SERVICESCAPE’S HIERARCHICAL FACTOR STRUCTURE MODEL

Roscoe Hightower, Jr. & Mohammad Shariat
School of Business and Industry, Florida A&M University

ABSTRACT

The researchers introduce and test a hierarchical factor structure research model that suggests the servicescape construct has an overall level, a dimension level, and a subdimension level. In order to ensure the best possible cross-validation and generalizability, the researchers use data collected from 1,826 consumers in ten different service industries to test the hypothesis. Several different construct measurement tests are used. The hypothesized hierarchical servicescape construct factor structure model is supported by the results. As such, this manuscript introduces a parsimonious and generalizable exploratory servicescape assessment instrument.

Jel: M31, L80, L81, L82, L84

Keywords: Servicescape, Hierarchical, Assessment, Consumer, Service Encounter

“Its [servicescape’s] marketing impact cannot be understated, yet theoretical and practical knowledge of the servicescape is relatively meager when compared to knowledge of other marketing variables.” (Bitner, 2000, p.37, [ ] word not contained in original work)

INTRODUCTION

As marketers struggle to identify strategies to retain existing and gain new customers in the twenty-first century, they are finding it increasingly difficult to differentiate their organizations simply on the basis of price, promotional efforts, product selections, and service. Consequently, managers searching for other options have recognized the dramatic impact of the physical environment. Specifically, the physical environment has been linked to customers’ satisfaction (cf., Bitner, 1990; Harrell, Hutt, and Anderson, 1980), value attributions, and loyalty, as well as the willingness to buy (cf., Milliman, 1982, 1986; Smith and Curnow, 1966). The in-store environment is becoming a critical means of differentiating organizations and thereby has become a focal concern of researchers and practitioners. This concern, however, is especially great for service organizations because the service product is generally produced and consumed within the firm’s physical environment – often known as its servicescape (Bitner, 1992). Consumers’ decision-making thus may be more affected by the physical environment when the object of their consumption is a service, particularly one where there is little or no other tangible evidence for customers to evaluate.

The importance attributed by managers to the investigation of servicescape effects on consumers is further understood if the resources invested in such facilities are considered. For
example, in a frequently aired advertisement, Holiday Inns describe their “…more than a billion dollar investment…” in room renovations to motivate consumers to use their accommodations. Universal Studios of Florida is investing over three billion dollars in new physical facilities. Since 2000, more professional sports teams in the United States have, or will have, new facilities than during any previous ten-year period. Restaurants and hospitals have made similar investments in physical facilities. Moreover, such traditional goods resellers as department stores, supermarkets, booksellers, and mass merchandisers are dramatically increasing their investments in such service related facilities as pharmacies, financial centers, fast-food outlets, coffee shops, florists, and optometry clinics. Even sports organizations (i.e., the Dallas Cowboys, San Francisco 49ers, Seattle Seahawks, and Arizona Cardinals) have dramatically altered the traditional scope of their facilities to include more consumer friendly retail-shopping areas.

In spite of the acknowledged interest in the servicescape and its importance in achieving a competitive advantage, little systematic effort has been made to investigate the relationship of the physical environment with major service encounter outcome variables like desire to stay and repurchase intentions (i.e., Hightower, Brand, and Bourdeau, 2006; Keillor, Hult, and Kandemir, 2004; Rosenbaum, 2005; Hightower, Brady, and Baker, 2002; Bitner, 2000). One of the primary reasons for the lack of empirical research regarding an organization’s physical environment is the lack of a common means to define and evaluate the physical environment.

Given the magnitude of the expenditures made for facilities, and the importance of the exchange environment in consumers’ decision-making processes, we posit that a research path should be started to appropriately conceptualize and assess servicescape perceptions in the marketing literature.

It is also vital that managers understand how consumers evaluate the physical environment, and its effects on purchase and consumption decisions. For example, how important are such facilities? Do consumers stay longer and spend more in attractive facilities? What makes a facility attractive to consumers? Answers to all these questions, and others suggest a further need to investigate the servicescape’s influence on the consumer decision-making processes (i.e., Rosenbaum, 2005; Bitner, 2000). We offer this manuscript as an exploratory servicescape contribution to the services marketing literature. Almost a decade into the 21st century there is still relatively little empirically known, about how to in general, reliably and validly conceptualize a company’s servicescape that is standardized across multiple industries.

Our objective is to provide an initial servicescape assessment instrument that “…exhibits good reliability and predictive validity…” as called for by Bitner (2000, p. 45). In addition, we suggest that the initial instrument should be a simple tool that both academics and practitioners can use to better understand and analyze the impact of the physical environment on consumers’ decision-making processes. An equally important contribution for this investigation is the ability to ensure that investments made in physical facilities are done with an improved understanding of the roles these facilities may have in consumers’ decision-making.

The manuscript is organized in five sections. First, the authors suggest the importance of the servicescape to consumers by citing seminal services marketing articles that support this
rationale. This is important because the lay reader may not realize the true complexity of the services environment. Second, a review of the literature is provided to specify the construct’s domain, and to familiarize the reader with background of the servicescape construct. Third, we use the extant literature to operationalize the construct; then we use Dabholkar, Thorpe, and Rentz’s (1996) hierarchical factor structure methodology as depicted in Figures 1, 2, 3, and 4 to test the servicescape construct’s unidimensionality along with its convergent and discriminant validity. Fourth, the reliability and validity results are presented in the statistical findings section. We conclude and offer our remarks as well as potential study limitations along with avenues for future research.

LITERATURE REVIEW

The effects of atmospherics, the physical design and décor of physical facilities, on consumers’ decision making are widely acknowledged by managers and discussed in virtually every marketing text. Nearly forty years ago, Kotler (1973) suggested that “…where goods and services are intended for specific social classes or lifestyle groups, the vendors try to create an overall atmosphere suggestive of that market segment. The atmosphere provides cues as to the intended market segment and also enters as part of the consumption product …” (p. 53). Yet, in the marketing literature surprisingly relative little evidence of a substantial effort to investigate or explain the role of the physical environment on consumer decision-making exists (Bitner, 2000). This omission is surprising given the attention evident in the services marketing literature relative to consumers’ perceptions of other key constructs like service quality (see Exhibit 1 for a selected historical summary of the immense literature on measuring the service quality construct). There are many other services marketing articles measuring the service quality construct that are not included in Exhibit 1 (cf., Bolton and Drew, 1991; Gotlieb, Grewal, and Brown, 1994; Iacobucci, Grayson, and Ostrom, 1994; Kelley and Hoffman, 1997; Parasuraman, Zeithaml, and Berry, 1993, 1994; Dabholkar, Thorpe, and Rentz, 1996; Spreng and Mackoy, 1996; Voss, Parasuraman, and Grewal, 1998; Cronin and Brady, 2001). These articles’ mere existence helps to highlight the overall lack of extant empirical research relating to the servicescape construct.

