ORIGINAL CONTRIBUTION
A Revisit on the Servicescape (Physical and Social): Re-Conceptualization and Validation.

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Abstract— This study aims to re-conceptualize the servicescape construct and develop a valid full-service restaurant scale. Data were collected through an online survey of two different studies. The respondents were identified using a purposive sampling technique. In the study, 1200 correctly filled survey questionnaires were used for data analysis in SPSS. The EFA technique was applied for dimension determination, and Cronbach's alpha was used to ascertain the validity of the dimensions. In Study 2, the researcher received 300 correctly filled responses, and confirmatory factor analysis was performed to determine whether the items were adequately loaded for discriminant and convergent validity to measure the respective construct. This study confirmed 11 factors solution for the servicescape as a higher-order construct. We used Smart PLS to determine the two-second-order formative construct (physical and social dimensions) and servicescape as a higher-order formative construct. Results from the psychometric and nomological properties confirmed that the perceived servicescape is a valid instrument for measuring the environmental aspects of full-service restaurants in Malaysia. The results also identified perceived servicescape as a reflective formative higher-order construct that positively influences customer experience satisfaction. With the many inconsistencies in servicescape measurement and strategies, this study is unique as we revisit the servicescape scale and provide a more precise measurement.
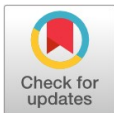
Introduction

The restaurant environment is a significant factor in attracting existing and new customers. This is because consumers enjoy food and are entertained by the surrounding environment. Many studies have used restaurant attributes (also known as servicescape) to influence consumer attitudes and behaviors. For instance, servicescape engenders positive emotions, influences the perception of service quality, increases perceived value and image, and leads to place attachment, loyalty, and favorable engagement (Akash, Khan, & Shear, 2023; Choi & Kandampully, 2019; Durna, Dedeoglu, & Balikçioglu, 2015; Kim & Moon, 2009).

One of the major revolutions in the hospitality industry is categorizing the servicescape domain into physical and social aspects. Current trends have witnessed multiple studies regarding social and physical servicescape outcomes in the hospitality industry. Although social servicescape is an extended version of Bitner (1992) conceptualization of physical servicescape (Tombs & McColl-Kennedy, 2003),

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both domains emphasize important outcomes in consumption settings and are measured independently. Bitner's servicescape covers physical aspects of the service environment, while social servicescape covers the presence of social actors that share the service environment during the consumption setting Line and Hanks (2019).

Despite progress on scale development in both domains of servicescape research, the prevailing scales (measures) of physical and social servicescape research have been limited by at least three shortcomings.

Issues in physical servicescape scale

First, extensive studies have been conducted on physical servicescapes; however, the evolution of measures and dimensions of physical aspects of the service environment demonstrates that physical elements have different conceptualizations and vary from industry to industry (context-specific). For instance, Kotler (1973) identified that consumers perceive service environment elements through sensation (vision, audition, olfaction, and touch) and confirmed that a store environment comprises multiple dimensions. The research focused on intangible features (such as color, lighting, music, cleanliness, scent cues, etc.) (Kotler, 1973). In a later development, Bitner (1992) coined the term servicescape and introduced servicescape artificial environmental factors and divided them into three broad dimensions, "ambient conditions,"; "spatial layout and functionality,"; "signs, symbols, and artifacts." Extant studies investigated the physical environment by following Bitner (1992) framework on servicescape and also made an addition of new dimensions in the same domain. Ryu and Han (2011) introduced facility aesthetics, whereas Line and Hanks (2019) added seating comfort. Kim and Moon (2009) included the electric equipment, Lockwood and Pyun (2019) included spaciousness and physiological conditions in casual restaurants.

Similarly, Choi and Kandampully (2019) delineated public design, room design, and ambiance as important aspects of the physical servicescape. This evolution of the physical servicescape indicates that no standardized scale/measure is available to capture the physical aspects of the service environment because available measures capture the specific context and vary according to the study context. This is particularly true in the context of Malaysian full-service restaurants, which have different settings and cultural contexts. Multiple national and international full-service dining restaurants operate in Malaysia, which adds diversity to the existing structure of society. No study has validated measures to identify the physical environmental factors in the context of Malaysian full-service restaurants to date. Therefore, developing a scale (and identifying dimensions) of the physical servicescape environment that customers consider critical for their restaurant choice and service evaluation will be interesting.

