

**The Role of the Interior Environment in the  
Perception of Service Quality:  
A Business Perspective**

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**By**

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This thesis was approved by Ms. Robin Wagner, as Major Advisor, and by Dr. Bridget May and Dr. Robert Meden as readers.

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**The Role of the Interior Environment in the  
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**ABSTRACT**

The competitiveness of a business providing services rather than goods rests on whether its customers perceive the services to be of good quality. Among the factors that strongly influence the perception of service quality is the interior environment of the place in which services are received.

The author reviews several lines of business-based research that examine how the interior environment affects customers' perceptions of service quality, proposes a model synthesizing this research into seven primary influences on the perception of service quality – functional, temporal, physical, ambient, psychological, indicative, and social – and discusses the role that design of the interior environment plays in each of these influences. The concepts discussed in this paper are of significance to business because they demonstrate the value of design in a business setting and to the interior design profession because they expand the interior design body of knowledge beyond the confines of design-based research.

## **CHAPTER 1. INTRODUCTION**

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### **A. Statement of the issue**

The relative economic value of services as opposed to goods has increased steadily for the past 25 years (Oliver, Rust, and Varki 1997). Today, services account for approximately 70% of all production and employment in the Organization for Economic Co-operation and Development (OECD)<sup>1</sup> nations and about 75% of the gross domestic product in the United States (Oliver, Rust, and Varki 1997; Berry et al. 2006).

Competition for customers in service industries is keen and considerable research has been conducted within the business world on how to attract and maintain these customers. The basic premise is that customers will patronize a service establishment if they perceive that the services they will receive will be of high quality (Young, Cunningham, and Lee 1994; Parasuraman, Zeithaml, and Berry 1988; Brady and Cronin 2001).

One important aspect of the perception of service quality is the place in which services are received. Although the service setting has been the subject of academic discussion since the early 1970s, little substantial empirical research was done establishing the importance of this interior environment until the 1990s. Since that time, research emanating from the business departments of North American universities has solidified a strong connection between the interior environment of the place of service

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<sup>1</sup>OECD is an international organization that brings together the governments of countries committed to democracy and the market economy. Thirty countries are currently members and the organization is growing. The organization collects data, conducts research, analyzes economic trends, and publishes its findings. [www.oecd.org](http://www.oecd.org).

and customer perceptions of service quality (Bitner 1990; Fottler, Ford, Roberts, and Ford 2000; Swan, Richardson, and Hutton 2003; Miwa and Honyu 2006).

Initially, scholars studied the role of the interior environment in the perception of service quality by dissecting service quality into component parts, each of which was studied individually. More recently, researchers have realized that the components of service quality are interrelated and the issue must be approached from a broader perspective (Brady and Cronin 2001; Reimer and Kuehn 2005). A comprehensive understanding requires examination of all the factors that influence the perception of service quality and clarification of the role that the interior environment plays in this perception.

The interior environment is comprised of the physical and ambient elements within a service establishment's control. Although the design of such elements falls squarely within the expertise of the profession of interior design, service quality research has been conducted within the business community without reference to design knowledge and the author found no research emanating from the design community that addressed the role of the interior environment in the perception of service quality. This lack of cross-reference between these two professions deprives both of valuable opportunities for increased understanding and collaboration.

## **B. Purpose and methodology**

This paper attempts to partially bridge the gap between business and the profession of interior design by reviewing the business-based research examining the role of the interior environment in the perception of service quality and synthesizing this literature into a comprehensive model of service quality with particular emphasis on the

role of the interior environment. The purpose of the paper is to firmly establish the business basis for embracing interior design in the place of service and to add to the interior design body of knowledge.

The paper first examines the business literature to trace the basis for and evolution of the research linking the interior environment to consumer satisfaction, positive perception of service quality, and customer loyalty. This research is categorized into the following topics: general service quality definition and theory; the dimensions of service quality; tangible elements within the control of the service provider; ambient and psychological aspects of the interior environment; the distinction between utilitarian and hedonic services; temporal aspects of the service encounter; the importance of pre-purchase service clues; and attempts to expand and integrate several approaches to service quality into a unified theory.

Second, the paper analyzes the themes found in this body of literature and incorporates them into a proposed model of service quality that identifies seven primary influences on the perception of service quality in the context of both utilitarian and hedonic services and explores the relationship of each to the interior environment.

Finally, the paper considers the implications of this research for business, the design profession, and future study.

### **C. Limitations of scope**

The literature reviewed in this paper is only part of a complex collection of business-based literature on the topics addressed. The cited studies provide examples of the development of various research findings and theories that led to the current understanding of the importance of the interior environment in service industry success.

This paper does not purport to introduce every study that relates to this topic or delve into the intricacies of the academic distinctions raised in every cited work. This paper also makes no attempt to evaluate or test the research methodologies used by the cited authors. Finally, the paper does not endeavor to correlate these business-based findings with design concepts or research or attempt to establish monetary value to the interior design of the service environment. These topics merit further study.

## CHAPTER 2. REVIEW OF LITERATURE

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### A. General service quality definition and theory

Consumer satisfaction and service quality involve a complex array of theories and factors, but scholars generally agree that a company's economic success depends on establishing a strong perception of high-quality service in the minds of its customers (Parasuraman, Zeithaml, and Berry 1988; Brady and Cronin 2001; Gilbert and Veloutsou 2006). This is of particular importance in today's highly competitive market as companies seek to differentiate themselves from their competition and establish a loyal consumer base (Parasuraman, Zeithaml, and Berry 1988; Hutton and Richardson 1995; Brady and Cronin 2001; Gilbert and Veloutsou 2006). "The fostering of customer loyalty reigns undisputed as the most important goal for all commercial enterprises" (Van Pham and Simpson 2006).

The following discussion presents definitions used in service quality research and examines early studies that deconstructed service quality into its basic components. This research establishes the foundation necessary to understand the role of the interior environment in the perception of service quality.

#### *1. Definitions of consumer satisfaction and service quality*

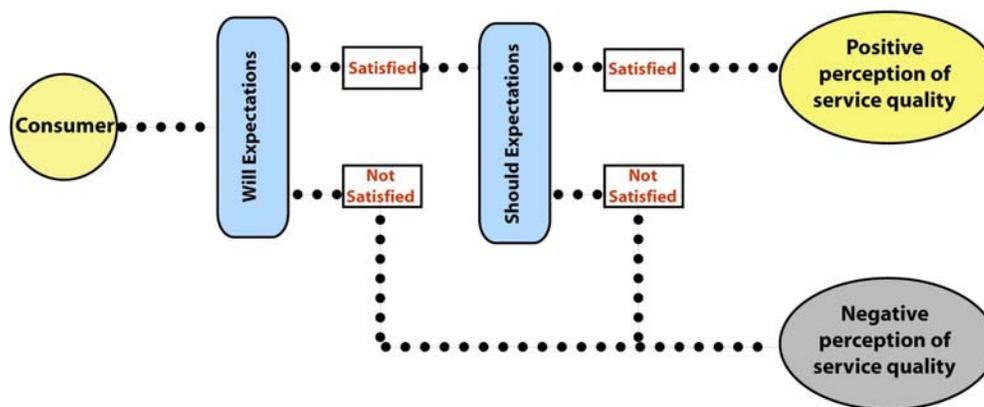
In a service setting, *consumer satisfaction* occurs when a consumer's expectations of what *will* happen in a specific service encounter<sup>2</sup> are met. *Service quality*, in comparison, is defined as "a consumer's overall impression of the relative

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<sup>2</sup> *Service encounter* is defined as "a period of time during which a consumer directly interacts with a service" (Shostack, 1977).

inferiority/superiority of the organization and its services” (Park, Robertson, and Wu 2005). A positive perception of service quality occurs when a consumer’s expectations of what *should* happen in a more general sense are met (Larouche et al. 2004; Park, Robertson, and Wu 2005). A consumer satisfied with specific service encounters will, over time, establish a positive perception of the overall quality of the service business (Parasuraman, Zeithaml, and Berry 1988; Hutton and Richardson 1995). Figure 1 illustrates this concept.

**Figure 1: Customer expectations and satisfaction**



In a highly competitive market environment, firms must not only meet their customer’s expectations, but often must *exceed* them, striving to provide consumers with total satisfaction (Parasuraman, Berry, and Zeithaml 1991; Pritchard and Howard 1997; Schneider and Bowen 1999; Le Bel 2005). A totally satisfied customer is six times more likely to repurchase a service than a merely satisfied customer (Schneider and Bowen 1999).

To move customers from merely satisfied to totally satisfied, some theorists aver that in certain industries firms must provide experiences that not only meet and exceed

expectations, but also delight (Schneider and Bowen 1999) and delight to a surprising degree (Rust and Oliver 2000).<sup>3</sup>

## ***2. The relationship of customer satisfaction to customer loyalty***

A positive perception of service quality is an antecedent to customer loyalty (Young, Cunningham, and Lee 1994). The premise is: consumer satisfaction with specific service encounters leads to a more global perception of service quality, which in turn leads to consumer loyalty, the ultimate goal of service businesses (Parasuraman, Zeithaml, and Berry 1988; Bitner 1990; Keaveney 1995; Wakefield and Blodgett 1996; Fottler et al. 2000; Brady and Cronin 2001; Gilbert and Veloutsou 2006). Figure 2 illustrates this relationship.

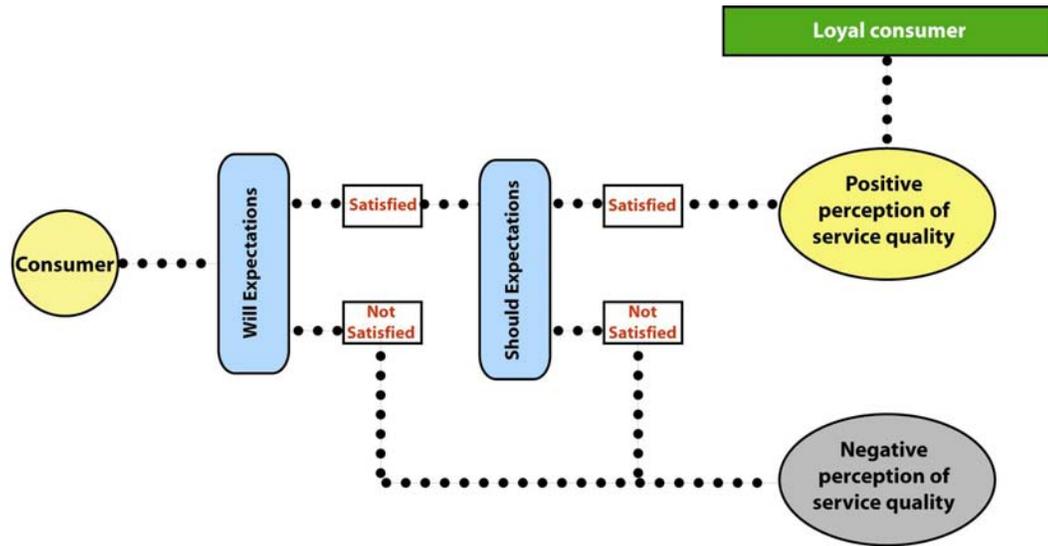
Customer loyalty is complex,<sup>4</sup> but researchers agree that a high level of satisfaction is vital to maintaining loyal customers (Oliver, Rust, and Varki 1997; Pritchard and Howard 1997). Loyal customers increase their spending at an increasing rate, purchase services at full fare rather than at discount, and create operating efficiencies (Keaveney 1995), leading to a higher market share and improved profitability (Brady and Cronin 2001).

