, which in turn leads to internal search in subsequent decision situations (Jacoby, Chestnut, & Silberman, 1977; Murry, 1991). Murray (1991) asserts that internal search can be thought as an important source of information available to the consumer.

On the other hand, external search occurs when consumers do not have enough information in their memories to make decisions (Bettman, 1979). It is suggested that external search represents a motivated and conscious decision by the consumer to search for new information from various sources (Berning & Jacoby, 1974; Furse, Punj, & Stewart, 1984; Moore & Lehmann, 1980; Winter, 1975). While internal search highlights the accessibility from the memory, external search focuses on the relative importance of situational factors.

External information sources can be classified according to whether the information comes from personal (e.g., salespersons, friends, relatives) or impersonal communication (e.g., print media, broadcasting advertising) or whether information comes from consumer-dominated (e.g., interpersonal information channels), marketer-dominated (e.g., promotion, advertising), or neutral sources (e.g., consumer reports, newspapers) (Mitra, Reiss, & Capella, 1999). In short,

internal search is initially performed and is followed by external search, given that consumers have insufficient information in their memories.

The subject of information gathering and processing has been documented in the field of services marketing. For example, Mitra, Reiss, and Capella (1999) investigated the nature of information search (i.e., amount of information search time) across various service types. In particular, they classified services into three types: (1) search-based (e.g., opening checking account and selecting a mail service), (2) experience-based (e.g., services offered by a waiter and waitress at a restaurant), and (3) credence-based services (e.g., service offered by a therapist). The results showed that information search time is highest for credence-based services, followed by search-based and experience-based services, indicating significant differences among all of the service types.

As mentioned above, information search behavior is closely associated with perceived risk. Cox (1967) argues that consumers search for information from various sources when faced with uncertainty and risk. It is logical to infer that consumers acquire information as a way of risk reduction because the nature of services is involved with uncertain and risky purchase situations (Murray, 1991).

With respect to brand credibility, brands may reduce the cost in information search and processing. For example, the "McDonald's" name and the "Golden Arches" logo provide a lot of information on the type and quality of meals offered, service, ambiance and the like at the fast food chain (Erdem, Swait, & Louviere, 2002, p. 5). In addition, consumers may view credible brands as a source of knowledge to save information gathering and processing costs because they are more often motivated to reduce risks in the purchase decision process. The marketing literature suggests that perceived risk itself may positively affect information costs (Murray,

1991; Newman, 1977). Therefore, credible brands may decrease consumer information gathering and processing costs both directly (by providing less costly information) and indirectly (by reducing perceived risk) (Erdem & Swait, 1998, p. 139).

Moderators of the brand credibility effects

A classification scheme covering a wide range of services, such as service types (i.e., hedonic and utilitarian service) and involvement levels (high and low involvement), is required to provide more generalizable and rigorous results from this study. In considering the nature of services is intangible, the power of brand credibility's impact may differ according to service types and involvement levels. That is, this study explores whether or not service types and involvement influence the interrelationship among brand credibility, perceived quality, perceived value for money, perceived risk, information costs saved, and purchase intention.

Service types

Applying the framework of brand credibility effects to service categories, this study tries to ascertain if service types moderate the effects of brand credibility on purchase intention. One of the most general types of service classification schemes is illustrated by hedonic services versus utilitarian services. Hedonic services represent the "feeling," "emotional," and "experiential" features, while utilitarian services reflect the "thinking," "rational," and "functional" features (Vaughan, 1980; Stafford, Stafford, & Day, 2002). Interestingly, hedonic services have high levels of involvement as compared with utilitarian services (Shavitt, 1992).

According to Dhar and Wertenbroch (2000), hedonic services are characterized by "an affective and sensory experience of aesthetic or sensual pleasure, fantasy, and fun" (p. 61). Consistent with that argument, Kempf (1999) asserts that hedonic attributes are primarily consumed for affective gratification. As hedonic services are perceived to be more fun, experiential, and value expressive (Day & Stafford, 1997), they are likely to generate emotional arousal (Mano & Oliver, 1993). On the other hand, utilitarian services provide more cognitive, instrumental, and goal oriented benefits and achieve a functional or practical task with tangible characteristics (Strahilevitz & Myers, 1998; Dhar & Wertenbroch, 2000).

Similarly, Bazerman, Tenbrunsel, and Wade-Benzoni (1998) suggest that utilitarian products are driven exclusively by cognitive or reasoned preferences, while hedonic goods are driven by affective preference. However, Kempf (1999), who focused on affective and cognitive responses to a product trial across two types of products (e.g., hedonic and utilitarian), found that both affective and cognitive responses are most influential on trial evaluations of utilitarian products, whereas only affective responses are most influential on trial evaluations of hedonic products. In the context of services, affective structure may play an important role in evaluating both hedonic and utilitarian services.

Chaudhuri (2001) investigated the relationship among emotion, reason, and perceived risk by using a random selection of 146 products and services. The findings indicate that hedonic products and services are strongly linked to emotional factors, whereas utilitarian products and services are positively associated with rational factors. As Chaudhuri (2001) states, "Knowledge by acquaintance (emotion) is the holistic and synthetic integration of sensory data from the external and internal bodily environments. In contrast, knowledge by description (reason) is the

sequential and analytic processing of information based on an appraisal of the environment" (p. 268).

Perceived risk is also found to be a consequence of the emotional and rational response to the product or service. Along this line, Dowling and Staelin (1994) argue that perceived risk has both affective and cognitive components. In this sense, the types of services (i.e., hedonic or utilitarian) may influence potential consumer uncertainty and, hence, interrelationships among brand credibility, perceived quality, perceived value for money, perceived risk, information costs saved, and purchase intention.

Involvement

Over the last three decades, the construct of involvement has come through infancy to adulthood and continues to receive considerable attention by academic researchers (Krugman, 1965; Bloch & Richins, 1983; Rothschild, 1984; Zaichkowsky, 1985; Kinard & Capella, 2006) because involvement influences consumers' decision-making processes as an important moderator.

The concept of involvement has been explained in a variety of ways. However, there is little consensus regarding the definition of involvement. As Zaichkowsky (1985) defines, involvement is "a person's perceived relevance of the object (e.g., an issue, a product class, or an advertisement) based on inherent needs, values and interests" (p. 342). Furthermore, involvement has been characterized as a motivational state (Andrews, Durvasula, & Akhter, 1991). From a consumer behavior perspective, Bloch and Richins (1983) conceptualize involvement as "a motivational state resulting from perceptions of importance and as a predecessor of overt action" (p.72). Similarly, Zaltman and Wallendorf (1983) consider involvement as "a motivational state

of mind (arousal) that is goal directed" (p. 550). This implies that there is a relationship between the level of a person's motivation towards a particular goal and the level of involvement of that person. Therefore, it is logical to infer that involvement can be analogous to personal relevance, importance, interest, and motivation manifested toward certain object.

The involvement literature indicates that the three major domains of involvement research are as follows: advertising, product class, and purchasing decision involvement (Aldlaigan & Buttle, 2001). Among these streams of involvement, purchasing decision involvement has been useful for explaining relationships between consumer involvement and behavioral outcomes such as purchase behavior. In this research, the focus is on purchasing decision involvement to determine the level of consumer involvement. It is justified because the nature of brand formation would be more influenced by a specific situation of the service purchase than the service itself.

Involvement can be theoretically linked to brand credibility. Both involvement and brand credibility are related to consumer uncertainty. As mentioned earlier, establishing brand credibility as the key characteristic of a brand signal is one of the most effective marketing communications strategies to reduce consumer uncertainty. Furthermore, uncertainty is often perceived as an antecedent of involvement particularly when the price is high and consumer risks losing money (Chaffee & McLeod, 1973). Erdem, Swait, and Valenzuela (2006) found that the impact of brand credibility on brand purchase is stronger for a higher-involvement product category (e.g., PCs) than for a lower-involvement product category (e.g., juice) in countries with high uncertainty avoidance.

Hypotheses and research questions

Based on the foundation from the literature review, the following hypotheses and research questions are proposed. The current study examines interrelationships among brand credibility, perceived quality, perceived value for money, perceived risk, information costs saved, and purchase intention across two types of service (i.e., hedonic and utilitarian) and two levels of involvement (i.e., high and low involvement).

H1: Brand credibility will be positively related to the perceived quality.

H2: Brand credibility will be positively related to the perceived value for money.

H3: Brand credibility will be negatively related to the perceived risk.

H4: Brand credibility will be positively related to the information costs saved.

H5: Perceived risk will be negatively related to the information costs saved.

H6: Perceived quality will be positively related to the purchase intention of the brand.

H7: Perceived value for money will be positively related to the purchase intention of the brand.

H8: Perceived risk will be negatively related to the purchase intention of the brand.

H9: Information costs saved will be positively related to the purchase intention of the brand.

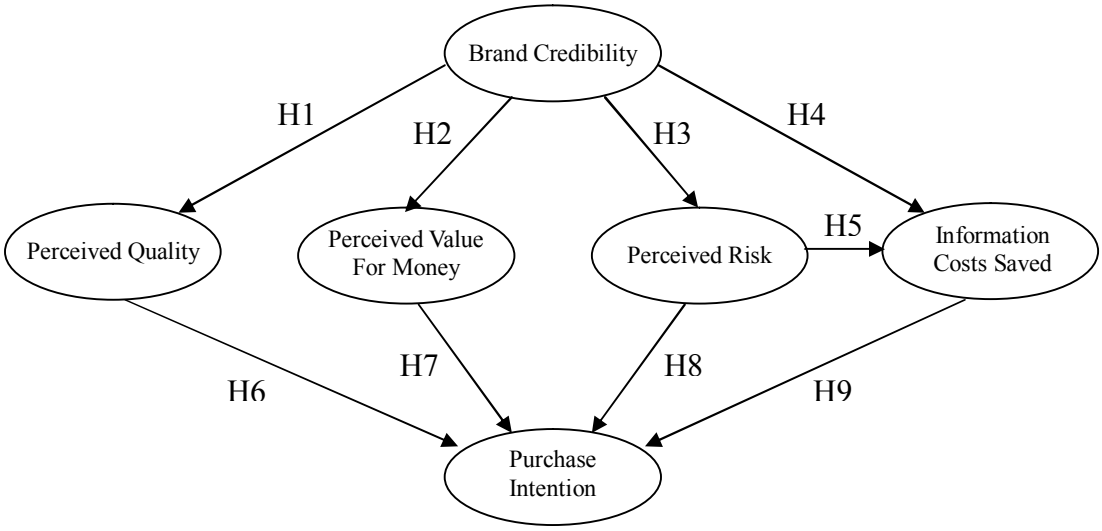
RQ1) How would brand credibility's impact on purchase intention differ according to service types?

RQ2) How would brand credibility's impact on purchase intention differ according to involvement levels?

Proposed model

Figure 1 presents an extended model of brand credibility by integrating perceived value for money as a new construct into the existing mediators such as perceived quality, perceived risk, and information costs saved. The reason why this study adds the perceived value to the framework of brand credibility effects is twofold. First, Erdem and Swait (1998) do not include this variable in their brand constructs although previous literature has suggested that brand-perceived value relationships play an important role in the consumer decision making process (Dodds et al., 1991; Sweeney et al., 1997). Second, brand credibility may enhance perceived value, which may increase purchase intention toward the brand. Hauser and Wernerfelt (1990) found that the higher perceived value associated with credible brands is likely to increase expected benefits. Similarly, the empirical evidence supported by Chong, Yang, and Wong (2003) revealed the mediating role of perceived value in the relationship between online trust and purchase intention.