Recently, however, some attention has been directed toward the physical environment because of its potential impact on service-based transactions (i.e., Hightower, Brand, and Bourdeau, 2006; Rosenbaum, 2005; Keillor, Hult, and Kandemir, 2004; Hightower, Brady, and Baker, 2002; Bitner, 2000; Cronin, Hightower, and Hult, 1998; Hightower, 1997). In service encounters, the literature suggests that consumers use the exchange environment as a tangible cue to predict the quality inherent in a service offering (cf., Berry and Clark, 1986; Shostack, 1977, 1987; Parasuraman, Zeithaml, and Berry, 1985). As such, there generally are fewer intrinsic cues for consumers to use in forming beliefs about the service quality. The literature suggests that the servicescape may serve as a differentiating factor in signaling quality to target markets (i.e., Hightower, Brand, and Bourdeau, 2006; Rosenbaum, 2005; Keillor, Hult, and Kandemir, 2004; Hightower, Brady, and Baker, 2002; Bitner, 2000; Cronin, Hightower, and Hult, 1998; Hightower, 1997). Rosenbaum (2005) suggests, “…ethnic consumers respond to a symbolic servicescape” (p 257). This can enable managers to more effectively position the service organization so as to convey the firm’s distinctiveness from competitors.
Figure 1: Servicescape: Proposed Hierarchical Factor Structure Model

Figure 2: Servicescape: Three Basic Dimensions

Key: $A_1 = E_9 + E_{10} + E_{11} + E_{12} + E_{13} + E_{14}$
$A_2 = E_{15} + E_{16} + E_{17} + E_{18} + E_{19}$
$A_3 = E_{20} + E_{21} + E_{22} + E_{23}$
$A_4 = E_1 + E_2 + E_3 + E_4$
$A_5 = E_5 + E_6 + E_7 + E_8$

E- represents the initial 23 Servicescape items
Servicescape’s Hierarchical Factor Structure Model

Figure 3: Servicescape: Second Order Factor to the Three Basic Dimensions

Figure 4: Servicescape: The Subdimensions
## Exhibit 1: Selected Historical Summary of Seminal Service Quality Construct Measurement Articles

<table>
<thead>
<tr>
<th>Study</th>
<th>Research Type</th>
<th>Sample</th>
<th>Methodology</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parasuraman, Zeithaml, and Berry 1985</td>
<td>Conceptual</td>
<td>14 corporate executives, 12 Focus Groups</td>
<td>Qualitative analysis techniques.</td>
<td>Introduce a gap model of service quality that suggests 5 key discrepancies between managerial &amp; customer perceptions of service quality. Ten dimensions of service quality are identified.</td>
</tr>
<tr>
<td>Parasuraman, Zeithaml, and Berry 1988</td>
<td>Empirical</td>
<td>Two data collection that included 200 randomly selected customers.</td>
<td>Utilized Churchill’s (1979) iterative scale development process which includes coefficient alpha, item-to-total correlation &amp; factor analysis. ANOVA was used to assess construct validity.</td>
<td>Introduce a pair of 22 items scales called SERVQUAL which were designed to measure the consumer’s perception of service quality. This study started the modern study of service quality.</td>
</tr>
<tr>
<td>Parasuraman, Zeithaml, and Berry 1991</td>
<td>Empirical</td>
<td>1,936 telephone repair, retail banking, and insurance customers</td>
<td>Exploratory factor analysis with an oblique rotation was used to analyze the factor structure of SERVQUAL. Coefficient alpha was used to assess the reliability of the revised scale. Multiple regression was used to assess the predictive validity of the revised &amp; alternative scales.</td>
<td>The performance alternative scale explained more of the variance of service quality than revised SERVQUAL which calls to question the relevance of expectation items. The 5 factor structure was not empirically supported.</td>
</tr>
<tr>
<td>Carman 1990</td>
<td>Empirical</td>
<td>200 tire store customers</td>
<td>Factor analysis, item-to-total correlations, and coefficient alpha</td>
<td>SERVQUAL items do not load on their expected factors. SERVQUAL demonstrates lack of construct validity, reliability &amp; Carman was unable to replicate original findings &amp; questions the generalizability of the scale across industries.</td>
</tr>
<tr>
<td>Cronin and Taylor 1992</td>
<td>Empirical</td>
<td>660 surveys gathered across the banking, pest control, dry cleaning &amp; fast food industries</td>
<td>Multiple regression was used to determine the amount of variation each scale explains relative to an overall measure of service quality. LISREL VII was used to assess the dimensionality &amp; degree of fit for the scales &amp; investigate the causal order of service quality, satisfaction &amp; purchase intentions.</td>
<td>SERVPERF consistently outperforms SERVQUAL &amp; the empirical evidence supports the hypothesized service quality -&gt; satisfaction relationship.</td>
</tr>
<tr>
<td>Cronin and Taylor 1994</td>
<td>Conceptual</td>
<td>NA</td>
<td>The authors use a point counter point technique to respond to all criticisms</td>
<td>Clarified (1) that Cronin and Taylor 1992 do not conclude that it is unnecessary to measure customer expectations in service quality research, (2) performance-minus- expectations is an inappropriate basis for use in the measurement of service quality, (3) service quality does affect purchase intentions, (4) consumer satisfaction exerts a stronger influence on purchase intentions than does service quality, (5) the SERVQUAL gap measure is analogous to the inferential disconfirmation measure, thus it does not measure service quality or consumer satisfaction.</td>
</tr>
<tr>
<td>Babakus and Boller 1992</td>
<td>Empirical</td>
<td>593 randomly selected utility customers</td>
<td>Simple correlation was used to assess expectation contributions, factor analysis was used to assess the factor dimensionality &amp; effects of negative wording. Coefficient alpha was used to assess scale reliability.</td>
<td>Negatively worded items are the basis of factor structure problems. Carman (1990) &amp; Cronin and Taylor (1992) studies are confirmed regarding questionable validity, reliability &amp; inconsistent factor structure.</td>
</tr>
<tr>
<td>Brown, Churchill, and Peter 1993</td>
<td>Empirical/Conceptual</td>
<td>Retail banking industry via 230 undergraduate business students</td>
<td>Factor analysis was used to investigate the scales’ factor structure. Correlation with an overall service quality measure was used to assess the variance explained by competing scales. Coefficient alpha was used to assess scale reliability.</td>
<td>The removal of difference scores improves the model’s explanatory power. Difference score utilization is responsible for cause problems with service quality measurement.</td>
</tr>
<tr>
<td>Teas 1993</td>
<td>Empirical</td>
<td>120 retail store customers randomly selected</td>
<td>Pair wise correlation was used to analyze the 2 models &amp; overall service quality. Content analysis was used to determine the similarity between SERVQUAL &amp; Teas’ model</td>
<td>The variance explained by 22 expectation items in SERVQUAL is due to various error. These items lack discriminant validity in regard to attribute importance, ideal points &amp; performance forecasts.</td>
</tr>
<tr>
<td>Zeithaml, Berry, and Parasuraman 1996</td>
<td>Empirical/Conceptual</td>
<td>3,069 questionnaires from 4 different service industries, computer manufacturer, retail store chain, automobile insurer &amp; life insurer</td>
<td>Multiple regression, factor analysis, ANOVA &amp; coefficient alpha</td>
<td>The behavioral &amp; financial consequences of service quality have been conceptualized. An improved behavioral-intentions battery was developed &amp; an increased understanding of the quality-intentions link at different service levels relative to customer’s expectations. The authors prefer to use a performance only measure of service quality rather than SERVQUAL thus effectively supporting performance only conceptualization &amp; measurement rather than the gap model paradigm.</td>
</tr>
</tbody>
</table>
The servicescape is defined herein as everything that is physically present around the consumer during the service encounter transaction (c.f., Hightower, Brand, and Bourdeau, 2006; Hightower, 2003; Hightower, Brady, and Baker, 2002; Cronin, Hightower, and Hult, 1998; Hightower, 1997). Bitner (1992) defined the servicescape as the “…built environment…” (p. 58). This definition has been interpreted to include man-made, physical surroundings as opposed to the natural or social environment (Wakefield and Blodgett, 1994). In contrast, Kotler (1973) defined the buying environment as the effort to produce specific emotional effects in buyers to enhance purchase probabilities. Baker and her colleagues (cf., Baker, 1986; Baker, Grewal and Parasuraman, 1994; Baker, Levy, and Grewal, 1992) also include the “non-built” environment in their definition of the store environment as consisting of three sets of factors; (1) store ambient factors, (2) store functional/ aesthetic design factors, and (3) store social factors.