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<sup>3</sup> The delight theory combined the notion that customer expectations must be exceeded in order to gain loyal customers with the understanding of the importance of emotion in consumer settings. If the physical environment can be used to create positive emotions that affect consumer behavior and if intense emotions can create delight, then the physical environment becomes a powerful tool for creating both satisfaction and delight. Critics of the delight theory argued that delighting the customer raises the customer's expectations, making it difficult to continue to delight. Rust and Oliver (2000) explored this conundrum and concluded that although this may happen, a firm that delights its customers is more likely to retain them than a firm that does not delight its customers. For delight to be useful in a service encounter, customers must be sufficiently involved in the service encounter that emotions can be aroused and the service must include a variable range of pleasing and unexpected experiences (Oliver, Rust, and Varki 1997).

<sup>4</sup> Loyalty is also affected by issues beyond the scope of this paper such as a firm's image, the company's complaint management capabilities, the quality of communication between the firm and the customer, and trust (Keaveney 1995; Ball, Coelho, and Vilares 2006).

Figure 2: The relationship of satisfaction to loyalty



More frequent users have higher service quality expectations and more accurate service quality evaluations than occasional users (Van Pham and Simpson 2006).

## B. The dimensions of service quality

Because the provision of services involves human expectations and perceptions, the definition and measurement of service quality has been perceived as complex and difficult to grasp (Hutton and Richardson 1995; Brady and Cronin 2001; Gilbert and Veloutsou 2006). To bring a level of understanding to the topic, business researchers initially undertook to dissect consumer satisfaction and service quality into its various dimensions and to assess the importance of each.

Early research focused on quantifying the perception of service quality by comparing expectations before a service encounter with perceptions after the encounter and measuring the gap between the two (Grönroos 1984; Parasuraman, Zeithaml, and

Berry 1985, 1988; Brady and Cronin 2001; Gilbert and Veloutsou 2006).<sup>5</sup> Hutton and Richardson (1995) summed up the gap theory as follows:

The wider the gap, the lower the perception of quality appears in the consumer's mind. When a gap exists between perceptions of quality attributes and outcomes, quality dissatisfaction follows. When expectations exactly meet perceptions of performance, satisfaction results. Finally, when performance exceeds expectations, a high level of satisfaction with the service quality results.

The prevailing theory in the United States is the SERVQUAL model devised by Parasuraman, Zeithaml, and Berry (1985, 1988). This model, represented in Figure 3, identified five *dimensions of service quality*: reliability, responsiveness, assurance, empathy, and tangibles. The first four concerned how the service is provided. The fifth, *tangibles*, involved the physical facility, equipment, and the appearance of employees. These scholars studied each of the five dimensions in the context of several businesses<sup>6</sup> and found that although the most important elements in customers' perceptions of service quality were the intangible elements, tangibles did have an effect, although it was deemed to be statistically insignificant<sup>7</sup> (Parasuraman, Zeithaml, and Berry 1985, 1988).

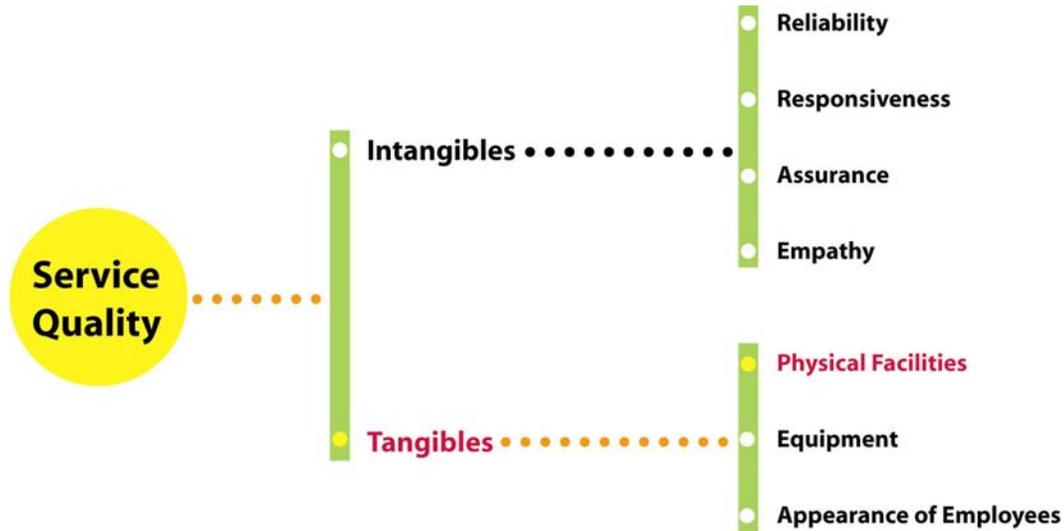
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<sup>5</sup> The gap theory, also known as the *disconfirmation paradigm*, was developed simultaneously by two groups of researchers. Gronroos (1984) posited that service quality is measured by comparing what the customer expects to receive in a service encounter with what the customer actually perceives to have occurred in the encounter, using the two dimensions of "functional" quality (how the service is delivered) and "technical" quality (what the customer receives in the service encounter) (Gronroos 1984; Brady and Cronin 2001). Similarly, Parasuraman, Zeithaml, and Berry (1985, 1988), in their SERVQUAL model, defined service quality as the gap between the expected level of service and the customer's perception of the level of service received. Although these two approaches differed in several respects, both compared expectations and perceptions.

<sup>6</sup> Parasuraman, Zeithaml, and Berry studied a bank, a credit card company, a repair company, and a long-distance telephone company.

<sup>7</sup> It is worth noting at this point that each of the businesses Parasuraman et al. studied involved the utilitarian consumption of services of short duration. The research did not examine hedonic service settings or extended service encounters. Thus, Parasuraman's conclusion that the physical environment was an insignificant component of service quality is of limited application. Subsequent research has contradicted this conclusion, not only in hedonic situations, but also in utilitarian service encounters (Bitner 1990; Reimer and Kuehn 2005). This research is addressed later in this paper.

Figure 3: The SERVQUAL dimensions



Subsequent scholars attempted to clarify and refine the SERVQUAL model by applying it in the context of different service industries (Young, Cunningham, and Lee 1990 (airlines); LeBlanc 1992 (travel agencies); Hutton and Richardson 1995 (healthcare); Wakefield and Blodgett 1996 (leisure settings); Lockyer 2000 (hospitality); Abubaker 2002 (tourism settings); Park, Robertson and Wu 2005 (airlines)) or proposed various systems for assessing the five service dimensions (Brady and Cronin 2001).<sup>8</sup>

Because consumer perception of service quality depends on many unique and variable factors in different market niches, no single measurement scale developed that was uniformly applicable across multiple industries. Later academics theorized that assessment of service quality must be done locally, with each establishment gauging its

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<sup>8</sup> Brady and Cronin (2001) summarized this research, identifying three approaches: (1) modifications of Gronroos' and Parasuraman's scales for measuring service quality based on the disconfirmation paradigm (in many cases by modifying the model for application to additional industries), (2) establishment of refined or different classification systems (for example, separating service quality into different combinations of components), and (3) creating a hierarchical ordering of affective and tangible aspects of the customer experience.

own performance on a real-time basis and comparing itself to its local competitors (Gilbert and Veloutsou 2006).

Although no definitive method of defining and quantifying service quality emerged, scholars agreed that the SERVQUAL dimensions were valid and important components of any study of service quality (Brady and Cronin 2001).

### **C. Tangibles and other controllable environmental elements**

The SERVQUAL model identified tangibles as one of the dimensions of service quality, but the importance of one tangible – the *physical service setting* - was not firmly established until 1990 when researchers began to concentrate specifically on the role of this interior environment in consumer satisfaction and perception of service quality.

The most oft-cited scholar is Bitner (1990). Averting that consumer satisfaction depends directly on managing individual service encounters, Bitner focused on the *elements under the control of businesses* at the point of interaction between customers and the firm, arguing that these controllable elements can affect perceptions of service quality and encourage repeat patronage.<sup>9</sup> Bitner proposed that the physical setting of the place of service, including not only visual aspects such as color and texture, but also noise, odors, and temperature, is of particular importance and capable of altering customer expectations and strongly influencing consumer responses and satisfaction. Bitner called the combined physical and sensory elements of the place of service the *servicescape*.

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<sup>9</sup> Certain non-controllable elements also affect customer satisfaction and the perception of service quality (Gilbert and Veloutsou 2006), but these are beyond the scope of this paper. Among these are demographic factors such as age, gender, ethnicity, and income (Van Pham and Simpson 2006), price (Parasuraman, Berry, and Zeithaml 1991), and prior experience with the service industry in general (Parasuraman, Berry, and Zeithaml 1991; Gilbert and Veloutsou 2006; Bebeko, Scuilli and Garg 2006).

Bitner's finding that the servicescape has a major influence on the perception of service quality was later duplicated in the context of healthcare. Hutton and Richardson (1995) found that the physical setting and sensory stimuli present in healthcare facilities<sup>10</sup> influenced patient behavior, positive encounters lead to greater satisfaction and a higher assessments of service quality, and satisfied patients were more likely to return to the facility in the future. Fottler, Ford, Roberts, and Ford (2000), Swan, Richardson, and Hutton (2003), Vaaler, Morken, and Linaker (2005), Brown and Gallant (2006), and Miwa and Honyu (2006) conducted similar analysis and research.

Wakefield and Blodgett (1996) tested the servicescape model in leisure settings. They examined the effects of layout, aesthetics, electronic displays, seating, and cleanliness on consumers' perceptions of service quality and found that "the servicescape has a relatively consistent and strong effect on the length of time customers desire to stay in the leisure service setting and on their repatronage intentions." They noted that the strongest element in the perception of service quality was the "aesthetic appeal of the facility architecture and décor," remarking that customers' first impressions of the facilities influence their overall assessment of the services. (*See also*, Fottler et al. 2000.)

