

# An Exploration of the Effects of the Servicescape on Customer and Employee Responses in a Grocery Retail Context



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## ABSTRACT

This research investigates the impact of the servicescape on the responses of both the customer and the employee within a retail grocery setting and is exploratory in nature. The paper has its theoretical underpinning in servicescape theory (Bitner, 1992; Homburg and Stock, 2004), physical work environment literature (Davis, 1984; Kuenzi and Schminke, 2009) and the Service Profit Chain (SPC) (Heskett et al., 1994). Interviews with grocery retail store managers were carried out to contextualise the paper though the main research instrument is a large-scale survey of customers and employees. The findings suggest that almost 50 per cent of customer satisfaction is explained by the dimensions of service employee quality and this has important implications for retail managers. The findings also highlight that employee servicescape factors affect employee satisfaction, which in turn impacts employee loyalty. These, alongside other key findings, are presented and discussed. Directions for future research are also highlighted.

**Key Words:** Retail environment; customer satisfaction; employee satisfaction; Service Profit Chain; work climate

## INTRODUCTION

This research investigates the impact of customer and employee perceptions of a grocery retail store environment (Bitner, 1992; Homburg and Stock, 2004) on the responses of both the customer and the employee. It does so by combining and integrating servicescape theory and the employee work environment with that of the Service Profit Chain (SPC) as proposed by Heskett et al. (1994).

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In relation to the customer, Wakefield and Blodgett (1994) posit that the servicescape is likely to be a significant determinant of customer satisfaction given its experiential nature. However, this research goes one step further and seeks to extend our current understanding of the servicescape model (Bitner, 1992) by acknowledging the role of employees and their impact on customer satisfaction and loyalty. The role of the employee is conceptualised within the service setting based on the physical work environment literature of Davis (1984) and Kuenzi and Schminke (2009). The suggestion is that as employees spend more time in the physical environment than customers, it is important for retailers to understand the influence of this physical environment on employees' attitudes and behaviours in the workplace (Babin and Boles, 1996; Parish et al., 2008).

Homburg and Stock (2004) suggest that increasing employee satisfaction can impact on levels of customer satisfaction in customer–employee interactions, and they proffer that it is important to investigate the link between employee and customer behaviours within a service setting. This study tests linkages between employee and customer behaviours in a retail grocery setting. As the literature on the servicescape and physical work environment is quite fragmented and facet specific (Kearney et al., 2007; Kuenzi and Schminke, 2009), this paper focuses on the servicescape as a whole, building on recent research in the area (Hooper et al., 2013).

The remainder of this paper is organised as follows: a brief overview of the servicescape and physical work environment literature is presented and findings from extant empirical research are reviewed. The literature review is continued throughout the hypothesis development section. The quantitative methodology, which involves factor analysis and multiple regression analysis, is then described. The key findings emerging from the data analysis are presented and discussed in some detail. Finally, the implications of these findings for future research are highlighted.

## LITERATURE REVIEW

Over the past number of years there has been a growing body of knowledge within the services marketing and organisational behaviour literature demonstrating that the servicescape impacts both the customer and the employee (Bitner, 1992; Homburg and Stock, 2004; Kim and Moon, 2009; Schneider and Bowen, 1985; Schneider et al., 2000; Schneider et al., 2009; Wiley, 1991). The implications of previous research suggests that organisations need to be acutely aware of how they manage a wide range of internal design issues because they appear to affect the perceptions, emotional state and behavioural intentions of both employees and customers. As a result of the servicescapes model there has been considerable research on the individual elements (e.g. music, light) but limited research on the servicescape as a whole in a consumer context (Ezeh and Harris, 2007).

Within extant servicescape research the customer has been the main focus. However, employees spend more time in the physical environment than customers, thus it is important for retailers to understand the influence that the physical work environment has on employees' attitudes and behaviours in the workplace (Babin and Boles, 1996; Hoffman and Turley, 2002). It was Mehrabian and Russell (1974) who suggested a broad theoretical

environmental psychology framework to explain the interactions of individuals, their emotions and their environment. This is called the Stimulus Organism Response (SOR) framework and it has been used extensively within the literature; see Kearney et al. (2007) for a review. In acknowledging the SOR framework this research draws from three main literatures: services marketing, environmental psychology and the work climate literature.