Therefore, it appears that the definition of the servicescape is not restricted to the “built” environment, if “built” is used to imply physical construction. Rather, the exchange environment appears more appropriately defined as conceptualized by such environmental psychologists as Sommer (1966). Termed “proximate” environments, store environments are conceptualized in the environmental psychology literature to include everything that is physically present (i.e., Hall, 1976; Meharabian, and Russell, 1974; Sommer, 1966). That is, the store environment is considered to be everything that is observable by the consumer when he or she is present at a specific purchase location. This is said to include (1) biotic and (2) physical environments. The former refers to the world of living things, where as the later includes entities created by humans; or respectively, “non-built” and “built” environments.

Thus, it appears that the servicescape properly represents both the animate and inanimate stimuli to which a consumer is exposed during a service encounter. More specifically, both the marketing and environmental psychology literatures lend support to the proposition that during service encounters consumers may be affected by any, or all of, three sets of stimuli; (1) ambient factors, (2) design factors, and (3) social factors (cf., Hall, 1963; Sommer, 1966; Meharabian and Russell, 1974; Baker, 1986; Baker, Grewal and Parasuraman, 1994; Baker, Levy, and Grewal, 1992; Bitner, 1992; Hightower, 1997; Cronin, Hightower, and Hult, 1998; Bitner, 2000; Hightower, Brady, and Baker, 2002; Keillor, Hult, and Kandemir, 2004; Rosenbaum, 2005; Hightower, Brand, and Bourdeau, 2006). These three factors form the basis of our conceptualization of the servicescape and each is discussed below.

Ambient factors are defined as non-visual, background conditions in the service environment (i.e., Hightower, Brand, and Bourdeau, 2006; Rosenbaum, 2005; Hightower, Brady, and Baker, 2002; Cronin, Hightower, and Hult 1998; Hightower, 1997; Baker, Grewal, and Parasuraman, 1994; Bitner, 1992). Temperature, music, lighting, and scent have been identified as relevant ambient elements in certain environments (i.e., Milliman, 1982, 1986; Spangenberg, Crowley, and Henderson, 1996; Ward and Russell, 1981; Wineman, 1982; Yalch and Spangenberg, 1990; Hightower, 1997; Cronin, Hightower, and Hult, 1998; Hightower, Brady, and Baker, 2002; Hightower, Brand, and Bourdeau, 2006). However, ambient factors may in certain instances be counterintuitive. Specifically meaning that certain ambient elements may be expected to be included as a part of the final assessment items, when in reality, the consumer does not consider the particular expected ambient element as part of that service provider’s physical environment.
A typical example of this may be “music”; background music usage may not be as critical to consumers in some industries as it is in others (i.e., a Jiffy Lube visit vs. a Rock ’n Roll Hall of Fame visit). Therefore, “music” may not appear in our version of a servicescape assessment instrument as an ambient item for Jiffy Lube, even though some researchers may believe/feel/think, etc. that “music” is a universal ambient item.

The environmental psychology literature posits that, consistent with the stimulus-organism-response (S-O-R) paradigm, such factors act as stimuli (S) that contain cues that affect consumers’ internal evaluations (O), which in turn create approach/avoidance responses (R) (cf., Spangenberg, Crowley, and Henderson, 1996; Hightower, 1997; Cronin, Hightower, and Hult, 1998; Hightower, Brady, and Baker, 2002; Keillor, Hult, and Kandemir, 2004; Hightower, Brand, and Bourdeau, 2006).

Design factors are environmental elements that are more visual in nature than ambient factors. Such elements can be functional and/or aesthetic. The former may include such elements as layout, comfort, and privacy, whereas the later may include things like architecture, color, materials, and style (i.e., Marans and Spreckelmeyer, 1982; Baker, Grewal, and Parasuraman, 1994; Hightower, 1997; Cronin, Hightower, and Hult, 1998; Hightower, Brady, and Baker, 2002; Keillor, Hult, and Kandemir, 2004; Hightower, Brand, and Bourdeau, 2006). Studies indicate that design elements may again act as a stimuli affecting consumer perceptions and attitudes about service encounters (i.e., McElroy, Morrow, and Eroglu, 1990; Hightower, 1997; Cronin, Hightower, and Hult, 1998; Hightower, Brady, and Baker, 2002; Keillor, Hult, and Kandemir, 2004; Hightower, Brand, and Bourdeau, 2006). It is important to note that the design factors can be counterintuitive also. For example, a rational person may expect “color” to be automatically included as a permanent part of the design factor items for all servicescapes, however, “color” may not actually ever enter the consumer’s thought process in certain service environments (i.e., OnStar from GM). OnStar is a remote service; the lack of need for “color” as a design factor is straightforward in this context, because the consumer never visits/sees OnStar (i.e., “color”) during the service encounter.