Bitner's servicescape theory was also confirmed in explorations of sporting facilities (Hightower, Brady, and Baker 2002), tourism settings (Abubakar 2002); travel agencies (Le Blanc 1992); airports (Young, Cunningham, and Lee 1994; Park, Robertson, and Wu 2005; Le Bel 2005; Van Pham and Simpson 2006); and heritage sites (Bonn et al. 2007). In each of these studies, the authors found substantial evidence that the design

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<sup>10</sup> These authors termed this environment the *healthscape*.

of the physical setting and its associated sensory attributes can have a significant effect on customer satisfaction and on a customer's re-patronage decisions.

#### **D. Ambient and psychological aspects of the interior environment**

The service quality literature traces its roots to studies and theories of consumer behavior in the retail purchase of goods (Brady and Cronin 2001). In the 1970s, business began to recognize that consumers react not only to products, but to the features that accompany the product. Kotler (1973), in seeking to clarify the influence of the place where a product is bought or consumed on purchasers' buying decisions, stated:

One of the most important recent advances in business thinking is the recognition that people, in their purchase decision-making, respond to more than simply the tangible product or service being offered. . . . Buyers respond to the *total product*.

One of the most significant features of the total product is the *place* where it is bought or consumed. In some cases, the place, more specifically the *atmosphere* of the place, is more influential than the product itself in the purchase decision. In some cases, the atmosphere is the primary product. [Emphasis in original text.]

Defining *atmospherics* as "the effort to design buying environments to produce specific emotional effects in the buyer that enhance his purchase probability," Kotler recognized that a full range of intangible sensory stimuli including visual, aural, olfactory, and tactile, have the power to influence buying decisions.<sup>11</sup>

Kotler argued that atmospherics affect purchasing behavior because the sensory qualities of the space in which goods are presented (1) demand attention, imparting focus on goods and allowing businesses to differentiate themselves from competitors, (2) create implicit or explicit messages such as the level of concern for customers, and

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<sup>11</sup> Kotler noted that atmospheric design is relevant at the place of purchase and becomes more important as competition increases, when price or product differences among competing products are small, and when products are aimed at distinct social groups.

(3) manipulate emotions to make customers feel special or important or to soothe or distract them from negative feelings. Influences that positively enhance customer expectations, he averred, increase the probability of purchase.

Hirschman and Holbrook (1982) reached a similar conclusion on the importance of *ambient conditions*, finding that sensory input associated with a product led to emotional arousal and caused consumers to recall the product or the events surrounding their interaction with the product or to imagine a sequence of future events. In some cases, this sensory input was recalled more clearly than was the product itself and the emotions triggered were of greater importance than the utility of the product in customers' ultimate choice of products.

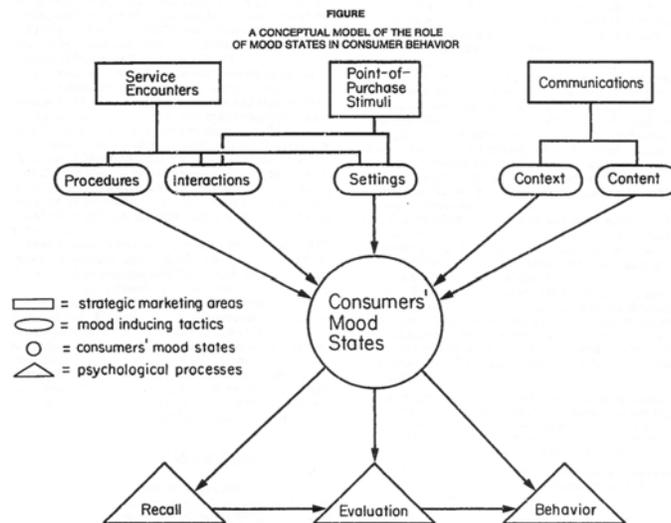
Interest in ambient factors in the retail setting continued into the 1990s. Grossbart et al. (1990) studied customers' tendencies to base patronage decisions on the physical design of stores, acknowledging that the physical design is one of the principal sources of atmospheric influence. Sherman, Mathur, and Smith (1997) confirmed that store environments were important determinants of purchase behavior. By the mid-2000s, the impact of the interior environment of retail settings on consumer purchasing behavior was well-established (Kalcheva and Weitz 2006).

During the 1980s and 1990s, several related lines of inquiry emerged concentrating on the *hedonic* or *emotional* aspects of retail consumption. The common theme of much of this research was that multi-sensory information (taste, sound, scent, tactile sensations, and visual images) from atmospheric clues affects consumer moods and emotions which, in turn, affect purchase behavior and response to products (Jiang and Wang 2006). While Kotler's theory of atmospherics was based on the ambient

aspects of the physical environment, this related research focused on the ability of those ambient aspects to affect consumers' psychological states. For example, shopper's feelings of pleasure and arousal, particularly those induced by the store environment, significantly predicted their attitudes toward the retail establishment and purchase behavior (Donovan and Rossiter 1982; Donovan et al. 1994; Sherman, Mathur, and Smith 1997).

Gardner (1985) examined those aspects of the service environment under marketer control and found that the interior environment had the potential to influence consumers' *mood states* in both service encounters and point-of-purchase situations. Citing Kotler's work in atmospherics, she noted that the ambient environment correlated with customers' moods and found "evidence to indicate that design-related factors can have powerful effects on human behavior." Gardner's model, shown in Figure 4, reveals that the interior environment ("settings") is an important aspect of consumers' mood states and their ultimate evaluations of and responses to their service encounters.

**Figure 4: Gardner's mood states model**



Gardner's work on the role of mood was extended in the 1990s and 2000s, with scholars finding that customers' emotional states influence their decision-making processes and expectations of service, their satisfaction with the service received, and their perceptions of service quality (Dube and Menon 2000; Jiang and Wang 2006). Others explored the relation between emotion and perception of service quality in specific reference to the service facility and concluded that the interior environment can create mood or trigger feelings, which in turn affect behavior, customer satisfaction, and perceptions of service quality (Baker and Cameron 1996; Sherman, Mather, and Smith 1997; Richins 1997; Le Bel 2005; Berry, Wall, and Carbone 2006).

#### **E. Utilitarian vs. hedonic services**

Services generally fall into two general categories: utilitarian and hedonic. *Utilitarian* consumption focuses on the *functional* components of the service – i.e. customers frequent the service establishment only for the purpose of receiving the service (Reimer and Kuehn 2005; Jiang and Wang 2006).<sup>12</sup> Utilitarian consumption encounters are likely to be of short duration and the appearance of the service environment is generally not a significant factor in customer satisfaction. What matters is that the service is performed properly and that certain intangible elements of service such as reliability, honesty, and timeliness are present (Van Pham and Simpson 2006).

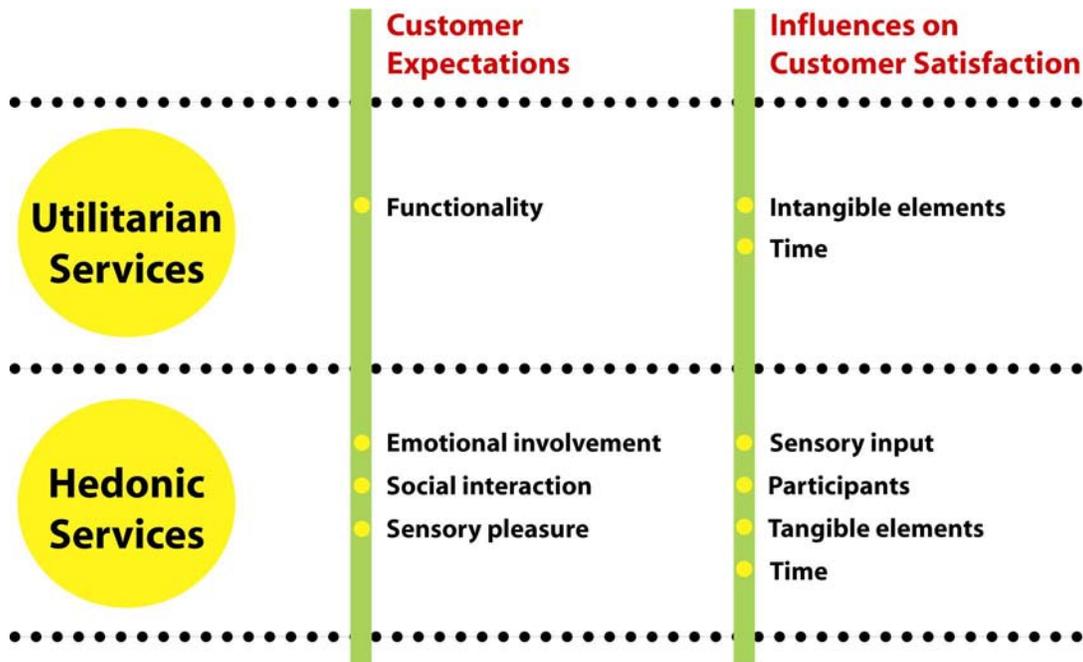
Although early studies of service quality focused on utilitarian businesses (Parasuraman, Zeithaml, and Berry 1985), researchers soon realized that in certain industries, providing satisfying emotional experiences was an key component of the

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<sup>12</sup> Utilitarian services include such businesses as dry cleaners, appliance repair services, tailors, banks, healthcare, bus stations, and grocery stores.

provision of service and part of the entire consumption experience. In these businesses, the customers' intent was not only to receive the promised service, but also to enjoy psychological experiences such as pleasure or excitement (Hirschman and Holbrook 1982; Reimer and Kuehn 2005; Jiang and Wang 2006). These hedonic services typically involve ambient input and emotional stimuli and customers are willing to spend an extended length of time in the service setting enjoying these benefits (Dube and Menon 2000).<sup>13</sup>