It is important to acknowledge the work climate literature because what is visible to employees 'spills over' to external customers (Schneider and Bowen, 1993). This is a consequence of the physical closeness that exists between employees and customers in service encounters (Bitner et al., 1994; Schneider and Bowen, 1993). For the purpose of this research, the elements of the work climate relating to the physical work environment, employee satisfaction and customer satisfaction will be focused on. These tie in with the servicescape literature and its influence on customer satisfaction and customer loyalty. Heskett et al. (1994) integrated the linkages between customer satisfaction, employee satisfaction and performance into their model known as the Service Profit Chain (SPC). This has been seen as a method of considering the relationships between key consumer and employee constructs (Gelade and Young, 2005; Silvestro and Cross, 2000) and has recently been extended to consider social aspects (Homburg et al., 2009). The literature review continues by developing hypotheses to test the linkages between the different constructs under investigation.

#### HYPOTHESES DEVELOPMENT

Bitner's (1992) framework suggests that the servicescape can affect customer responses, such as satisfaction. However the empirical evidence on the servicescape impacting responses is surprisingly scant (Han and Ryu, 2009), though a small number of authors have attempted to examine the link between environmental stimuli and customer satisfaction (Bigné et al., 2005; Hightower et al., 2002; Hooper et al., 2013; Wakefield and Blodgett, 1994, 1996). Hightower et al. (2002: 703) concluded that the 'servicescape does have a significant influence on consumer behavioral intentions'. They also noted that the physical environment has a positive and significant influence on customer satisfaction, which they found to be directly related to behavioural intentions.

Bitner (1992) also suggested that the servicescape can affect employee responses, such as employee satisfaction. Davis (1984) indicated that organisations' facilities can also influence employees' behaviour. Similarly to customer satisfaction, employee satisfaction can be influenced by the servicescape. Parish et al. (2008) found that the design of the facility in which employees work influences their job satisfaction. This led to the development of the following hypotheses ('SS' denotes servicescape for the purposes of the hypotheses):

**H<sub>1a</sub>:** SS has a significant positive effect on customer satisfaction

**H<sub>1b</sub>:** SS has a significant positive effect on employee satisfaction

The SPC suggests that employee satisfaction with the job will lead to employees staying in their job for longer (Heskett et al., 1997; Parish et al., 2008). Rust et al. (1996) agreed and

noted that satisfaction in the job results in intention to remain in the job and that these intentions impact behaviour, employee retention or loyalty. Heskett et al. (1994) also indicated that loyalty is driven by employee satisfaction:

**H<sub>2</sub>:** Employee satisfaction has a significant positive effect on employee loyalty

Silvestro (2002: 33) noted that 'in the service literature, awareness of the ways in which employees can directly impact upon customer perceptions of the service has led to general acceptance of what Heskett et al. (1997) refer to as the "satisfaction mirror"'. This implies that employee satisfaction is reflected in terms of customer satisfaction (Heskett et al., 1997). Pugh (2001: 1020) suggests that 'customers when exposed to the emotional displays of employees, experience corresponding changes in their own affective state'. The work climate literature also stresses the concept of emotional cognition, which parallels the 'satisfaction mirror' concept. Howard and Gengler (2001) and Barger and Grandey (2006) indicate that emotional cognition attempts to explain how emotions are transmitted between people. Along with the general acceptance in the literature of the link between employee satisfaction and customer satisfaction, there has also been some empirical support (Schneider and Bowen, 1993; Wiley, 1991). Homburg and Stock (2004) found that employees' job satisfaction would positively influence customer satisfaction in a business-to-business (B2B) context:

**H<sub>3</sub>:** Employee satisfaction has a positive significant effect on customer satisfaction

Rust et al. (1996) noted that employees who stay in their jobs develop relationships with customers and that these relationships lay a foundation for a cycle of positive interactions between employees and customers (Heskett et al., 1994; Schlesinger and Heskett, 1991; Wallace and De Chernatony, 2009). Customers who receive better service express fewer complaints and thereby create fewer problems for employees. Employees in turn react more favourably to encounters with customers.

These reactions result in better service which again leads to higher customer satisfaction (Rust et al., 1996). Rust et al. (1996) agree with Heskett et al.'s (1994: 167) proposed linkage that 'low employee turnover was found to be linked closely to high customer satisfaction'. Wallace and De Chernatony (2009) concurred and suggest that committed employees stay with the organisation and their retention results in customer satisfaction:

**H<sub>4</sub>:** Employee loyalty has a significant positive effect on customer satisfaction

As noted, a direct link between employee loyalty and customer satisfaction has been generally accepted within the literature. It is also suggested that service quality precedes customer satisfaction. According to Heskett et al. (1997) and Loveman (1998), employee loyalty impacts service quality. Empirical evidence to support a link between employees' experience with their work environment and customers' evaluations of the service quality

have been found (Schneider and Bowen, 1985; Schneider et al., 2000; Schneider et al., 1980; Schneider et al., 1998). Dean (2004) indicated that it is the positive environment for employees that can lead to perceived service quality for the customer. In his research on the SPC, Loveman (1998) did not measure service quality due to data constraints but suggested employee loyalty played a vital role in service quality:

**H<sub>5</sub>:** Employee loyalty has a significant positive effect on service quality

There is considerable support for the link between elements of the servicescape and service quality. Bitner (1992), Brady and Cronin (2001) and Spangenberg et al. (1996) all consider the influence of the servicescape on customers' evaluations. Due to services being intangible the customer often needs to be present and the surrounding servicescape can have a significant influence on perceptions of the overall quality of the service encounter (Bitner, 1992). According to Brady and Cronin (2001: 38), past research in the 'services marketing literature exemplifies the discipline's interest in how the servicescape affects consumer service evaluations':

**H<sub>6</sub>:** SS has a significant positive effect on service quality

Originally in the services marketing literature it was proposed that customer satisfaction preceded service quality (Bitner, 1990). However, due to significant empirical and conceptual work it is now widely accepted that service quality precedes customer satisfaction (Anderson et al., 1994; Brady and Robertson, 2001; Cronin et al., 2000; Heskett et al., 1997; Pollack, 2009). Lazarus (1982) also suggests in his appraisal-emotional response framework that cognitive appraisal occurs prior to affective appraisal. Service quality is considered to be cognitively orientated whilst customer satisfaction is considered to be both cognitive and affective. In line with this the more cognitive construct (service quality) should precede the more affective construct (customer satisfaction) (Brady and Robertson, 2001) and this is validated in the conceptualisation of the SPC (Heskett et al., 1994):

**H<sub>7</sub>:** Service quality has a significant positive effect on customer satisfaction

It is generally accepted that customers who are satisfied with a service will return and repeat purchase. There is therefore an overlap between the servicescape literature and the SPC framework relating to satisfaction and loyalty. Wakefield and Blodgett (1996: 52) noted that 'satisfaction with the servicescape was found to have a positive effect on customers' repatronage intentions'. Heskett et al. (1994) in their SPC framework proposed that customer satisfaction drives customer loyalty. Hallowell (1996) found empirical support for the relationship between customer satisfaction and customer loyalty:

**H<sub>8</sub>:** Customer satisfaction has a significant positive effect on customer loyalty

## METHODOLOGY

The aim of this research is to investigate the impact of the servicescape on the responses of both the customer and the employee. The grocery retail sector was chosen due to the fact that customers return frequently to stores and spend considerably more time in this type of service environment than many other utilitarian services such as drycleaners, car repairs or petrol stations. Furthermore, as this research was examining the impact of the servicescape on employees as well as customers, a grocery retail store provides a service environment where both employees and customers spend time. The extant research in this area is predominantly quantitative (Hightower et al., 2002; Hooper et al., 2013) and this paper follows the same tradition. However, some work was needed to contextualise the research so, as a result, this research commenced with a series of expert interviews with grocery retail managers and also a day-long intensive workshop with senior managers of a large retail grocery organisation in Ireland. Significant insights were gained from this experience and the data collected contributed to the development of the survey instrument.

### Questionnaire Development

Similar to research by Bigné et al. (2005), classification questions relating to demographic variables and the grocery store, together with multiple-item scales of the different constructs – servicescape, employee satisfaction, customer satisfaction, employee loyalty and customer loyalty – were included in the questionnaire. The multiple-item scales used questions that were presented in the form of a statement, for example ‘the music in the store is played at an appropriate volume’. Similar to past research, a Likert scale was used for respondents to evaluate their degree of agreement with each of the statements (Baker et al., 1994; Brady and Cronin, 2001; Dietz et al., 2004; Hu and Jasper, 2010). Following Parish et al. (2008), this paper used a seven-point Likert scale. The questionnaire was also pre-tested.

### Sample Selection

The employee group was composed of full-time retail managers, and the customer group were full-time students (undergraduate and postgraduate) who did their own grocery shopping. The employee group were on part-time educational programmes and were invited to participate in the survey. Both print and online versions were offered and the majority completed the survey online, with a total of 61 employees completing the survey. The survey was administered online to students for the customer sample.