Figure 1. Proposed model



CHAPTER 3

METHODOLOGY

Research design

Prior to the experimental study, a pretest was conducted in a classroom setting to select an appropriate service category relevant to the main study population, college students, and to determine whether participants' perceptions toward the given service categories differed significantly with respect to the level of involvement and the type of service. Preceding this, a pilot study was also performed to see if there were any specific problems involving questionnaire design, wording, and survey procedure. This step helped in the main survey design and the refinement of measures. For the primary study, the experiment was then administered through an online survey-based procedure. Subjects were randomly assigned to each experimental condition (i.e., high involvement/utilitarian, high involvement/hedonic, low involvement/ utilitarian, and low involvement/hedonic). Finally, testing of the proposed model was accomplished through structural equation modeling via the use of LISREL 8.54 (Jöreskog & Sörbom, 2003).

Pretest: classification of services

In order to classify the service types and involvement levels, a pretest was conducted. Initially, the following eleven service categories were selected from the Mintel Reports (2006) on the basis of their relevance to college students as follows: auto insurance, credit card, checking account, fast food restaurant, steak and seafood restaurant, mobile phone service, Internet access

service, online travel service, hotel, airline, and movie rental store. The Mintel databases provide insightful and accurate information about consumer, media, and market research in U.S. and worldwide industries.

Despite the fact that hotel and airline may seem unsuited for students, selecting these services for pretest can be justified because hotel and airline services are purchased or used by a variety of individuals today, which does not exclude their use by college students. For example, in 2006, approximately 17.1 percent of American adults (ages 18-24) made a hotel reservation, and about 19.7 percent of American adults (ages 18-24) purchased an airline ticket (MRI, 2006). In this sense, students between the ages of 18 and 24 are reasonably likely to make use of these services (i.e., hotel and airline).

Thirty-three college students (39.4% male, 60.6% female; ages 18-26) were asked to indicate whether or not they had purchased or used each of the services on a regular basis, and to rate how often they use the given services on a 7-point semantic differential scale (i.e., rarely/frequently).

Measurement scales were adopted from Ratchford's (1987) FCB-grid and Park's (2006) research, with some modifications in wording in the service context. For example, one think item (e.g., based on non-functional facts/ based on functional facts) was replaced with a specific item (e.g., not based on how the service is used/based on how the service is used) because the nature of services is not based on functional facts and consumers may infer service utility through the direct/indirect usage. Indeed, The FCB grid has proven to be a useful research tool to classify products and services into two basic dimensions: think/feel and involvement (Park, 2006). It is important to note that the "thinking" dimension represents utilitarian features of products or services, while the "feeling" dimension represent hedonic features of products or services.

Eight 7-point semantic differential scales, including two items for think, three for feel, and three for involvement, were utilized to measure the service types (hedonic vs. utilitarian) and involvement levels (high vs. low). In addition, Cronbach's alpha was used to evaluate the internal reliability of the items for think, feel, and involvement dimensions.

Think index. A 7-point semantic differential scale with two items (e.g., "not logical and objective/logical and objective" and "not based on how the service is used/based on how the service is used") was used to measure the utilitarian aspects of each service. Since the internal reliability of the two think items was tested (Cronbach's alpha = .87), the average score of these 2 items was used to represent the "think index."

Feel index. Three 7-point semantic differential scales were used to measure the hedonic aspects of each service: "not an expression of my personality/an expression of my personality," "based on little feeling/based on a lot of feeling" and "not based on looks, taste, touch, smell or sounds/based on looks, taste, touch, smell or sounds." The internal reliability of the three feel items was tested (Cronbach's alpha = .77). Thus, the average score of these 3 items was used to represent the "feel index."

Think-feel (TF) index. A think-feel (TF) index was estimated by subtracting the mean score on think items from the mean score on feel items (i.e., TF = Feel/3 – Think/2) (Park, 2006). While negative evaluation scores of the TF index were regarded as being utilitarian, positive evaluation scores of the TF index were considered as being hedonic.

Involvement index. Three 7-point semantic differential scales were used to measure the involvement levels of services: "very unimportant/very important," "required little thought/required a lot of thought," and "little to lose if I choose the wrong brand/a lot to lose if I choose the wrong brand." The internal reliability of the three involvement items was estimated

(Cronbach's alpha = .88). Thus, the average score of these 3 items was used to represent the "involvement index."

Pretest results

Two major criteria were applied to select appropriate service categories for the main study: (1) the possibility that each service class could be reasonably relevant to college students and (2) the possibility that there is a high level of service experience among 80 percent of the participants. Therefore, the following services were selected: checking account, fast food restaurant, steak and seafood restaurant, and movie rental store.

The results of this pretest indicated that there were unexpected responses for checking account. Although several scholars viewed checking account as a utilitarian and low involvement service (Ratchford, 1987; Mortimer, 2002; Weinberger & Spotts, 1989), the respondents for the pretest identified it as a utilitarian and high involvement service. Table 2 presents the degree of prior experience about the usage and purchase of the eleven services with the frequency of use.

Table 2

Service Category Usage (N = 33)

Service Category	Prior experience (%)	Mean (frequency of use)	Selection
Auto insurance	42.4	3.28	Not select
Credit card	72.7	4.20	Not select
Checking account	93.9	6.54	Select
Fast food restaurant	100	4.24	Select
Steak/seafood restaurant	100	3.24	Select
Mobile phone service	75.8	6.76	Not select
Internet access service	75.8	6.68	Not select
Online travel service	54.5	3.22	Not select
Hotel	72.7	2.79	Not select
Airline	78.8	3.00	Not select
Movie rental store	100	3.51	Select

Descriptive statistics of the think and feel index results are presented in Tables 3 and 4.

Table 3

Service Category on Think Index

Service Category	N	Mean	SD
Checking account	33	6.40	0.67
Fast food restaurant	33	4.12	1.26
Steak/seafood restaurant	33	4.60	1.01
Movie rental store	33	4.22	1.43

Table 4

Service Category on Feel Index

Service Category	N	Mean	SD
Checking account	33	2.49	1.02
Fast food restaurant	33	5.33	1.10
Steak/seafood restaurant	33	5.45	0.83
Movie rental store	33	3.39	1.47

The TF index is considered as an indicator of utilitarian or hedonic value. As mentioned earlier, negative evaluation scores of the TF index indicate that the service is utilitarian. Table 5 shows that checking account (M=-3.91) and movie rental store (M=-0.83) were selected as utilitarian services, whereas fast food restaurant (M=1.21) and steak and seafood restaurant (M=0.84) were chosen as hedonic services.

Table 5

Service Category on Think-Feel (TF) Index

Service Category	N	Mean	SD	Type
Checking account	33	-3.91	1.45	Utilitarian
Fast food restaurant	33	1.21	1.34	Hedonic
Steak/seafood restaurant	33	0.84	1.21	Hedonic
Movie rental store	33	-0.83	1.98	Utilitarian

Note: TF index = Feel/3 – Think/2

The break point (3.86), produced by averaging the mean scores of the involvement index, was used to determine high and low involvement services. As shown in Table 6, checking account (M = 5.69) and steak and seafood restaurant (M = 3.98) were chosen as high involvement services, whereas fast food restaurant (M = 3.02) and movie rental store (M = 2.77) were identified as low involvement services, respectively.

Table 6

Service Category on Involvement Index

Service Category	N	Mean	SD	Inv. level
Checking account	33	5.69	0.97	High
Fast food restaurant	33	3.02	1.04	Low
Steak/seafood restaurant	33	3.98	1.05	High
Movie rental store	33	2.77	1.54	Low

Manipulation checks

To ensure that there are significant differences in the two dimensions (i.e., hedonic/utilitarian and involvement) among four services, the service category manipulations were checked. Paired-samples t tests were first performed to examine the mean differences between utilitarian services and hedonic services. As a result of the manipulation check, there were statistically significant differences in the TF score between utilitarian services and hedonic services ($p \leq .001$). Specifically, the TF scores of the utilitarian services (e.g., checking account and movie rental store) were significantly more negative than the TF scores of the hedonic services (e.g., fast food restaurant and steak and seafood restaurant). As mentioned above, negative evaluation scores of the TF index represent the utilitarian attributes of the service class.

Thus, the results confirmed the distinction between utilitarian services and hedonic services (see Table 7).

Table 7

Manipulation checks (utilitarian vs. hedonic service)

Service Category	Mean differences		t-value	Sig.
Checking account	Fast food restaurant	-5.13	-14.279	$p \leq .001$
	Steak/seafood restaurant	-4.76	-12.955	$p \leq .001$
Movie rental store	Fast food restaurant	-2.05	-5.558	$p \leq .001$
	Steak/seafood restaurant	-1.68	-4.205	$p \leq .001$

In the involvement manipulation check, two of the high involvement services (e.g., checking account and steak and seafood restaurant) were significantly higher than the low involvement services (e.g., fast food restaurant and movie rental store) with respect to involvement levels ($p \leq .001$). Both manipulations were successful (see Table 8).

Table 8

Manipulation checks (high vs. low involvement)

Service Category	Mean differences		t-value	Sig.
Checking account	Fast food restaurant	2.68	10.089	$p \leq .001$
	Movie rental store	2.92	8.573	$p \leq .001$
Steak/seafood restaurant	Fast food restaurant	0.97	6.278	$p \leq .001$
	Movie rental store	1.21	4.951	$p \leq .001$

In short, checking account (high involvement) and movie rental store (low involvement) were selected as utilitarian services, while steak and seafood restaurant (high involvement) and fast food restaurant (low involvement) were chosen as hedonic services (see Table 9). Therefore,

a significant difference indicating that the experimental manipulations were successful was found in each case.

Table 9

Service classification on hedonic/utilitarian and involvement dimensions

Service Category	Type	Level
Checking account	Utilitarian	High involvement
Fast food restaurant	Hedonic	Low involvement
Steak/seafood restaurant	Hedonic	High involvement
Movie rental store	Utilitarian	Low involvement

Experimental study

Sample

Survey participants were recruited in journalism and mass communication courses at a major southern U.S. university. The four versions of the questionnaire were delivered to the 502 college students. To increase response rates, all participants who completed the survey were given extra course credit as an incentive and were given a chance to win a $50 gift certificate through a drawing. A total of 404 college students participated in the main study based on an online survey, providing a response rate of 80.4 percent. Subjects were randomly assigned to one of the four experimental conditions according to involvement and service type (n = 105 for high involvement/utilitarian, n = 98 for high involvement/hedonic, n = 100 for low involvement/ utilitarian, and n = 101 for low involvement/hedonic).

Despite the lack of generalizability of the results when using student subjects, past scholars have relied extensively on student samples for their service purchase studies (Ostrom & Iacobucci, 1995; Mitra, Reiss, & Capella, 1999). The use of college student subjects allows for a more controlled research sample that is consistent from a pretest to main study. In particular,

student samples are one of the most homogeneous segments of consumers and are among the most important target groups for many service categories. Erdem, Swait, and Valenzuela (2006) have confirmed the validity of their brand credibility model, using an online survey from college student samples.