Figure 5: Utilitarian vs. hedonic services



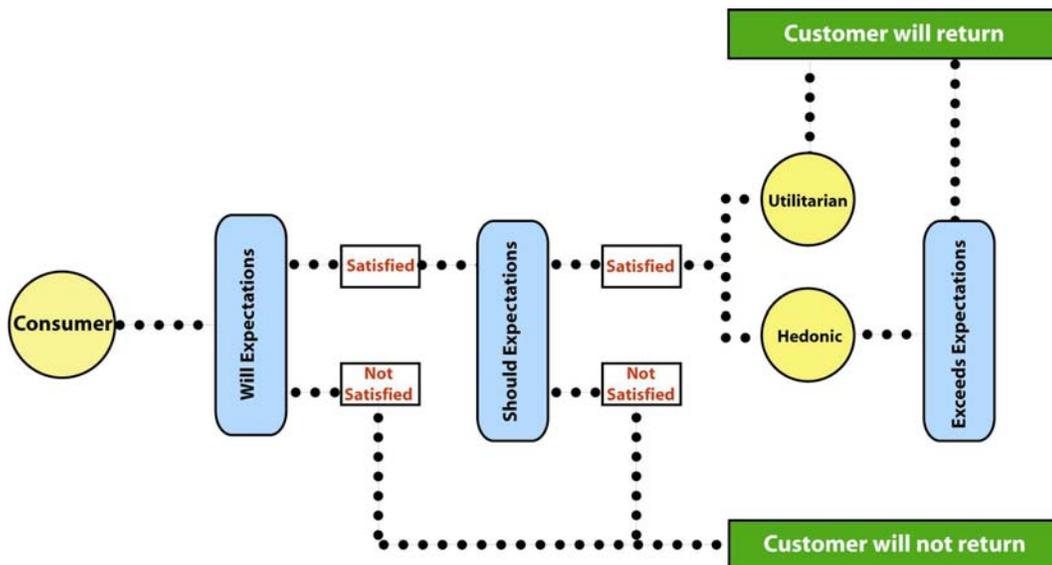
Researchers found the link between emotion, satisfaction, and a positive perception of service quality to be particularly strong in hedonic consumption situations. At times, the emotional setting was found to be of greater importance than the service

<sup>13</sup> Examples of hedonic services include restaurants, night clubs, hotels, spas, theaters, and amusement parks.

itself (Hirschman and Holbrook 1982; Jiang and Wang 2006). In general, hedonic service establishments need to exceed customer expectations to gain a loyal clientele (Parasuraman, Berry, and Zeithaml 1991; Pritchard and Howard 1997; Schneider and Bowen 1999; Le Bel 2005).

Figure 5 shows the basic characteristics of utilitarian and hedonic services and their primary influences on consumer satisfaction. Figure 6 adds this distinction to the consumer expectation-to-loyalty continuum.

**Figure 6: Consumer expectation continuum**

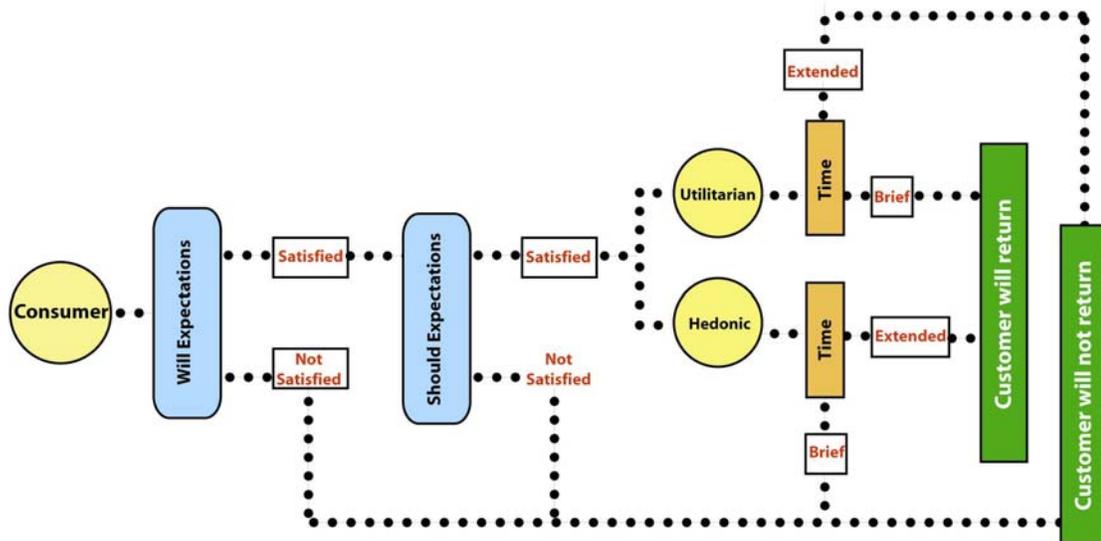


## F. Temporal aspects of the service encounter

Waiting time is a part of many service encounters and can influence service quality perceptions (Gardner 1985; Taylor 1994; Baker and Cameron 1996; Brady and Cronin 2001). In extended service transactions, where customers interact with service providers over long periods of time, emotions are of paramount importance (Taylor 1994; Le Bel 2005) and emotions generated at one stage in the service experience may

influence customers' perceptions of later stages of the process (Dube and Menon 2000). When customers perceive waiting time as favorable, they perceive the service quality to be higher (Brady and Cronin 2001). When they perceive waiting time as too long or too short, their evaluation of service quality declines (Taylor 1994). Figure 7 adds the influence of time to the continuum of consumer experience.

**Figure 7: Influence of time**



Because the interior environment can influence customer emotions, it is especially important in extended service transactions (Berry, Wall, and Carbone 2006). Baker and Cameron (1996) identified three environmental components involved in waiting: ambient elements (non-visual sensory input), design elements (visual components), and social elements (the people in the service setting). The authors found that bright lighting, uncomfortable temperature, fast or loud music, oversaturated and warm colors, uncomfortable seating, and glare create negative emotions and cause customers to overestimate wait times. Conversely, lower lighting levels, temperatures within a comfort

range, soft and slow music, light and cool colors, and comfortable seating created positive emotions and caused customers to underestimate wait times. They concluded that the interior environment can enhance the consumer experience in extended service interactions by creating positive emotions and reducing negative emotions.

### **G. Indicative factors – pre-purchase service clues and the service experience**

Because services are intangible and are generally received after purchase, customers are not able to judge the quality of a service before purchase (Bitner 1990; Reimer and Kuehn 2005). Unless they have had past experience with the service provider, customers look for other indications of quality to form pre-purchase evaluations of the service. Of the five SERVQUAL dimensions, only one – tangibles – is observable and assessable prior to receipt of service and customers use tangible elements as surrogate indicators of quality (Bitner 1990; Reimer and Kuehn 2005).

All elements of the interior environment, including the physical setting and ambient conditions, function as *service clues*<sup>14</sup> that give customers an indication of the quality of the service to be received (Reimer and Kuehn 2005) and become important determinants of customer expectations and satisfaction (Bebko, Sculli, and Garg 2006). These indicative factors “tell the story” of the commercial establishment (Berry, Wall, and Carbone 2006).

Service clues, which can be functional (providing information about the technical quality of the service offering), mechanic (provided by physical objects or surroundings), or humanic (presented by service providers), affect the perception of service quality by

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<sup>14</sup> Service clues have been defined as anything in the service experience that can be perceived or sensed (i.e., seen, heard, tasted, smelled, or felt) or something that is recognized by its absence (Haeckel, Carbone, and Berry 2003).

creating first impressions and forming service expectations prior to the service encounter, influencing emotions and behaviors during the service encounter, and ultimately affecting evaluations of service after the service encounter (Carbone and Haeckel 1994; Ward and Bitner 1992; Berry, Carbone, and Haeckel 2002; Berry, Wall, and Carbone 2006).

Mechanic clues come from inanimate objects and include facility design, equipment, furnishings, displays, signs, colors, textures, sounds, and lighting. Providing sensory input, mechanic clues reveal how the service establishment relates to its customers' desires and needs (Berry, Wall, and Carbone 2006).

Because service clues influence customers' emotions and moods, consumer information processing strategy, and consumer behavior, they create a *service experience* for the consumer (Berry, Wall, and Carbone 2006) and serve as "implicit service promises" offered by businesses, forming a central part of service delivery (Bebko, Sculli, and Garg 2006; Berry, Wall, and Carbone 2006). Expectations of price are closely tied to service clues and high quality surroundings attract those who desire – and will pay for – a quality experience (Parasuraman, Berry, and Zeithaml 1991; Reimer and Kuehn 2005; Bebko, Sculli, and Garg 2006).<sup>15</sup>

## **H. Developing a unified theory of service quality**

One criticism of the early service quality work was that it was limited in scope and did not consider the interrelationship of factors involved in the perception of service

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<sup>15</sup> For example, fine linens, plate, and glassware in an upscale restaurant lead customers to expect a leisurely gourmet meal and to pay higher prices. In contrast, a customer entering a restaurant with paper napkins, plastic laminate tabletops, and a menu posted on the wall would expect quick service and food of lower quality and price.

quality or the totality of the customer's service experience (Reimer and Kuehn 2006). Later scholars attempted to view the service quality dimensions from a broader perspective and create unified theories of consumer satisfaction and service quality by bringing together the work of Bitner and her successors and parallel research examining the psychological aspects of the service encounter, including emotion and mood.

Two theoretical approaches stand out. The first examined the interrelationship between the tangible elements (both physical and ambient) and the intangible dimensions of the SERVQUAL model. The second line of research posited that service quality can only be evaluated from the viewpoint of the totality of a customer's experience.

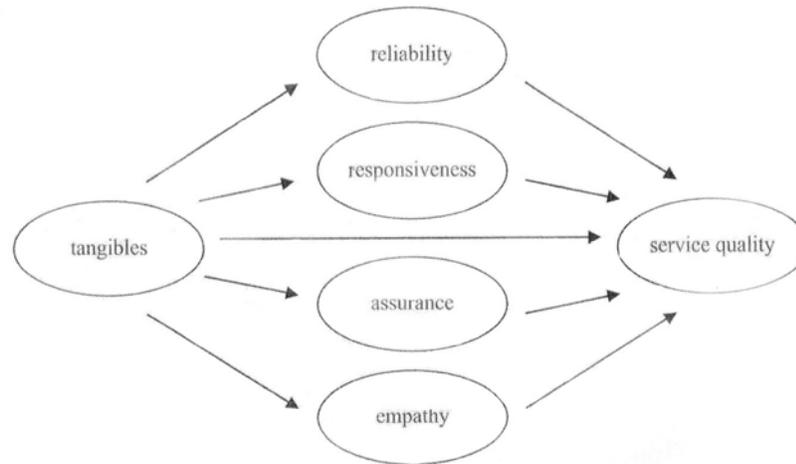
### ***1. Interrelationship of service quality dimensions***

Reimer and Kuehn (2005) examined the interrelationships among the five SERVQUAL dimensions of service quality and found that the physical facility and other tangible elements of the interior environment have not only a direct, but also an *indirect* effect on the intangible aspects of the SERVQUAL model. They noted that:

The findings show that the servicescape is not only an indicator of the expected service quality, but also influences the evaluation of the intangible dimensions. Thus the servicescape has not only a direct but also an indirect effect on the perceived service quality, which leads to a higher overall effect of the servicescape.