Social factors are those stimuli related to people that are present within the environment during a service encounter. It is acknowledged that the physical presence of other persons (i.e., employees, customers, media personnel, and/or protesters, etc.) is a critical environmental element (i.e., Hightower, Brand, and Bourdeau, 2006; Rosenbaum, 2005; Hightower, Brady, and Baker 2002; Baker, Grewal, and Parasuraman, 1994). Rosenbaum (2005) suggests that the number, type, behavior of customers, and employees in the environment as well as ethnicity are relevant social factor elements. However, it is important to remember that social factors can include multiple items for human behaviors; thus, social factor items may be counterintuitive also. An example could be as follows: some researchers or business owners may possess a certain feeling about “friendliness” as a human behavior element that belongs in every servicescape assessment instrument’s social factor sections. Based on a number of criteria, one can see that the inclusion and or exclusion of “friendliness” as a social factor should be determined through scientifically collecting and analyzing data from the appropriate consumers and applying the appropriate theory, not simply because an owner or researcher has an opinion.

The social factor also supports the (S-O-R) paradigm. Studies indicate that such social factors as crowding, the number of employees, and the appearance of employees act as stimuli
that influence consumers' inferences about their service encounters (O) and thereby their decision to approach or avoid a specific service provider (R) (cf., Wicker, 1973; Harrell, Hunt, and Anderson, 1980; Eroglu and Harrell, 1986; Parasuraman, Zeithaml, and Berry, 1988; Hui and Bateson, 1991; Hightower, 1997; Cronin, Hightower, and Hult, 1998; Hightower, Brady, and Baker, 2002; Keillor, Hult, and Kandemir, 2004; Hightower, Brand, and Bourdeau, 2006).

The marketing and environmental psychology literatures provide substantial support for a hierarchical servicescape factor structure. Specifically, the ambient, design, and social factors appear well supported by theoretical discussions as the appropriate “components” of the servicescape (cf., Baker, 1986; Baker, Grewal and Parasuraman, 1994; Baker, Levy, and Grewal, 1992; Spangenberg, Crowley, and Henderson, 1996). However, there are competing groups of thought within the literature concerning the relationships among these factors conceptually. Yet, as Bittner (2000, p. 45) suggested “… Although our understanding of servicescape effects … is growing, little has been published to date on the measurement of the servicescape construct”.

We support the suggestion that the servicescape should be conceptualized as a three-dimensional hierarchical factor structure model. That is, we posit consumers’ evaluations of service environments occur at three levels – an overall level, the three individual dimensions, and at a sub dimension level. Specifically, we suggest that consumers form an overall opinion about a servicescape that is based on the firm’s performance on three specific sets of attributes, or dimensions. Based on the theory discussed in the prior section, we identify the three dimensions that define the overall level of the servicescape as the (1) ambient, (2) design, and (3) social factors. In turn, we suggest that the ambient factor is comprised of items that define a single dimension, whereas the design and social factors each are comprised of two subdimensions each. The design factor is defined as comprising functional and aesthetic subdimensions. The social factor includes items that represent both employees and customers (i.e., Wakefield and Blodgett, 1994; Wakefield, Blodgett, and Sloan, 1996; Hightower, 1997; Cronin, Hightower, and Hult, 1998; Hightower, Brady, and Baker, 2002; Hightower, 2003; Hightower, Brand, and Bourdeau, 2006).

METHODOLOGY AND DATA

The methodology used herein utilizes a number of techniques implemented in Dabholkar, Thorpe, and Rentz’ (1996) article that used a hierarchical factor structure to capture service quality dimensions for retail store customers in three studies. Confirmatory factor analysis based on the partial disaggregation technique and cross-validation using multiple samples is used to provide servicescape construct validity (Dabholkar, Thorpe, and Rentz, 1996). We propose a three-dimensional hierarchical factor structure model of consumers’ servicescape perceptions (see Figures 1, 2, 3, and 4). The model has three basic dimensions or attributes that define the overall servicescape – an ambient factor, design factor, and a social factor. The emerging literature suggests (cf., Hightower, Brand, and Bourdeau, 2006; Hightower, 2003; Hightower, Brady, and Baker, 2002) that the design and social dimensions are appropriately modeled as having two subdimensions each.

It is important to note here that the reader must have a clear understanding of “partial disaggregation” as mentioned previously in order to fully comprehend the remaining steps in the methodology section that involve and discuss the servicescape items (see Appendix A).
The synthesis of prior servicescape construct conceptualizations proposed here suggests that the assessment instrument should encompass the three conceptually distinct, yet related, components of social, ambient, and design factors. Therefore, from a measurement standpoint, the theoretical servicescape construct dictates a measurement model composed of three distinct but correlated dimensions. Stated formally:

\[ H_1: \text{The covariation among the construct items can be accounted for by a correlated three-factor model where each factor represents a specific conceptual component of servicescape and each item is reflective of only one single component.} \]

In order to test \( H_1 \) there was a need to generate a set of items to capture the physical environment’s domain. The item generation process followed a two-step procedure. First a set of items was generated based on the theoretical articles published at that time to represent the theoretical and conceptual components of the servicescape (i.e., Hightower, Brand, and Bourdeau, 2006; Hightower, 2003; Bittner, 2000; Wakefield and Blodgett, 1994; Baker, Grewal, and Parasuraman, 1994; Bittner, 1992; Baker, 1986) as well as empirical articles (i.e., Keillor, Hult, and Kandemir, 2004; Rosenbaum, 2005; Hightower, Brady, and Baker, 2002; Cronin, Hightower, and Hult, 1998).

Hightower (1997) initially identified twenty-three items of interest in a dissertation that utilized restaurants and movie theaters. The second step was to make improvements to the original item set, new data was collected, analyses run, and an unpublished working paper was written (Cronin, Hightower, and Hult, 1998). Substantial methodological feedback was received on the unpublished working paper, and then utilized to make improvements to the second generation items.

Hightower, Brady, and Baker (2002) (a study of hedonic service consumption at Minor League Baseball stadiums) improved on the then third generation servicescape items. Their items were adapted and subjected to an exploratory factor analysis to determine their appropriateness for use in this data collection. A number of the items were eliminated due to lack of correspondence between a minor league baseball stadium and the industries covered in this manuscript. Next, a questionnaire containing these now fourth generation items was used to pre-test a convenience sample of 152 students enrolled in basic marketing classes at a large state university. The students were asked to use the items to evaluate a sit-down chain restaurant’s servicescape. The pre-test results enabled the authors to perform the following:

- Gathered 10 new data samples
- Testing for the model fit for a non-orthogonal factor model
- Testing for a higher order factor model
- Testing for unidimensionality for the items reflecting each of the dimensions

In order to ensure the best cross-validation and generalizability of the measurement development results, ten separate industry samples were used to develop the servicescape assessment. We initially used the multi-sample method in LISREL to purify the instrument on all ten industry samples simultaneously, followed by individual testing of the ten samples to assess the reliability and validity of the purified solution. Thus, to the extent that the hypothesized measurement structure converges across the situational contexts (industry types but also sample
populations and survey administrations), the results can be said to be cross-validated (cf., Schmidt and Hunter, 1977).