Qualifying questions were included to ensure that the students who were completing the survey met the criterion of doing their own grocery shopping. To ensure that all respondents are part of the target market, descriptive questions were asked. Machleit and Eroglu (2000) in their research asked respondents about their shopping intentions, how long they spent in store and the number of times previously shopped in the store. These questions were asked of the sample in order to ensure that they were the respondents of interest and not just completing a questionnaire because asked to do so. Students were also



given a list of retailers that the employees worked for so that there was some coordination between the two groups in terms of evaluations of the constructs. A total of 133 valid responses were collected from an initial sample of 600 students.

Calder et al. (1981: 199) indicate a sample should carefully define 'the relevant population for effects of interest' and have a 'representative sample of individuals from this target population'. These groups are an acceptable sample to use in this case as the respondents all work full time or shop in retail grocery stores, which is the focus of this exploratory study.

### Research Analysis

Similarly to Hume and Mort (2010) and Mak and Sockel (2001), the questionnaire was analysed using reliability testing, factor analysis and multiple regression using SPSS. Churchill (1979) noted that factor analysis can be used to suggest dimensions and is often used within the marketing literature. Given the lack of agreement in the literature on the servicescape it was felt that factor analysis would be a useful first step in assessing the structure of this construct.

Factor analysis allowed for separate dimensions to be identified and it determined the extent to which each variable is explained by the dimension (Fabrigar et al., 1999; MacCallum et al., 1999). Churchill (1979: 69) indicated that 'factor analysis can be used to confirm whether the number of dimensions conceptualised can be verified empirically'. According to Newman (2007: 22), 'an orthogonal varimax rotation facilitates the identification of a simple but meaningful structure of factors'. This research used the same form of analysis. Based on previous research by Newman (2007), Harris and Ezeh (2008) and Kim and Moon (2009), and given the size of the sample ( $n = 133$  customers;  $n = 66$  employees), a factor loading of 0.32 and below was considered to be poor, 0.4 significant, and loadings of 0.6 or greater as very significant.

Items with a factor loading of less than 0.4 were deleted (Nunnally, 1978) in the assessment of the dimensions of the constructs. Similarly to Harris and Ezeh (2008), factors were only retained if they possessed an eigenvalue greater than 1. Cronbach alpha scores were computed on the factors to indicate the level of internal consistency and reliability (Harris and Ezeh, 2008). Slater (1995) argues that the most commonly reported measure of reliability is the Cronbach alpha and that the usual criterion is 0.7 or greater on a scale of 0 to 1. Multiple regression analysis was carried out to investigate the hypotheses.

### RESEARCH FINDINGS

The profile of the respondents was 42 per cent male and 58 per cent female. Just over half (51 per cent) of the employees were aged 18–24, with the remaining being 25–54. This is unsurprising given the age groups of retail employees in the grocery sector. A majority (63 per cent) of the customer sample were aged 18–24, with the remaining being 25 years or older, which is indicative of a mix of undergraduate and postgraduate students. No significant differences were found between method of completion (online or paper based) for the employee sample or for the different age groupings.

Factor analysis was carried out on the customer servicescape construct. The 30 items from the construct were analysed using Principal Component Analysis (PCA) with varimax rotation to understand the underlying structure. Communalities were uniformly above 0.4 and the Kaiser-Meyer-Olkin (KMO) and Bartlett's tests showed that the data was suitable for PCA (Fabrigar et al., 1999). Initial runs of the model showed high levels of cross-loadings among the variables. Removal of such items resulted in a clearer solution to the model leaving a final set of 21 items.

A four-factor solution was found for the customers' servicescape construct as per Table 1. According to Bitner (1992), there are three servicescape dimensions, called ambient; spatial layout and function; and signs, symbols and artefacts. Kotler (1973) suggested four

**Table 1: Customer Servicescape Factors**

	<b>Ambience</b>	<b>Design and Colour</b>	<b>Cleanliness</b>	<b>Layout</b>
Music 2	0.756			
Music 4	0.777			
Olfaction 4	0.675			
Olfaction 1	0.742			
Lighting 2	0.594			
Lighting 4	0.473			
Cleanliness 3	0.725			
Cleanliness 1	0.645			
Design 2		0.636		
Design 3		0.740		
Design of decor		0.813		
Colour 2		0.641		
Colour 3		0.784		
Cleanliness 5R*			0.674	
Space 1			0.744	
Cleanliness 2			0.738	
Cleanliness 4R*			0.711	
Signage 1				0.837
Layout 3				0.649
Layout 2				0.810
Cronbach Alpha	0.869	0.820	0.763	0.755

\* Indicates that the item was reversed as per the original scale



dimensions: visual, aural, tactile and olfactory. Ambience was the first factor found and this coincides with Bitner's (1992) first dimension of ambience, which includes the elements of music, colour, lighting and olfaction. Our ambience factor included elements of music, olfaction, lighting and cleanliness. Kotler (1973) indicated that olfaction was a separate dimension; however Bitner (1992) included this in the ambience dimension. This study found that olfaction was part of the general ambience factor. Keeping the olfaction items as part of the ambience factor ensures the high reliability of the factor of 0.869.