Reimer and Kuehn's model, shown in Figure 8, places tangibles in a prominent role within the service quality evaluation continuum.

**Figure 8: Reimer and Kuehn's model**

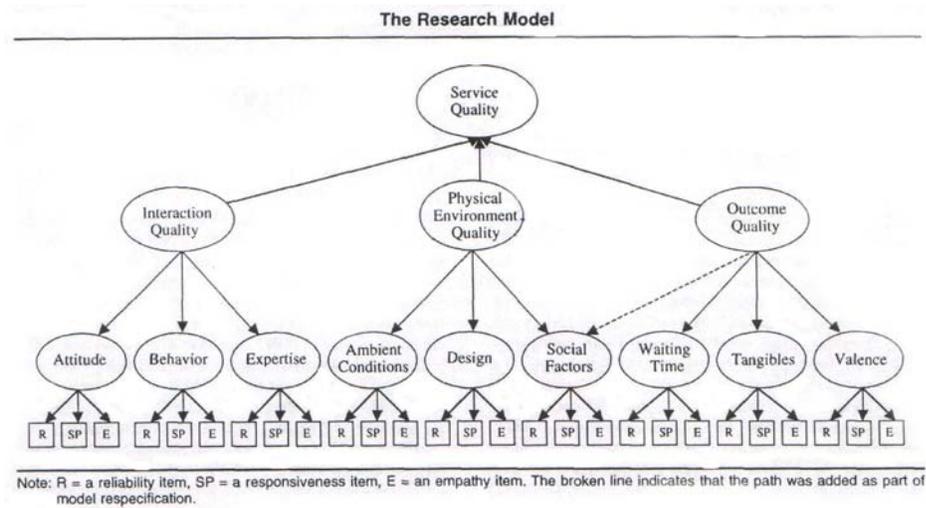


Brady and Cronin (2001) took a similar approach. Seeking an integrated service quality construct that fully expressed the significance of the SERVQUAL factors, they simplified the SERVQUAL model into three dimensions – (1) interaction between the customer and the employee, (2) the interior environment, and (3) the functionality of the service<sup>16</sup> – and broke each of these dimensions into several sub-dimensions to more fully account for the complexity and multidimensionality of service quality. Their model, shown in Figure 9, defined the relationships among the three primary dimensions, their associated sub-dimensions, and intangible elements and illustrated their finding that consumers form perceptions of service quality by aggregating their evaluations of service performance on multiple levels, confirming the complexity of service quality.

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<sup>16</sup> The terminology Brady and Cronin used for these new dimensions was (1) *interactive quality*, (2) *physical quality*, and (3) *outcome quality*.

**Figure 9: Brady and Cronin's research model**



The physical aspects of the service encounter appeared in two places in Brady and Cronin’s service quality framework. First, the framework categorized the physical environment as one of the three primary dimensions of service quality. Within this dimension, the researchers identified three sub-dimensions: ambient conditions, facility design, and social conditions. Defining ambient conditions as non-visual (temperature, scent, and music), facility design as the layout or architecture of the environment, and social conditions as the people involved in a service encounter, the authors demonstrated that these three sub-dimensions directly influence customers’ service quality perceptions.

The tangible aspects of the service encounter also appeared in Brady and Cronin’s framework as a sub-dimension of the outcome quality dimension. Here, outcome was defined as “what the customer is left with” when the service encounter is finished (i.e., the service itself or the technical aspects of the service encounter). Tangible elements were defined as the physical elements that customers assess to form service quality perceptions as a “proxy for judging performance” – in other words, the physical clues to

the quality of the service. Waiting time and valence (attitude) were the other two sub-dimensions of outcome quality.

Finally, Brady and Cronin's framework related each of the various sub-dimensions to the intangible SERVQUAL dimensions of reliability, responsiveness, and empathy, characterizing these elements as modifiers of the sub-dimensions rather than as direct determinants as posited by the SERVQUAL model. Brady and Cronin argued that the SERVQUAL dimensions of reliability, responsiveness, and empathy represented *how* each sub-dimension is evaluated and the sub-dimensions represented *what* should be reliable, responsive, and empathetic.

Brady and Cronin suggested that their proposed dimensions and sub-dimensions might be connected in additional ways. For example, they proposed further research to explore the possibility of a direct connection between the primary dimension of physical environmental quality and the tangibles sub-dimension of outcome quality.

## ***2. Total customer experience***

As Bitner was exploring the effect of the interior environment on the perception of service quality, a group of academics developed a new terminology of customer satisfaction focusing on the *consumer experience* during a service encounter that included reference to the interior environment. Noting that a consumer's experience with a service is influenced by both performance (functionality of the service) and context clues (appearance of place, equipment, etc.), these experts argued that firms that purposefully manipulate the atmospheric elements and physical space of the service setting to create a positive service environment encourage customer satisfaction (Carbone and Haeckel 1994; Le Bel 2005).

The theory was that interaction with a service organization creates a *total experience* for the customer, defined as the impression that a customer takes away from the service encounter (Carbone and Haeckel 1994; Berry, Wall, and Carbone 2006). The service experience – often a series of discrete sub-experiences – influences how customers feel and strongly contributes to their impressions of value and re-patronage intentions (Haeckel, Carbone, and Berry 2003; Le Bel 2005; Berry, Wall, and Carbone 2006). Managing this experience – dubbed by these authors as the *Total Customer Experience* (TCE) – to create value for customers was proposed as essential for achieving a competitive advantage (Berry, Carbone, and Haeckel 2002). Creating a positive TCE appears to be the current trend in marketing (Mascarenhas, Kevavan, and Bernacci 2006).

These theoreticians stressed that the experience of the physical setting and other service clues must go beyond function (Berry, Carbone, and Haeckel 2002) and cannot be simply about entertainment (Pine and Gilmore 1998). Firms must consider the emotions generated by their services and the service environment, then form and apply an “experience motif” that reflects their values and branding strategies (Pine and Gilmore 1998; Berry, Carbone, and Haeckel 2002).

## **CHAPTER 3. DISCUSSION**

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To be successful, a service enterprise must build a loyal customer base by satisfying its customers at every service encounter and positively influencing their perceptions of service quality over time. Creating a positive perception of service quality hinges on a number of elements, one of which is the interior environment of the place where services are received. The literature shows that the interior environment, defined broadly as the physical and ambient elements within the control of a service establishment, has a strong influence on the perception of service quality.

The key issue, from a business point-of-view, is to understand how the interior environment fits into the overall scheme of service quality assessment. This issue has pertinence to the interior design profession as well since designers, trained in the creation of interior environments, can use this understanding to better serve their business clients.

This discussion briefly summarizes the development of the service quality literature as it pertains to the interior environment, proposes a model for understanding how the interior environment influences the perception of service quality, and addresses the implications of this model for business, the interior design profession, and further research.

### **A. Development of the literature and generally accepted theories**

Although service quality was rarely discussed in the 1970s, by the 1980s the importance of the service economy had been recognized and scholars began to examine the components of service quality in depth. The early approach was to break service quality into a few simple dimensions, each of which was then considered separately

(Parasuraman, Zeithaml, and Berry 1985, 1988; Brady and Cronin 2001; Gilbert and Veloutsou 2006). One of these dimensions was tangibles, which included the physical place where services are received (Bitner 1990).

During the late 1980s and 1990s, the scope of service quality studies widened to include not only the physical setting, but also the ambient (Hirschman and Holbrook 1982; Grossbart et al. 1990; Sherman, Mather, and Smith 1997), psychological (Gardner 1985; Baker and Cameron 1996; Dube and Menon 2000), temporal (Gardner 1985; Taylor 1994; Baker and Cameron 1996; Brady and Cronin 2001), and indicative (Carbone and Haeckel 1994; Ward and Bitner 1992; Berry, Carbone, and Haeckel 2002; Berry, Wall, and Carbone 2006) aspects of service quality.

Since that time, researchers have recognized that initial efforts to separate service quality into distinct components have been inadequate to explain the complexity of the topic or the interrelationship of the various dimensions (Brady and Cronin 2001; Reimer and Kuehn 2005). As more research has been conducted, the subject appears to have become more convoluted, with evidence mounting that the dimensions of service quality rarely exist independently, but have both direct and indirect effects on all other dimensions, combining to create not a collection of separate parts but a total customer experience (Carbone and Haeckel 1994; Berry, Carbone, and Haeckel 2002; Berry, Wall, and Carbone 2006). Despite attempts to devise a unified theory explaining the connections among the various influences on the perception of service quality, no single theory has emerged.

What does seem to have emerged in the literature is a broad premise that any consideration of service quality, including assessment of the impact of the interior

environment, must take into account a panoply of effects and influences in order to present a complete picture. Any discussion of the effect of the interior environment in the service marketing mix must include not only the direct effect of the physical setting and ambient factors on the perception of service quality, but also the interrelation between these factors and other influences on service quality perception.

Review of the literature reveals a number of concepts that appear to be generally established.

***1. The interior environment strongly affects the perception of service quality***

It is no longer questioned that the interior environment has a strong effect on consumer satisfaction and the perception of service quality (Bitner 1990; Le Blanc 1992; Young, Cunningham, and Lee 1994; Wakefield and Blodgett 1996; Fottler, Ford, Roberts, and Ford 2000; Abubakar 2002; Hightower, Brady, and Baker 2002; Swan, Richardson, and Hutton 2003; Park, Robertson, and Wu 2005; Le Bel 2005; Van Pham and Simpson 2006; Vaaler, Morken, and Linaker 2005; Brown and Gallant 2006; Miwa and Honyu 2006; Bonn et al. 2007). Because it is also indisputable that a positive perception of service quality leads to customer loyalty, which in turn yields competitive advantage, it follows that the design of the interior environment can positively affect a company's profit margins (Parasuraman, Zeithaml, and Berry 1988; Bitner 1990; Keaveney 1995; Wakefield and Blodgett 1996; Fottler et al. 2000; Brady and Cronin 2001; Gilbert and Veloutsou 2006).

***2. Customer expectations in utilitarian and hedonic service settings differ***

The distinction between utilitarian and hedonic services in the service setting has been recognized as important because consumers' expectations differ markedly between

these two types of settings (Reimer and Kuehn 2005; Jiang and Wang 2006). In a utilitarian service encounter, customers expect only good and honest service – they do not want an emotional experience (Van Pham and Simpson 2006). In a dry cleaning establishment, for example, a customer is likely to be satisfied if the clothes are clean and neatly pressed, the price is competitive, and the transaction is quick. In fact, an emotional experience might cast a negative light on the service experience.