Issues in the social servicescape scale

Second, the social servicescape is an emerging concept in the hospitality sector and has gained attention. Surprisingly, only a few studies have worked on the operationalization and scale development of the social servicescape. Some studies have developed measurement instruments covering customer-to-customer and customer-to-employee active and passive interactions during service encounters at different stages of service delivery (Husain, Shaibur, & Al Muzahid, 2021; Martin & Pranter, 1989). Brocato, Voorhees, and Baker (2012) and Baker and Wakefield (2012) developed a three-dimensional framework for a situation where customer-to-customer interaction is passive, and the focal customer does not directly interact with other customers. In such a scenario, customers perceive and assess others along the dimensions of appropriate behavior, perceived similarity, and physical appearance. However, this is a restricted form of scale—the scale was limited to customers' passive interaction with other customers and (other customer perceptions) and completely ignored the role of passive interaction with other employees. We argue that it is logical to believe that if the presence of a customer influences consumer behaviour, the presence of other employees can also affect consumer service evaluation and behaviour. Hanks and Line (2018) established the social servicescape as a higher-order construct in a full-service restaurant context. Based on social impact theory (Nowak, Szamrej, & Latané, 1990), they operationalized and conceptualized the servicescape as a higher-order construct comprising employee servicescape, customer services, and social density.

However, the operationalization of the "social servicescape" latent variable was conducted in the US cultural context. Further, the authors have given research calls to operationalize and validate social servicescape constructs in different cultural contexts (such as Malaysia). Line and Hanks (2019) further extended their work and measured the effect of servicescape on fast-casual restaurant consumers' behavior; they divide social servicescape into two second-order reflective constructs known as customer servicescape and employee servicescape. These second-order constructs comprise three first-order dimensions (perceived similarity, physical appearance, and suitable behavior). Moreover, Hanks and Line (2018) established a nomological framework and confirmed social servicescape as a second-order construct comprising employee and customer servicescapes. However, these studies only used "Confirmatory Factor Analysis" (CFA) to validate the scale, disregarding the importance of EFA. The above discussion scales of social servicescape cover the passive interaction of the focal customer with other customers and employees. These studies also confirmed the presence of different customers and service providers (passive interaction), and their appropriate behavior also influences consumer service evaluation (Grove & Fisk, 1997; Hanks, Line, & Kim, 2017; Miao & Mattila, 2013). However, we argue that consumers not only observe customer-to-customer and

customer-to-employee active (or passive) interactions and their behavior, but they also take notice of how employees of the organization behave with each other at different stages of service delivery. Employee-to-employee-appropriate behavior and its effect on customer evaluation has been overlooked and has yet to be investigated as part of the social servicescape environment. Employees are an integral element of service creation and delivery; therefore, their behavior is significant in determining consumer attitudes and behaviors. Appropriate employee behavior can increase or decrease the quality of service experience. Based on the role theory, employees are expected to play specific roles or scripts according to the situation. Banton (1996) defines a role as "the expected behavior associated with a social position" (p. 749). According to O'Driscoll (2022), social interactions are regulated by the roles played by each of the two individuals involved, which leads to the development of a script for that particular interaction. Script theory implies that frequent repetition of interactions leads to the formation of basic expectations regarding how the interaction should proceed. In a service environment, employees typically have clearly defined roles and scripts. Role conformity engenders positive service evaluation, like positive interaction with customer employees, and is also expected to treat their team members appropriately. We propose that consumers expect suitable behavior among organizational employees, and any misbehavior or failure to behave according to the expected role and script can ruin the service environment and result in negative service evaluation. Therefore, this study extends the social service domain by adding employee-to-employee-suitable behavior as part of the service environment.

Third, most past studies on physical and social servicescape scales have investigated both aspects independently; this study will measure the servicescape scale by unanimously taking into account the holistic effect of both physical and social aspects of servicescape.

Therefore, based on the gaps mentioned above, the principal aim of this study is to re-conceptualize the servicescape construct and develop a valid full-service restaurant scale that considers the physical, social (and employee) servicescape.

