

# **Servicescapes: The impact of physical surroundings on customers and employees**

Bitner, Mary Jo

Source: Bitner, MJ 1992, 'Servicescapes: The impact of physical surroundings on customers and employees', *Journal of Marketing*, vol. 56, no. 2, April, pp. 57-71.

Mary Jo Bitner

## **Servicescapes: The Impact of Physical Surroundings on Customers and Employees**

A typology of service organizations is presented and a conceptual framework is advanced for exploring the impact of physical surroundings on the behaviors of both customers and employees. The ability of the physical surroundings to facilitate achievement of organizational as well as marketing goals is explored. Literature from diverse disciplines provides theoretical grounding for the framework, which serves as a base for focused propositions. By examining the multiple strategic roles that physical surroundings can exert in service organizations, the author highlights key managerial and research implications.

THE effect of atmospherics, or physical design and decor elements, on consumers and workers is recognized by managers and mentioned in virtually all marketing, retailing, and organizational behavior texts. Yet, particularly in marketing, there is a surprising lack of empirical research or theoretically based frameworks addressing the role of physical surroundings in consumption settings. Managers continually plan, build, change, and control an organization's physical surroundings, but frequently the impact of a specific design or design change on ultimate users of the facility is not fully understood.

The ability of the physical environment to influence behaviors and to create an image is particularly apparent for service businesses such as hotels, restaurants, professional offices, banks, retail stores, and hospitals (Baker 1987; Bitner 1986; Booms and Bitner 1982; Kotler 1973; Shostack 1977; Upah and Fulton 1985; Zeithaml, Parasuraman, and Berry 1985). Because the service generally is produced and consumed simultaneously, the consumer is "in the factory," often experiencing the total service within the firm's physical facility. The factory (or the place where the service is produced) cannot be hidden and may in fact have a strong impact on customers' perceptions of the service experience. Even before purchase, consumers commonly look for cues about the firm's capabilities and quality (Berry and Clark 1986; Shostack 1977). The physical environment is rich in such cues (Ra-poport 1982) and may be very influential in communicating the firm's image and purpose to its customers. Research suggests that the physical setting may also influence the customer's ultimate satisfaction with the service (Bitner 1990; Harrell, Hutt, and Anderson 1980).

Interestingly, in service organizations the same physical setting that communicates with and influences customers may affect employees of the firm (Baker, Berry, and Parasuraman 1988). Research in organizational behavior suggests that the physical setting can influence employee satisfaction, productivity, and motivation (e.g., Becker 1981; Davis 1984; Steele 1986; Sundstrom and Altman 1989; Sundstrom and Sundstrom 1986; Wineman 1986). The

customer is left out of that research stream, however, just as

Mary Jo Bitner is Assistant Professor of Marketing, Arizona State University. The author acknowledges the support of the First Interstate Center for Services Marketing, Arizona State University, in conducting the research. The extensive assistance of Michael Hutt and the comments of Lawrence Crosby, Stephen Brown, Beth Walker, and Susan Kleine are gratefully acknowledged, as are the helpful suggestions of three anonymous *JM* reviewers.

PAGE 57

the employee typically is ignored in the limited atmospherics research in marketing (e.g., Donovan and Rossiter 1982; Kotler 1973; Milliman 1982, 1986). For example, in the Milliman experiments, music tempo was varied and the effect on a variety of consumer behaviors was measured; however, the effects on employee satisfaction and productivity were not explored. Because services generally are purchased and consumed simultaneously, and typically require direct human contact, customers and employees interact with each other within the organization's physical facility. Ideally, therefore, the organization's environment should support the needs and preferences of both service employees and customers simultaneously.

The purpose of this article to take a first step toward integrating theories and empirical findings from diverse disciplines into a framework that describes how the built environment (i.e., the manmade, physical surroundings as opposed to the natural or social environment), or what is referred to here as the "servicescape," affects *both* consumers and employees in service organizations. First, a typology of service organizations is presented that illuminates important variations in form and usage of the servicescape. Next, a conceptual framework is offered for explaining environment user relationships in service organizations, and specific research propositions are advanced. The framework is anchored in the environmental psychology research tradition and also draws together relevant literature in marketing, organizational behavior, human factors/ergonomics, and architecture. Finally, the linkages between the service organization typology and the framework are examined, and key managerial and research implications are discussed.

## **A Typology of Servicescapes**

"The way the physical setting is created in organizations has barely been tapped as a tangible organizational resource" (Becker 1981, p. 130). Management of the physical setting typically is viewed as tangential in comparison with other organizational variables that can motivate employees, such as pay scales, promotions, benefits, and supervisory relationships. Similarly, on the consumer side, variables such as pricing, advertising, added features, and special promotions are given much more attention than the physical setting as ways in which customers can be attracted to and/or satisfied by a firm's services. A clear implication of the model presented here is that the physical setting can aid or hinder the accomplishment of both internal organizational goals and external marketing goals.

As is true of any organizational or marketing variable, the importance of physical setting depends on the nature of the job and the nature of the consumption experience. The position advanced here is that the physical surroundings are, *in general*, more important in service settings because customers as well as employees often experience the firm's facility. However, not all service firms and industries are alike (Lovelock 1983; Schmenner 1986), nor do they face the same strategic issues in planning and designing their servicescapes. Figure 1 is a typology categorizing service organizations on two dimensions that capture important differences in the management of the servicescape. Firms that share a cell within the matrix face similar issues related to the design of their physical spaces.

The vertical dimension relates to *who* is performing actions within the servicescape—the customer, or the employee, or both. One extreme is represented by the "selfservice" organization in which few if any employees are present and the level of customer activity is high. At the other extreme is the "remote service" where there is little or no customer involvement in the servicescape and sometimes even little employee involvement, such as in fully automated voice messaging services. Note from Figure 1 that "interpersonal services" are positioned between the two extremes. In those organizations, both customers and employees are present and performing actions within the servicescape. The relative level of involvement of customers and employees determines whose needs should be consulted in the design of the environment. In interpersonal servicescapes, special consideration must be given to the effects of the physical environment on the nature and quality of the social interaction *between and among* customers and employees.

Whether customers, employees, or both are present within the servicescape also determines the types of objectives a firm might expect to accomplish through use of its physical environment. In self-service settings, the creative use of physical design could support particular positioning and segmentation strategies and enhance specific marketing objectives, such as customer satisfaction and attraction. At the other extreme, for remote services, organizational objectives such as employee satisfaction, motivation, and operational efficiency could be the primary goals in physical setting design, because few customers would ever see or experience the firm's physical setting. For interpersonal services, both organizational and marketing objectives could potentially be targeted through careful design of the servicescape. Even marketing goals such as relationship building (Crosby, Evans, and Cowles 1990) could be influenced by the design of the physical setting.

The horizontal dimension of Figure 1 captures the complexity of the servicescape. Some service environments are very simple, with few elements, few spaces, and few forms. They are termed "lean" environments. Ticketron outlets and Federal Express dropoff kiosks would qualify as lean environments, as both provide service from one simple structure. For lean servicescapes, design decisions are relatively straightforward, especially in self-service or remote service situations in which there is no interaction between customers and employees. Other servicescapes are very complicated, with many elements and many forms. They are termed "elaborate" environments. An example is a hospital with its many floors, rooms, sophisticated equipment, and complex variability in functions performed within the physical facility. In such an elaborate environment, the full range of marketing and organizational objectives theoretically can be approached through careful management of the servicescape. For example, a patient's hospital room can be designed to enhance patient comfort and satisfaction while simultaneously facilitating employee productivity. Figure 1 suggests that firms such as hospitals that are positioned in the elaborate interpersonal service cell face the most complex servicescape decisions.