Consumers of hedonic services, in contrast, patronize the service establishment for the purpose of experiencing psychological as well as functional factors (Hirschman and Holbrook 1982; Reimer and Kuehn 2005; Jiang and Wang 2006). In an upscale restaurant, for example, patrons expect well-prepared food and attentive service, but they also expect comfortable seating, mood-setting lighting, pleasant or luxurious décor, soothing music, and an opportunity for social interaction. In these situations, the emotional components of the service setting become more important and can strongly influence the consumer's ultimate assessment of the quality of the service as a whole (Hirschman and Holbrook 1982; Jiang and Wang 2006).

Because expectations differ from utilitarian to hedonic service settings, customer satisfaction and perception of service quality in each setting generally are affected by different factors in differing degrees.

In the last several decades, as competition has increased in nearly all markets, many previously utilitarian enterprises have incorporated hedonic elements to distinguish themselves from their competitors. For example, Berry, Wall, and Carbone (2006) describe Barnes & Noble's introduction of coffee shops and comfortable home-like seating into its retail stores as an example of the successful use of physical space to create

a psychologically pleasant environment that encourages customers to linger in the store.

In other instances, hedonic elements have been incorporated into otherwise utilitarian enterprises not to provide an exciting emotional setting, but to offset expected negative experiences. Healthcare facilities provide an excellent example, where residential-style furnishings are increasingly being incorporated into hospital rooms to make the hospital stay less stressful (Hutton and Richardson 1995; Swan, Richardson, and Hutton 2003; Vaaler, Morken, and Linaker 2005). The expansion of hedonic elements into previously utilitarian service enterprises increases the number of considerations that service firms must take into account in striving for a loyal clientele.

### ***3. The service quality factors are interrelated***

In the early days of service quality research, scholars concentrated on singular aspects of the overall consumer experience – some dissected service quality into distinct dimensions and studied those dimensions separately, others examined only ambient or emotional factors, and others tackled temporal issues. Later scholars found these narrow approaches to be inadequate to explain the totality of the consumer experience. Today, it is widely accepted that any analysis of consumer perception of service quality must take the full range of factors influencing consumer behavior into account and must include consideration of the interactions among those influences (Brady and Cronin 2001; Berry, Carbone, and Haeckel 2002; Reimer and Kuehn 2005; Mascarenhas, Kevavan, and Bernacci 2006).

### **B. Seven primary influences on the perception of service quality**

The challenge for service businesses and for interior designers providing design services to such businesses is how to best understand the myriad influences that affect

customers' perceptions of service quality, assess their relative importance in a particular business situation, and define the role interior designers can play in ensuring a positive perception of service quality.

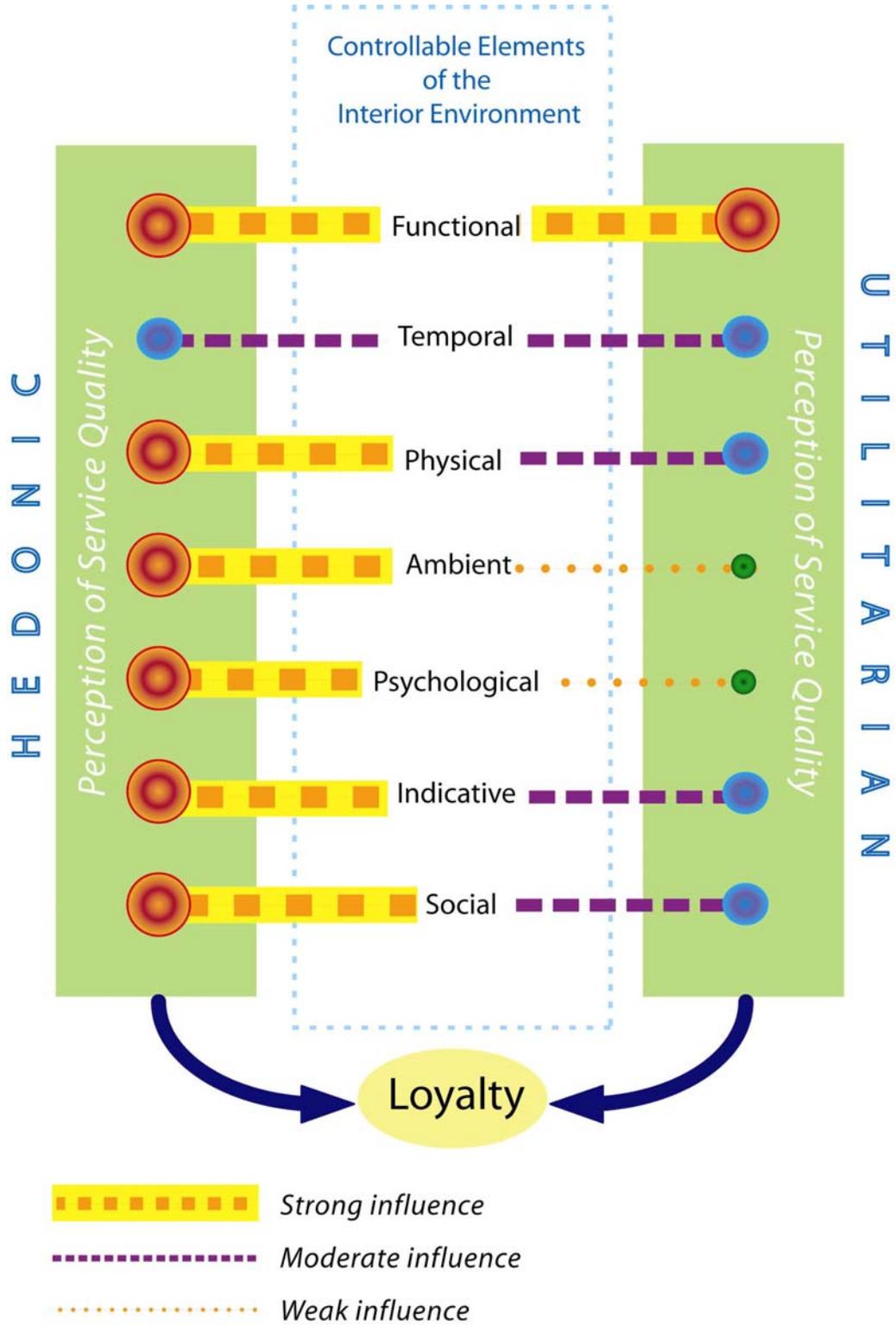
The author proposes a model, derived from the literature, that identifies *seven primary influences* within the control of business that contribute to customer satisfaction, the formation of positive perceptions of service quality, and customer loyalty. These seven influences affect the perception of service quality in varying degrees, in large part depending on whether the service in question is utilitarian or hedonic. The seven primary influences are (1) *functional*, (2) *temporal*, (3) *physical*, (4) *ambient*, (5) *psychological*, (6) *indicative*, and (7) *social*. Figure 10 illustrates these seven primary influences and depicts the degree of impact each has on the perception of service quality in utilitarian and hedonic service encounters.<sup>17</sup>

The following discussion describes each of the seven primary influences, compares the degree of influence of each in creating a positive perception of service quality in both utilitarian and hedonic service encounters, and explains how each interacts with the other influences. Although these influences can be universally applied to any

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<sup>17</sup>The literature also recognizes that certain *precedents* underlie any service encounter and influence the perception of service quality. These are the pre-formed attitudes, assumptions, and limitations that customers bring to the encounter prior to any interaction with the service provider, including demographics, price assumptions, and prior experience with the service industry in general. These precedents were mentioned in some of the cited studies, but in most cases they were omitted from the discussion altogether. The inference from this dearth of discussion is that the effect of these precedents is too slight in comparison to the effect of other influences to merit attention. It is also likely that precedents were not examined because they are not within service providers' control. Future research is needed to determine the extent to which these precedents are involved in the perception of service quality and to what degree positive precedents can be augmented or negative precedents counteracted during the service encounter by the design of the interior environment. This paper does not address these precedents.

Figure 10: Seven primary influences on perception of service quality



approach to service quality, in this context they are presented to define the role of the interior environment in service quality evaluation. Particular emphasis is given to the physical characteristics of the interior environment because of the strength and pervasiveness of this influence.

### ***1. Functional influences***

Functionality is fundamental to all evaluations of service quality (Reimer and Kuehn 2005; Jiang and Wang 2006). Functionality means the service is provided as it is supposed to be provided – reliably, honestly, and effectively. If a service is not performed properly, a customer will not be satisfied, will not develop a positive perception of the quality of the service, and will not return to the service establishment (Van Pham and Simpson 2006).

Functionality is a strong influence on both utilitarian and hedonic consumption experiences. It directly affects customer satisfaction, strongly influences the perception of service quality, affects the customer's total experience, and is a core element in any decision to re-patronize a service establishment (Carbone and Haeckel 1994; Le Bel 2005).

Because the physical environment of the place of service contributes to functionality by providing an efficient, workable place to receive services, the functional and physical influences are interrelated (Brady and Cronin 2001).

### ***2. Temporal influences***

The length of time spent in a service establishment has an effect on the perception of service quality, but temporal influences vary conversely from utilitarian to hedonic consumption encounters. Because utilitarian encounters are concerned primarily with the

functionality of service, customers expect such encounters to be of short duration (Van Pham and Simpson 2006). In contrast, customers of hedonic services expect to spend more time in the service encounter enjoying the pleasurable aspects of the experience (Dube and Menon 2000). If the duration of the service encounter runs as expected – i.e. short for utilitarian, longer for hedonic – then customers will be satisfied (Brady and Cronin 2001). If, on the other hand, the service duration runs counter to expectations – i.e. a utilitarian service involves delay or a hedonic experience is cut short – satisfaction will not result (Taylor 1994). Time affects both utilitarian and hedonic encounters in a fairly consistent way. In general, except in cases where the actual duration is at extreme disparity with the expected duration, the influence of time is moderate.

Temporal influences become more important in their relationship to the other influences. This is especially true in hedonic service encounters where amplified psychological and sensory influences are involved. Generally, the longer the service encounter, the greater the importance of psychological and sensory influences (Berry, Wall, and Carbone 2006).

The physical setting can affect the passage of time (Wakefield and Blodgett 1996). For example, the interior design can offer distractions to make a long wait seem shorter or more enjoyable in utilitarian situations where delays are inevitable or can provide a particularly pleasant sensory and psychological experience to encourage customers to extend the duration of their stays in hedonic settings.

### ***3. Physical influences***

The physical environment encompasses both architectural elements such as physical layout, furniture, and equipment and visual sensory elements such as color,

texture, and lighting. These two aspects, in conjunction with ambient factors, create the interior environment (Bitner 1990).