Sample size

Identification of the necessary sample size is an important issue in the estimation and interpretation of structural equation modeling. However, it is difficult to indicate how large a sample is need because sample size requirements vary depending on several factors, such as model complexity, estimation procedures, model misspecification, and departures from normality (Hair et al., 1998). Although there is no clear guideline regarding the necessary sample size, some recommendations for a sample size have been provided. Kline (2005) argues that a sample size between 100 and 200 cases would be considered "medium" and that a sample size over 200 cases would be considered "large."

However, Hair et al. (1998) suggest that a sample size with a minimum ratio of at least five respondents per free parameter is appropriate. In this study, the necessary sample size was determined by the recommendation of Hair et al. (1998). Since the number of parameters to estimate (20 factor loadings + 20 measurement error variances + 9 paths + 5 disturbances + 1 factor variance) was 55, an necessary sample size was 275 (55*5 subjects). Therefore, the sample size (i.e., n = 404) of this study were considered sufficient to yield statistically valid result for structural equation modeling because this observation size exceeded the necessary sample size of 275.

Measurement instruments

With the exception of the perceived value for money construct, all constructs (i.e., brand credibility, perceived quality, perceived risk, information costs saved, and purchase intention) in the proposed model were measured using Erdem and Swait's (1998) study. A nine-point Likert scale from 1 (e.g., strongly disagree) to 9 (e.g., strongly agree) was used to measure the model. Prior work has found that nine-point scales are validated for measuring brand credibility (6 items), perceived quality (2 items), perceived risk (2 items), information costs saved (4 items), and purchase intention (3 items) (Erdem & Swait, 1998; Erdem, Swait, & Louviere, 2002; Erdem & Swait, 2004; Erdem, Swait, & Valenzuela, 2006). While the scales used were based on previous research on products, all of the items in this research were modified so that the scales were relevant to the context of the services. On the other hand, perceived value for money was measured with a four-item scale derived from Dodds, Monroe, and Grewal (1991). The four items of perceived value for money were adopted with modifications to better fit within the context of service category. They were also framed as nine-point Likert scales.

Assuming that brand credibility is a long-term effort and is hard to create in a short-term experimental setting, the term "favorite brand" was applied to all items because credibility is considered as a proportion of purchases concentrated on the favorite brand (Montgomery, 1971). Kim (2003) suggests that brand credibility embraces the personal history of brand experience. Therefore, a favorite brand can be seen as an individual's own credibility or loyalty to a brand. The use of favorite brand ensured response variability.

Empirically, Kim (2003) examined the psychological process of brand loyalty formation with six latent constructs, including brand credibility, affective brand conviction, cognitive brand conviction, attitude strength, brand commitment, and true brand loyalty. Testing the proposed model in two involvement (high vs. low) and two product type (hedonic vs. utilitarian) conditions, the author incorporated the term "favorite brand" into brand credibility items in the questionnaire (e.g., My favorite brand of designer sunglasses delivers what it promises). Table 10 contains detailed descriptions of the measurement items.

Table 10. Measurement instruments

Measurement items	Measure source
Brand credibility	Erdem & Swait (1998)
1. My favorite brand of ___ delivers what it promises.	
2. Service claims from my favorite brand of ___ are believable.	
3. Over time, my experiences with my favorite brand of ___ have led me to expect it to keep its promises, no more and no less.	
4. My favorite brand of ___ is committed to delivering on its claim, no more than no less	
5. My favorite brand of ___ has a name I can trust.	
6. My favorite brand of ___ has the ability to deliver what it promises.	
Perceived quality	Erdem & Swait (1998)
7. The quality of my favorite brand of ___ is very high.	
8. In terms of overall quality, I would rate my favorite brand of ___ as:	

Perceived value for money — Dodds et al. (1991)

9. My favorite brand of ___ appears to be a good value for the money.

10. The price shown for my favorite brand of ___ is very acceptable.

11. My favorite brand of ___ is considered to be a good financial deal.

12. How would you rate the competitiveness of the price of your favorite brand of ___?

Information costs saved — Erdem & Swait (1998)

13. Knowing what I am going to get from my favorite brand of ___ saves me time looking around.

14. My favorite brand of ___ gives me what I want, which saves me time and effort trying to do better.

15. I know I can count on my favorite brand of ___ being there in the future.

16. I need a lot of information about my favorite brand of ___ before I would choose it. (R)

Perceived risk — Erdem & Swait (1998)

17. I never know how good my favorite brand of ___ will be before I would choose it.

18. To figure out what my favorite brand of ___ is like, I would have to try it several times.

Purchase intention — Erdem & Swait (1998)

19. In general, I would never choose my favorite brand of ___. (R)

20. I would seriously consider choosing my favorite brand of ___.

21. How likely would you be to choose your favorite brand of ___?

Note: All items were measured on a 9-point "strongly disagree/strongly agree" scales, except items 8 (very low quality/very high quality), 12 (not at all competitive/very competitive), 21(very unlikely/very likely). (R) after an measurement item indicates that it was reversed.

Procedures

Pilot study. Prior to the main study, a pilot study was performed to refine the instrument. According to Wimmer and Dominick (2003), a pilot study is necessary when designing an Internet questionnaire because it provides a chance to check the clarity of questionnaire wording and to find out that whether or not what the researcher planned is what actually happened. The initial web-based questionnaire was tested with a convenience sample of 26 college students at a major southern U.S. university from March 5 to March 12, 2007. As a result of the pilot study, the wording of one item of perceived value for money was found to be confusing. Therefore, the item was adjusted to make it clear and easy to understand. With the exception of one perceived value for money item, there were not any specific problems with questionnaire design, wording, or procedure.

Main survey. Experimental data for the main study was obtained via an online survey by means of self-reported questionnaires. Each participant was randomly assigned to one of the four survey cells. Data was collected according to the following procedure. An invitation e-mail was sent to all potential participants over a period of two weeks, from March 20 to April 3, 2007, with a link to the questionnaire. The questionnaire was posted on a professional online survey website, Survey Monkey (i.e., www.surveymonkey.com). The consent form was presented on the first page of the survey. The participants were asked to select their favorite brand from the specific service brand group in the given service category. Then, they responded to the questionnaire in terms of brand credibility (6 items), perceived quality (2 items), perceived value for money (4 items), information costs saved (4 items), perceived risk (2 items), and purchase intention (3 items), giving consideration to their own favorite brands. Finally, the participants were asked to fill out the questionnaire regarding manipulation checks and demographic

measures. Upon completing the survey, they were debriefed and dismissed. The self-report questionnaire took approximately 10 to 15 minutes to complete.

Data analysis

The proposed model was tested with a structural equation modeling (SEM) technique, which determines whether a hypothesized model is consistent with the actual data. Specifically, the model was estimated using LISREL 8.54 (Jöreskog & Sörbom, 2003). As Hair et al. (1998) define, structural equation modeling is a "multivariate technique combining aspects of multiple regression (examining dependence relationships) and factor analysis (representing unmeasured concepts with multiple variables) to estimate a series of interrelated dependence relationships simultaneously" (p. 583). It has been widely acknowledged that structural equation modeling (SEM) is a powerful technique to identify the direct and indirect effects among exogenous and endogenous variables and to determine whether the variances and covariances logically implied by the model are reasonably close to those observed from the data (Tate, 1998).

All data collected from the four research cells was combined for the purpose of the hypotheses testing. Following a two-step process suggested by Anderson and Gerbing (1988), a confirmatory factor analysis (CFA) was first performed to examine whether individual items were loaded on their appropriate factors. This was followed by the test of full structural models. Once the proposed model was established, multi-group analyses were conducted to test the moderating roles of service types and involvement. First, the data was separated into specific manipulation conditions. In particular, a multiple-sample structural equation modeling technique was used to examine whether the structural paths in the proposed model are the same in different conditions (i.e., hedonic/utilitarian and high/low involvement).

CHAPTER 4

RESULTS

Characteristics of the sample

The sample consisted of 66 male respondents (16.3%) and 337 female respondents (83.4%). The average age for participants was 20.6 years old and ranged from 18 to 30. The most prevalent ethnic group was Caucasian (82.7%), followed by African-American (5.9%), Asian (5.7%), and Hispanic or Latino (2.7%). Concerning the school year, 36.4% of the respondents were juniors, followed by sophomores (32.7%), seniors (24.5%), and freshman (5.7%). Table 11 describes the demographic characteristics of the sample.

Table 11

Demographic characteristics of the sample

		Percent (%)	Frequency (N)
Gender			
	Male	16.3	66
	Female	83.4	337
	Missing	0.2	1
	Total	100	404
Year			
	Freshman	5.7	23
	Sophomore	32.7	132
	Junior	36.4	147
	Senior	24.5	99
	Graduate	0.5	2
	Missing	0.2	1
Race			
	American Indian or Alaska native	0	0
	African American/ Black	5.9	24

Hispanic or Latino	2.7	11
Asian	5.7	23
Caucasian/ White	82.7	334
Biracial or multiracial	2.5	10
Others	0.2	1
Missing	0.2	1
Age	Mean = 20.58	SD = 1.438

Data assumption checks

Prior to the main analysis, the following assumptions underlying structural equation modeling (SEM) were checked: missing data, outliers, and normality. According to Kline (2005), assumption checks are important for two reasons. First, the most widely used estimation methods for SEM require certain assumptions about the distributional characteristics of the data, particularly multivariate normality, skewness, and kurtosis in the data. Second, some problems related to violations of SEM assumptions can make SEM computer programs (e.g., LISREL, AMOS, and EQS) fail to provide a logical solution. Therefore, assumption checks are an essential and basic step to estimate the hypothesized model through the use of SEM.

Missing data was treated with listwise deletion, in which observations are excluded only if they contain missing data on any variable. This means that the effective sample size with listwise deletion included only cases with complete records (Kline, 2005). As a result, of 404 initial records, 14 cases were removed because they had missing scores. Thus, 390 cases were used for data analysis.

After missing data treatment, the data set was screened for outliers. Hair et al. (1998) suggest that outliers should be discounted or eliminated from the analysis because they are observations that are inappropriate representations of the population from which the sample is drawn. In this research, DeCarlo's (1997) SPSS Macro was used to assess whether outliers were

present in the data. As shown in Table 12, five outliers were identified with the largest values of Mahalanobis distances (D^2). The Mahalanobis distance (D^2) statistic is known to be an appropriate measure to screen for outliers (DeCarlo, 1997; Kline, 2005). It is a measure of how far an observation's value on the variables is from the multivariate mean of all the variables. Since the five cases' Mahalanobis distance values exceeded the critical value of 49.51 for designation as an outlier, the five cases were considered as significant outliers at the 0.05 level (df = 20.364). It was decided that the five outliers would be eliminated because deletion of the outliers improves multivariate data analysis and does not seriously distort the analysis. Thus, out of 390 cases, the total sample size was 385.