No negatively worded items were included in the final instrument. Five additional items were included to assess consumers’ overall evaluations of the servicescape. The items and ideas used in this manuscript are based on the extant servicescape theoretical literature along with items and methods taken from the published empirical analyses that deal directly with the servicescape’s measurement Keillor, Hult, Kandemir (2004); Hightower, Brady, and Baker (2002). The data collection procedures are described in the next section.

Five teams of graduate students were trained as research assistants and assigned to gather data on two of the ten industries in the study. The research assistants collected 2,012 total surveys of which 1,674 were useable. These were added to the pre-test sample for a total number of 1,826 completed surveys. The trained interviewers collected the data near the respective front entrances for the ten industry establishments during separate time frames. Every tenth person/group entering was approached to participate, and respondents were initially screened to ensure familiarity with the service firm evaluated (i.e., used within the last 30 days). The industries investigated are included in Table 1.

<table>
<thead>
<tr>
<th>Sample</th>
<th>Service Industry</th>
<th>Number Interviewed</th>
<th>% Male</th>
<th>% Female</th>
<th>Age Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Auto Service</td>
<td>196</td>
<td>53</td>
<td>47</td>
<td>18-56</td>
</tr>
<tr>
<td>2</td>
<td>Theme Parks</td>
<td>217</td>
<td>54</td>
<td>46</td>
<td>18-56</td>
</tr>
<tr>
<td>3</td>
<td>Video Rentals</td>
<td>236</td>
<td>43</td>
<td>57</td>
<td>18-56</td>
</tr>
<tr>
<td>4</td>
<td>Electronic Retailer</td>
<td>202</td>
<td>64</td>
<td>36</td>
<td>19-56</td>
</tr>
<tr>
<td>5</td>
<td>Restaurants</td>
<td>131</td>
<td>55</td>
<td>45</td>
<td>19-54</td>
</tr>
<tr>
<td>6</td>
<td>Movie Theaters</td>
<td>157</td>
<td>54</td>
<td>46</td>
<td>18-80</td>
</tr>
<tr>
<td>7</td>
<td>Discount Stores</td>
<td>126</td>
<td>46</td>
<td>54</td>
<td>19-79</td>
</tr>
<tr>
<td>8</td>
<td>Spectator Sports</td>
<td>120</td>
<td>70</td>
<td>30</td>
<td>19-61</td>
</tr>
<tr>
<td>9</td>
<td>Banking Services</td>
<td>109</td>
<td>34</td>
<td>66</td>
<td>18-56+</td>
</tr>
<tr>
<td>10</td>
<td>Fast Food</td>
<td>180</td>
<td>50</td>
<td>50</td>
<td>18-56+</td>
</tr>
<tr>
<td></td>
<td>Pretest</td>
<td>152</td>
<td>36</td>
<td>64</td>
<td>18-30</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>1826</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

All of the data was collected in the same state; however, different interviewers and subjects were used for each group. To ensure the authenticity of the data, 20% of each interviewer’s respondents were contacted by phone and asked to confirm selected demographic information solicited as a part of the survey. In order to ensure that the independence of the individual observations was not jeopardized, respondents’ social security numbers were compared across the ten samples. This procedure resulted in a minimal loss of cases.

The analysis was done in two phases. In the first phase, the complete sample of ten industries was used in a multi-sample analysis via the use of LISREL to purify the properties. This method of analysis also lends itself to the testing of the robustness of the hypothesized model in terms of factor loadings, factor correlations, and error variances. The ten individual industry samples were then used to test the reliability and validity of the reduced set of servicescape items.
Lastly, the derived components of the servicescape assessment instrument were correlated with selected managerially relevant constructs to assess the servicescape components’ validity. The original servicescape assessment instrument items are reported in Appendix B. The final servicescape assessment items are depicted in Appendix C. A seven-point Likert-type scale was used ranging from “Strongly Disagree” to “Strongly Agree.”

**STATISTICAL FINDINGS**

The model fit was evaluated using the $\Delta^2$ index (Bollen, 1989), the relative noncentrality index (RNI; McDonald and Marsh, 1990), and the comparative fit index (CFI; Bentler, 1990), which have been shown to be the most stable fit indices by Gerbing and Anderson (1992). The chi-square goodness-of-fit statistic ($\chi^2$), the goodness-of-fit index (GFI), and the root mean square residual index (RMSR) are included for comparison purposes (Sörbom and Jöreskog, 1992).

We used several criteria to evaluate the proposed items, including the error variance, modification index, and residual covariation (Anderson and Gerbing, 1988; Fornell and Larcker, 1981; Sörbom and Jöreskog, 1992). To test the hypothesized measurement model in each sample group (i.e., auto service, theme parks, video rentals, electronics retailer, restaurants, movie theaters, discount stores, spectator sports, banking services, and fast food), we analyzed four separate structural equation models simultaneously involving the ten sample groups.

In MODEL1, the model parameters are constrained to be the same in all subgroups of the overall sample (i.e., factor loadings, factor correlations, error variances invariant). This would allow for a direct test of the generalizability of the items to the diverse elements of the ten industry samples. The fit statistics for this initial ten-sample confirmatory factor model are summarized in Table 2. However, since our goal at this stage of the analysis was to trim some of the poorer fitting items, we used the empirical elements of the analysis (i.e., the error variance, modification index, and residual covariation) coupled with theory and content considerations (Anderson and Gerbing, 1988) to reduce the proposed items to twelve. Respecifying the MODEL1 structure to the reduced set of twelve items resulted in a considerable improvement in fit (see Table 2) compared with the initial solution.

The difference between MODEL1 and MODEL2 is determined by comparing the difference in $\chi^2$ values for the two models (Anderson and Gerbing, 1988). Anderson and Gerbing (1988) state that the $\chi^2$ differences can then be tested for statistical significance with the appropriate degrees of freedom being the difference in the number of estimated coefficients for the two models with the assumption that they are nested models. The results of the competing model analysis indicate that the proposed MODEL2 represents the “best” confirmatory factor model available ($\chi^2_{\text{difference}} = 2,575.24 - 2,517.88 = 57.36$, $df_{\text{difference}} = 635 - 536 = 99$), although the result is not statistically significant.

As such, to check the validity of the results of MODEL2, we also examined the ten-group framework allowing both the factor loadings and the error variances to vary between groups. In this MODEL3, (see Table 2). However, there is a significant difference ($p < .01$) between MODEL2 and MODEL3 ($\chi^2_{\text{difference}} = 2,517.88 - 2,528.68 = 10.80$, $df_{\text{difference}} = 536 - 537 = 1$).
Since the $\chi^2$ value for MODEL3 was lower than that for MODEL2, we performed a last validity check on the results. This validity check involved testing the possibility of the error variances being different between the ten sample groups as opposed to the factor loadings. Therefore, we reran the LISREL group analysis and allowed the error variances to be different between ten industry samples while constraining the factor loadings and factor correlations to be invariant.