A second factor of design and colour was found. Colour is included within Bitner's (1992) ambience dimension; however, this research indicates it is a separate factor from the general ambience factor. Aubert-Gamet (1997: 29) indicated that 'ambient factors are background conditions that exist below the level of immediate awareness and typically draw attention only when they are absent or unpleasant, for example, temperature and noise levels'. Colour and design appeared to be less of a background condition for the customers. This confirms the findings of Crowley (1993), Gorn et al. (2004) and Lin (2004) that colour is one of the most obvious visual cues in a servicescape and that it often makes the first impression. The high Cronbach alpha of 0.820 reiterates its reliability as a separate factor to ambience.

The third factor of cleanliness may appear separate to Bitner's (1992) dimensions; however Bitner (1992) indicated that the third dimension of signs, symbols and artefacts refers to tangibles in the interior and exterior of the service encounter. Wakefield and Blodgett (1996) also suggest that cleanliness parallels the primary elements of Bitner's (1992) third dimension. In their research, Harris and Ezech (2008) and Wakefield and Blodgett (1996) included several items relating to the cleanliness of the store environment and found cleanliness to be a separate factor. The cleanliness factor corresponds with their findings and had a high reliability of 0.763. The fourth factor of layout contained three items. One of these items was a signage item. This factor corresponds with Bitner's (1992) second dimension of spatial layout and function. Similar to the other factors it had a high Cronbach alpha of 0.755, which indicates it has an acceptable level of reliability.

Given that four factors for the customer servicescape were found (ambience; design and colour; cleanliness; and layout),  $H_{1a}$  was modified, as follows, to reflect the four factors:

$H_{1a1}$ : SS (ambience) has a significant positive effect on customer satisfaction

$H_{1a2}$ : SS (design and colour) has a significant positive effect on customer satisfaction

$H_{1a3}$ : SS (layout) has a significant positive effect on customer satisfaction

$H_{1a4}$ : SS (cleanliness) has a significant positive effect on customer satisfaction

Customer loyalty was found to be a two-factor solution. Jacoby and Kyner (1973) indicated that customer loyalty can be defined in two distinct ways: attitudinal and behavioural. Han and Ryu (2009: 492) concur and indicate that 'loyalty is a consequence of consistent

repeat patronage/ repeat purchase frequency of a single store/brand as well as favorable attitude'. The two-factor solution found mirrors past research with the first factor being attitudinal loyalty and the second being behavioural loyalty. The behavioural loyalty factor had a very high Cronbach alpha of 0.930. The behavioural factor included aspects such as relationship continuance and acts of recommendation, which concurs with Hallowell (1996). Back (2005) recommends using both attitudinal and behavioural factors for measuring loyalty as behavioural intentions may be through lack of choice.

The attitudinal factor contained a behavioural item called 'I would do more business with the store in the next few months'. Due to loyalty being both cognitive and affective in nature (Oliver, 1999), consumers may not distinctly separate their attitudinal loyalty and behavioural loyalty. The Cronbach alpha for the attitudinal loyalty factor was 0.741. This is a high level of reliability and retaining the one behavioural item was deemed appropriate for this factor. Due to two types of loyalty being found this necessitated a rewording of  $H_8$ :

$H_{8a}$ : Customer satisfaction has a significant positive effect on *attitudinal* customer loyalty

$H_{8b}$ : Customer satisfaction has a significant positive effect on *behavioural* customer loyalty

Employee loyalty examined the commitment to the job in this research and it was found to be a one-factor solution. This is in agreement with Currivan (1999) and Paulin et al. (2006).