PAGE 58

**FIGURE 1**

**Typology of Service Organizations Based on Variations in Form and Usage of the Servicescape**

---

<b>Types of Service Organizations Based on</b>	
<b>Who Performs Actions Within the</b>	<b>Physical Complexity of the Servicescape</b>

---

Servicescape	Elaborate	Lean
Self-service (customer only)	Golf Land	ATM
	Surf 'n Splash	Ticketron
		Post office kiosk
		Movie theater
		Express mail dropoff
Interpersonal services (both customer and employee)	Hotels	Dry cleaner
	Restaurants	Hot dog stand
	Health clinic	Hair salon
	Hospital	
	Bank	
	Airline	
	School	
Remote service (employee only)	Telephone company	Telephone mail order desk
	Insurance company	Automated voice-messaging-based
	Utility	services
	Many professional services	

## Conceptual Framework

Though the typology in Figure 1 highlights the relative complexity of environmental decisions across different types of service organizations, it does not explain what behaviors are influenced, or *why*, or how one would go about planning and designing an environment to achieve particular objectives. Figure 2 is a rich framework for addressing those questions and for exploring the role of physical environment in service organizations. The framework suggests that a variety of objective environmental factors are perceived by *both* customers and employees and that both groups may respond cognitively, emotionally, and physiologically to the environment. Those internal responses to the environment influence the behavior of individual customers and employees in the Servicescape and affect social interactions between and among customers and employees. Though the model shares similarities with other models (e.g., Mehrabian and Russell 1974), it is unique in its breadth of synthesis (for example, Mehrabian and Russell focus on emotional responses only), the incorporation of *both* customers and employees and their interactions, and its application to commercial settings. In the following sections, each of the components of the framework is

defined and developed. Attention centers first on the behaviors that may be influenced by the Servicescape and then on the internal responses and the controllable dimensions that constitute the Servicescape. Propositions based on the framework are highlighted, and implications for firms within specific cells of the service typology are discussed.

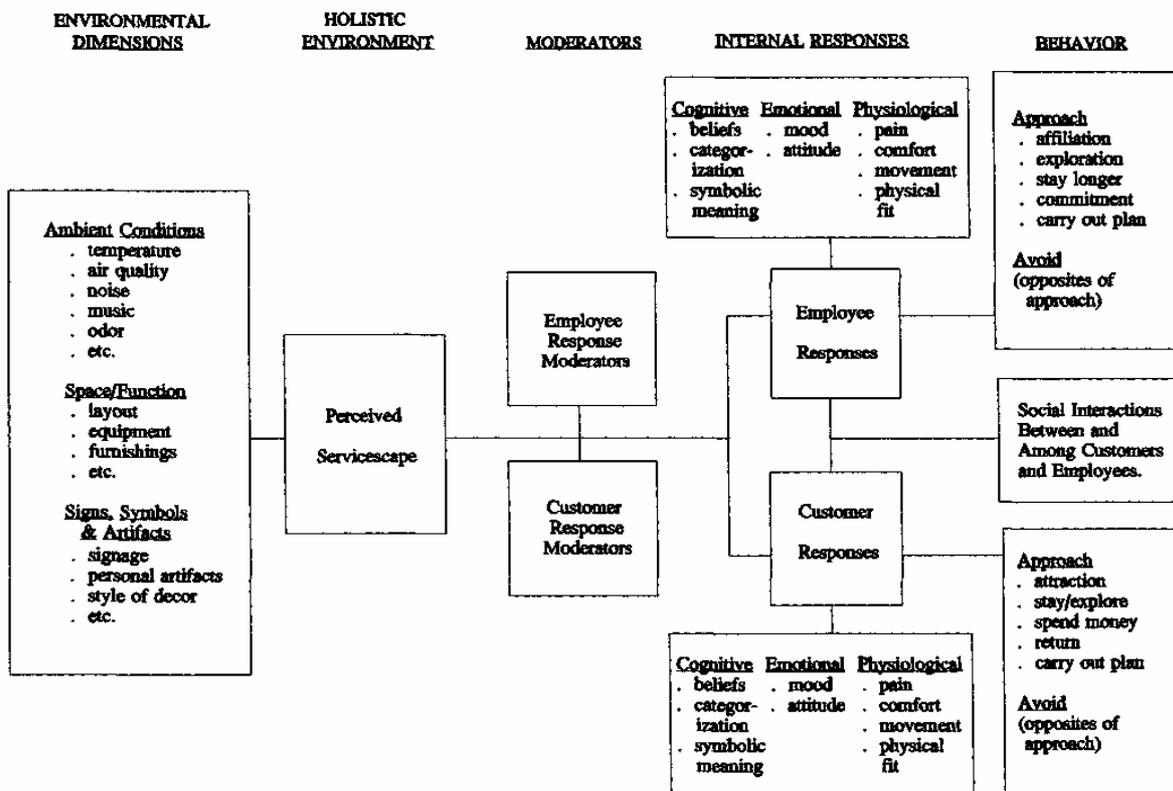
## Behaviors in the Servicescape

That human behavior is influenced by the physical setting in which it occurs is essentially a truism. Interestingly, however, until the 1960s psychologists largely ignored the effects of physical setting in their attempts to predict and explain behavior. Since that time, a large and steadily growing body of literature within the field of environmental psychology has addressed the relationships between human beings and their built environments (for reviews of environmental psychology, see Darley and Gilbert 1985; Holahan 1986; Russell and Ward 1982; Stokols and Altman 1987).<sup>1</sup> Here it is *assumed* that dimensions of the organization's physical surroundings influence important customer and employee behaviors. The types of behaviors that are influenced are identified and discussed next.

PAGE 59

FIGURE 2

### Framework for Understanding Environment-User Relationships in Service Organizations



## **Individual Behaviors**

Environmental psychologists suggest that individuals react to places with two general, and opposite, forms of behavior: approach and avoidance (Mehrabian and Russell 1974). Approach behaviors include all positive behaviors that might be directed at a particular place, such as desire to stay, explore, work, and affiliate (Mehrabian and Russell 1974). Avoidance behaviors reflect the opposite, in other words, a desire *not* to stay, explore, work, and affiliate. In a study of consumers in retail environments, Donovan and Rossiter (1982) found that approach behaviors in that setting (including shopping enjoyment, returning, attraction and friendliness toward others, spending money, time spent browsing, and exploration of the store) were influenced by perceptions of the environment. Milli-man (1982, 1986) found that the tempo of background music can affect traffic flow and gross receipts in both supermarket and restaurant settings. In actual service settings, examples of environmental cues being used to change behavior are abundant. At one 7-11 store, the owners played "elevator music" to drive away a youthful market segment that was detracting from the store's image. Cinnamon roll bakeries commonly pump the wonderful fragrance of their freshly baked products out into mall traffic areas to entice customers into the store.

In addition to attracting or deterring entry, the servicescape can actually influence the degree of success

<sup>1</sup> Research on the built environment is only one aspect of environmental psychology. The field also encompasses the study of human beings and their relationships with the natural and social environment. What distinguishes environmental psychology from other areas of inquiry is its concern "with the reciprocal and interactive influences that take place between the thinking and behavior of an organism and the environment surrounding that organism" (Darley and Gilbert 1985, p. 949).

PAGE 60

consumers experience in executing their plans once inside (Darley and Gilbert 1985; Russell and Snodgrass 1987). Each individual comes to a particular service organization with a goal or purpose that may be aided or hindered by the setting. For example, assume that a traveler enters an airport and (1) is confused because he or she cannot find signage giving directions to the assigned gate and (2) is emotionally distressed because of crowds, poor acoustics, and high temperature. The traveler is unable to carry out the purpose for entering the environment, at least not very easily. Here the servicescape directly inhibits the accomplishment of the customer's goal. Similarly, physical surroundings and conditions could constrain an employee's ability to do his or her work and thereby detract from the purpose for being in the servicescape.

Clearly, firms want to encourage approach behaviors and the ability of customers and employees to carry out their plans while at the same time discouraging avoidance behaviors. As Figure 2 shows, the approach/avoidance behaviors of employees and customers are determined largely by individual internal responses (cognitive, emotional, and physiological) to the environment. The three types of internal responses are discussed in greater detail subsequently. The basic assumption is that positive (negative) internal responses lead to approach (avoidance) behaviors.

P<sub>1</sub>: Positive (negative) internal responses to the servicescape lead to approach (avoidance) behaviors.

a. For employees, approach includes such behaviors as affiliation, exploration, staying longer, expressions of commitment, and carrying out the purpose for being in the organization. Avoidance is represented by the opposite behaviors.

b. For customers, approach includes such behaviors as coming in, staying, spending money, loyalty, and carrying out the purpose for being in the organization. Avoidance is represented by the opposite behaviors.