Contribution

"This study contributes to the hospitality literature by providing a valid and reliable scale measuring the physical and social servicescape during a dining experience." In addition, most previous studies have investigated social servicescape as part of a physical servicescape or unidimensional variables; however, based on social impact theory (Nowak et al., 1990), this study operationalized the servicescape construct, and the proposed model suggested that social servicescape is not unidimensional, but a multidimensional higher-order reflective construct consisting of seven first-order social dimensions. Similarly, physical servicescape is a second-order construct comprising four first-order submissions. "More importantly, identifying the servicescape as a third-order construct (using the Gestalt approach) is an important contribution to the existing body of knowledge in the servicescape domain because these aspects are rarely measured together in a single study." Hair, Ringle, and Sarstedt (2013) suggested utilising a higher-order construct if the model is complex and comprises multiple factors. Higher-order modeling helps achieve higher parsimony and diminishes model complexity as it can be stretched to various levels (Hair et al., 2013). Moreover, this study also introduced another dimension, employee to employee suitable behaviour, as part of social servicescape, largely ignored in previous studies on service environments. With this addition, the physical and social dimensions of the servicescape will have a multifaceted holistic effect on consumer behaviour and will have critical theoretical and practical contributions. Ultimately, this research work enables managers and researchers to measure servicescape elements during the dining experience in the Malaysian full-service restaurant context and can also be generalized to other geographic areas.

Literature Review on Physical Servicescape

The literature review depicts two parallel streams of research: atmospheric and servicescape. The atmosphere is delineated by Kotler (1973) and defined as ''the effort to design buying environments to produce buyer-specific emotional effects that enhance his purchase probability''. People assimilate atmospheric characteristics through sensory channels, and Kotler confirmed that the atmospheric effect can lead to favourable purchase behaviour. The term servicescape was coined by Bitner (1992) refers to ''the physical surroundings ('built environment') that impact on the behaviours of customers and employees in service organizations'' Bitner confirmed objective evaluation of the environment can engender cognitive, affective and emotional reaction of customers and employees to the prevailing environment which affect social interaction and he divides servicescape into four categories known as ambient conditions, spatial layout and functionality, lastly sign symbol and artefacts. The literature review identified servicescape as a broader term, with inconsistent dimensions which vary with respect to the context of the study. For instance, McGraw-Hill Baker (1987) by emphasising the tangible aspects confirmed due to the intangible nature of the service industry consumers first interact with the physical environment and develop their perception and she classified the environment into "ambient", "design" and "social factors". A leisure service setting was chosen by Wakefield and Blodgett (1994) to develop a servicescape model in a leisure setting by focusing on the Major League baseball stadium. They identified two dimensions: "spatial layout and functionality" and "aesthetics". Similarly, Wakefield and Blodgett (1999) conducted a study on movie theatres and professional hockey games, tangibility was the main focus and they considered three dimensions "design", "equipment" and "ambience". Lucas (2003) identified different dimensions of the servicescape of the casino in terms of "layout navigation", "cleanliness",

"ambience", "seating comfort" and "interior decor". Further confirmed these positively influence consumer satisfaction with servicescape in a casino setting, however, these dimensions cannot be used in a full-service setting due to differences in context and complexity of the restaurant environment. Countryman and Jang (2006) investigated hotel servicescape components in the scenario-based study, however, their approach was only limited to the hotel lobby and the findings of a study done in an authentic setting might be different from the simulated study by Lockwood and Pyun (2020) developed servicescape scale in upscale hotel context and confirmed previous studies that used Q sort technique to develop scale items of hotel servicescape, in this study they conducted a formal survey and done CFA and EFA analysis to validate scale dimension and identified aesthetic quality, functionality, atmosphere, spaciousness, and physiological conditions as essential dimensions in the same order. However, this study only focused on man-made elements of servicescape and ignored human involvement in forming the consumer experience.

Kim and Moon (2009) delineated servicescape dimensions (facility esthetic, layout, electronic equipment, seating comfort and ambient conditions) positive influence on the perceived service quality and pleasure feeling of restaurant consumers. On the other hand, Line and Hanks (2020) investigated the holistic effect of servicescape on consumer behaviour in fast-casual dining settings and confirmed ambient conditions, facilities, layout and seating comfort as important dimensions of physical servicescape. For this study, the researcher adopted the most commonly used dimensions of physical servicescape (facility aesthetics, layout, physiological conditions, and seating comfort) that fit the alaysian full-service restaurant context.

Conceptualization of social elements and servicescape construct

"Servicescape is defined as the environment or scenario where consumer experience is created in the service encounter" (Harris & Ezeh, 2008). Established approaches on servicescape initially only identified physical aspects of the service environment by disregarding social elements. However, later on, some researchers affirmed the importance of social elements of the service environment as part of the servicescape (Bitner, 1992), Hoffman & Turley, 2002; Turley & Milliman, 2000.