Within the literature, service quality is considered to be a multidimensional construct. However, 'considerable debate exists regarding the number and type of dimensions' (Pollack, 2009: 43). From the research a two-factor solution was found: the first factor related to the servicescape and was called service environment quality; the second factor related to the employees and was called service employee quality factor. The service environment quality factor corresponds with the findings of both Brady and Cronin (2001) and Chen et al. (2009) and the service employee quality factor corresponds with the findings of Brady and Cronin (2001) and Hu and Jasper (2010). The reliability of both items was exceptionally high at 0.890 and 0.896 respectively. Due to service quality having two dimensions, modifications were required for  $H_3$ ,  $H_6$  and  $H_7$  as follows:

$H_{5a}$ : Employee loyalty has a significant positive effect on service environment quality

$H_{5b}$ : Employee loyalty has a significant positive effect on service employee quality

$H_{6a}$ : SS has a significant positive effect on service environment quality

$H_{6b}$ : SS has a significant positive effect on service employee quality

$H_{7a}$ : Service environment quality has a significant effect on customer satisfaction

$H_{7b}$ : Service employee quality has a significant effect on customer satisfaction

Davis (1984: 271) specifically looked at employees and the impact of the environment on their behaviours and suggests that:

[A] potentially useful framework for both research and practice is to view the physical environment in organizations as being composed of three main elements: (1) physical structure, (2) physical stimuli, and (3) symbolic artifacts.

Bitner's (1992) servicescape framework clearly examines these elements and indicates that employees may respond cognitively, emotionally and physiologically to the environment. Similarly to the customer servicescape construct, it was a four-factor solution; however there were significant differences on the factors found as per Table 2.

**Table 2: Employee Servicescape Factors**

	<b>Ambience</b>	<b>Cleanliness</b>	<b>Workspace</b>	<b>Music</b>
Materials	0.836			
Olfaction 1	0.720			
Olfaction 3	0.770			
Olfaction 4	0.751			
Colour 1	0.689			
Colour 2	0.757			
Colour 3	0.756			
Cleanliness 1		0.652		
Cleanliness 2		0.736		
Cleanliness 5		0.620		
Space 2		0.782		
Workspace 1			0.739	
Workspace 2			0.700	
Work signage			0.527	
Decor 1			0.813	
Music 2				0.828
Music 3R*				0.745
Music 4				0.726
Cronbach Alpha	0.926	0.771	0.802	0.730

\* Indicates that the item was reversed as per the original scale

The first factor was ambience, which contained three colour items, three olfaction items and one material item. This factor coincides with Davis's (1984) element of physical stimuli as well

as Bitner's (1992) ambience factor. In contrast to the customer ambience factor, the employee ambience factor mainly examines colour and olfaction. Colour and olfaction appear to be the main items of the ambience factor for employees and this factor has a very high level of reliability of 0.926. For customers music was part of the ambience factor; however for employees it forms its own factor and has a relatively high level of reliability of 0.730. Parish et al. (2008) suggest that employees spend more time in the physical service environment than customers and that it is important for retailers to understand the influence the servicescape has on employees' attitudes and behaviours in the workplace (Babin and Boles, 1996).

Similarly to customers, the employee factors are cleanliness and workspace. 'Workspace' was deemed a more suitable term than 'layout' to describe the employee servicescape factor. The workspace factor relates to employees' own workspace and the design of their work place, whilst the layout factor for customers relates to the design of the store layout. Within the climate literature it is acknowledged that the physical workspace affects the employees' behaviours and attitudes. However, there is limited understanding of the effects of the servicescape on employees. The four factors found suggest that a difference exists in how the environment is perceived by customers and employees and that certain factors are more relevant to each group. Given the four-factor structure found for the servicescape in an employee context, this necessitates some changes to the wording of hypotheses  $H_{1b}$ ,  $H_{6a}$  and  $H_{6b}$ , as follows:

$H_{1b1}$ : SS (ambience) has a significant positive effect on employee satisfaction

$H_{1b2}$ : SS (cleanliness) has a significant positive effect on employee satisfaction

$H_{1b3}$ : SS (workspace) has a significant positive effect on employee satisfaction

$H_{1b4}$ : SS (music) has a significant positive effect on employee satisfaction

$H_{6a1}$ : SS (ambience) has a significant positive effect on service environment quality

$H_{6a2}$ : SS (design and colour) has a significant positive effect on service environment quality

$H_{6a3}$ : SS (cleanliness) has a significant positive effect on service environment quality

$H_{6a4}$ : SS (layout) has a significant positive effect on service environment quality

$H_{6b1}$ : SS (ambience) has a significant positive effect on service employee quality

$H_{6b2}$ : SS (cleanliness) has a significant positive effect on service employee quality

$H_{6b3}$ : SS (layout) has a significant positive effect on service employee quality

$H_{6b4}$ : SS (design and colour) has a significant positive effect on service employee quality

Having confirmed the reliability of the constructs, the items for each construct were transformed into composite variables facilitating the use of multiple regression to assess the hypotheses.