Table 12

Mahalanobis distance values

Rank	Case No.	Mahalanobis distances (D^2)
1	267	84.6
2	107	81.61
3	237	70.33
4	188	69.75
5	117	69.32

Note: critical F = 49.51 (alpha = 0.05; df = 20,364)

The normality assumptions were analyzed using the PRELIS program of LISREL 8.54 (Jöreskog & Sörbom, 2003). The program is designed to test univariate and multivariate normality for continuous variables. As a result, all skewness and kurtosis coefficients associated with each item met the criteria of absolute value of 2.0 (Steven, 1996; Tabachnick & Fidell, 1996), except the Kurtosis value for item "In terms of overall quality, I would rate my favorite brand of ___ as" (kurtosis coefficient = 2.114). Since it was just slightly over this criterion and

met other recommended criteria, it was considered to be acceptable for use in the study. As general guidelines for determining approximate normality, Kline (2005) recommends values less than the absolute value of 3.0 for skewness and the absolute value of 8.0 for kurtosis.

The value for multivariate normality called "relative multivariate kurtosis" in PRELIS outputs was 1.348, which is well below the maximum cut-off of the absolute value of 2.0 for multivariate normality. Thus, the assumption of multivariate normality was confirmed to be satisfactory. Means, standard deviations, skewness, and kurtosis values for all variables are presented in Table 13.

Table 13

Description of continuous variables

	Mean	SD	Skewness	Kurtosis
Brand credibility				
1. My favorite brand of ___ delivers what it promises.	7.413	1.282	-0.77	0.543
2. Service claims from my favorite brand of ___ are believable.	7.221	1.295	-0.532	-0.001
3. Over time, my experiences with my favorite brand of ___ have led me to expect it to keep its promises, no more and no less.	7.197	1.351	-0.58	-0.034
4. My favorite brand of ___ is committed to delivering on its claim, no more than no less	7.101	1.433	-0.685	0.503
5. My favorite brand of ___ has a name I can trust.	7.558	1.345	-0.938	0.725
6. My favorite brand of ___ has the ability to deliver what it promises.	7.623	1.229	-0.672	0.023
Perceived quality				
7. The quality of my favorite brand of ___ is very high.	7.358	1.442	-1.132	1.856
8. In terms of overall quality, I would rate my favorite brand of ___ as:	7.327	1.387	-1.16	2.114
Perceived value for money				
9. My favorite brand of ___ appears to be a good value for the money.	7.055	1.434	-0.442	-0.437
10. The price shown for my favorite brand of ___ is very acceptable.	6.966	1.523	-0.503	-0.214
11. My favorite brand of ___ is considered to be a good financial deal.	6.657	1.608	-0.36	-0.372
12. How would you rate the competitiveness of the price of your favorite brand of ___?	6.631	1.596	-0.368	-0.185
Information costs saved				
13. Knowing what I am going to get from my favorite brand of ___ saves me time looking around.	7.397	1.401	-0.83	0.713
14. My favorite brand of ___ gives me what I want, which saves me time and effort trying to do better.	7.244	1.33	-0.549	-0.077
15. I know I can count on my favorite brand of ___ being there in the future.	7.605	1.291	-0.986	0.851

16. I need a lot of information about my favorite brand of ___ before I would choose it.	5.396	2.153	-0.239	-0.783
Perceived risk				
17. I never know how good my favorite brand of ___ will be before I would choose it.	3.945	2.119	0.505	-0.629
18. To figure out what my favorite brand of ___ is like, I would have to try it several times.	4.868	2.031	-0.108	-0.6
Purchase intention				
19. In general, I would never choose my favorite brand of ___.	7.442	1.621	-1.032	0.563
20. I would seriously consider choosing my favorite brand of ___.	7.14	1.771	-1.04	0.875
21. How likely would you be to choose your favorite brand of ___?	7.41	1.506	-0.905	0.636

Measurement model analyses

To better understand the hypothesized relationships, structural equation modeling was tested with Version 8.54 of LISREL (Jöreskog & Sörbom, 2003) by using a two-step procedure advocated by Anderson and Gerbing (1988). For a two-step approach to structural equation modeling, the measurement model is estimated before the hypothesized structural linkages are examined, and then the structural model is estimated (Anderson & Gerbing, 1988).

Following a two-step process of structural equation modeling, a confirmatory factor analysis (CFA) of the measurement model was tested to evaluate whether the measurement items had the appropriate properties to represent each construct. This was followed by estimation of the structural model. In assessing the measurement model through a confirmatory factor analysis (CFA), the maximum likelihood estimation method was employed because all measurement items showed a relatively small level of skewness and kurtosis and because multivariate normality assumption was met. According to Hair et al. (1998), the maximum likelihood method provides "model parameter estimates that minimize a fitting function representing the degree of discrepancy between the observed variances and covariances and the corresponding reproduced

value" (p. 562). Kline (2005) suggests that the maximum likelihood estimation is efficient and unbiased when the assumption of multivariate normality is met.

Reliability

The reliability of the measurement items were evaluated using the combined data from all four survey cells. By using Cronbach's alpha coefficients, the internal reliability for all items of each construct was first calculated. Furthermore, "Cronbach's alpha if item deleted" was reviewed. As a result, it was revealed that the deletion of one item "I need a lot of information about my favorite brand of ___ before I would choose it" from the information costs saved scale would significantly improve the internal reliability. For example, removal of the item would increase Cronbach's alpha from 0.608 to 0.886. Therefore, the item (i.e., "I need a lot of information about my favorite brand of ___ before I would choose it") was eliminated. As shown in Table 14, reliabilities of each construct ranged from 0.642 to 0.952, which is acceptable given Nunnally's (1978) minimum suggestion of 0.60 being adequate for basic research.

Table 14

Summary of reliability

Construct		Measurement item	Cronbach's alpha
Brand credibility	**CR1**	1. My favorite brand of ___ delivers what it promises.	0.952
	CR2	2. Service claims from my favorite brand of ___ are believable.	
	CR3	3. Over time, my experiences with my favorite brand of ___ have led me to expect it to keep its promises, no more and no less.	
	CR4	4. My favorite brand of ___ is committed to delivering on its claim, no more than no less	
	CR5	5. My favorite brand of ___ has a name I can trust.	
	CR6	6. My favorite brand of ___ has the ability to deliver what it promises.	

Perceived quality	**PQ1**	7. The quality of my favorite brand of ___ is very high.	0.944
	PQ2	8. In terms of overall quality, I would rate my favorite brand of ___ as:	
Perceived value for money	**PV1**	9. My favorite brand of ___ appears to be a good value for the money.	0.884
	PV2	10. The price shown for my favorite brand of ___ is very acceptable.	
	PV3	11. My favorite brand of ___ is considered to be a good financial deal.	
	PV4	12. How would you rate the competitiveness of the price of your favorite brand of ___?	
Information costs saved	**ICS1**	13. Knowing what I am going to get from my favorite brand of ___ saves me time looking around.	0.886
	ICS2	14. My favorite brand of ___ gives me what I want, which saves me time and effort trying to do better.	
	ICS3	15. I know I can count on my favorite brand of ___ being there in the future.	
Perceived risk	**PR1**	16. I never know how good my favorite brand of ___ will be before I would choose it.	0.642
	PR2	17. To figure out what my favorite brand of ___ is like, I would have to try it several times.	
Purchase intention	**PI1**	18. In general, I would never choose my favorite brand of ___.	0.821
	PI2	19. I would seriously consider choosing my favorite brand of ___.	
	PI3	20. How likely would you be to choose your favorite brand of ___?	

Convergent and discriminant validity

To ensure convergent and discriminant validity of each construct, all constructs and indicators were evaluated in the measurement model. For convergent validity analysis, the path coefficients (i.e., factor loadings) from latent constructs to the corresponding indicators were analyzed (Sujan, Weitz & Kumar, 1994). Specifically, convergent validity can be assessed by

examining the indicator loading for statistical significance (Sujan et al., 1994). In other words, convergent validity is achieved when t-values associated with each factor loading exceed the critical values (1.96) at the 0.05 significant level (Anderson & Gerbing, 1988). In addition, the average variance extracted (AVE) was calculated for rigorous testing of measurement validity. According to Fornell and Larker (1981), convergent validity is achieved if the average variance extracted (AVE) is greater than the recommended 0.50. The results showed that all items significantly loaded to their construct factors. As indicated in Table 15, all factor loadings, ranging from 0.47 to 0.95, were statistically significant at $p \leq 0.05$. The AVE values were greater than 0.50 for all constructs ($0.610 <$ all AVE values < 0.895) (see Table 16).

Table 15

Summary of factor loadings, SE, t-value, and R^2

Construct	Item	Standardized factor loading	SE	t-value	R^2
Brand credibility					
	CR1	0.89	0.051	22.39*	0.80
	CR2	0.89	0.052	22.19*	0.79
	CR3	0.87	0.055	21.57*	0.76
	CR4	0.83	0.060	19.84*	0.69
	CR5	0.88	0.054	21.89*	0.78
	CR6	0.90	0.049	22.59*	0.81
Perceived quality					
	PQ1	0.95	0.056	24.46*	0.90
	PQ2	0.94	0.054	24.26*	0.89
Perceived value					
	PV1	0.89	0.058	22.09*	0.80
	PV2	0.93	0.060	23.48*	0.86
	PV3	0.86	0.066	20.84*	0.74
	PV4	0.58	0.076	12.23*	0.34

Information cost saved					
	ICS1	0.83	0.060	19.56*	0.69
	ICS2	0.93	0.053	23.36*	0.87
	ICS3	0.80	0.056	18.52*	0.64
Perceived risk	PR1	1.00	0.076	27.68*	1.00
	PR2	0.47	0.098	9.84*	0.22
Purchase intention					
	PI1	0.62	0.078	12.87*	0.38
	PI2	0.76	0.081	16.64*	0.58
	PI3	0.95	0.064	22.44*	0.91

Note: * $p \leq 0.05$

Table 16

Average variance extracted values

Constructs	AVE
Brand credibility	0.771
Perceived quality	0.895
Perceived value (for money)	0.684
Information cost saved	0.733
Perceived risk	0.610
Purchase intention	0.623

1. Note: Average variance extracted (AVE) was calculated based on the formula provided by Fornell and Larcker (1981). AVE = the sum of the squared standardized indicator item loadings on the factor representing the construct, divided by this sum plus the sum of indicator item error.

* Average variance extracted (AVE) = $\sum$(standardized loading^2) / ($\sum$(standardized loading^2) + $\sum$ measurement error)

Discriminant validity is indicated when the AVE value for each construct exceeds the square of the standardized correlations between constructs (Fornell & Larker, 1981). Table 17 indicates the correlation matrix of each construct. It was found that discriminant validity was achieved in the full measurement model because the AVE values associated with all constructs

(e.g., 0.771 and 0.895 for brand credibility and perceived quality, respectively) were greater than the square of the correlation between constructs (e.g., $0.85^2 = 0.72$). Therefore, all constructs had both convergent and discriminant validity.

Table 17

Correlation matrix of constructs

	1	2	3	4	5	6
1. Brand credibility	1					
2. Perceived quality	0.85	1				
3. Perceived value for money	0.66	0.51	1			
4. Information costs saved	0.78	0.69	0.64	1		
5. Perceived risk	-0.23	-0.21	-0.14	-0.23	1	
6. Purchase intention	0.55	0.53	0.47	0.54	-0.24	1

Offending estimates

The first step is to assess the CFA measurement model by examining offending estimates. The three most common offending estimates include: (1) negative error variances, (2) standardized coefficients exceeding or very close to 1.0, or (3) very large standard errors associated with any estimated coefficient (Hair et al., 1998). An initial inspection for offending estimates revealed that a negative error variance (known as a Heywood case) associated with the "perceived risk" construct occurred in item PR1. According to Kline (2005), Heywood cases can be caused by specification errors, nonidentification of the model, the presence of outlier cases, small sample size, only two indicators per factor, bad start values, and extremely high or low correlations between parameter estimates. The undesirable result may occur because of only two indicators per factor and the low reliabilities of two scales (0.642).