## **Social Interactions**

In addition to its effects on their individual behaviors, the servicescape influences the nature and quality of customer and employee interactions, most directly in interpersonal services. Bennett and Bennett (1970) state that "all social interaction is affected by the physical container in which it occurs." They go on to suggest that the physical container affects the nature of social interaction in terms of the duration of interaction and the actual progression of events. In many service situations, a firm may want to ensure a particular progression of events (i.e., a "standard script") and limit the duration of the service. Forgas (1979) suggests that environmental variables such as propinquity, seating arrangements, size, and flexibility can define the possibilities and limits of social episodes, such as those between and among customers and employees. He also suggests that physical environments represent a subset of social rules, conventions, and expectations in force in a given behavior setting, serving to define the nature of social interaction. In developing the concept of behavior settings, Barker (1968) implies that recurring social behavior patterns are associated with particular physical settings and that when people encounter typical settings, their social behaviors can be predicted.

Empirical studies confirm the impact of physical setting on the nature of social interaction. Behaviors such as small group interaction, friendship formation, participation, aggression, withdrawal, and helping have all been shown to be influenced by environmental conditions (Holahan 1982). Similarly, in studies of workplace design, researchers have found that communication patterns, group cohesion, and the formation of friendships and small groups can be influenced by the physical setting (Sundstrom and Sundstrom 1986, Part III). By implication, those findings suggest that the servicescape influences the nature of social interactions between and among customers and employees.

Examples are again abundant in actual service settings. Even casual observation of a Club Med facility confirms that the highly complex setting is designed to encourage social interaction among and between guests and employees. Seating arrangements and the food preparation process at Benihana restaurants similarly encourage interactions among total strangers, as well as contact between patrons and the Japanese chef who prepares their meals in full view. In most airports, in contrast, research suggests that the arrangement of seating typically *discourages* comfortable conversation among travelers and their companions (Sommer 1974).

One of the challenges in designing environments to enhance individual approach behaviors and encourage the appropriate social interactions is that optimal design for one person or group may not be the optimal design for others. Research in a bank setting suggests, for example, that employees and customers have different needs and desires for their physical surroundings (Baker, Berry, and Parasuraman 1988). Similarly, an environment that is conducive to an employee's individual work needs may not enhance the employee's ability to converse and interact interpersonally with customers.

P<sub>2</sub>: For interpersonal services, positive (negative) internal responses to the servicescape enhance (detract from) the nature and quality of social interactions between and among customers and employees.

P<sub>3</sub>: Optimal design for encouraging employee (customer) approach behavior may be incompatible with the design required to meet customer (employee) needs and/ or facilitate positive employee-customer interactions.

PAGE 61

### ***Service Topology and Behavior***

The research tradition in environmental psychology strongly suggests that the physical environment can influence behaviors in several ways. Therefore the first step in the purposeful design of the servicescape is to identify desirable customer and/or employee behaviors and the strategic goals that the organization hopes to advance through its physical facility. For example, in designing their corporate headquarters offices, Scandinavian Airline Systems first identified particular goals that it wanted to achieve, among them teamwork and open and frequent communication among managers. The employee behaviors associated with those goals were identified and architects were commissioned to propose designs that would be conducive to the behaviors and ultimately support the strategic goals.

The typology (Figure 1) provides a structure for isolating the relevant behavioral issues. Selfservice firms will be most interested in predicting and understanding *customer* behaviors (e.g., coming in, exploration, staying) in the physical setting and the potential achievement of marketing objectives such as customer attraction, satisfaction, and retention. In contrast, firms that operate remote services will focus on *employee* behaviors (e.g., productivity, affiliation with coworkers) and the achievement of organizational goals such as teamwork, productivity, and innovation. Organizations that are positioned in the interpersonal service cell will be concerned with both customer and employee behaviors, as well as the effects of physical setting on the *interactions* between and among customers and employees. There the strategist must understand the plans and goals of all participants and anticipate compatibility dilemmas in designing the servicescape. Once behaviors most likely to be influenced by the servicescape are identified, challenging questions emerge: What internal responses (e.g., feelings, beliefs) will lead to the desired behaviors and how should the environment be configured to bring about such responses? The next two sections address those questions.

### **Internal Responses to the Servicescape**

One can infer from the environmental psychology literature that employees and customers in service firms respond to dimensions of their physical surroundings cognitively, emotionally, and physiologically, and that those responses are what influence their behaviors in the environment. Hence, the perceived servicescape does not directly *cause* people to behave in certain ways. As Figure 2 shows, perceptions of the servicescape lead to certain emotions, beliefs, and physiological sensations which in turn influence behaviors. Behaviors are thus mediated by a person's internal responses to the place. Though the internal responses (cognitive, emotional, and physiological) are discussed independently here, they are clearly interdependent. For example, a person's beliefs about a place, a cognitive response, may well influence emotional response to the place and vice versa.

### ***Environment and Cognition***

As shown in Figure 2, the perceived servicescape may elicit cognitive responses (Golledge

1987; Kaplan and Kaplan 1982; Rapoport 1982), influencing people's beliefs about a place and their beliefs about the people and products found in that place. In that sense, the environment can be viewed as a form of nonverbal communication (Broadbent, Bunt, and Jencks 1980; Rapoport 1982), imparting meaning through what Ruesch and Kees (1956) called "object language." For example, particular environmental cues such as the type of office furniture and decor and the apparel worn by a lawyer may influence a potential client's beliefs about whether the lawyer is successful or not successful, expensive or not expensive, and trustworthy or not trustworthy. In a consumer study, variations in verbal descriptions of store atmospherics were found to alter beliefs about a product (perfume) sold in the store (Gardner and Siomkos 1986). Another study showed that a travel agent's office decor affected customer attributions for the travel agent's behavior (Bitner 1990). Variations in environmental cues may also affect *employees'* beliefs. For example, office size and type of furnishings may affect an employee's beliefs about the importance of his or her function within the firm in relation to other employees. In all of those cases, perceptions of the servicescape influence beliefs about the environment itself, but also appear to affect beliefs about other, seemingly unrelated, service attributes.

In other cases, perceptions of the servicescape may simply help people to distinguish a firm by influencing how it is categorized. Categorization is the process by which people assign a label to an object; when people see a feathered animal flying through the air, they categorize it as a "bird" and not a "fish" (Loken and Ward 1990; Mervis and Rosch 1981). Similarly, the overall perception of the servicescape enables the consumer or employee to categorize the firm mentally. For example, research shows that in the restaurant industry a particular configuration of environmental cues suggests "fast food" whereas another configuration suggests "elegant sitdown restaurant" (Ward, Bitner, and Barnes 1992). In such situations, environmental cues serve as a mnemonic or shortcut device enabling customers to categorize and distinguish among types of restaurants.

Because services are relatively intangible in comparison

PAGE 62

with most manufactured goods (Shostack 1977) and because many services are high in experience and credence attributes (Zeithaml 1981), they generally afford fewer intrinsic cues on which to form beliefs about service quality, particularly in initial purchase situations. Hence, in such situations consumers and employees tend to use extrinsic cues (such as the physical surroundings) to infer quality (Zeithaml 1988). In other words, people may use their beliefs about the servicescape as surrogate indicators in forming beliefs about service quality and other attributes of the service and/or the people who work in the organization.

P<sub>4</sub>: Perceptions of the servicescape and associated positive (negative) cognitions can lead to positive (negative) beliefs and attributions associated with the organization, its people, and its products.

P<sub>5</sub>: Perceptions of the servicescape influence how people categorize the organization; thus, the environment serves as a mnemonic in differentiating among firms.

P<sub>6</sub>: The servicescape's influence on beliefs, attributions, and categorization of the organization is stronger for inexperienced customers or new employees, and when few intrinsic cues are available on which to categorize or base beliefs.