### DISCUSSION

Each of the hypotheses were tested independently. Because the data were collected independently for customers and employees, hypotheses which linked the data from customers and employees were difficult to test as individual customers were not linked to the employees who served them. As a result of this, customers were randomly assigned to employees and ten different sets of random pairings were tested. The results of the hypothesis testing can be found in Table 3.

**Table 3: Hypothesis Testing Results**

<b>Hypothesis</b>	<b>Description</b>	<b>Outcome</b>	<b>Standardised Coefficient</b>
H <sub>1a1</sub>	Servicescape (ambience) – customer satisfaction	Not supported	
H <sub>1a2</sub>	Servicescape (design and colour) – customer satisfaction	Not supported	
H <sub>1a3</sub>	Servicescape (layout) – customer satisfaction	Supported	0.242 ( $p = 0.011$ )
H <sub>1a4</sub>	Servicescape (cleanliness) – customer satisfaction	Not supported	
H <sub>1b1</sub>	Servicescape (ambience) – employee satisfaction	Supported	0.551 ( $p = 0.000$ )
H <sub>1b2</sub>	Servicescape (cleanliness) – employee satisfaction	Not supported	
H <sub>1b3</sub>	Servicescape (workspace) – employee satisfaction	Not supported	
H <sub>1b4</sub>	Servicescape (music) – employee satisfaction	Not supported	
H <sub>2</sub>	Employee satisfaction – employee loyalty	Supported	0.774 ( $p = 0.000$ )
H <sub>3</sub>	Employee satisfaction – customer satisfaction	Evidence found	
H <sub>4</sub>	Employee loyalty – customer satisfaction	Evidence found	

(Continued)

**Table 3: (Continued)**

<b>Hypothesis</b>	<b>Description</b>	<b>Outcome</b>	<b>Standardised Coefficient</b>
H <sub>5a</sub>	Employee loyalty – service environment quality	No evidence found	
H <sub>5b</sub>	Employee loyalty – service employee quality	No evidence found	
H <sub>6a1</sub>	Servicescape (ambience) – service environment quality	Supported	0.276 ( $p = 0.003$ )
H <sub>6a2</sub>	Servicescape (design and colour) – service environment quality	Supported	0.368 ( $p = 0.000$ )
H <sub>6a3</sub>	Servicescape (cleanliness) – service environment quality	Supported	0.133 ( $p = 0.075$ )
H <sub>6a4</sub>	Servicescape (layout) – service environment quality	Not supported	
H <sub>6b1</sub>	Servicescape (ambience) – service employee quality	Supported	0.287 ( $p = 0.003$ )
H <sub>6b2</sub>	Servicescape (cleanliness) – service employee quality	Not supported	
H <sub>6b3</sub>	Servicescape (layout) – service employee quality	Supported	0.192 ( $p = 0.027$ )
H <sub>6b4</sub>	Servicescape (design and colour) – service employee quality	Supported	0.155 ( $p = 0.090$ )
H <sub>7a</sub>	Service environment quality – customer satisfaction	Not supported	
H <sub>7b</sub>	Service employee quality – customer satisfaction	Supported	0.723 ( $p = 0.000$ )
H <sub>8a</sub>	Customer satisfaction – attitudinal customer loyalty	Supported	0.314 ( $p = 0.000$ )
H <sub>8b</sub>	Customer satisfaction – behavioural customer loyalty	Supported	0.239 ( $p = 0.006$ )

It was interesting that only the layout factor had an effect on customer satisfaction overall in the testing of H<sub>1a</sub>. However there was a distinct effect by gender. None of the four factors had a significant effect on customer satisfaction for the male sub-sample but both layout (0.326,  $p = 0.005$ ) and ambience (0.299,  $p = 0.025$ ) had an effect in the female sub-sample. The role of gender perceptions in layout research needs further investigation.



What was of particular interest for  $H_{1b}$  was that the employee factor of ambience had a high significant effect (0.551,  $p = 0.000$ ) on employee satisfaction, and the effect persisted across both genders. This concurs with the literature that elements of the servicescape have an influence on employee behaviours (Babin and Boles, 1996).

Past research has shown that employee satisfaction is one of the best predictors of employee loyalty (Hsu and Wang, 2008), which was the focus of  $H_2$ . Nguyen (2006) found that employee satisfaction is crucial and that it is linked to commitment to the organisation. The findings on employee loyalty and satisfaction from Table 3 confirm past research. The effect was higher for females than males however, which is interesting and worthy of further study. Chi and Gursoy (2009: 246) suggested that 'employees who are happy and satisfied with their work environment are more likely to stay with the company'.