The fit statistics for MODEL4 (see Table 2). In the comparisons between MODEL2 and MODEL4 ($\chi^2_{\text{difference}} = 2,517.88 - 2,588.21 = 70.33, df_{\text{difference}} = 536 - 636 = 100$) and between MODEL3 and MODEL4 ($\chi^2_{\text{difference}} = 2,528.68 - 2,588.21 = 59.53, df = 537 - 636 = 99$), no significant differences were found in either combination. The results of the four runs of the multi-sample analysis lead us to conclude that while the proposed factor structure ($H_1$) is robust

### Table 2
The Fit Statistics

<table>
<thead>
<tr>
<th>Model of Numbers</th>
<th>Number of Items</th>
<th>$\Delta^2$</th>
<th>RNI</th>
<th>CFI</th>
<th>$X^2$</th>
<th>Df</th>
<th>GFI</th>
<th>RMSR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Test</td>
<td></td>
<td>0.77</td>
<td>0.76</td>
<td>0.77</td>
<td>4,903.46</td>
<td>1,325</td>
<td>0.69</td>
<td>0.11</td>
</tr>
<tr>
<td>All Components</td>
<td></td>
<td>0.80</td>
<td>0.80</td>
<td>0.80</td>
<td>2,575.24</td>
<td>668</td>
<td>0.75</td>
<td>0.10</td>
</tr>
<tr>
<td>Difference between Model 1 and 2</td>
<td></td>
<td>0.75</td>
<td>0.72</td>
<td>0.75</td>
<td>2,517.88</td>
<td>536</td>
<td>0.75</td>
<td>0.10</td>
</tr>
<tr>
<td>Difference between Model 2 and 3</td>
<td></td>
<td>0.80</td>
<td>0.80</td>
<td>0.80</td>
<td>2,578.68</td>
<td>537</td>
<td>0.75</td>
<td>0.10</td>
</tr>
<tr>
<td>Difference between Model 2 and 4</td>
<td></td>
<td>0.80</td>
<td>0.80</td>
<td>0.80</td>
<td>2,588.21</td>
<td>636</td>
<td>0.75</td>
<td>0.10</td>
</tr>
<tr>
<td>Difference between Model 3 and 4</td>
<td></td>
<td>0.93</td>
<td>0.88</td>
<td>0.93</td>
<td>70.33</td>
<td>100</td>
<td>0.75</td>
<td>0.10</td>
</tr>
</tbody>
</table>

### Table 3
Correlated Three-Factor Measurement Model for Ten Service Industry Samples

<table>
<thead>
<tr>
<th>Measures</th>
<th>$\Delta^2$</th>
<th>RNI</th>
<th>CFI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>0.81</td>
<td>0.78</td>
<td>0.81</td>
</tr>
<tr>
<td>2</td>
<td>0.75</td>
<td>0.72</td>
<td>0.75</td>
</tr>
<tr>
<td>3</td>
<td>0.86</td>
<td>0.83</td>
<td>0.86</td>
</tr>
<tr>
<td>4</td>
<td>0.85</td>
<td>0.83</td>
<td>0.85</td>
</tr>
<tr>
<td>5</td>
<td>0.93</td>
<td>0.88</td>
<td>0.93</td>
</tr>
<tr>
<td>6</td>
<td>0.81</td>
<td>0.81</td>
<td>0.81</td>
</tr>
<tr>
<td>7</td>
<td>0.90</td>
<td>0.89</td>
<td>0.90</td>
</tr>
<tr>
<td>8</td>
<td>0.89</td>
<td>0.88</td>
<td>0.89</td>
</tr>
<tr>
<td>9</td>
<td>0.78</td>
<td>0.77</td>
<td>0.78</td>
</tr>
<tr>
<td>10</td>
<td>0.76</td>
<td>0.74</td>
<td>0.76</td>
</tr>
</tbody>
</table>
across sample categories, the error variances (and potentially the factor loadings) may be different between the industries studied. As such, we continue to test the reliability and validity of the purified solution via independent runs of the ten industry samples. This reliability and validity analysis also lends itself well to the examination of potential strategic and tactical differences between sample subgroups.

Based on the statistical analysis in the multi-sample purification test, in conjunction with theory and content considerations (Anderson and Gerbing, 1988), the *a priori* (H₁) model was used for the independent analysis of the ten industry samples of the reduced servicescape assessment instrument. Thus, the twelve items were specified in a way that the covariation among the items can be accounted for by a correlated three-factor measurement model where each item is reflective of only one single component. This resulted in model fits identified in Table 3 (Δ²<sub>range</sub>: .75 to .93; RNI <sub>range</sub>: .72 to .89; CFI <sub>range</sub>: .75 to .93) for the ten industry samples. Since we have theoretical and previous statistical justification to retain all items in the assessment instrument (Anderson and Gerbing, 1988), we believe that from a generalizability standpoint eliminating items that performed poorly in the second phase of the analysis may be inappropriate due to the large number of industries studied. As such, we continue to assess the reliability and validity of the twelve-item solutions for the ten industry samples.

The construct reliabilities for the construct’s social, ambient, and design components are in Table 4. An initial test of convergent validity was established by the examination of factor loadings (i.e., parameter estimates) and their associated t-values (i.e., Anderson and Gerbing, 1988). The factor loadings are depicted in Table 5. Further analysis of convergent validity was established by assessing the average variances extracted for each construct (Fornell and Larcker, 1981).

The average variances extracted for the samples are depicted in Table 6. In addition, the within correlations are generally high and consistent for each of the three research model components (Campbell and Fiske, 1959; Churchill, 1979).

<table>
<thead>
<tr>
<th>Sample</th>
<th>Social</th>
<th>Ambient</th>
<th>Design</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.73</td>
<td>0.69</td>
<td>0.78</td>
</tr>
<tr>
<td>2</td>
<td>0.49</td>
<td>0.69</td>
<td>0.82</td>
</tr>
<tr>
<td>3</td>
<td>0.62</td>
<td>0.77</td>
<td>0.87</td>
</tr>
<tr>
<td>4</td>
<td>0.76</td>
<td>0.83</td>
<td>0.84</td>
</tr>
<tr>
<td>5</td>
<td>0.59</td>
<td>0.86</td>
<td>0.91</td>
</tr>
<tr>
<td>6</td>
<td>0.66</td>
<td>0.83</td>
<td>0.94</td>
</tr>
<tr>
<td>7</td>
<td>0.71</td>
<td>0.85</td>
<td>0.90</td>
</tr>
<tr>
<td>8</td>
<td>0.71</td>
<td>0.81</td>
<td>0.89</td>
</tr>
<tr>
<td>9</td>
<td>0.67</td>
<td>0.80</td>
<td>0.86</td>
</tr>
<tr>
<td>10</td>
<td>0.79</td>
<td>0.81</td>
<td>0.85</td>
</tr>
</tbody>
</table>
Table 5
Convergent Validity of Component