## ***Environment and Emotion***

In addition to influencing cognitions, the perceived servicescape may elicit emotional responses that in turn influence behaviors. In a long stream of research, Mehrabian and Russell and their colleagues have programmatically explored emotional responses to environments (e.g., Mehrabian and Russell 1974; Russell and Lanius 1984; Russell and Pratt 1980; Russell and Snodgrass 1987). Through their research they have concluded that the emotion-eliciting qualities of environments are captured by two dimensions: pleasure-displeasure and degree of arousal (i.e., amount of stimulation or excitement). In other words, any environment, whether natural or manmade, can be located in a two-dimensional space reflecting peoples' emotional response to the place. Research shows that emotional response measured on those dimensions can predict behaviors with respect to the environment. For example, environments that elicit feelings of pleasure are likely to be ones where people want to spend time and money (Donovan and Rossiter 1982; Mehrabian and Russell 1974), whereas unpleasant environments are avoided. Similarly, arousing environments are viewed positively unless the excitement is combined with unpleasantness (Mehrabian and Russell 1974). That is, unpleasant environments that are also high in arousal (lots of stimulation, noise, confusion) are particularly avoided. Hui and Bateson (1991) found that in the context of environmental crowding, increased perceptions of personal control are related positively to increased pleasure. Other environmental dimensions (e.g., clear signage, good ventilation, adequate space) may also increase perceptions of personal control.

Research also suggests that emotional responses to the environment may be transferred to people and/or objects within the environment (Maslow and Mintz 1956; Mintz 1956; Obermiller and Bitner 1984). In the Obermiller and Bitner study, respondents who viewed retail products in an emotionally pleasing environment evaluated the products more positively than did subjects who viewed the same products in an unpleasing environment. Hence, perceptions of the servicescape appear to have influenced seemingly unrelated feelings about the products.

Other researchers also have emphasized the emotion-eliciting or affective qualities of environments, suggesting that environments can be viewed as aesthetic stimuli capable of eliciting affect (Wohlwill 1976). In his work aimed at explaining the affective assessment of outdoor environments, Kaplan (1987) concluded that preference for or liking of a particular environment can be predicted by three environmental dimensions: complexity, mystery, and coherence. Complexity (visual richness, ornamentation, information rate) has been found consistently to increase emotional arousal, whereas coherence (order, clarity, unity) has been found to enhance positive evaluation (Nasar 1989). In addition, compatibility has been found to influence perceptions of order, and preference has been found to increase with compatibility (Nasar 1987). Compatibility in natural settings refers to how well a place blends in with its surroundings and is related inversely to contrasts (in color, texture, size, and shape) with the natural background; in urban settings compatibility results from replication of features such as materials, style, and overall shapes (Nasar 1989). Other research has shown that people respond positively to nature and prefer natural to manmade elements (Kaplan and Kaplan 1982), whereas the presence of what Nasar (1989) terms environmental "nuisances" has been found to reduce preference and perceptions of quality in urban settings. In urban settings such things as poles, wires, signs, and dilapidated buildings and vehicles are classified as nuisances. Research is needed to define the cues that would determine compatibility and the objects that would be classified as nuisances in service settings.

P<sub>7</sub>: Customer and employee emotional responses to the servicescape can be captured by two dimensions, pleasure and arousal.

- a. Pleasure increases approach behaviors.
  - b. Arousal, except when combined with unpleasantness, increases approach behaviors.
- P<sub>8</sub>: Perceptions of greater personal control in the servicescape increase pleasure.
- P<sub>9</sub>: Complexity in the servicescape increases emotional arousal.
- P<sub>10</sub>: Compatibility, the presence of natural elements, and

PAGE 63

the absence of environmental "nuisances" in the servicescape enhance pleasure.

P<sub>11</sub>: Perceptions of the servicescape and associated positive (negative) emotions can lead to positive (negative) feelings associated with the organization, its people, and its products.

## ***Environment and Physiology***

The perceived servicescape may also affect people in purely physiological ways. Noise that is too loud may cause physical discomfort, the temperature of a room may cause people to shiver or perspire, the air quality may make it difficult to breathe, and the glare of lighting may decrease ability to see and cause physical pain. All of those physical responses may in turn directly influence whether or not people stay in and enjoy a particular environment. For example, it is well known that the relative comfort of seating in a restaurant influences how long people stay. When they become uncomfortable (subconsciously or consciously) sitting on a hard surface in a fast food restaurant, most people leave within a predictable period of time. Similarly, environmental design and related physiological responses affect whether a person can perform his or her job function (e.g., Riley and Cochran 1984).

A vast amount of research in engineering and design has addressed human physiological responses to ambient conditions as well as physiological responses to equipment design (Bennett 1977; Osborne 1987; Sanders and McCormick 1987). Such research fits under the rubric of human factors design or ergonomics. Human factors research systematically applies relevant information about human capabilities and limitations to the design of things and procedures people use. The primary focus and application of the research has been within the military, in space programs, and in the design of computers, automobiles, and employee work stations. Such research has great potential for application in the design of commercial environments, taking into account the effects of design on both customers and employees who coexist and interact in the environment.

In addition to directly affecting behavior, physiological responses may influence seemingly unrelated beliefs and feelings about the place and the people there. Research has shown that when people are physically uncomfortable because of ambient temperature, their affective response to strangers is less positive than when they are physically comfortable (Griffitt 1970). Mehrabian and Russell (1974, ch. 4) review numerous studies of emotional reactions to sensory stimuli such as color, thermal conditions, light intensity, sound, and odors.

P<sub>12</sub>: Positive (negative) physiological responses to the servicescape can result in positive (negative) beliefs and feelings associated with the organization, its people, and its products.

## ***Service Typology and Internal Responses***

Combining the typology of servicescapes (Figure 1) with the conceptual understanding of the internal responses of customers and employees leads to insights for designing and managing the servicescape. For example, a selfservice firm that wants to enhance customer approach behaviors such as attraction and staying longer can assess the environmental dimensions or cues that may elicit particular cognitive, emotional, or physiological responses. Attraction would most likely be facilitated by positive cognitive and emotional responses to the firm's exterior, whereas staying would depend more on positive emotional and physiological responses to the organization's interior space. In measuring the emotion-eliciting qualities of a particular servicescape, attention might be given to emotional dimensions identified by Mehrabian and Russell (pleasure-displeasure and degree of arousal) as well as to perceptions of control (Hui and Bateson 1991).

For interpersonal services, an effective servicescape design anticipates the likely responses of employees and customers to environmental conditions and creates the proper setting for the service encounter. In such cases, several goals and behaviors will be identified for both customers and employees as well as for their interactions. The desired behaviors then can be linked directly to their internal response counterparts. For example, what type of emotional response on the part of customers will be needed to encourage them to interact comfortably with each other as in the case of a Club Med? Or, in the case of a hospital, what beliefs, emotions, and physiological responses will encourage patients to get up and walk around the facility if that is a desired behavior for their recovery?

Because elaborate services (e.g., banks, hospitals, restaurants) consist of many forms and spaces, planning for compatibility and coherence is a particularly challenging task. In lean environments, coherence would be easier to achieve and measure and nuisances easier to identify and eliminate. Similarly, enhancing personal control is more straightforward in remote and self-service firms than in interpersonal service firms, where giving a sense of control to both employees and customers simultaneously may be difficult.

## **Response Moderators**

In general, people respond to environments in the ways described here—cognitively, emotionally, physiologically—and their responses influence how they behave in the environment. As with all behavioral relationships, however, the strength and direction of the relation between variables is moderated by personal and situational factors. Here, and in Figure 2, those factors are referred to as "response moderators."

Studies have shown that individual personality traits

PAGE 64

can influence a person's reaction to his or her physical surroundings (Mehrabian and Russell 1974; Russell and Snodgrass 1987). Arousalseeking is one such trait. Arousalseekers enjoy and look for high levels of stimulation, whereas arousal-avoiders prefer lower levels of stimulation. Thus, an arousal-avoider who found him- or herself in a loud, bright disco with

flashing neon might show strong dislike for the environment whereas an arousal-seeker would be very happy. In a related vein, Mehrabian (1977) proposed that some people are better screeners of environmental stimuli than others. Screeners of stimuli would be able to experience high levels of stimulation, but not be affected by it. In other words, they can ignore external environmental stimulation. Nonscreeners would be highly affected and might exhibit extreme responses even to low levels of stimulation.