Leigh, Zinkhan, and Swaminathan (2006) suggest that negative error variances are quite common and are perhaps the most frequently encountered problems in LISREL analyses (p. 115). When negative error variances are encountered, there are several recommended approaches. One possible solution is to set the negative error variance to a very small positive value (e.g., 0.005) (Hair et al., 1998; Bentler & Chou, 1987; Dillion, Kumar, & Mulani, 1987). Setting the parameter with the negative error variance to zero is justified if it does not violate any assumptions or change the interpretation of the model (Leigh et al., 2006). Although this approach has been criticized on the basis of statistical concerns, setting the negative error variance to zero is evaluated very favorably in both empirical and simulation settings (Dillon et al., 1987, p. 134). Following the solution, the measurement model was re-estimated by setting the negative error variance to 0.005. Consequently, there were no further instances of any of these problems.

Overall model fit

In this study, several fit indices were examined to assess the overall fit of the full measurement model: chi-square (χ^2), χ^2/df ratio, goodness-of-fit index (GFI), adjusted goodness-of-fit index (AGFI), root mean square error of approximation (RMSEA), non-normed fit index (NNFI), comparative fit index (CFI), and standardized root mean square residual (SRMR).

Table 18 indicates the fit indices with cut-off criteria to assess the fit indices in the measurement model (Hu & Bentler, 1999). Overall, the confirmatory factor analysis (CFA) of the full measurement model indicated a good fit: χ^2 (156) = 363.26 ($p \leq .001$), χ^2/df = 2.33, GFI = 0.91, AGFI = 0.88, RMSEA = 0.059, NNFI = 0.99, CFI = 0.99, and SRMR = 0.038. Since the model revealed a good fit, measurement respecification, a process of adding or deleting estimated parameters from the original model (Hair et al., 1988), was not performed. The CFA of the full

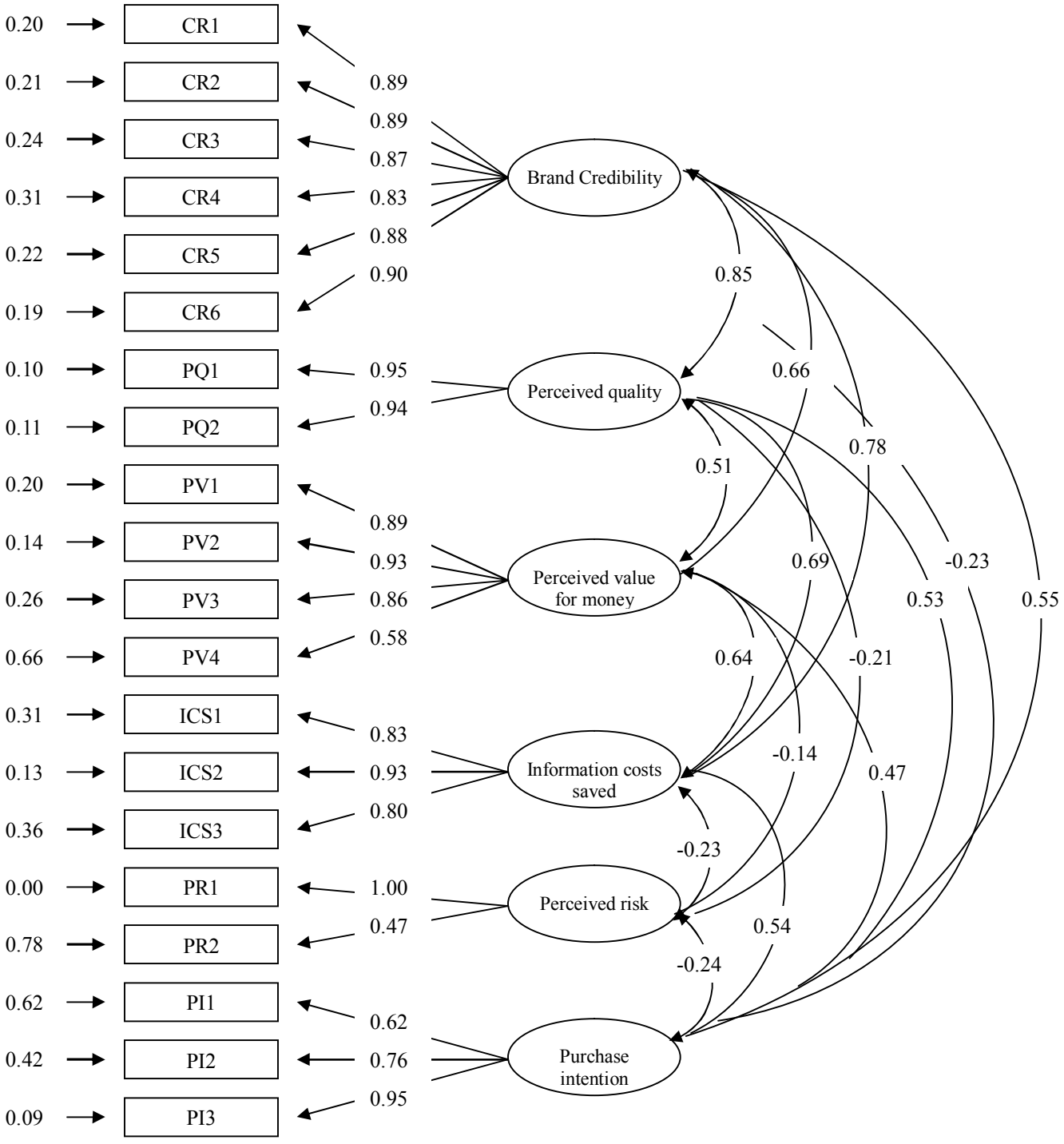
measurement model, with factor loadings for each item and the correlations of six constructs, is presented in Figure 2.

Table 18

Model fit indices

Statistic	Recommended value	Obtained value
χ^2 (p-value)		363.26 (0.00)
d.f.		156
χ^2/df	< 5.0 (Wheaton et al., 1977)	2.33
GFI	>0.9 (Jöreskog & Sörbom, 1988)	0.91
AGFI	>0.8 (Jöreskog & Sörbom, 1988)	0.88
RMSEA	<0.06 (Hu & Bentler,1999)	0.059
NNFI	>0.95(Hu & Bentler,1999)	0.99
CFI	>0.95 (Hu & Bentler,1999)	0.99
SRMR	<0.08 (Hu & Bentler, 1999)	0.038

Figure 2. Full measurement model



Structural model

After establishing a satisfactory fit in the measurement model, the proposed structural model was analyzed via LISREL 8.54 (Jöreskog & Sörbom, 2003) using the maximum likelihood estimation method. To determine whether the hypotheses were supported, each structural path coefficient was examined with fit indices of the proposed model. The results of the structural model with all the path coefficients are shown in Table 19. Overall, the fit indices showed a good fit for the model: χ^2 (162) = 378.74 ($p \leq .001$), χ^2/df = 2.34, GFI = 0.91, AGFI = 0.88, RMSEA = 0.061, NNFI = 0.99, CFI = 0.99, and SRMR = 0.044). The results indicated that brand credibility positively influences perceived quality, perceived value for money, and information costs saved, whereas brand credibility negatively and significantly influences perceived risk. Hypotheses 1 to 4 were statistically significant at $p \leq 0.05$. Thus, H1, H2, H3, and H4 were completely supported.

However, perceived risk was not found to significantly influence information costs saved even though there was a negative relationship between perceived risk and information costs saved (path coefficient = -0.053, t-value: -0.053; $p > 0.05$). Thus, H5 was not supported. This finding was not in line with pervious studies that have shown that the path coefficient from perceived risk to information costs saved is negative and significant.

In addition, perceived quality, perceived value for money, perceived risk, and information costs saved were found to influence purchase intention significantly. Therefore, H6, H7, H8, and H9 were also supported in the predicted direction, as shown in Figure 3. In general, the empirical evidence finds strong support for the proposed model, with the exception of a relationship between perceived risk and information costs saved (H5).

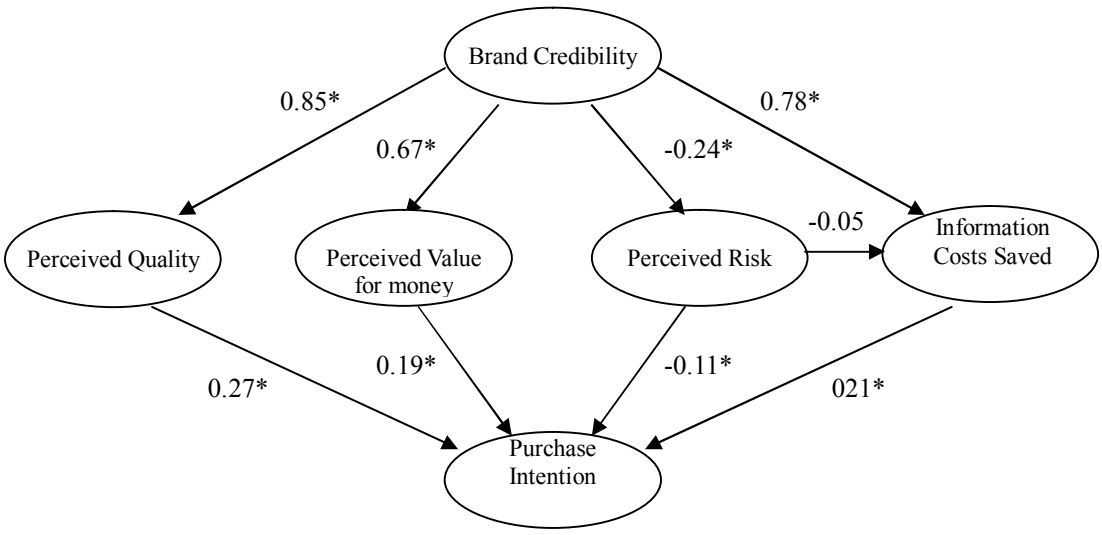
Table 19

Summary of structural model

Paths	Hypotheses	Path coefficient	t-value
Brand credibility → Perceived quality	H1: supported	0.85	18.82*
Brand credibility → Perceived value for money	H2: supported	0.67	13.22*
Brand credibility → Perceived risk	H3: supported	-0.24	-4.57*
Brand credibility → Information costs saved	H4: supported	0.78	14.65*
Perceived risk → Information costs saved	H5: not supported	-0.053	-1.42
Perceived quality → Purchase intention	H6: supported	0.27	3.81*
Perceived value for money → Purchase intention	H7: supported	0.19	3.17*
Perceived risk → Purchase intention	H8: supported	-0.11	-2.33*
Information costs saved → Purchase intention	H9: supported	0.21	3.06*

Note: * p ≤ 0.05

Figure 3. Hypothesized path values



Note: * p ≤ 0.05

Multiple-group analyses

Two research questions involved testing to determine whether brand credibility's impact works differently under specific conditions that differentiate the service types (i.e., utilitarian and hedonic) and the level of involvement (i.e., high and low). The data was divided into separate covariance matrices for utilitarian services (n = 194), hedonic services (n = 191), high involvement services (n = 193), and low involvement services (n = 192) and was used as input data for the multiple-group analyses.