Bitner (1992) acknowledged the weakness of the model; although her conceptualization of servicescape was based on physical and manufactured stimuli, consumers and employees are also affected by other social actors, such as the presence of other customers and employees. She has left this area unexplored by other researchers. Following this research call, past studies have explored the social environment from demographic and psychographic perspectives which influence focal customer service evaluation.

"Social elements have also been studied as physical elements, despite their distinguished social nature. Tombs and McColl-Kennedy (2003) coined the term servicescape'. The behaviour of service staff and other customers is reported to influence the evaluation, satisfaction, and approach or avoidance behaviour of other customers. These studies mainly focused on customer-to-employee and customer-to-customer active interaction during consumption situations (Tubillejas Andres, Cervera-Taulet, & Calderon Garcia, 2016). The domain of customer servicescape with passive customer-to-customer and customer-to-employee interaction is still in its infancy (Brocato et al., 2012; Line & Hanks, 2019). In particular, suitable employee-to-employee behavior and its influence on consumer service evaluation were never included as part of the social servicescape environment. Therefore, to bridge this important gap in this study, social servicescape dimensions were conceptualized based on the framework developed by Brocato et al. (2012), Baker and Wakefield (2012) and Tubillejas Andres et al. (2016) in which "customers assess or perceive others in the service environment in terms of perceived similarity, physical appearance and active interaction"".

According to Lemke, Clark, and Wilson (2011), customer–employee interaction is conceptualized as "the customers' perception of superiority of how the service is delivered during service encounters". Customers judge the level of service quality through their appearance and the way they interact with them during service provision (Moore, 2005). Positive employee behavior has been reported to influence customer satisfaction. The perceived similarity is defined as "the degree to which a customer feels that he is similar to and can identify with the other customers in the service environment". Moreover, Physical appearance can be defined as "the physical characteristics and overall look (i.e., the attributes) of other customers in the service environment (i.e., the object) as perceived by individual customers" and finally, appropriate behaviour can be defined as "the extent to which a focal customer perceives that other customers behave appropriately given the context of the service environment" (Baker & Wakefield, 2012; Brocato et al., 2012). The same conceptualization is applied to an employee's physical appearance and behavior. In this study, employee behavior was not restricted to active employee interactions with focal customers. However, based on role and script theory (ref), we added passive interaction (employee suitable behaviour with other customers) (Hanks & Line, 2018) and also introduced "employee to employee suitable behaviour" dimensions as part of the social servicescape construct.

The conceptualization of the servicescape construct is based on gestalt and social impact theories (Demangeot & Broderick, 2010; Nowak et al., 1990). Based on a detailed discussion on physical and social servicescapes and extending Bitner's model, this study conceptualized servicescape as a broader term and represents a consumption setting comprising built (manufactured, physical) and social (human) dimensions that affect consumers in a service organization.

Methodology and Data Analysis

Scale development and validation of servicescape

For scale development, we adopted the procedure recommended by Churchill Jr (1979) and Tsaur, Yen, and Yan (2016). The suggested scale development process comprises four steps, as described in the following section (figure 1):
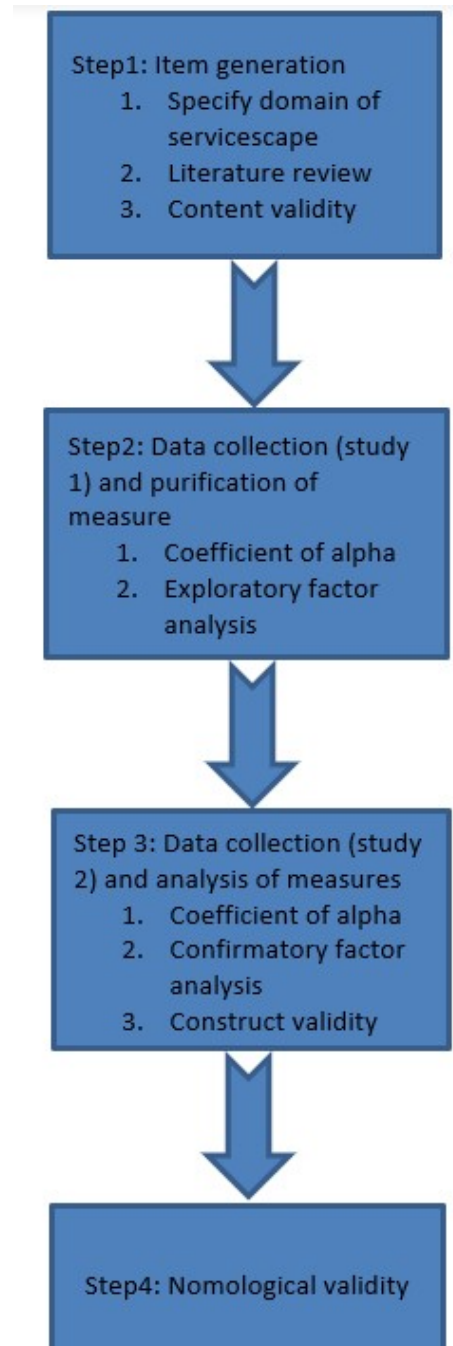