An individual's response to an environment often depends on situational factors as well, such as his or her plan or purpose for being in the environment (Russell and Snodgrass 1987; Snodgrass, Russell, and Ward 1988). Though the individual differences in personality traits are *relatively* stable, plans and purposes for being in or seeking out a particular environment may vary from day to day or hour to hour. What the individual notices and remembers about the environment, as well as how he or she feels about it, is influenced by the purpose for being there. In a laboratory study, subjects' knowledge of environmental details and affective response to a place were found to be influenced by what they had planned to do while there—wait, explore, spy, or redecorate (Ward et al. 1988).

In addition to the plan or purpose, each individual enters an environment in a particular mood state (e.g., happy, depressed, lonely, anxious, excited, impatient). Such mood states are likely to affect as well as be differentially affected by variations in physical surroundings (see Gardner 1985). A person who is feeling anxious and fatigued after a frustrating day at work is likely to be affected differently by a highly arousing restaurant environment than he or she would be after a relaxing three-day weekend. Similarly, Harrell and Hutt (1976) suggest that people who are impatient or very time sensitive on entering a retail store are more affected by crowding than those who are patient and not sensitive to time factors.

What an individual expects to find in an environment also affects how the individual responds to the place. In general, when expectations are negatively disconfirmed, the person is likely to dislike the place. The opposite occurs when expectations are met or when the environment exceeds expectations. Expectations vary across individuals on the basis of their past experiences in the environment or in similar environments, as well as what they have heard or read about the place.

P<sub>13</sub>: Personality traits (such as arousal-seeking tendencies and ability to screen environmental stimuli) moderate the relationship between the perceived servicescape and internal responses.

P<sub>14</sub>: Situational factors (such as expectations, momentary mood, plans and purposes for being in the servicescape) moderate the relationship between the perceived servicescape and internal responses.

## **Dimensions of the Servicescape**

A complex mix of environmental features constitute the servicescape and influence internal responses and behaviors. Specifically, the dimensions of the physical surroundings include all of the objective physical factors that can be controlled by the firm to enhance (or constrain) employee and customer actions. Those factors include an endless list of possibilities, such as lighting, color, signage, textures, quality of materials, style of furnishings, layout, wall decor, temperature, and so on. On the basis of a review of diverse literatures, three composite dimensions were identified as being particularly relevant to the present analysis: ambient conditions, spatial layout and functionality, and signs, symbols, and artifacts (see Figure 2). Because the base of research findings is context-specific and therefore not easily generalized, the effect of a single dimension on customers and employees is difficult to forecast. However, relevant dimensions of the servicescape can be

isolated and general patterns can be explored.

Environmental psychologists contend that people respond to their environments holistically. That is, though individuals perceive discrete stimuli, it is the total configuration of stimuli that determines their responses to the environment (Bell, Fisher, and Loomis 1978; Holahan 1982; Ittelson et al. 1974). Hence, though the dimensions of the environment are defined independently here, it is important to recognize that they are perceived by employees and customers as a holistic pattern of interdependent stimuli. Note in Figure 2 that the holistic pattern is reflected in the perceived servicescape construct.

P<sub>15</sub>: Customers and employees perceive the environment holistically, as a composite of three dimensions: ambient conditions; spatial layout and functionality; signs, symbols, and artifacts. Each dimension may affect the overall perception independently and/or through its interactions with the other dimensions.

### ***Ambient Conditions***

Several authors have identified ambient conditions as a factor that affects perceptions of and human responses to the environment (Baker 1987; Baker, Berry, and Parasuraman 1988; Becker 1981; Darley and Gilbert

PAGE 65

1985; Russell and Snodgrass 1987; Sundstrom and Sundstrom 1986; Wineman 1982). Ambient conditions include background characteristics of the environment such as temperature, lighting, noise, music, and scent. As a general rule, ambient conditions affect the five senses. However, sometimes such dimensions may be totally imperceptible (gases, chemicals, infra-sound), yet may have profound effects (Russell and Snodgrass 1987), particularly on employees who spend long hours in the environment.

A very limited number of empirical studies in consumer research confirm that ambient factors may influence customer responses. For example, in studies of restaurants and supermarkets, it has been illustrated that music tempo can affect pace of shopping, length of stay, and amount of money spent (Milliman 1982, 1986). In another study, familiarity of music played in a department store setting was found to affect shopper's perceptions of how long they spent shopping; when the music was unfamiliar to subjects, they believed they had spent more time shopping (Yalch and Spangenberg 1988). Hundreds of studies of the workplace spanning many decades have shown that lighting, temperature, noise, music, and color can all influence employee performance and job satisfaction (see Sundstrom and Sundstrom 1986, Part II, for a review).

P<sub>16</sub>: The effects of ambient conditions on the overall, holistic perception of the servicescape are especially noticeable when they are extreme (e.g., loud music, high temperature), when the customer or employee spends considerable time in the servicescape (e.g., hospital stay vs. visit to dry cleaner), and when they conflict with expectations (e.g., loud music in a law office).

## ***Spatial Layout and Functionality***

Because service encounter environments are purposeful environments (i.e., they exist to fulfill specific needs of consumers, often through the successful completion of employee actions), spatial layout and functionality of the physical surroundings are particularly important. Spatial layout refers to the ways in which machinery, equipment, and furnishings are arranged, the size and shape of those items, and the spatial relationships among them. Functionality refers to the ability of the same items to facilitate performance and the accomplishment of goals. Much of the empirical research in organizational behavior and psychology has illustrated effects of the spatial layout and functionality dimension, always from the employee's point of view (for reviews, see Davis 1984; Sundstrom and Sundstrom 1986; Wineman 1982, 1986). With the exception of some research on retail store layout, crowding (Harrell and Hutt 1976; Harrell, Hutt, and Anderson 1980; Hui and Bateson 1990, 1991), and use of orientation aids (e.g., Levine, Marchon, and Hanley 1984; Seidel 1983; Wener 1985), surprisingly little has been published about the effects of spatial layout and functionality on *customers* in commercial service settings. Logic suggests that spatial layout and functionality of the environment are highly salient to customers in selfservice environments where they must perform on their own and cannot rely on employees to assist them. Similarly, if the tasks to be performed are very complex, efficiency of layout and functionality will be more important than when the tasks are mundane or simple. When either the employees or customers are under time pressure, they will also be highly conscious of the relative ease with which they can perform their tasks in the environment.

P<sub>17</sub>: The effects of spatial layout and functionality are particularly salient in selfservice settings, when the tasks to be performed are complex, and when either the employee or customer is under time pressure.

## ***Signs, Symbols, and Artifacts***

Many items in the physical environment serve as explicit or implicit signals that communicate about the place to its users (Becker 1977, 1981; Davis 1984; Wener 1985; Wineman 1982). Signs displayed on the exterior and interior of a structure are examples of explicit communicators. They can be used as labels (e.g., name of company, name of department), for directional purposes (e.g., entrances, exits), and to communicate rules of behavior (e.g., no smoking, children must be accompanied by an adult). Signage can play an important part in communicating firm image. Signs have even been found to reduce perceived crowding and stress in a jail lobby setting (Wener and Kaminoff 1982).

Other environmental objects may communicate less directly than signs, giving implicit cues to users about the meaning of the place and norms and expectations for behavior in the place. Quality of materials used in construction, artwork, presence of certificates and photographs on walls, floor coverings, and personal objects displayed in the environment can all communicate symbolic meaning and create an overall aesthetic impression. Restaurant managers, for example, know that white table cloths and subdued lighting symbolically convey full service and relatively high prices, whereas counter service, plastic furnishings, and bright lighting symbolize the opposite. In office environments, certain cues such as desk size and placement symbolize status and may be used to reinforce professional image (Davis 1984; McCaskey 1979; Peters 1978; Pfeffer 1981; Sundstrom and Sundstrom 1986). Studies of faculty office design indicate that desk placement, presence of diplomas on the wall, and tidiness of the office can influence students' beliefs about the person occupying the office (Campbell 1979; Morrow and McElroy 1981). In another study of faculty

offices, certain environmental cues were found to be symbolically associated with personality traits of the faculty member believed to occupy the office (Ward, Bitner, and Gossett 1989). Such symbolic and aesthetic communication is extremely complex—it may be intentionally conveyed or it may be accidental, it may be subject to multiple interpretations, and it may have intended and unintended consequences (Becker 1977; Davis 1984).