Although early research striving to define the components of service quality in utilitarian service settings ascribed little significance to the physical environment (Parasuraman, Zeithaml, and Berry 1985), the subsequent literature has proven that conclusion to be of very limited application (Bitner 1990). It is now universally accepted that the physical environment is a strong influence on the perception of service quality in both utilitarian and hedonic settings (Bitner 1990; Le Blanc 1992; Young, Cunningham, and Lee 1994; Wakefield and Blodgett 1996; Fottler, Ford, Roberts, and Ford 2000; Abubakar 2002; Hightower, Brady, and Baker 2002; Swan, Richardson, and Hutton 2003; Park, Robertson, and Wu 2005; Le Bel 2005; Van Pham and Simpson 2006; Vaaler, Morken, and Linaker 2005; Brown and Gallant 2006; Miwa and Honyu 2006; Bonn et al. 2007). The physical setting has factored into all of the research tracks discussed in the literature, from the early works on the retail sale of goods through later investigations of the role of emotions and moods in service encounters, studies distinguishing utilitarian from hedonic settings, examinations of extended service transactions, and research culminating in the formulation of service quality measurement models, to various attempts to create unified theories of service quality.

The physical environment not only directly influences the perception of service quality, but also strongly affects the other factors from both a perceptual and behavioral perspective (Reimer and Kuehn 2005). For example, the literature shows that the physical environment affects customer *perceptions* by:

- (1) providing indicative clues that create powerful pre-service first impressions,

reinforcing customer evaluations during the service and creating lingering memories of the service after the encounter (Bitner 1990; Reimer and Kuehn 2005);

(2) affecting customers' sense of time by providing entertaining or distracting sensory input (Baker and Cameron 1996; Berry, Wall, and Carbone 2006);

(3) driving expectations of price and quality through the use of service clues (Bebko, Scullin, and Garg 2006); and

(4) influencing the evaluation of intangibles such as reliability and empathy (Brady and Cronin 2005).

The literature shows that the physical environment influences customer *behavior* by:

(1) creating strong emotions and mood by means of the sensory qualities of the environment (Grossbart et al. 1990; Baker and Cameron 1996; Sherman, Mather, and Smith 1997; Richins 1997; Le Bel 2005; Berry, Wall, and Carbone 2006);

(2) influencing personal interactions between patrons and staff and among patrons (Le Bel 2005);

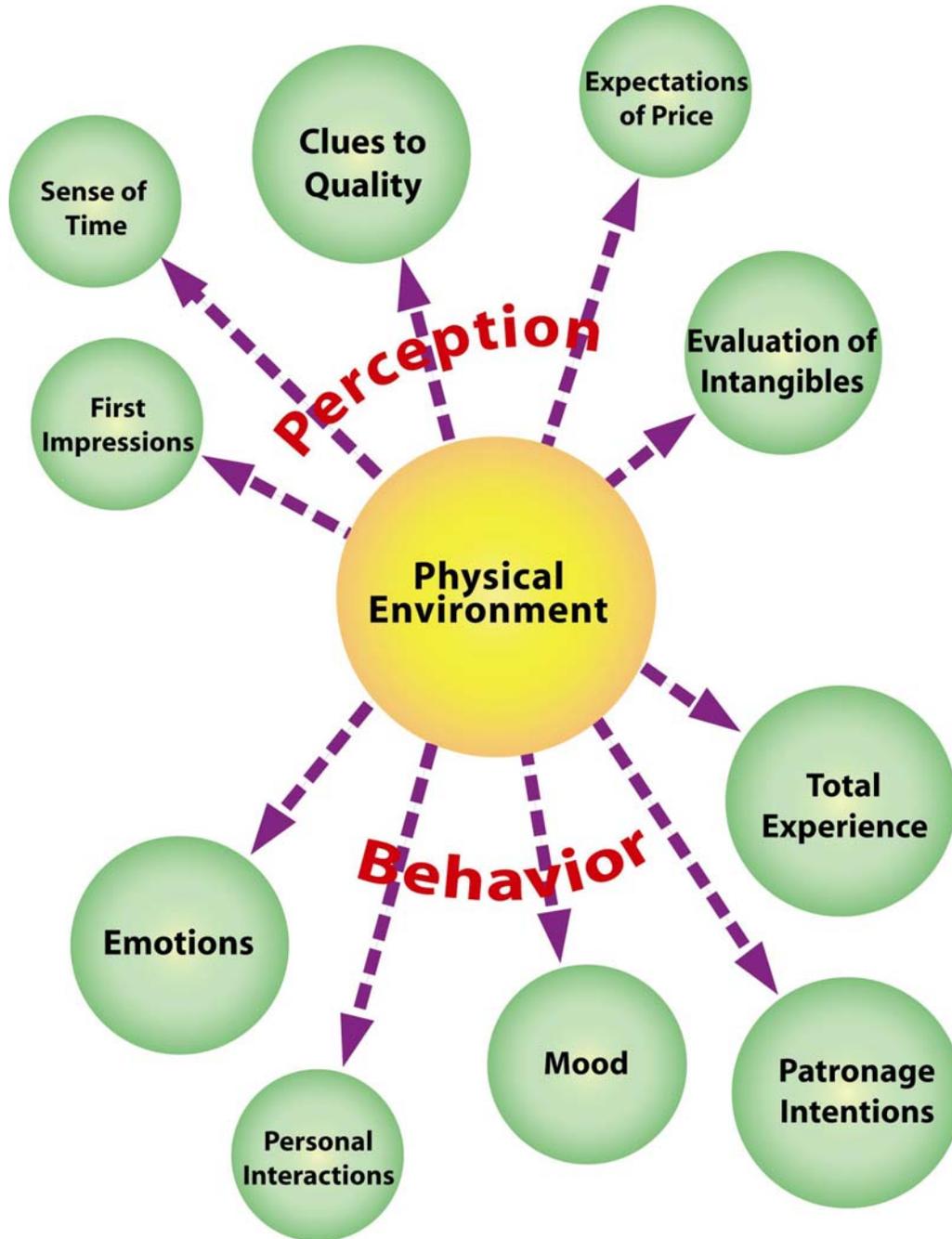
(3) creating a pleasurable total customer experience (Berry, Carbone, and Haeckel 2002); and

(4) influencing future patronage intentions (Carbone and Haeckel 1994; Ward and Bitner 1992; Berry, Carbone, and Haeckel 2002; Berry, Wall, and Carbone 2006).

Figure 11 illustrates how the physical environment influences and relates to other elements involved in a service encounter.

Although other factors can affect the various aspects of the consumption experience, no other influence is so pervasive or so effective in its ability to touch on and

Figure 11: Effects of the physical environment



affect customer satisfaction and perception of service quality as the physical environment.

Because the physical environment includes sensory aspects and has the power to affect mood and emotion, the physical environment strongly influences hedonic service settings, but only moderately influences utilitarian settings.

#### ***4. Ambient influences***

Ambient influences include the non-visual sensory or atmospheric aspects of an service setting, including sounds, smells, and temperature. The literature clearly reveals that these elements have a strong influence in the perception of service quality in hedonic consumption settings (Hirschman and Holbrook 1982; Reimer and Kuehn 2005; Jiang and Wang 2006). Hedonic consumption is based on appeal to the senses and the quality of the sensory input is directly correlated with the perception of service quality. Because these atmospheric influences can arouse intense emotions and create mood, they strongly contribute to the total customer experience (Carbone and Haeckel 1994; Le Bel 2005).

Although ambient influences are important in hedonic situations, they are only weakly influential in utilitarian settings. Because utilitarian consumption experiences are based on functionality and sensory influences do not typically affect functionality, the use of sensory stimuli in a utilitarian setting is at best peripheral to an assessment of service quality. Ambient music, for example, can be used to create a pleasant background in a utilitarian service setting, but this element would not be likely to strongly factor into a customer's patronage decision.

Ambient influences work in tandem with the visual aspects of the physical setting to create a complete interior environment (Bitner 1990). Ambient stimuli, by their ability

to arouse emotions, are a major influence on the psychological aspects of the service setting and can provide strong clues to service quality (Bebko, Sculli, and Garg 2006; Berry, Wall, and Carbone 2006).

### ***5. Psychological influences***

Psychological influences include emotion, mood, and attitude. Reference to emotions and mood permeate the service quality literature and customer satisfaction and perception of service quality are strongly affected by consumers' psychological reactions (Gardner 1985; Hirschman and Holbrook 1982; Reimer and Kuehn 2005; Jiang and Wang 2006). The interior environment has a powerful ability to generate emotions and those emotions influence customers' perceptions of service quality (Baker and Cameron 1996; Sherman, Mather, and Smith 1997; Richins 1997; Le Bel 2005; Berry, Wall, and Carbone 2006). This is particularly true in hedonic service settings. Although emotions can have an effect on utilitarian encounters, this influence is weak.

Consumers' psychological reactions are closely related to the ambient input available at the service site and the physical qualities of the service environment. Psychological influences are also related to the sense of time and to social interactions.

### ***6. Indicative influences***

The literature reveals that both ambient and physical influences create first impressions and provide clues as to the quality of service (Reimer and Kuehn 2005; Berry, Wall, and Carbone 2006; Bebko, Sculli, and Garg 2006). Such clues serve as indicators in customers' attempts to evaluate their service expectations prior to the receipt of the service and offer businesses unique opportunities to form favorable impressions in their potential customer's minds. Ambient and physical influences can also reinforce

customers' actual perceptions after the service encounter (Carbone and Haeckel 1994; Ward and Bitner 1992; Berry, Carbone, and Haeckel 2002; Berry, Wall, and Carbone 2006).

Such service clues can affect emotion, mood, and consumer behavior and are strongly associated with the perception of service quality in hedonic encounters but, for the same reasons outlined in the discussion of ambient and physical influences, only moderately influential in utilitarian settings.

### ***7. Social influences***

The social aspects of a service encounter involve the participants in the encounter and the interactions among them. These aspects were recognized as fundamental to service quality in the SERVQUAL model (Parasuraman, Zeithaml, and Berry 1985) and factor into much of the subsequent research (Baker and Cameron 1996; Brady and Cronin 2001). Customers and employees of the service business are the primary participants, but patrons may wish to interact with each other in some service settings.

Although social interactions between patrons and employees primarily involve the intangible dimensions of service quality such as reliability, responsiveness, and empathy, other influences such as the ambient, psychological, temporal, and physical aspects of the service setting can influence these social interactions. These latter influences set a mood that affects customers' perception of the enterprise's employees and hence the perception of the quality of the service as a whole.

In a hedonic setting, customers often wish to interact with one another and the ambient, psychological, and physical setting can create an atmosphere that enables this. Restaurants and clubs provide a good example of hedonic settings where several

influences are at work creating an atmosphere of congeniality.