Unconstrained estimates called "base models" were generated to be used as a basis of comparison. After the base models (i.e., one for each set of split data) were run simultaneously, without invariance of path coefficients, each gamma (i.e., all paths from exogenous variables to endogenous variables) and beta path (i.e., all paths among endogenous variables) was tested individually for equivalency by fixing each path coefficients in one group to be equal to the other one by one. Next, a chi-square difference test was performed to examine the path coefficient differences across groups (i.e., utilitarian vs. hedonic; high vs. low involvement). Given that the chi-square difference test provides significant results, the path coefficients were significantly different across groups at the 0.05 level. Therefore, it is concluded that there was a moderating role affecting the relationship between independent and dependent variables (Kline, 2005).

As shown in Table 20, there were significant differences ($\Delta\chi^2_{df=1} > 3.84$) in path coefficients of brand credibility → perceived quality, brand credibility → perceived value for money, brand credibility → information costs saved, perceived value for money → purchase intention, and information costs saved → purchase intention between utilitarian and hedonic services. It is logical to infer that the magnitude of brand credibility's impact on purchase intention through perceived quality, perceived value for money, and information costs saved vary

across the types of service. It was found that brand credibility's impact on perceived value for money and information costs was stronger for utilitarian services than for hedonic services, while brand credibility's impact on perceived quality was stronger for hedonic services than for utilitarian services. Furthermore, the path from perceived value for money to purchase intention was statistically significant for the utilitarian group only.

On the other hand, there was no significant difference in path coefficients between high and low involvement (see Table 21). Under high involvement conditions, however, the power of brand credibility's impact on perceived quality, perceived value for money, perceived risk and information costs was greater than under low involvement conditions. However, the impacts were not significant different.

Table 20

Comparison of structural paths in utilitarian and hedonic services

Paths	χ^2	d.f.	$\Delta\chi^2$ (d.f. = 1)	Standardized coefficients	
				Utilitarian	Hedonic
Unconstrained estimate (base model)	738.74	363			
Brand credibility → Perceived quality	743.11	364	4.37*	0.79*	0.92*
Brand credibility → Perceived value for money	751.73	364	12.99*	0.81*	0.51*
Brand credibility → Perceived risk	739.45	364	0.71	-0.19*	-0.28*
Brand credibility → Information costs saved	745.48	364	6.74*	0.88*	0.68*
Perceived risk → Information costs saved	738.87	364	0.13	-0.06	-0.04
Perceived quality → Purchase intention	738.77	364	0.03	0.24*	0.26*
Perceived value for money → Purchase intention	747.38	364	8.64*	0.37*	0.01
Perceived risk → Purchase intention	739.27	364	0.46	-0.09	-0.15*
Information costs saved → Purchase intention	744.21	364	5.47*	0.31*	0.09

Note: critical value = 3.84 ($\Delta\chi^2$df=1) at p = 0.05; * p ≤ 0.05

Table 21

Comparison of structural paths in high and low involvement

Paths	χ^2	d.f.	$\Delta\chi^2$ (d.f. = 1)	Standardized coefficients High Inv.	Low Inv.
Unconstrained estimate (base model)	827.97	363			
Brand credibility → Perceived quality	828.58	364	0.61	0.87*	0.82*
Brand credibility → Perceived value for money	830.77	364	2.80	0.73*	0.60*
Brand credibility → Perceived risk	828.60	364	0.63	-0.29*	-0.21*
Brand credibility → Information costs saved	829.64	364	1.67	0.82*	0.72*
Perceived risk → Information costs saved	831.64	364	3.67	-0.13*	-0.01
Perceived quality → Purchase intention	829.15	364	1.18	0.38*	0.22*
Perceived value for money → Purchase intention	828.76	364	0.79	0.11*	0.22*
Perceived risk → Purchase intention	828.89	364	0.92	-0.14*	-0.05
Information costs saved → Purchase intention	828.36	364	0.39	0.17*	0.26*

Note: critical value = 3.84 ($\Delta\chi^2$df=1*)* at p = 0.05; * p ≤ 0.05

CHAPTER 5

DISCUSSION

The objective of this study was to examine whether the framework of brand credibility effects is applicable to service categories and to investigate how the power of brand credibility's impact is moderated by service type and involvement. The results of this study found strong support for the application of the framework of brand credibility effects to the context of service brands.

In general, consumers are more involved in the purchase of services than products because (1) the production of a service requires human interactions, which introduces a degree of variability in the outcome, (2) service delivery is often not possible without the participation of the consumer, and (3) there is usually no transfer of ownership, so the buyer is unable to sell or return the merchandise (Laroche, Bergeron, & Goutaland, 2003, p 126).

Although Erdem and Swait (1988) investigated and verified the importance of brand credibility, they did not incorporate perceived value for money in their analysis and did not examine the robustness of their findings across service categories. The proposed model supports the notion that brand credibility exerts a strong effect on purchase intention toward the brand by increasing perceived quality, perceived value for money, information costs saved, and by decreasing perceived risk across service categories.

With the exception of perceived value for money, the results were consistent with Erdem and Swait (1998). It was found that brand credibility positively influences perceived quality and

information costs saved, whereas brand credibility negatively influences perceived risk. These results suggest that brand credibility is an important antecedent of perceived quality, perceived risk, and information costs saved in service settings. Brand credibility was also found to have a significant and positive impact on perceived value for money, which in turn exerts a positive impact on purchase intention. Several scholars have argued that perceived value for money serves as a meaningful construct to explain consumer choice behavior in service environments (Swait & Sweeney, 2000; Sweeney, Soutar, & Johnson, 1999; Groth & Dye, 1999). Consistent with previous empirical evidence (Sweeny et al., 1999), the present research suggests that perceived value for money has a significant and positive effect on purchase intention. The finding of this study indicates that perceived value for money plays a mediating role in explaining how a causal relationship between brand credibility and purchase intention occurs in the service domain.

However, the path from perceived risk to information costs saved failed to exhibit significance. This finding is not consistent with previous research, which has shown that perceived risk and information costs saved are significantly and negatively correlated (Murray, 1991; Newman, 1977; Erdem & Swait, 1998). Past research found that rational information search behaviors tend to reduce risk and enable consumers to be confident in uncertain situations.

A potential explanation for the absence of perceived risk's impact on information costs saved may pertain to brand knowledge. Although consumers may have high levels of perceived risk toward a service brand, their perceptions of risk do not necessarily translate into information search behavior because they have already purchased or used their favored service brand with knowledge attached to the brand in memory. Chen and He (2003) suggest that brand knowledge plays a pivotal role in reducing perceived risk.

Another possible explanation may be due to past service experience. In this study, the checking account, movie rental store, fast food restaurant, and steak and seafood restaurant that were employed as service categories may be classified as experience-based services. Experience characteristics of services refer to the attributes that can be evaluated only after the service has been performed or consumed (Mitra, Reiss, & Capella, 1999). According to Moorthy, Ratchford, and Talukdar (1997), consumers who have more product or service experience tend to need less new information. That is, increasing past experience may lead consumers to save on information costs. As a sample for testing the proposed model, student subjects were likely to be familiar with these service categories because they might have a great deal of experience with the services. Familiarity associated with prior experience implies less information search effort regardless of a consumer's risk perception. Perceived risk may be the critical factor in increasing information costs when consumers' past experiences tend to be low.

With respect to service types, it was found that in utilitarian services, the paths from brand credibility to perceived quality (CR → PQ), from brand credibility to perceived value for money (CR → PV), from brand credibility to information costs saved (CR → ICS), from perceived value for money to purchase intention (PV → PI), and from information costs saved to purchase intention (ICS → PI) indicated significant differences between utilitarian and hedonic services. More specifically, the magnitude of brand credibility's impact on perceived value for money and information costs saved was greater for utilitarian services than for hedonic services. However, the magnitude of brand credibility's impact on perceived quality was greater for hedonic services than for utilitarian services. In addition, the path from perceived value for money to purchase intention (PV → PI) was significant for the utilitarian group only.

The results suggest that utilitarian services, unlike hedonic services, increase brand credibility's impact on purchase intention through perceived value for money. It is important to note that cognitive or rational models of decision making are driven by perceived value for the money (Sweeny et al., 1999). For utilitarian services, consumer decision making may be formed via cognitive evaluations associated with a consumer's perception of value. This implies that the perceived value for money construct plays different roles in the causal relationships between brand credibility and purchase intention in hedonic and utilitarian conditions. Consumers are likely to rely heavily on the aspects of brand credibility and perceived value for money when purchasing services based on utilitarian features. Regardless of service type, brand credibility had a negative effect on perceived risk in service settings. This result was consistent with previous studies, which indicate that a high level of brand credibility decreases perceived risk. Overall, the findings suggest that utilitarianism moderates brand credibility's impact on purchase intention by increasing perceived value for money and decreasing information costs, whereas hedonism affects brand credibility's impact on purchase intention by increasing perceived quality.

On the other hand, it was found that all paths were not significantly different between high and low involvement. However, brand credibility has more influence on perceived quality, perceived value for money, perceived risk, and information costs, which in turn have a strong effect on purchase intention under high involvement conditions than under low involvement conditions. Interestingly, the proposition pertaining to the inverse association between perceived risk and information costs saved was found under high involvement conditions.

The results suggest that as involvement increases, brand credibility increases perceived quality, perceived value for money, and information costs saved. However, it also decreases perceived risk.

Theoretical implications

This study has important theoretical and managerial implications for services marketing researchers and practitioners. From a theoretical perspective, one of the most important implications of this study is that the proposed model provides a more comprehensive assessment of how brand credibility influences its key outcomes across service categories. Drawing on signaling theory from an information economics perspective (Spence, 1974), this research extended Erdem and Swait's (1998) framework by including the role of perceived value for money within an existing model of brand credibility effects in service settings. It is important to note that perceived value for money has been rarely used for brand credibility studies despite its theoretical plausibility. Brand credibility was found to exert a strong and positive impact on perceived value for money. Consistent with Sweeny, Soutar, and Johnson (1999), a relationship between perceived value for money and purchase intention was found to be significant and positive. Therefore, perceived value for money's theoretical importance in the proposed model was supported by the findings. This implies that perceived value for money could be considered as a significant mediator of a causal relationship between brand credibility and purchase intention in service sectors.

Another theoretical implication is that the current research assures the generalizability and robustness of the proposed model through the use of multiple service categories reflecting hedonic/utilitarian characteristics and high/low involvement. In particular, the current study is the first attempt to empirically incorporate service types (i.e., hedonic and utilitarian) into a service classification scheme. Despite the importance of service type as a moderating variable, very few studies to date have investigated the extent to which the effects of brand credibility on purchase intention vary across the types of service. The results suggest that brand credibility leads to a

stronger path for the effects of brand credibility on perceived value for money and information costs saved in utilitarian services than in hedonic services. However, the path from brand credibility and perceived quality is stronger in hedonic services than in utilitarian services. Service type could act as a moderating role of brand credibility effects. Overall, the results provide more rigorous support for the proposed model by incorporating the service classification scheme that might have affected the magnitude of the impacts of brand credibility on purchase intention.