P<sub>18</sub>: Signs, symbols, and artifacts are particularly important in forming first impressions, for communicating new service concepts, for repositioning a service, and in highly competitive industries where customers are looking for cues to differentiate the organization.

### ***Service Typology and Environmental Dimensions***

In a classic study, Whyte (1980) observed human activity in public spaces and found that even subtle changes in design (e.g., adding plants and flowers, providing comfortable perches) led to a rather dramatic increase in activity and utilization. Similar results might be achieved by examining the direction and flow of activities in a particular servicescape. For example, changes in the layout and furnishings of the service facility can be made to speed the flow of transactions, encourage particular forms of interaction between and among customers and employees, or provide opportunities for customers to linger.

The importance of particular environmental dimensions is likely to vary across the typology of service organizations (Figure 1). For example, for self-service situations such as Ticketron facilities, ATMs, or Golf Land, the spatial layout and functionality dimension of the servicescape is extremely important. Clear directions and simple layout aid the customer in completing the transaction. At the other extreme, for remote services, ambient conditions assume more importance because employees tend to spend extended periods of time in the servicescape. Their physical comfort (temperature level, lighting) and responses to noise level and/or music affect productivity and overall satisfaction. Ambient conditions are similarly important to employee productivity in many interpersonal service businesses such as banks, hospitals, and hotels, but in those cases employee preferences must be balanced against customer needs. These are just a few of many possible examples.

Rather than a single element, it is ultimately the total configuration of environmental dimensions that defines the servicescape.

### **Managerial Implications**

By isolating the impact of the servicescape on both customers and employees, the theoretical framework raises several challenging managerial implications. The overall conclusion is that through careful and creative management of the servicescape, firms may be able to contribute to the achievement of both external marketing goals and internal organizational goals. Many specific implications are discussed in preceding sections; some general strategic observations are offered here.

The typology of service organizations combined with the theoretical framework suggests that the physical environment may assume a variety of strategic roles in services marketing and management. First, the servicescape provides a visual metaphor for an organization's total offering. In other words, the dimensions of the servicescape act as a package, similar to a product's package, by conveying a total image and suggesting the potential usage and

relative quality of the service (Solomon 1985). Yet, the care given to product package design is commonly lacking in service "package" design. Second, the servicescape can assume a facilitator role by either aiding or hindering the ability of customers and employees to carry out their respective activities. The floorplan, layout of equipment, and equipment design can have a major impact on the ability of users to complete their tasks and achieve their service goals. As a facilitator, the servicescape can also encourage and nurture particular forms of social interaction among and between employees and customers. Finally, the physical environment can serve as a differentiator in signaling the intended market segment, positioning the organization, and conveying distinctiveness from competitors. Each of the roles can be shaped to a significant degree to support important services marketing and management objectives of the organization.

The typology of service organizations (Figure 1) and the theoretical framework (Figure 2) help to direct managers to relevant issues and questions that should be asked in forming servicescape strategy around the basic roles. In addition, service organizations can gain strategic insights by examining how the servicescape is designed and managed in other industries that occupy the same cell in the typology and thus share similar characteristics.

To secure strategy advantages from the service-scape, the needs of ultimate users and the requirements of various functional units must be incorporated into environmental design decisions. The services marketing manager must be a strong advocate for using the servicescape as an element of the organization's strategy. Yet, in most organizations, environmental management is a separate function performed by persons with titles such as "environmental space manager," "facility planner," and "facility manager" (Becker 1981; Davis and Szigeti 1982). In many organizations, environmental decisions are made routinely

PAGE 67

without much attention to the impact on employee (or consumer) behavior (Becker 1981, p. 5). A clear implication of the conceptual framework (Figure 2) is the need for crossfunctional cooperation in decision making about service environments. "Facility planning and management ... is a problem-solving activity that lies on the boundaries between architecture, interior-space planning and product design, organizational [and consumer] behavior, planning and environmental psychology" (Becker 1981, p. 7). As such, decisions about the physical facility can have an impact on human resource goals (e.g., worker retention, worker productivity), operations goals (e.g., efficiency, cost reduction), and marketing goals (e.g., consumer attraction, consumer satisfaction). Ideally, therefore, major changes in physical design or the planning of new environments should benefit from input from managers in all three areas, grounded in direct input from actual users—that is, employees and customers.

## **Research Implications**

The conceptual framework and the servicescape typology suggest a wide range of research possibilities. Given the scarcity of research reported in the consumer behavior and marketing literature, there is a tremendous opportunity for theory building, empirical testing, development of better measures and methods, and application/replication of findings from other fields. Figure 2 and the preceding specific propositions provide numerous starting points for research. The propositions are purposefully general. Each one could be explored and expanded through empirical research. For example, given a specific commercial environment, how does a consumer's (or employee's) purpose for being there affect the person's response to the place? That question addresses the moderating effects of situational factors in determining environmental responses. Alternatively, one could start with

a particular social interaction behavior such as teamwork among employees and work back through the framework to discover the types of internal responses and relevant environmental dimensions that would encourage such behavior. In addition to the basic research suggested by the framework and propositions, there is a need for research that will illuminate the differential importance and differential affects of physical surroundings across types of service industries such as those identified in Figure 1. Research opportunities also are available in exploring the ability of the physical environment to achieve particular objectives of the firm, and at what cost.

In many cases, extensive work in environmental psychology and organizational behavior (e.g., the stream of research by Russell and his colleagues and the review of workplace research by Sundstrom and Sundstrom 1986) can be applied and extended into the consumer service setting. In other cases, as in the effects of the environment on social interactions among customers and employees, the fact that there is relatively little empirical work in any field to draw on allows for true pioneering research to be done.

Given the complexity of environment/behavior relationships, a variety of methods will be appropriate (see Bechtel, Marans, and Michelson 1987). Direct observation of environmental conditions and customer and employee behaviors may be most appropriate in some cases—for example, in research on the effect of facility layout options on customer/employee interaction patterns. The application of direct observation methods has just recently gained acceptance in the marketing literature (e.g., Belk, Sherry, and Wallendorf 1988; Belk, Wallendorf, and Sherry 1989), but has not yet been applied to the observation of consumption environments (for an exception, see Sherry and McGrath 1989). Using observation methods, trained observers could make detailed accounts of current environmental conditions (i.e., environmental dimensions in Figure 2) and the actual behaviors of the occupants. Such observations could be extremely detailed and useful in an applied sense in redesigning a facility or in comparing environments. For theory development, direct observation could be the source of additional propositions.

Experimental methods and surveys also would be appropriate for assessing the impact of design dimensions on consumers and employees. Because of the expense involved in constructing actual environments, some form of simulated environment (verbal descriptions, photos/slides, scale models, videos) could be used in experimental studies (see Bechtel, Marans, and Michelson 1987, ch. 5). The environmental psychology tradition has shown that simulated environments work well in achieving generalizable results (Nasar 1989). In designing experiments, the researcher should recall that people perceive environments holistically. It may be necessary to vary several environmental dimensions (e.g., artifacts, layout, color, tidiness) simultaneously to achieve an overall perception of the surroundings that will significantly influence behavior. User surveys are likely to be most appropriate in assessing basic customer/employee needs and preferences prior to the design of experimental simulations, and later for postdesign evaluation.

For both experiments and surveys, applicable response measures are needed. If one uses Figure 2 as a guide, appropriate measures of cognitive, emotional, and physiological response to environments are needed, as well as measures of relevant individual differences. Though several standardized measures already are available (e.g., Lemke et al. 1979; McKechnie

PAGE 68

1974; Mehrabian 1977; Russell and Snodgrass 1987), most have not been applied to

consumers in commercial settings, thus opening an opportunity for replication and assessment of generalizability. Other, more novel approaches to measuring customer and employee responses to environments also could be considered. For example, Ward, Bitner, and Gossett (1989) suggest an approach to measuring the symbolic meaning of service environments that adapts and extends ideas from research on object meaning (Kleine and Kernan 1988; Szalay and Deese 1978).

The typology, framework, and propositions provide direction for research on a topic that is incredibly rich, and invite application of the full range of consumer and organizational methods and theories to gain a better understanding of its impact.