Fig. 1 *A flow chart of scale development process*

Step 1: Item generation

Moreover, Churchill Jr (1979) recommended practices that can be used to develop an initial set of items, such as focus group interviews, literature reviews, and experience surveys. For this research, the author conducted an extensive literature review. Regarding the literature

review technique, researchers should clearly state the variables and related dimensions. An extensive literature review shows that servicescape is a multidimensional construct consisting of three different entities: physical servicescape and social servicescape. These two dimensions of servicescape are further categorized into seven (physical) and seven (social) subdimensions. Social servicescape consists of perceived similarity (customers) and physical appearance (customers), suitable behaviour (customers), physical appearance (employees), customer-to-employee interaction, employee suitable behaviour (with other customers), and employee-to-employee suitable behaviour. Physical servicescape are further categorised into facility aesthetics, layout, ambient conditions, seating comfort, spaciousness, cleanliness, and electronic equipment.

This study compiled the initial set of items from existing studies by conducting an extensive literature review.

"Items for perceived similarity, physical appearance and suitable behaviour were adopted from, Baker and Wakefield (2012) and Nathaniel Discepoli Line and Hanks (2019) respectively. Items of the five dimensions of the physical servicescape (facility aesthetics, layout, ambient condition, seating comfort and cleanliness, spaciousness, and electronic equipment) were adopted from Han and Ryu (2009); Kim and Moon (2009), and Ryu and Jang (2008). All items were measured using a seven-point Likert scale ranging from strongly disagree (1) to strongly agree (7) ".

Content validity

Sarstedt, Ringle, and Hair (2021) defined "content validity is a subjective but systematic assessment of how sound the domain content of a construct is explained by its indicators" to ensure content validity, we have sent the scale to four PhD students and two experts specialized in marketing. They analyzed the relevance of the items with their respective constructs and evaluated the wording of the content of the item. We accommodated their comments and revised the items according to their suggestions. This criterion helps fulfill the prerequisite condition of content validity.

Step2: First-time data collection (study 1)

To further filter the measure of restaurant servicescape, we utilized the EFA in SPSS. EFA is a dimension-reduction technique used to measure internal consistency and grouping between measurement items. We created an online Google form and shared a link with restaurant customers who had recently dinned a Full-Service Restaurant (FSR). The respondents were briefed on the objectives of the study. Finally, respondents (conveniently available) were requested to complete a questionnaire regarding their dining experience. With continuous efforts of four months, two hundred properly filled questionnaires were received and used for the data analysis.

Demographic details demonstrated that most of the respondents were male (59%) between the age groups of 18 and 30 years, while 41% of the respondents were female. One hundred percent of the respondents were Malaysian nationals, most of whom were Malay or Chinese.

Table I
KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.759
Bartlett's Test of Sphericity Approx. Chi-Square	4132.203
df	861
Sig.	.000

Table 1 highlights the results of the KMO measure of sampling adequacy and the Bartlett's test of sphericity. The results show the "value of KMO" is higher than threshold 0.5 which indicate sample size or data is useful for factor analysis as the adequate variance is detected within the data. Moreover, "Bartlett's test of sphericity" tests the hypothesis that there is no correlation between variables and data, which is not useful for factor analysis. The results of "Bartlett's test of sphericity" meet statistical significance indicating that "correlation matrix is not an identity matrix" and suggested that the data is appropriate for conducting for further analysis.