The social component strongly influences hedonic service settings and moderately influences utilitarian settings. The interior environment affects social interactions by physically enabling or encouraging person-to-person communication and establishing a convivial atmosphere.

### **C. The web of influences**

Although early attempts to quantify and qualify service quality were based on linear models, the more recent literature, particularly the theory of total customer experience, appears to recognize the non-linearity and cross-dependence of these seven influences. Figure 10 depicts the seven influences linearly, but in reality each of these influences affects each of the others in a complex web. Figure 11 illustrated this with regard to the physical environment.

Figure 12 shows the relationships among all the seven primary influences as interrelating in various ways within the larger universe of service quality and encompassed by the overall notion of total customer experience. This diagram does not show the magnitude of any of the cross-influences or the strength of the interaction between the influences. The scope of this interaction and the nature of the interactions between influences remains to be studied.

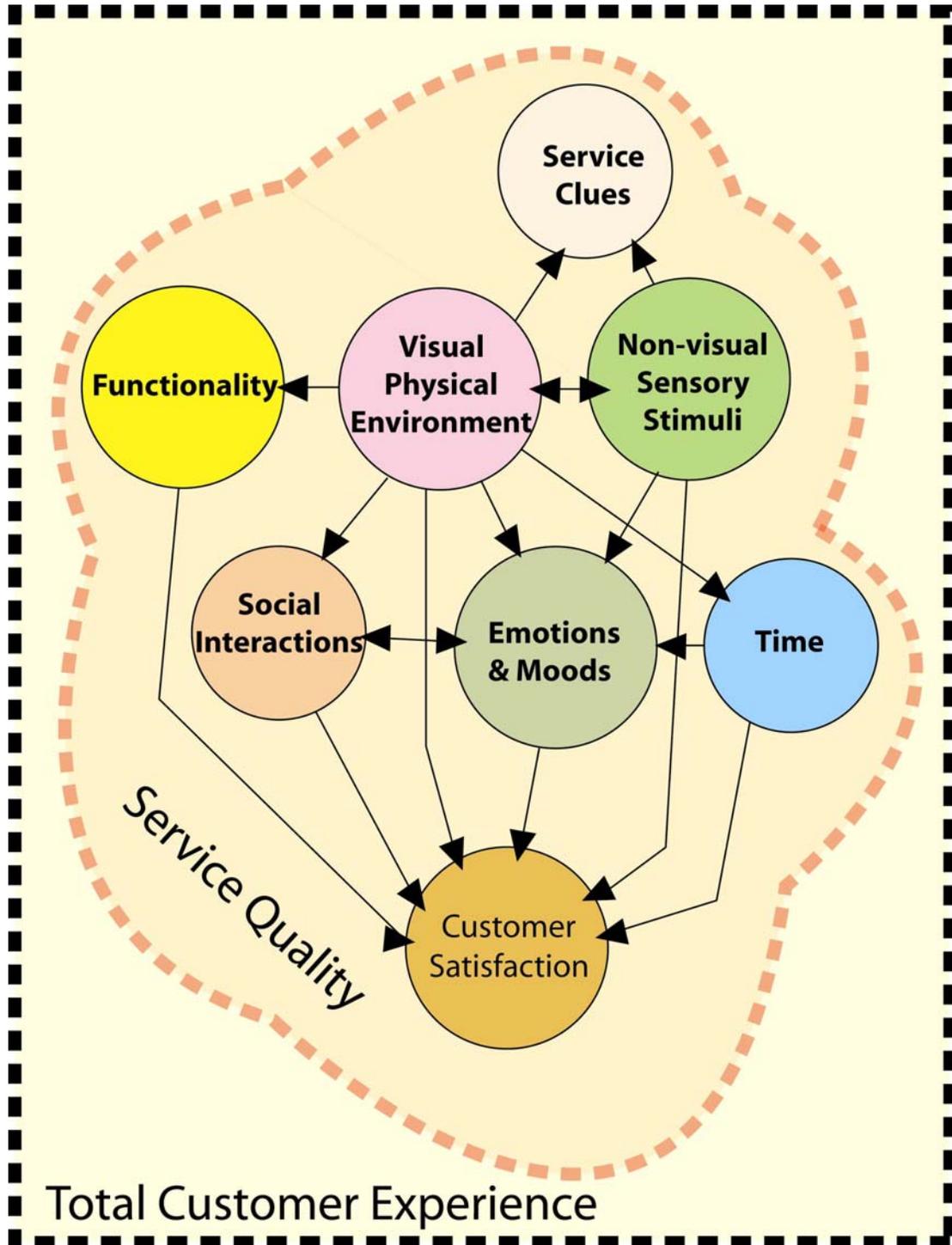
### **D. Implications**

The literature reviewed in this paper has implications for business, the design profession, and future research and action.

#### ***1. Implications for business***

The literature makes clear that for service organizations to be competitive in

Figure 12: Web of influences



today's market, they must satisfy their customers and encourage a positive perception of service quality by exceeding expectations and perhaps even delighting their customers. They can do so by being cognizant of each of the seven primary influences on the perception of service quality and incorporating each into their marketing efforts in an appropriate degree. Careful consideration of the influences most pertinent to a particular type of business is likely to create market advantage.

The most important considerations for utilitarian enterprises are functionality and appropriate timeliness. The competency and conviviality of staff, the efficiency of the physical layout, and the clues to quality that the organization reveals should also be incorporated into utilitarian business decisionmaking, as they exert a moderate influence on the perception of service quality and loyalty in this setting.

Hedonic service establishments have a greater range of influences to consider for success. Here, it is not enough simply to provide functional, timely, and social service. Because customers expect emotional experiences in these establishments, hedonic businesses must incorporate a full range of ambient, physical, and psychological aspects into their places of service and exploit these elements to provide strong clues to the quality of their services.

In reality, services are generally neither purely utilitarian nor exclusively hedonic and most fall somewhere in between the two archetypes. Utilitarian businesses are moving toward more hedonic models to differentiate themselves from their competitors. Although these businesses might remain primarily utilitarian – that is, customers will still patronize primarily for the quality of the services themselves – a pleasant environment and moderate application of ambient, physical, and psychological elements will often

enhance the attractiveness of the otherwise utilitarian establishment.

To achieve maximum effect, each of the seven major influences must be placed in proper context in terms of business goals and customer needs and must be closely integrated with other influences. Every effort to influence consumer satisfaction and perception of service quality must relate to the customer's total experience and must be gauged to create a balance that satisfies customers and exceeds their expectations. The optimal mix of influences will vary from locale to locale and depend on the demographics of the customer base. Businesses must take in to account the particulars of their unique circumstances.

One way businesses can ensure that the optimal mix of influences is integrated into their business decision process is by taking advantage of the expertise of those trained in the fields associated with the seven influences. Although business education and training equips business owners and managers to assess functionality and timeliness, other professionals such as human factors engineers, personnel experts, ambient music producers, interior designers, and advertising agents have undergone specialized training in the social, ambient, physical, indicative, and psychological aspects of the commercial environment. Utilizing the expertise of those with the proper training to implement the seven influences will maximize the potential to fully exploit the value of the total customer experience. Interior designers, for example, are trained in physical layout from both a functional and aesthetic viewpoint and in providing and enhancing the interior environment through use of finishes, furnishings, lighting, and appropriate acoustical and mechanical systems.

The implication for businesses from this marketing literature is that any decisions

regarding the service setting must be managed from multiple viewpoints, exploiting the knowledge of a range of experts.

### ***2. Implications for the design profession***

For designers to most effectively serve their service oriented clients, they must thoroughly comprehend all aspects of the service quality mix and the role of the interior environment in that mix. By understanding all of the influences on the perception of service quality, designers can ensure that their approaches to those ambient and physical elements within their expertise appropriately interact with and enhance the other influences on the total customer experience. In other words, designers must consider not only the functionality and aesthetics of their ambient and physical designs, but also temporal affects, social interactions, service clues, and psychological consequences.

Knowledge of the various influences on service quality empowers designers to make a business case for their involvement in the business process.

### ***3. Implications for further research***

The role of the interior environment in the perception of service quality has been investigated extensively within the business community, but several avenues of research remain open for exploration. First, the nature and extent of the interrelationships among the various influences on service quality beg to be explored in greater depth. Second, some method of monetizing the value of these influences is needed to convince the business community of the true value of less quantifiable aspects such as sensory and psychological influences. Third, to assist businesses in applying service quality theories to everyday management, practical models need to be developed for assessing the relative importance of the various influences for a particular business and market. Fourth,

comparative studies need to be conducted to cross-reference the business-based research on the value of the interior environment in the perception of service quality with design research. Finally, cross-disciplinary studies need to be mounted that combine the knowledge and expertise of both marketing specialists and design professionals to seek new creative and productive solutions to issues of common interest.

## **CHAPTER 4. CONCLUSION**

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The understanding of the role of the interior environment on customers' perceptions of service quality has moved from unrealized and unstudied in the early 1970s, through the simplified measurement theories and parallel lines of research in the 1980s and 1990s, to a full awareness of the complexity of the issue in the early 2000s. The next steps will be to expand and unravel the web of influences in an attempt to truly understand its intricacies.

The business-based literature reveals seven primary influences that determine customer perception of service quality. The interior environment comprises two of these influences – physical and ambient – and strongly affects the remaining functional, temporal, emotional, indicative, and social influences. Each of these influences affects customer response both directly and indirectly through its affects on the other influences. The physical service setting is one of the most prominent and pervasive of these influences.

Understanding how these influences can be controlled and incorporated into the service environment and business decisionmaking is a valuable goal for service establishments. Businesses seeking to attract loyal clientele must understand what their customers expect from their service establishment and consider the full range of factors that influence that customer's satisfaction and perception of service quality. Because interior designers are trained to enhance the interior environment, the knowledge and skills held by the profession of interior design are a valuable resource for businesses seeking to attract and maintain a loyal customer base.

Ultimately, any service quality discussion must lead to consideration of the totality of customers' experiences, and it is here that the key to service quality lies. Berry, Wall, and Carbone (2006) expressed this succinctly:

Fundamental to any effort is understanding the experience from the customer's perspective – that is, seeing what the customer sees, hearing what the customer hears, touching what the customer touches, smelling what the customer smells, tasting what the customer tastes and, above all, feeling what the customer feels . . . .

Beyond understanding what customers sense from the existing experience and the feelings and stories that experience creates, the organization must also invest in learning what customers *want* to feel in the experience, what will engage them cognitively and emotionally in a manner that creates strong preference and loyalty.

In many ways, this statement sums up the service quality literature as it has evolved to its present state. Although service quality comprises many factors, including the interior environment, that interact and influence each other in myriad ways, ultimately, the focus must be on the consumer – his or her expectations, desires, needs, and experience.

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