<table>
<thead>
<tr>
<th>Sample</th>
<th>Servicescape Components</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Social</td>
<td>Ambient</td>
<td>Design</td>
<td></td>
</tr>
<tr>
<td>Auto Service</td>
<td>.63-</td>
<td>.78</td>
<td>.48-</td>
<td>.72</td>
</tr>
<tr>
<td>Theme Parks</td>
<td>.34-</td>
<td>.72</td>
<td>.46-</td>
<td>.71</td>
</tr>
<tr>
<td>Video Rentals</td>
<td>.50-</td>
<td>.75</td>
<td>.54-</td>
<td>.73</td>
</tr>
<tr>
<td>Electronics Retailer</td>
<td>.64-</td>
<td>.81</td>
<td>.71-</td>
<td>.77</td>
</tr>
<tr>
<td>Restaurants</td>
<td>.42-</td>
<td>.69</td>
<td>.72-</td>
<td>.85</td>
</tr>
<tr>
<td>Movie Theaters</td>
<td>.47-</td>
<td>.81</td>
<td>.55-</td>
<td>.83</td>
</tr>
<tr>
<td>Discount Stores</td>
<td>.64-</td>
<td>.77</td>
<td>.73-</td>
<td>.90</td>
</tr>
<tr>
<td>Spectator Sports</td>
<td>.43-</td>
<td>.80</td>
<td>.64-</td>
<td>.87</td>
</tr>
<tr>
<td>Banking Services</td>
<td>.51-</td>
<td>.82</td>
<td>.47-</td>
<td>.84</td>
</tr>
<tr>
<td>Fast Food</td>
<td>.59-</td>
<td>.84</td>
<td>.51-</td>
<td>.91</td>
</tr>
</tbody>
</table>

Table 6
Average Variance Extracted

<table>
<thead>
<tr>
<th>Sample</th>
<th>Servicescape Components</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Social</td>
<td>Ambient</td>
<td>Design</td>
</tr>
<tr>
<td>1</td>
<td>0.49</td>
<td>0.37</td>
<td>0.48</td>
</tr>
<tr>
<td>2</td>
<td>0.27</td>
<td>0.37</td>
<td>0.54</td>
</tr>
<tr>
<td>3</td>
<td>0.73</td>
<td>0.46</td>
<td>0.62</td>
</tr>
<tr>
<td>4</td>
<td>0.53</td>
<td>0.55</td>
<td>0.58</td>
</tr>
<tr>
<td>5</td>
<td>0.34</td>
<td>0.61</td>
<td>0.73</td>
</tr>
<tr>
<td>6</td>
<td>0.41</td>
<td>0.56</td>
<td>0.79</td>
</tr>
<tr>
<td>7</td>
<td>0.46</td>
<td>0.60</td>
<td>0.71</td>
</tr>
<tr>
<td>8</td>
<td>0.46</td>
<td>0.53</td>
<td>0.67</td>
</tr>
<tr>
<td>9</td>
<td>0.42</td>
<td>0.52</td>
<td>0.54</td>
</tr>
<tr>
<td>10</td>
<td>0.57</td>
<td>0.53</td>
<td>0.60</td>
</tr>
</tbody>
</table>

Discriminant validity for the three-dimensional servicescape assessment instrument was established using the criteria proposed by Fornell and Larcker (1981). These authors recommend that the shared variance between two dimensions of a multi-dimensional construct should be less than the average variance extracted by either of the individual dimensions (cf., Anderson and Gerbing, 1988). The shared variances for the data collected are depicted in Table 7. In most cases, the shared variances are lower than the average variances extracted for the individual components of the servicescape in the ten industry samples. Thus, discriminant validity exists between the three servicescape components (i.e., social, ambient, and design). The summated between-construct correlations are also, for the most part, lower than the within-construct correlations (Campbell and Fiske, 1959; Churchill, 1979), lending additional support to the discriminant validity between the servicescape components.

The validation analysis of the 12-item assessment instrument provides an initial test of the criterion and the construct validities of the three components of the assessment instrument (i.e., social, ambient, and design). The factors used to assess criterion validity and construct validity were simultaneously correlated with all three components of the servicescape assessment instrument. The assessment instrument can be concluded to possess criterion and construct...
validities if the three components of the assessment instrument are significantly correlated with an appropriate indicator intended to measure the same construct (criterion validity) and an indicator intended to be related to the servicescape construct in theory (construct validity).

To provide an assessment of the criterion validity of the construct’s components, we asked the respondents to answer the following question based on a seven-point Likert-type scaling format ranging from “Strongly Disagree” to “Strongly Agree”:

**Q1:** Overall, I would rate XYZ’s physical environment very highly.

Additionally, the social, ambient, and design components of the construct were correlated with a one-item indicator of overall service quality to provide an initial assessment of the construct validity of the assessment instrument. A number of
researchers have argued that the servicescape construct is related to a consumers’ perception of the overall service quality delivered by a service provider (i.e., Bitner, 1990, 1992; Parasuraman, Zeithaml, and Berry, 1985). Again, we used a seven-point Likert-type scaling format ranging from “Strongly Disagree” to “Strongly Agree”:

Q₂: Overall, XYZ provides a high quality service.

When the two one-item indicators used to assess criterion and construct validities (i.e., the overall exchange environment and the overall service quality delivered as perceived by the customer) were simultaneously correlated with the summated scores of the three servicescape components were statistically significant in all but two of the sixty correlation analysis cases. See Table 8 for correlations, and as such empirical evidence exists that support the criterion validity of the multi-attribute servicescape assessment instrument. Table 8 also supports the notion that there is a significant positive correlation between the three servicescape components and overall service quality, thereby lending support to the notion that the servicescape assessment instrument possesses construct validity.

CONCLUDING REMARKS

The main objective was to investigate consumers’ perceptions of the servicescape by operationalizing the construct to have a hierarchical factor structure. Based on the results across ten industries consisting of 1,826 consumers indicates that we have identified an initial assessment instrument that supports the research model. Moreover, our intent was to develop a servicescape assessment instrument that was grounded in both theory and practice and one that would provide a tool that both academics and practitioners could use to better understand and predict the impact of the exchange environment on consumers’ decision-making. An equally important contribution was the ability to ensure that investments made in physical facilities were made with a better understanding of the facilities’ role in consumers’ decision-making. Finally, we intended the current research to inspire additional studies in this important and relatively neglected area regarding assessing consumers’ physical environment perceptions.

The proposed 12-item instrument establishes a parsimonious benchmark for assessing and comparing servicescapes across ten industries. An organization can use the instrument to assess its payoff from investments made to improve its servicescape by comparing consumers’ perceptions “before and after” the upgrade. Likewise, the need for such investments could be evaluated by using the assessment instrument to compare the firm’s servicescape to its competitors’. Additional insight might be gained by using the assessment instrument to compare the servicescapes across the organization.