Table II
Total variance explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.671	15.884	15.884	6.671	15.884	15.884	4.443	10.578	10.578
2	4.243	10.102	25.987	4.243	10.102	25.987	3.068	7.306	17.884
3	2.998	7.139	33.126	2.998	7.139	33.126	2.738	6.519	24.403
4	2.642	6.29	39.415	2.642	6.29	39.415	2.727	6.492	30.895
5	2.212	5.266	44.682	2.212	5.266	44.682	2.702	6.433	37.328
6	2.065	4.918	49.599	2.065	4.918	49.599	2.537	6.039	43.367
7	2.009	4.782	54.382	2.009	4.782	54.382	2.451	5.836	49.203
8	1.869	4.449	58.831	1.869	4.449	58.831	2.374	5.653	54.856
9	1.591	3.787	62.619	1.591	3.787	62.619	2.161	5.146	60.003
10	1.432	3.409	66.028	1.432	3.409	66.028	2.055	4.892	64.895
11	1.039	2.473	68.5	1.039	2.473	68.5	1.514	3.605	68.5

Table 2 presents the variance explained by each component and their accumulated values with eigenvalues greater than 1. "Eigenvalue represents the total amount of variance that can be explained by a given principal component". Normally, the analysis part shows as many factors as many components; however, the total variance explained table confirmed 11 factors, as while running principle component analysis (PCA), we selected eigenvalue 1. Therefore, only those components will be part of the analysis which has an eigenvalue of more than 1 will be part of the analysis. Based on this analysis, 11 factors were identified. These 11 factors explained 68.5 percent of the variance in the original 50 items (variables). Therefore, the complexity of the data was reduced to 11 factors for further analyses.

EFA and reliability analysis

Table III
Exploratory factor analysis (sample = 200, items:41)

	Items	1	2	3	4	5	6	7	8	9	10	11	Cronbach's alpha
					10-Factors extracted based on Eigenvalues								
Facility Aesthetic (Eigen value=2.998	FE1	.687											0.862
	FE2	.701											
	FE3	.775											
	FE4	.614											
	FE5	.720											
Layout (Eigen value=2.065)	L1		.772										0.788
	L2		.816										
	L3		.726										
	L4		.691										
Seating Comfort (Eigen value=1.869)	SC1			.781									0.864
	SC2			.901									
	SC3			.856									
Physiological Conditions (Eigen Value=1.432))	PHC1				.585								
	PHC2				.695								
	PHC3				.700								
	PHC3				.754								
Employee to Employee Suitable Behaviour (Eigen Value= 2.212	EESB1					.716							0.771
	EESB2					.844							
	EESB3					.831							

Cont...

	Items	1	2	3	4	5	6	7	8	9	10	11	Cronbach's alpha
							10-Factors extracted based on Eigenvalues						
The Physical Appearance of Employees (Eigen Value=1.591	PAE1						.800						0.784
	PAE2						.793						
	PAE3						.741						
Employee Suitable Behaviour Toward Other Customers (Eigen Value= 2.642)	SBE1							.724					0.815
	SBE2							.778					
	SBE3							.810					
	SBE4							.808					
Physical Appearance of the Customer (Eigen Value=2.009)	PAC1								.894				0.897
	PAC2								.905				
	PAC3								.769				
Perceived Similarity of the Customer (Eigen Value 6.67	PSC1									.879			0.93
	PSC2									.884			
	PSC3									.899			
	PSC4									.880			
	PSC5									.839			
Customer Employee Interaction (Eigen value=1.039)	CEI1										.737		0.83
	CEI2										.721		
Customer Suitable Behaviour (EigenValue: 4.243)	CSB1											.711	0.90
	CSB2											.662	
	CSB3											.757	
	CSB4											.792	
	CSB5											.768	

Table 3 presents the results of exploratory and reliability analyses. The EFA data underwent Promax rotation and items below 0.40 threshold loading value were dropped. We generated a total pool of 50 items at the initial level; however, after EFA, nine items were discarded because loading did not meet the set standard of 0.40. The detailed results of the factor analysis are given in Table 2, which shows the loading of each item in each respective group. Moreover, reliability analysis details were also given, for which 0.70 the believed threshold point, and Table 2 depict identified 11 dimensions Cronbach's alpha value is greater than 0.70, hence meeting reliability criteria without any issue.