## REFERENCES

Baker, Julie (1987), "The Role of the Environment in Marketing Services: The Consumer Perspective," in *The Services Challenge: Integrating for Competitive Advantage*, John A. Czepiel, Carole A. Congram, and James Shanahan, eds. Chicago: American Marketing Association, 79-84.

\_\_\_\_\_, Leonard L. Berry, and A. Parasuraman (1988), "The Marketing Impact of Branch Facility Design," *Journal of Retail Banking*, 10 (2), 33-42.

Barker, Roger G. (1968), *Ecological Psychology*. Stanford, CA: Stanford University Press.

Bechtel, Robert B., Robert W. Marans, and William Michelson (1987), *Methods in Environmental and Behavioral Research*. New York: Von Nostrand Reinhold Company, Inc.

Becker, Franklin D. (1977), *Housing Messages*. Stroudsburg, PA: Dowden, Hutchinson & Ross, Inc.

----- (1981), *Workspace*. New York: Praeger Publishers.

Belk, Russell W., John F. Sherry, Jr. and Melanie Wallendorf (1988), "A Naturalistic Inquiry Into Buyer and Seller Behavior at a Swap Meet," *Journal of Consumer Research*, 14 (March), 449-70.

-----, Melanie Wallendorf, and John F. Sherry, Jr. (1989), "The Sacred and the Profane in Consumer Behavior: Theodicy on the Odyssey," *Journal of Consumer Research*, 16 (June), 1-38.

Bell, Paul, J. D. Fisher, and R. J. Loomis (1978), *Environmental Psychology*. Philadelphia: W. B. Saunders Co.

Bennett, Corwin (1977), *Spaces for People, Human Factors in Design*. Englewood Cliffs, NJ: Prentice-Hall, Inc.

Bennett, David J. and Judith D. Bennett (1970), "Making the Scene," in *Social Psychology Through Symbolic Interactionism*, G. Stone and H. Farberman, eds. Waltham, MA: Ginn-Blaisdell, 190-6.

Berry, Leonard L. and Terry Clark (1986), "Four Ways to Make Services More Tangible," *Business* (October-December), 53-4.

Bitner, Mary Jo (1986), "Consumer Responses to the Physical Environment in Service Settings," in *Creativity in Services Marketing*, M. Venkatesan, Diane M. Schmalensee, and Claudia Marshall, eds. Chicago: American Marketing Association, 89—93.

----- (1990), "Evaluating Service Encounters: The Effects of Physical Surroundings and Employee Responses," *Journal of Marketing*, 54 (April), 69—82.

Booms, Bernard H. and Mary J. Bitner (1982), "Marketing Services by Managing the Environment," *Cornell Hotel and Restaurant Administration Quarterly*, 23 (May), 35—9.

Broadbent, Geoffrey, Richard Bunt, and Charles Jencks (1980), *Signs, Symbols and Architecture*. New York: John Wiley & Sons, Inc.

Campbell, David E. (1979), "Interior Office Design and Visitor Response," *Journal of Applied Psychology*, 64 (6), 648-53.

Crosby, Lawrence A., Kenneth R. Evans, and Deborah Cowles (1990), "Relationship Quality in Services Selling: An Interpersonal Influence Perspective," *Journal of Marketing*, 54 (July), 68-81.

Darley, John M. and Daniel T. Gilbert (1985), "Social Psychological Aspects of Environmental Psychology," in *Handbook of Social Psychology*, 3rd ed., Vol. II, Gardner Lindzey and Elliot Aronson, eds. New York: Random House, Inc., 949-91.

Davis, Gerald and Francoise Szigeti (1982), "Planning and Programming Offices: Determining User Requirements," *Environment and Behavior*, 14(3), 302-4, 306-15.

Davis, Tim R. V. (1984), "The Influence of the Physical Environment in Offices," *Academy of Management Review*, 9 (2), 271-83.

Donovan, Robert and John Rossiter (1982), "Store Atmosphere: An Environmental Psychology Approach," *Journal of Retailing*, 58 (Spring), 34-57.

Forgas, Joseph P. (1979), *Social Episodes*. London: Academic Press, Inc.

Gardner, Meryl P. (1985), "Mood States and Consumer Behavior: A Critical Review," *Journal of Consumer Research*, 12 (December), 281-300.

----- and George J. Siomkos (1986), "Toward a Methodology for Assessing Effects of In-Store Atmospheric," *Advances in Consumer Research*, Vol. 13, Richard J. Lutz, ed. Ann Arbor, MI: Association for Consumer Research, 27-31.

Golledge, Reginald G. (1987), "Environmental Cognition," in *Handbook of Environmental Psychology*, Vol. 1, Daniel Stokols and Irwin Altman, eds. New York: John Wiley & Sons, Inc., 131-74.

Griffitt, William (1970), "Environmental Effects on Interpersonal Affective Behavior: Ambient Effective Temperature and Attraction," *Journal of Personality and Social Psychology*, 15 (3), 240-4.

Harrell, Gilbert D. and Michael D. Hutt (1976), "Crowding in Retail Stores," *MSU Business Topics* (Winter), 33-9. -----, -----, and James C. Anderson (1980), "Path Analysis of Buyer Behavior Under Conditions of Crowding," *Journal of Marketing Research*, 17 (February), 45-51.

Holahan, Charles J. (1982), *Environmental Psychology*. New York: Random House, Inc.

----- (1986), "Environmental Psychology," *Annual Review of Psychology*, 381—407.

Hui, Michael K. M. and John E. G. Bateson (1990), "Testing a Theory of Crowding in the Service Environment," *Advances in Consumer Research*, Vol. 17, Marvin E. Goldberg, Gerald Gorn, and Richard W. Pollay, eds. Ann Arbor, MI: Association for Consumer Research, 866—73.

-----and----- (1991), "Perceived Control and the Effects of Crowding and Consumer Choice on the Service Experience," *Journal of Consumer Research*, 18 (2), 174—84.

Ittelson, William H., Harold M. Proshansky, Leanne G. Rivlin, and Gary H. Winkel (1974), *An Introduction to Environmental Psychology*. New York: Holt, Rinehart and Winston, Inc.

Kaplan, Stephen (1987), "Aesthetics, Affect, and Cognition," *Environment and Behavior*, 19 (January), 3-32.

----- and Rachel Kaplan (1982), *Cognition and Environment*. New York: Praeger Publishers.

Kleine, Robert E. and Jerome B. Kernan (1988), "Measuring the Meaning of Consumption Objects: An Empirical Investigation," *Advances in Consumer Research*, Vol. 15, Michael J. Houston, ed. Provo, UT: Association for Consumer Research, 498—504.

Kotler, Phillip (1973), "Atmospherics as a Marketing Tool," *Journal of Retailing*, 49 (4), 48-64.

Lemke, S., R. Moos, B. Mehren, and M. Ganvain (1979), *Multiphasic Environment Assessment Procedure (MEAP): Handbook for Users*. Palo Alto, CA: Social Ecology Laboratory.

Levine, Marvin, Iris Marchon, and Gerard Hanley (1984), "The Placement and Misplacement of You-Are-Here Maps," *Environment and Behavior*, 16 (March), 139—57.

Loken, Barbara and James Ward (1990), "Alternative Approaches to Understanding the Determinants of Typicality," *Journal of Consumer Research*, 17 (September), 111-26.

Lovelock, Christopher H. (1983), "Classifying Services to Gain Strategic Insights," *Journal of Marketing*, 47 (Summer), 9-20.

Maslow, A. L. and N. L. Mintz (1956), "Effects of Esthetic Surroundings," *Journal of Psychology*, 1 (41), 247-54.

McCaskey, Michael B. (1979), "The Hidden Messages Managers Send," *Harvard Business Review*, 57 (November-December), 135-48.

McKechnie, G. E. (1974), *Manual for the Environment Response Inventory*. Palo Alto, CA: Consulting Psychologists Press.

Mehrabian, Albert (1977), "Individual Differences in Stimulus Screening and Arousability," *Journal of Personality*, 45 (2), 237-50.

-----and James A. Russell (1974), *An Approach to Environmental Psychology*. Cambridge, MA: Massachusetts Institute of Technology.