Due to the data collection methodology, there was no direct link possible between employees and customers in this research in order to test customer-employee effects on each other. To overcome this limitation, ten different data sets were produced using a random association between customers and employees in order to test linkages between customer and employee variables. When testing  $H_3$ , seven of the datasets showed a significant positive association between employee satisfaction and customer satisfaction. While this result should be interpreted cautiously, it does show that there is a link between the two constructs and it could indicate the impact of employee satisfaction on customer satisfaction, which is a key link in the SPC (Heskett et al., 1997).  $H_4$  was tested in the same way as  $H_3$  and similar results were found. This was unsurprising given the significant effect of employee satisfaction on employee loyalty found when testing  $H_2$ .  $H_{5a}$  and  $H_{5b}$ , which looked at the effect of employee loyalty on service environment quality and service employee quality respectively, were tested in a similar manner. No evidence was shown linking these concepts though given the fact that the customers were randomly linked to employees this is perhaps unsurprising.

$H_6$  centred on the established link between the servicescape factors and service quality. As can be noted from Table 3, three of the four servicescape factors are linked to both service environment quality and service employee quality, though interestingly not the same ones. Ambience and design and colour were supported for both aspects of service quality, though the effect of design and colour on service employee quality was only supported at the 10 per cent level. Cleanliness is important for the environmental aspect though not as significant as expected. Layout has a significant impact on the employee aspect of service quality, which is somewhat surprising given that both scales share elements around access. This could be explained in terms of access to employees and products by customers in order to meet their needs.

It was interesting, as per  $H_{7a}$  and  $H_{7b}$ , to find that customer satisfaction was dependent on the factor of service employee quality but not on service environment quality. Almost half (49.5 per cent) of customer satisfaction is explained by the service employee quality dimension, which has important implications for retail managers. Chi and Gursoy (2009: 246) noted that 'satisfied employees are likely to provide a better service which results in a satisfactory service experience for their customers', thus leading to customer satisfaction. This

service experience relates to the service quality dimension that is perceived by customers. Though not possible to consider directly in this paper due to data issues, the results could indicate that there is a relationship between employee satisfaction and customer satisfaction, which is a key link in the SPC (Heskett et al., 1997). This should be further investigated by considering a matched sample of customers and employees.

The final hypotheses ( $H_{8a}$  and  $H_{8b}$ ) consider how both attitudinal and behavioural loyalty are affected by customer satisfaction. Not unsurprisingly, customer satisfaction has a significant effect on both aspects of loyalty.

### CONCLUSIONS

A major contribution of this study is the examination of the entire servicescape in a single study. Other than studies such as Hightower et al. (2002) and Hooper et al. (2013), relatively little research has been carried out on this concept (Ezeh and Harris, 2007). From the findings it would appear that employee servicescape factors, in particular the ambience factor, affects employee satisfaction. According to Homburg and Stock (2004), increasing employee satisfaction could increase customer satisfaction and due to the crucial role that employees play in service delivery to customers it is important to look at the link between employee behaviours and customer behaviours in a service setting. It was found that customer satisfaction is affected by the service employee quality factor, which relates to employee behaviours in the store. Furthermore, employee satisfaction clearly impacts employee loyalty, and, according to Rust et al. (1996), employees who stay in their jobs develop relationships with customers. These relationships lay a foundation for a cycle of positive interactions between employees and customers (Schlesinger and Heskett, 1991):

This positive cycle results in better service which again leads to higher customer satisfaction (Rust et al., 1996: 63).

Further studies need to consider the emotional responses to the servicescape in more detail as suggested by the Mehrabian and Russell (1974) model of environmental psychology. It is acknowledged, however, that there are measurement difficulties to be overcome. Gender issues came to the forefront in this research and persisted across both samples. There is scant research on gender effects on perceptions of environments and research is needed in this area. A limitation of this study was the lack of a linkage between the employee data and the customer data. Future studies could consider dyadic data, surveying customers as they exit stores and linking their responses to the responses of the employees who served them. This is methodologically challenging and is also difficult to accomplish using an intercept approach. As well as the challenge of collecting matched dyadic data it would also be interesting to compare results from a larger sample data set. It may be interesting also for future research designs to change the research setting from the current retail grocery context to a more hedonic service context, and to test the hypothesised linkages under differing levels of consumer involvement and interest.

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