Step3: Second-time data collection (Study 2) and Confirmatory factor analysis (CFA):

Study 2 followed the same procedure as that described in the study for respondent selection and data collection. As population of this study was not defined, therefore only those customers who have visited full-service restaurants in the last two months were contacted for study 2. Data were collected from a total of 350 respondents who fulfill the selection criteria. A total of 300 properly filled responses were used for CFA analysis using the Smart PLS software.

CFA (Smart PLS) analysis

"Before running the analysis, the factors (manifest variables) of the latent variables were checked for outliers, and the results indicated that there were no outliers because all values were within a range of ±3 standard deviations".

Assessment of reflective (first-order) measurement model

Table IV
Reflective measurement model analysis

Items	Outer loadings – Original Sample O	VIF	p-Value	Cronbach's α	CR	AVE
Facility aesthetic						
FE1: The interior décor of this restaurant is attractive.	0.689	1.395	0.016	0.784	0.853	0.538
FE2: This restaurant is decorated in an attractive fashion.	0.787	1.614	0.010			
FE3: This restaurant's architecture gives it an attractive character.	0.769	1.695	0.005			
FE4: The use of color in the décor scheme adds excitement to this restaurant environment.	0.671	1.658	0.024			
FE5: This is an attractive restaurant.	0.744	1.579	0.000			
Layout						
L1:In this restaurant, the aisles between the tables are wide enough to pass through easily.	0.774	1.513	0.000	0.750	0.841	0.570
L2: The layout makes it easy for a customer to move around.	0.747	1.624	0.000			
L3: The signs provided adequate direction.	0.766	1.375	0.000			
L4:The number of tables does not make this restaurant difficult to navigate.	0.733	1.470	0.000			
Physiological Conditions						
PC1: The overall lighting level was appropriate.	0.798	1.737	0.000	0.833	0.889	0.667
PC2: The temperature was comfortable.	0.839	1.997	0.000			
PC3: The aroma was pleasant.	0.825	1.932	0.000			
PC4: The background music made the restaurant a more enjoyable place.	0.804	1.855	0.000			
Seating Comfort						
SC1: The seats were comfortable.	0.860	2.077	0.000	0.868	0.919	0.791
SC2: Seating arrangement has enough space.	0.928	3.049	0.000			
SC3: It was easy to get in and out of my seat	0.880	2.313	0.000			
Physical Appearance of Employees						
PAE1: I liked the appearance of the employees.	0.817	1.643	0.000	0.785	0.874	0.698
PAE2: The employees have dressed appropriately.	0.848	1.619	0.000			
PAE3: The employees look nice.	0.842	2.420	0.000			
Employee suitable Behaviour to other Customers						
SBE1: The behaviour of the employees was appropriate for the setting.	0.736	1.492	0.000	0.811	0.875	0.636
SBE2: The employees were friendly toward me.	0.810	1.710	0.000			
SBE3: I found that the employees behaved well (high interaction quality) .	0.790	1.790	0.012			
SBE4: The employees' behaviour was pleasant.	0.852	1.840	0.000			
Customer Employee Interaction						
CEII : I am satisfied with my interaction with restaurant employees	0.743	1.181	0.018	0.583	0.819	0.695
CEI2 : I would recommend this restaurant to others	0.916	2.163	0.006			
Employee to Employee Suitable Behaviour						
EESB1: I found the employees of the restaurant behaved well with each other.	0.815	2.209	0.000	0.70	8.832	0.623
EESB2: The behaviour of the restaurant employees was pleasant with each other.	0.731	2.029	0.000			
EESB3: The employees of the restaurant were friendly with each other.	0.891	2.229	0.000			
Physical Appearance of Customers						
PAC1: I liked the appearance of the customers in this restaurant.	0.911	2.949	0.000	0.885	0.928	0.811
PAC2: The customers in this restaurant are dressed appropriately.	0.885	2.650	0.000			
PAC3: The customers in this restaurant look nice.	0.960	2.225	0.000			
Perceived Similarity (Customer)						
PSC1: I could identify with the other customers in the restaurant.	0.899	3.496	0.000	0.939	0.953	0.803
PSC2: I felt similar to the other customers in the restaurant.	0.893	3.356	0.000			

Cont..