To add in implementing successful servicescape strategies, organizations need to target those aspects that determine consumers’ purchase intentions. The model, derived from the marketing and environmental psychology literatures, conceptualizes the servicescape as containing three component sets (1) ambient, (2) design, and (3) social factors. As such, interventions can be targeted to the specific factors. Thus, a managerial implication is that the organizational investments’ focus should be based on the needs perceived by consumers. That is, the proposed assessment instrument may be used as a basis to ascertain where scarce resources
are best invested in the firm. For example, an organization that scores poorly on some part of the assessment instrument would be well advised to undertake further analysis to ascertain the underlying causes for the problems and specific avenues for corrective actions. Management’s ability to develop strategies in response to service environmental problems identified through the use of a theoretically, managerially, and empirically sound tool represents a major contribution to the services marketing literature.

The servicescape assessment instrument assesses consumers’ perceptions of their consumptive environments. In general, the assessment instrument provides a mechanism by which the physical and social dimensions of service encounters can be evaluated. More specifically, the sample helped to identify a twelve-item measurement instrument that provides valid and reliable assessments of consumers’ servicescape perceptions. These individual items collectively provide a parsimonious means to assess the ambient, design, and social factors in service organizations (i.e. across ten industries). The key attributes of the measurement assessment instrument include: (1) a focus on both the built (or physical) and social (or biotic) environments and (2) a focus on consumer perceptions rather than “expert” or unilateral management evaluations.

The servicescape assessment instrument builds on the idea that the effectiveness of investments in physical facilities (1) is based on consumers’ assessments of their appeal and (2) should include an evaluation of the social dimension of the exchange environment. The function of the “physical environment” in service encounters is to encourage purchase behavior. To the extent that attractive exchange facilities encourage consumption, they may provide a benefit to an organization. However, if consumers are discouraged by the number or type of consumers attracted to a facility or their interactions with other customers or employees, the servicescape may impede organizational goals. Our main goal for developing this parsimonious instrument was to substantially advance the marketing literature regarding assessing the service provider’s physical environment from a consumer’s perspective. Though some of the empirical results are modest in numerical range, they represent a significant step forward in measuring a complex construct like the servicescape. There were several areas for future improvement of this exploratory project. They are identified as part of the study limitations/avenues for future research in the next section.

STUDY LIMITATIONS AND AVENUES FOR FUTURE RESEARCH

On the substantive side, there is always a question as to the robustness of the assessment instrument items. The twenty-three original items, as well as the twelve included in the final assessment instrument, were developed based on theory and empirical evidence. The items were subjected to extensive empirical testing across ten industries and 1,826 respondents (152 convenience student sample plus 1,674 non student respondents across ten industries). The product classes investigated ranged from physical goods resellers (i.e. discount stores and electronics retailers- basic service providers) to entertainment providers (i.e., theme parks- elaborate service providers), from goods consumed on-site (i.e. restaurants), to products consumed off-site (i.e. video rentals), to services consumed on-site (i.e. movie theaters and spectator sports), to services consumed over a period of time (i.e. banking and auto services).
While the proposed assessment instrument performs well across all ten industries, we would like to call for further investigations to determine if the items are universally adaptable to all purchase situations. Individual items may not fit specific consumption settings, or may have to be modified for specific target markets (i.e. children’s perceptions of servicescapes). Finally, while the proposed assessment instrument was correlated with a second general measure of the attractiveness of the servicescape and predictive validity tests were performed. Additionally, researchers that work on the assessment instrument validation might consider investigating its robustness in other market segments.

Other significant substantive issues were left unexplored. For example, the relative importance of the servicescape vis-a-vis such factors as pricing, employee performance, and product quality are of substantial interest. Does an attractive servicescape moderate problems normally associated with waiting time? Can the servicescape be a means to justify price premiums? Does the servicescape have a direct influence on consumers’ perceptions of service quality or on customer satisfaction? Are purchase intentions directly influenced by consumers’ evaluations of the servicescape?

Each of the above issues, and undeniably a great many more, are deserving of attention. While these relationships were beyond the scope of the current manuscript, each question posed represents a significant substantive issue for future research. More importantly, each of these issues requires a reliable and valid servicescape measure. The major contribution is the identification of an exploratory servicescape assessment instrument that allows such questions to be addressed.

Acknowledgements

The authors appreciate the feedback, input, and support from all that have read and or reviewed some version of this manuscript over the many years since we first started. We especially thank Mary Jo Bitner for listening and her early insight also Julie Baker for her questions/comments; more recently S. Tamer Cavusgil for his feedback and comments from several of his MSU doctoral students.

References


Appendix A

Partial Disaggregation

Operationally, partial disaggregation is accomplished by randomly aggregating items that relate to a given construct so that there are two or three combined indicators instead of several single-item indicators. The rationale for random combination of items is that all items or indicators related to the latent variable should correspond in the same way to that latent variable; thus any combination of these items should yield the same model fit.

(Dabholkar, Thorpe, and Rentz, 1996, p.10)

Appendix B

The Initial Servicescape Items

The following questions are related to your perceptions of XYZ’s servicescape. The servicescape is defined as everything that is physically present during your visit to the service provider. Please choose the number (1 to 7) which best reflects your level of agreement with the following statements (1 = strongly disagree, 2 = disagree, 3 = disagree somewhat, 4 = neither agree nor disagree, 5 = agree somewhat, 6 = agree, and 7 = strongly agree).

Ambient Component
1. XYZ has a pleasant smell.
2. The lighting is excellent at XYZ.
3. XYZ is clean.
4. The temperature at XYZ is pleasant.
5. The background music is appropriate.
6. The background noise level at XYZ is acceptable.

Design Component
1. XYZ’s physical facilities are comfortable.
2. XYZ’s interior layout is pleasing.
3. The signs used (i.e., bathroom, enter, exit, smoking) are helpful to me.
4. The restroom(s) is/are appropriately designed.
5. XYZ’s parking lot has more than enough space.
6. The color scheme is attractive.
7. The materials used inside XYZ are pleasing and of high quality.
8. The architecture is attractive.
9. The style of the interior accessories is fashionable.

Social Component
1. There are enough employees at XYZ to service customers.
2. The employees are neat and well dressed.
3. The employees are helpful.
4. The employees are friendly.
5. XYZ has more than enough space for me to be comfortable.
6. XYZ’s customers are neat and well dressed.
7. XYZ’s customers are friendly.
8. I feel like the customers will help me if I need them.

Appendix C

Ten Industry Basic Servicescape Assessment Items

Perceived Servicescape

Overall, the physical environment pleases me.

Ambient Dimension

The physical environment is clean.
The temperature at the facility is pleasant.
The physical environment has the appropriate lighting.

Social Dimension

Employee Subdimension

The employees are helpful.
The employees are friendly.

Customer Subdimension

The customers are friendly.
The customers are helpful.

Design Dimension

Functional Subdimension

The physical facilities are pleasing.
The restrooms are designed well.

Aesthetic Subdimension

The architecture is attractive.
The interior layout is pleasing.