Managerial implications

The findings of this study provide important managerial contributions to advertisers and brand managers, particularly in the field of services marketing. This study suggests that advertisers and brand managers in service categories can manage their brand's credibility levels by executing marketing communications campaigns. For example, advertising, as the most common form of marketing communication, can be a driving force in creating brand credibility. According to Reast (2005), brand credibility reflects the honesty and standing of a brand via product or service claims delivered in advertising or other forms of brand communication.

It is important to note that the success of marketing communications aimed at reinforcing brand credibility relies heavily on the consistency of brand management. Erdem and Swait (1998) suggest that brand management should include all aspects of credibility, such as the consistency of a brand's marketing mix strategies over time. Therefore, the concept of brand credibility in the service sector provides a goal for marketing communication campaigns that highlight the importance of consistency.

In addition, advertisers and brand managers need to understand the nature of brand credibility across different types of services and different levels of involvement when creating service advertising messages. Within the context of utilitarian services, a service advertising campaign should convey messages that represent brand credibility along with ideas of improving brand value for money and lowering brand-related information costs. Such a message approach may be very effective for service categories, such as a checking account or a movie rental store, which are generally considered to be utilitarian services. Given the importance of brand credibility in utilitarian services, advertisers and brand managers should consider emphasizing brand communication strategies that invoke either value for money or information costs saved in order to increase consumer intention to purchase.

In the context of hedonic services, establishing brand credibility may be accomplished by emphasizing perceived quality because perceived quality seems to matter more in consumer choice processes for hedonic than for utilitarian services. For example, consumers using a hedonic service such as a fast food restaurant may find it difficult to differentiate service offerings (e.g., service speed, low food prices, and information about menu items) from other fast food restaurant providers (Bowen, 1990). However, other offerings (e.g., consistent quality in the food products and employee knowledge) related to the perceived quality can help enhance consumer credibility and confidence in the fast food services and minimize uncertainty about the fast food restaurant. Marketers, therefore, should strengthen brand credibility by maximizing perceived quality in hedonic service contexts such as fast food restaurant or steak and seafood restaurant. Finally, the results of this study suggest that returns on brand investment to establish brand credibility depend on consumer involvement. Managing brand credibility would seem to be especially effective when consumers make a decision for high-involvement service categories.

Limitations and suggestions for future research

Although the findings of this study yield rich insights into the nature of brand credibility effects in service settings, the current study has several limitations. First, this research focused on a limited number of service categories (i.e., checking account, movie rental store, fast food restaurant, and steak and seafood restaurant) to test the moderating role of service type and involvement. Therefore, future research is needed to examine the generalizability and robustness of the proposed model with a larger set of service categories representing hedonic/utilitarian services and high/low involvement.

Second, the empirical results of this study were based on a student sample. Although care was taken to use service categories that students use, student samples do not represent the general population. Another avenue for further research is to replicate the proposed model on non-student samples in order to enhance the generalizability of these results.

Third, the construct of perceived risk was measured with only two items, for reason of parsimony, even though there are various types of perceived risk (e.g., functional, social, physical, psychological, financial, and time risk) identified in the literature. The two items that were employed in this study may not have fully measured perceived risk. It became evident that a negative error variance associated with the perceived risk construct occurred in this research. According to Hair et al. (1998), using only two indicators in structural equation modeling increases the chances of reaching an improper and infeasible solution such as a Heywood case. Future research should be replicated with additional indicators associated with perceived risk.

Another limitation of the study is related to statistical significance testing in the difference between high and low involvement. Although there were statistically significant differences between high and low involvement services in the manipulation check, the actual

difference may not have been large enough to be practically meaningful. In other words, the service categories, while statistically different from each other, may not represent truly high and low involvement categories. Therefore, it may be difficult to detect significance and may affect the results which showed that brand credibility's impact on purchase intention was not significantly different under high and low involvement conditions.

Finally, previous research to explain brand credibility effects on purchase intention and was tested only in the United States with the exception of Erdem, Swait, and Valenzuela (2006). Although their validation study (2006) found empirical evidence for the importance of brand credibility in consumer decision making in different cultures, it is not clear that the proposed model is valid and applicable in other countries. Brand credibility may play different roles in brand equity formation depending on consumers' cultural orientations. Thus, future research should examine how brand credibility in brand equity formation varies according to cultural differences in service settings.

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APPENDICES

APPENDIX A

PRETEST QUESTIONNAIRE

Pretest 1 for Service Selection

Taehyun Baek

The University of Georgia

Study supervised by: **Dr. Karen W. King**

The Grady College of Journalism & Mass Communication

The University of Georgia

Athens, GA 30602-3018

Respondent:

Please turn page and begin answering questions. Your cooperation is greatly appreciated.

Instructions: The following questions are designed to measure your general involvement in various service categories and service types. I would like to begin by asking you questions about service experiences. Please answer each question by putting a check mark (**X**).

1. Have you ever purchased **auto insurance** before? Yes _____No _____

   If yes, how often do you use an **auto insurance** service?

   Rarely _____:_____:_____:_____:_____:_____:_____ Frequently
   1 2 3 4 5 6 7

2. Have you ever applied for a **credit card** before? Yes _____No _____

   If yes, how often do you use a **credit card**?

   Rarely _____:_____:_____:_____:_____:_____:_____ Frequently
   1 2 3 4 5 6 7

3. Have you ever opened a **checking account** before? Yes _____No _____

   If yes, how often do you use a **checking account**?

   Rarely _____:_____:_____:_____:_____:_____:_____ Frequently
   1 2 3 4 5 6 7

4. Have you ever purchased food at a **fast food restaurant** before? Yes _____No _____

   If yes, how often do you use a **fast food restaurant**?

   Rarely _____:_____:_____:_____:_____:_____:_____ Frequently
   1 2 3 4 5 6 7

5. Have you ever purchased food at a **steak/ sea food restaurant** before? Yes _____No _____

   If yes, how often do you use a **steak/ sea food restaurant**?

   Rarely _____:_____:_____:_____:_____:_____:_____ Frequently
   1 2 3 4 5 6 7

6. Have you ever purchased a **mobile phone service** before? Yes _____No _____

   If yes, how often do you use a **mobile phone service**?

   Rarely _____:_____:_____:_____:_____:_____:_____ Frequently
   1 2 3 4 5 6 7

7. Have you ever purchased an **Internet access service** before? Yes _____No _____

If yes, how often do you use an **Internet access service**?

Rarely _____:_____:_____:_____:_____:_____:_____ Frequently
1 2 3 4 5 6 7

8. Have you ever used an **online travel service** before? Yes _____No _____

If yes, how often do you use an **online travel service**?

Rarely _____:_____:_____:_____:_____:_____:_____ Frequently
1 2 3 4 5 6 7

9. Have you ever made a **hotel** reservation before**?** Yes _____No _____

If yes, how often do you use a **hotel?**

Rarely _____:_____:_____:_____:_____:_____:_____ Frequently
1 2 3 4 5 6 7

10. Have you ever purchased an **airline** ticket before? Yes _____No _____

If yes, how often do you use an **airline**?

Rarely _____:_____:_____:_____:_____:_____:_____ Frequently
1 2 3 4 5 6 7

11. Have you ever rented a movie at a **movie rental store** before? Yes _____No _____

If yes, how often do you use a **movie rental store**?

Rarely _____:_____:_____:_____:_____:_____:_____ Frequently
1 2 3 4 5 6 7

Now I would like to ask you questions about the following service categories. On the rating scales, please put a check mark (**X**) in the space that best describes how you perceive the service.

12. Assuming you are choosing **auto insurance**, the decision would be:

Not logical/objective	1 2 3 4 5 6 7	Logical/objective
Not based on how the service is used	1 2 3 4 5 6 7	Based on how the service is used
Not an expression of my personality	1 2 3 4 5 6 7	An expression of my personality
Based on little feeling	1 2 3 4 5 6 7	Based on a lot of feeling
Not based on looks, taste, touch, smell or sounds	1 2 3 4 5 6 7	Based on looks, taste, touch, smell or sounds
Very unimportant	1 2 3 4 5 6 7	Very important
Required little thought	1 2 3 4 5 6 7	Required a lot of thought
Little to lose if I choose the wrong brand	1 2 3 4 5 6 7	A lot to lose if I choose the wrong brand

13. Assuming you are choosing a **credit card**, the decision would be:

Not logical/objective	1 2 3 4 5 6 7	Logical/objective
Not based on how the service is used	1 2 3 4 5 6 7	Based on how the service is used
Not an expression of my personality	1 2 3 4 5 6 7	An expression of my personality
Based on little feeling	1 2 3 4 5 6 7	Based on a lot of feeling
Not based on looks, taste, touch, smell or sounds	1 2 3 4 5 6 7	Based on looks, taste, touch, smell or sounds
Very unimportant	1 2 3 4 5 6 7	Very important
Required little thought	1 2 3 4 5 6 7	Required a lot of thought
Little to lose if I choose the wrong brand	1 2 3 4 5 6 7	A lot to lose if I choose the wrong brand

14. Assuming you are choosing a **checking account**, the decision would be:

Not logical/objective	1 2 3 4 5 6 7	Logical/objective
Not based on how the service is used	1 2 3 4 5 6 7	Based on how the service is used
Not an expression of my personality	1 2 3 4 5 6 7	An expression of my personality
Based on little feeling	1 2 3 4 5 6 7	Based on a lot of feeling
Not based on looks, taste, touch, smell or sounds	1 2 3 4 5 6 7	Based on looks, taste, touch, smell or sounds
Very unimportant	1 2 3 4 5 6 7	Very important
Required little thought	1 2 3 4 5 6 7	Required a lot of thought
Little to lose if I choose the wrong brand	1 2 3 4 5 6 7	A lot to lose if I choose the wrong brand

15. Assuming you are choosing a **fast food restaurant**, the decision would be:

Not logical/objective	1 2 3 4 5 6 7	Logical/objective
Not based on how the service is used	1 2 3 4 5 6 7	Based on how the service is used
Not an expression of my personality	1 2 3 4 5 6 7	An expression of my personality
Based on little feeling	1 2 3 4 5 6 7	Based on a lot of feeling
Not based on looks, taste, touch, smell or sounds	1 2 3 4 5 6 7	Based on looks, taste, touch, smell or sounds
Very unimportant	1 2 3 4 5 6 7	Very important
Required little thought	1 2 3 4 5 6 7	Required a lot of thought
Little to lose if I choose the wrong brand	1 2 3 4 5 6 7	A lot to lose if I choose the wrong brand

16. Assuming you are choosing a **steak/sea food restaurant**, the decision would be:

Not logical/objective	1 2 3 4 5 6 7	Logical/objective
Not based on how the service is used	1 2 3 4 5 6 7	Based on how the service is used
Not an expression of my personality	1 2 3 4 5 6 7	An expression of my personality
Based on little feeling	1 2 3 4 5 6 7	Based on a lot of feeling
Not based on looks, taste, touch, smell or sounds	1 2 3 4 5 6 7	Based on looks, taste, touch, smell or sounds
Very unimportant	1 2 3 4 5 6 7	Very important
Required little thought	1 2 3 4 5 6 7	Required a lot of thought
Little to lose if I choose the wrong brand	1 2 3 4 5 6 7	A lot to lose if I choose the wrong brand