Mervis, C. and E. Rosch (1981), "Categorization of Natural Objects," *Annual Review of Psychology*, M. R. Rosen-sweig and L. W. Porter, eds. Palo Alto, CA: Annual Reviews, Inc. 32, 89-115.

Milliman, Ronald (1982), "Using Background Music to Affect the Behavior of Supermarket Shoppers," *Journal of Marketing*, 46 (Summer), 86-91.

----- (1986), "The Influence of Background Music on the Behavior of Restaurant Patrons," *Journal of Consumer Research*, 13 (September), 286-9.

Mintz, Norbett L. (1956), "Effects of Esthetic Surroundings II: Prolonged and Repeated Experience in a 'Beautiful' and an 'Ugly' Room," *Journal of Psychology*, 41, 459-66.

Morrow, Paula C. and James C. McElroy (1981), "Interior Office Design and Visitor Response: A Constructive Replication," *Journal of Applied Psychology*, 66 (5), 646—50.

Nasar, Jack L. (1987), "Effect of Sign Complexity and Coherence on the Perceived Quality of Retail Scenes," *Journal of the American Planning Association*, 53 (4), 499— 509.

----- (1989), "Perception, Cognition, and Evaluation of Urban Places," in *Public Places and Spaces*, Irwin Altman and Ervin H. Zube, eds. New York: Plenum Press, 31-56.

Obermiller, Carl and Mary Jo Bitner (1984), "Store Atmosphere: A Peripheral Cue for Product Evaluation," in *American Psychological Association Annual Conference Proceedings, Consumer Psychology Division*, David C. Stewart, ed. American Psychological Association, 52-3.

Osborne, David J. (1987), *Ergonomics at Work*, 2nd ed. New York: John Wiley & Sons, Inc.

Peters, Thomas J. (1978), "Symbols, Patterns, and Settings: An Optimistic Case for Getting Things Done," *Organizational Dynamics*, 7 (Autumn), 3—23.

Pfeffer, Jeffrey (1981), "Management as Symbolic Action: The Creation and Maintenance of Organizational Paradigms," *Research in Organizational Behavior*, 3, 1—52.

Rapoport, Amos (1982), *The Meaning of the Built Environment*. Beverly Hills, CA: Sage Publications, Inc.

Riley, M. W. and D. J. Cochran (1984), "Dexterity Performance and Reduced Ambient Temperature," *Human Factors*, 26 (2), 207-14.

Ruesch, Jurgen and Weldon Kees (1956), *Nonverbal Communication*. Berkeley and Los Angeles: University of California Press.

Russell, James A. and U. F. Lanius (1984), "Adaptation Level and the Affective Appraisal of Environments," *Journal of Environmental Psychology*, 4 (2), 119—35.

----- and Geraldine Pratt (1980), "A Description of the Affective Quality Attributed to Environments," *Journal of Personality and Social Psychology*, 38 (2), 311-22.

----- and Jacalyn Snodgrass (1987), "Emotion and the Environment," in *Handbook of Environmental Psychology*, Vol. 1, Daniel Stokols and Irwin Altman, eds. New York: John Wiley & Sons, Inc., 245-81.

----- and Lawrence M. Ward (1982), "Environmental Psychology," *Annual Review of Psychology*, 651-88.

Sanders, Mark S. and Ernest J. McCormick (1987), *Human Factors in Engineering and Design*. New York: McGraw-Hill Book Company.

Schmenner, Roger W. (1986), "How Can Service Businesses Survive and Prosper?" *Sloan Management Review*, 27 (Spring), 21-32.

Seidel, A. (1983), "Way Finding in Public Space: The Dallas-Ft. Worth, U.S.A. Airport," in *Proceedings of the Fourteenth International Conference of the Environmental Design Research Association*, D. Aneseo, J. Griffen, and J. Potter, eds. Lincoln, NB: Environmental Design Research Association.

Sherry, John F., Jr. and Mary Ann McGrath (1989), "Unpacking the Holiday Presence: A Comparative Ethnography of Two Gift Stores," in *Interpretive Consumer Behavior*, Elizabeth C. Hirschman, ed. Provo UT: Association for Consumer Research, 148—67.

Shostack, G. Lynn (1977), "Breaking Free From Product Marketing," *Journal of Marketing*, 41 (April), 73-80.

Snodgrass, Jacalyn, James A. Russell, and Lawrence M. Ward (1988), "Planning, Mood and Place-Liking," in *Journal of Environmental Psychology*, 8 (3), 209-22.

Solomon, Michael R. (1985), "Packaging the Service Provider," *Services Industries Journal*, 5 (July), 64-71.

PAGE 70

Sommer, R. (1974), *Tight Spaces: Hard Architecture and How to Humanize It*. Englewood Cliffs, NJ: Prentice-Hall, Inc.

Steele, Fritz (1986), *Making and Managing High-Quality Workplaces*. New York: Teachers College Press.

Stokols, Daniel and Irwin Altman (1987), *Handbook of Environmental Psychology*. New York: John Wiley & Sons, Inc.

Sundstrom, Eric and Irwin Altman (1989), "Physical Environments and Work-Group Effectiveness," *Research in Organizational Behavior*, 11, 175-209.

\_\_\_\_\_ and Mary Graehl Sundstrom (1986), *Work Places*. Cambridge, UK: Cambridge University Press.

Szalay, Lorand B. and James Deese (1978), *Subjective Meaning and Culture: An Assessment Through Word Associations*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Upah, Gregory D. and James N. Fulton (1985), "Situation Creation in Services Marketing," in *The Service Encounter*, John Czepiel, Michael Solomon, and Carol Surprenant, eds. Lexington, MA: Lexington Books, 255—64.

Ward, James C., Mary Jo Bitner, and John Barnes (1992), "Measuring the Prototypicality and Meaning of Retail Environments," *Journal of Retailing*, forthcoming.

-----, -----, and Dan Gossett (1989), "SEEM: Measuring the Meaning of Service Environments," in *Designing a Winning Service Strategy*, Mary Jo Bitner and Lawrence A.

Crosby, eds. Chicago: American Marketing Association, 34-9.

Ward, Lawrence M., Jacalyn Snodgrass, Barry Chew, and James A. Russell (1988), "The Role of Plans in Cognitive and Affective Responses to Places," *Journal of Environmental Psychology*, 8 (1), 1-8.

Wener, Richard E. (1985), "The Environmental Psychology of Service Encounters," in *The Service Encounter*, John Czepiel, Michael Solomon, and Carol Surprenant, eds. Lexington, MA: Lexington Books, 101-12.

----- and Robert Kaminoff (1982), "Improving Environmental Information: Effects of Signs on Perceived Crowding and Behavior," *Environment and Behavior*, 14 (6), 671-94.

Whyte, William H. (1980), *The Social Life of Small Urban Spaces*. Washington, DC: The Conservation Foundation.

Wineman, Jean D. (1982), "Office Design and Evaluation," *Environment and Behavior*, 14 (3), 271—98.

----- (1986), *Behavioral Issues in Office Design*. New York: Van Nostrand Reinhold Co.

Wohlwill, Joachim F. (1976), "Environmental Aesthetics: The Environment as a Source of Affect," in *Human Behavior and Environment*, Vol. 1, Irwin Altman and Joachim F. Wohlwill, eds. New York: Plenum Press.

Yalch, Richard F. and Eric Spangenberg (1988), "An Environmental Psychological Study of Foreground and Background Music as Retail Atmospheric Factors," in *Efficiency and Effectiveness in Marketing, 1988 AMA Educators' Proceedings*, Gary Frazier et al., eds. Chicago: American Marketing Association, 106-10.

Zeithaml, Valarie (1981), "How Consumer Evaluation Processes Differ Between Goods and Services," in *Marketing of Services*, James H. Donnelly and William R. George, eds. Chicago: American Marketing Association, 186—90.

----- (1988), "Consumer Perceptions of Price, Quality, and Value: A Means-End Model and Synthesis of Evidence," *Journal of Marketing*, 52 (July), 2—22.

-----, A. Parasuraman, and Leonard L. Berry (1985), "Problems and Strategies in Services Marketing," *Journal of Marketing*, 49 (Spring), 33—46.

**Reprint No. JM562104**