17. Assuming you are choosing a **mobile phone service**, the decision would be:

Not logical/objective	1 2 3 4 5 6 7	Logical/objective
Not based on how the service is used	1 2 3 4 5 6 7	Based on how the service is used
Not an expression of my personality	1 2 3 4 5 6 7	An expression of my personality
Based on little feeling	1 2 3 4 5 6 7	Based on a lot of feeling
Not based on looks, taste, touch, smell or sounds	1 2 3 4 5 6 7	Based on looks, taste, touch, smell or sounds
Very unimportant	1 2 3 4 5 6 7	Very important
Required little thought	1 2 3 4 5 6 7	Required a lot of thought
Little to lose if I choose the wrong brand	1 2 3 4 5 6 7	A lot to lose if I choose the wrong brand

18. Assuming you are choosing an **Internet access service**, the decision would be:

Not logical/objective	1 2 3 4 5 6 7	Logical/objective
Not based on how the service is used	1 2 3 4 5 6 7	Based on how the service is used
Not an expression of my personality	1 2 3 4 5 6 7	An expression of my personality
Based on little feeling	1 2 3 4 5 6 7	Based on a lot of feeling
Not based on looks, taste, touch, smell or sounds	1 2 3 4 5 6 7	Based on looks, taste, touch, smell or sounds
Very unimportant	1 2 3 4 5 6 7	Very important
Required little thought	1 2 3 4 5 6 7	Required a lot of thought
Little to lose if I choose the wrong brand	1 2 3 4 5 6 7	A lot to lose if I choose the wrong brand

19. Assuming you are choosing an **online travel service**, the decision would be:

Not logical/objective	1 2 3 4 5 6 7	Logical/objective
Not based on how the service is used	1 2 3 4 5 6 7	Based on how the service is used
Not an expression of my personality	1 2 3 4 5 6 7	An expression of my personality
Based on little feeling	1 2 3 4 5 6 7	Based on a lot of feeling
Not based on looks, taste, touch, smell or sounds	1 2 3 4 5 6 7	Based on looks, taste, touch, smell or sounds
Very unimportant	1 2 3 4 5 6 7	Very important
Required little thought	1 2 3 4 5 6 7	Required a lot of thought
Little to lose if I choose the wrong brand	1 2 3 4 5 6 7	A lot to lose if I choose the wrong brand

20. Assuming you are choosing a **hotel**, the decision would be:

Not logical/objective	1 2 3 4 5 6 7	Logical/objective
Not based on how the service is used	1 2 3 4 5 6 7	Based on how the service is used
Not an expression of my personality	1 2 3 4 5 6 7	An expression of my personality
Based on little feeling	1 2 3 4 5 6 7	Based on a lot of feeling
Not based on looks, taste, touch, smell or sounds	1 2 3 4 5 6 7	Based on looks, taste, touch, smell or sounds
Very unimportant	1 2 3 4 5 6 7	Very important
Required little thought	1 2 3 4 5 6 7	Required a lot of thought
Little to lose if I choose the wrong brand	1 2 3 4 5 6 7	A lot to lose if I choose the wrong brand

21. Assuming you are choosing an **airline**, the decision would be:

Not logical/objective	1 2 3 4 5 6 7	Logical/objective
Not based on how the service is used	1 2 3 4 5 6 7	Based on how the service is used
Not an expression of my personality	1 2 3 4 5 6 7	An expression of my personality
Based on little feeling	1 2 3 4 5 6 7	Based on a lot of feeling
Not based on looks, taste, touch, smell or sounds	1 2 3 4 5 6 7	Based on looks, taste, touch, smell or sounds
Very unimportant	1 2 3 4 5 6 7	Very important
Required little thought	1 2 3 4 5 6 7	Required a lot of thought
Little to lose if I choose the wrong brand	1 2 3 4 5 6 7	A lot to lose if I choose the wrong brand

22. Assuming you are choosing a **movie rental store**, the decision would be:

Not logical/objective	1 2 3 4 5 6 7	Logical/objective
Not based on how the service is used	1 2 3 4 5 6 7	Based on how the service is used
Not an expression of my personality	1 2 3 4 5 6 7	An expression of my personality
Based on little feeling	1 2 3 4 5 6 7	Based on a lot of feeling
Not based on looks, taste, touch, smell or sounds	1 2 3 4 5 6 7	Based on looks, taste, touch, smell or sounds
Very unimportant	1 2 3 4 5 6 7	Very important
Required little thought	1 2 3 4 5 6 7	Required a lot of thought
Little to lose if I choose the wrong brand	1 2 3 4 5 6 7	A lot to lose if I choose the wrong brand

23. What is your sex? _____ Male _____ Female

24. What is your age? _____

Thank you for your time and consideration!

APPENDIX B

CONSENT FORM

Hello, my name is Taehyun Baek, and I am a graduate student of the Grady College of Journalism and Mass Communication. I am working on my Master Degree's thesis research titled "Applying the framework of brand credibility effects to service categories" which is being conducted under the direction of Dr. Karen King (706-542-4791). The purpose of this study is to examine the credibility of brands and your perceptions about the value, quality, risk, and information costs of a particular brand. Most of the following questions concern service brands.

If you complete the survey, you will earn extra course credits and will be entered into a drawing to win a $50 gift certificate from the UGA Bookstore. To enter the drawing you will be asked for your e-mail address. Your e-mail will not be linked to your survey information and will be immediately erased from the database once the drawing is conducted. This study may have important managerial implications for marketers and advertisers who try to implement their marketing communication campaigns to enhance their brand credibility and to reduce consumer uncertainty.

It will take about 10 to 15 minutes to complete this questionnaire. Please note that Internet communications are insecure and there is a limit to the confidentiality that can be guaranteed due to the technology itself. However, once the researcher receives the completed survey, standard confidentiality procedures will be employed. The data resulting from this study will be kept in secure office storage for purpose of data analysis. If you are not comfortable with the level of confidentiality provided by the Internet, please feel free to print out a copy of the survey, fill it out by hand, and mail it to me at the address given below, with no return address on the envelope. If you do not feel comfortable with a question, skip it and go on to the next question. You have the right to discontinue your participation at any time. Closing the survey window will erase your answers without submitting them. You will be given a choice of submitting or discarding your responses at the end of the survey.

Thank you for participating in this study of brand credibility. If you have any questions about this study, please contact:

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Grady College of Journalism and Mass Communication
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Please note: Research at the University of Georgia that involves human participants is overseen by the Institutional Review Board. Additional questions or problems regarding your rights as a research participant should be addressed to The Chairperson, Institutional Review Board, University of Georgia, 612 Boyd Graduate Studies Research Center, Athens, Georgia 30602-7411; Telephone (706) 542-3199; E-Mail Address: IRB@uga.edu.

APPENDIX C

MAIN STUDY QUESTIONNAIRE

(High involvement-Utilitarian: Checking account)

1. Have you ever opened a checking account before?

(1) Yes, I have opened a checking account in the past.

(2) Yes, I have considered opening a checking account.

(3) No, I have never considered opening a checking account.

1-1. If you answered NO, please click here.

1-2. If you answered YES, please go ahead and complete the survey below. Thank you very much!

Please select from the list below your favorite brand, **one that you have used/purchased or would be most likely to use/purchase in the near future**.

2. Checking account:

(1) Bank of America
(2) SunTrust Bank
(3) Wachovia Bank
(4) Athens First Bank
(5) First American Bank
(6) Regions Bank
(7) Bank of North Georgia
(8) Wells Fargo
(9) The National Bank of Georgia
(10) Main Street Bank
(11) Don't have a favorite brand
(12) Other (Please specify) _____

2-1. If you answered "Don't have a favorite brand", please click here.

2-2. If you answered your favorite brand, please go to the next question.

Using a scale where **1 = STRONGLY DISAGREE and 9 = STRONGLY AGREE**, please answer the following questions about how credible you perceive your favorite brand.

3. My favorite brand of checking account delivers what it promises.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9

4. Service claims from my favorite brand of checking account are believable.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9

5. Over time, my experiences with my favorite brand of checking account have led me to expect it to keep its promises, no more and no less.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9

6. My favorite brand of checking account is committed to delivering on its claim, no more and no less.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9

7. My favorite brand of checking account has a name I can trust.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9

8. My favorite brand of checking account has the ability to deliver what it promises.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9

Please answer the following questions based on your feelings about your favorite brand.

9. The quality of my favorite brand of checking account is very high.

Strongly disagree								Strongly agree
1	2	3	4	5	6	7	8	9

10. In terms of overall quality, I'd rate my favorite brand of checking account as:

Very low quality								Very high quality
1	2	3	4	5	6	7	8	9

11. My favorite brand of checking account appears to be a good value for the money.

Strongly disagree								Strongly agree
1	2	3	4	5	6	7	8	9

12. The price shown for my favorite brand of checking account is very acceptable.

Strongly disagree								Strongly agree
1	2	3	4	5	6	7	8	9

13. My favorite brand of checking account is considered to be a good financial deal.

Strongly disagree								Strongly agree
1	2	3	4	5	6	7	8	9

14. How would you rate the competitiveness of the price of your favorite brand of checking account?

Not at all competitive								Very competitive
1	2	3	4	5	6	7	8	9

15. Knowing what I'm going to get from my favorite brand of checking account saves me time looking around.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9

16. My favorite brand of checking account gives me what I want, which saves me time and effort trying to do better.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9

17. I know I can count on my favorite brand of checking account being there in the future.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9

18. I need a lot of information about my favorite brand of checking account before I would open it.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9

19. I never know how good my favorite brand of checking account will be before I would open it.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9

20. To figure out what my favorite brand of checking account is like, I would have to try it several times.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9

21. In general, I would never choose my favorite brand of checking account.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9

22. I would seriously consider choosing my favorite brand of checking account.

Strongly disagree								Strongly agree
1	2	3	4	5	6	7	8	9

23. How likely would you be to choose your favorite brand of checking account?

Very unlikely								Very likely
1	2	3	4	5	6	7	8	9

24. Assuming you are choosing a **checking account**, the decision would be:

Not logical/objective	1 2 3 4 5 6 7	Logical/objective
Not based on how the service is used	1 2 3 4 5 6 7	Based on how the service is used
Not an expression of my personality	1 2 3 4 5 6 7	An expression of my personality
Based on little feeling	1 2 3 4 5 6 7	Based on a lot of feeling
Not based on looks, taste, touch, smell or sounds	1 2 3 4 5 6 7	Based on looks, taste, touch, smell or sounds
Very unimportant	1 2 3 4 5 6 7	Very important
Required little thought	1 2 3 4 5 6 7	Required a lot of thought
Little to lose if I choose the wrong brand	1 2 3 4 5 6 7	A lot to lose if I choose the wrong brand

The questions below are about you personally and will help us understand service brands. The answers to these questions will be kept confidential.

25. What is your age? _____

26. What is your sex? _____ Male _____ Female

27. What is your major? _____

28. Year in college?

(1) Freshman
(2) Sophomore
(3) Junior
(4) Senior
(5) Graduate
(6) Other (Please specify) _____

29. What is your race? (Please circle)

(1) American Indian or Alaska native
(2) African American/ Black
(3) Hispanic or Latino
(4) Asian
(5) Caucasian/ White
(6) Biracial or multiracial
(7) Other (Please specify) _____

Thank you very much!