Items	Outer loadings – Original Sample O	VIF	p-Value	Cronbach's	CR	AVE
PSC3: The other customers in the restaurant were like me.	0.909	2.708	0.000			
PSC4: The other customers came from a similar background to my-self.	0.899	3.412	0.000			
PSC5: I fit right in with the other customers during my stay in the restaurant.	0.880	3.017	0.000			
Customer Suitable Behaviour						
CSB1: I enjoy spending time with other customers.	0.780	1.644	0.000	0.836	0.884	0.603
CSB2: The other customers were friendly toward me.	0.745	1.638	0.000			
CSB3: I found that the other customers behaved well.	0.729	1.931	0.000			
CSB4: The other customers' behaviour was pleasant.	0.798	2.039	0.000			
CSB5: The other customers at the restaurant make my time there more enjoyable.	0.767	1.790	0.000			

Darsona et al. (2019) evidenced that the outer loadings> 0.40, Cronbach alpha> 0.70, and convergent validity (AVE)> 0.50 or equal. Discriminant validity was measured for the reflective constructs. Henseler, Ringle, and Sarstedt (2015) confirmed that the acceptable HTMT value must be 085, or a maximum of 0.90.

Table V
Heterotrait-Monotrait Ratio (HTMT)

	Customer Appearance	Customer Similarity	Customer Employee Interaction	Customer Suitable Behaviour	EMPLOYEE APPEARANCE	Employee To Employee Suitable Behaviour	Facility Esthetic	Layout	Physiological Conditions	Seating Comfort	Suitable behaviour
Customer Appearance	0.901										
Customer Similarity	0.378	0.896									
Customer Employee Interaction	0.13	-0.122	0.834								
Other Customers Suitable Behaviour	0.177	0.246	0.109	0.777							
Employee Appearance	0.135	0.189	0.148	0.126	0.836						
Employee To Employee Suitable Behaviour	0.308	0.028	0.536	0.173	0.332	0.789					
Facility Esthetic	0.226	-0.052	0.694	0.127	0.266	0.679	0.734				
Layout	0.171	0.121	0.086	0.121	0.17	0.262	0.139	0.755			
Physiological Conditions	0.025	-0.105	0.114	0.207	0.198	0.24	0.116	0.145	0.817		
Seating Comfort	0.236	0.294	0.085	0.071	0.192	0.237	0.102	0.301	-0.024	0.89	
Employee Suitable Behaviour With Other Customers	0.138	0.055	0.032	0.064	0.202	0.164	0.146	0.216	0.189	0.23	0.798

Table 6 indicates that these criteria were satisfied. Furthermore, the results reported in Table 4 show that the maximum item factor loading was very close to or greater than the 0.70 threshold point. Therefore, it is recommended to retain all the loading items that are lost or greater than 0.70 and ensure that there is no discriminant issue, as all values were lower than the critical value. Additionally, the AVE, VIF, and Cronbach's alpha values indicated favorable results with respect to the reliability and discriminant validity obtained.

Evaluation of formative measurement model analysis

We calculated latent variable scores using a two-stage approach and assigned them to the construct. We also evaluated the VIF, which should ideally be lower than 5 (Kock & Lynn, 2012); however, Hair et al. (1995) suggested that a value lower than 10 is also acceptable. "The findings (Table 6) confirmed that the VIF values of all variables were within acceptable levels, and there was no evidence of multi-collinearity. Moreover, we also checked the weights and level of significance of all indicators, and the results confirmed that servicescape is a valid third-order construct with physical and social dimensions".

Table VI
Formative measurement model

| Constructs	Item	Scale Type	Weight	t statistics	P-value	VIF
Physical Dimensions	Facility Aesthetic	Formative 2nd order	0.588	13.677	<0.001	1.305
	Layout	Formative 2nd order	0.330	13.446	<0.001	1.139
	Seating Comfort	Formative 2nd order	0.467	4.524	<0.001	1.111
	Physiological Conditions	Formative 2nd order	0.264	11.597	<0.001	1.038
Social Dimensions	Employee Appearance	Formative 2nd order	0.561	12.630	<0.001	1.198
	Employee Suitable Behaviour To Other Customers	Formative 2nd order	0.388	8.822	<0.001	1.067
	Employee & Focal Customer Interaction	Formative 2nd order	0.284	7.772	<0.001	1.452
	Employee To Employee Suitable Behavior	Formative 2nd order	0.388	8.24	<0.001	1.691
	Customer Appearance	Formative 2nd order	0.236	14.389	<0.001	1.317
	Customer Similarity	Formative 2nd order	0.321	22.956	<0.001	1.312
	Customer Suitable Behaviour	Formative 2nd order	0.233	5.774	<0.001	1.104
Servicescape	Physical Dimension	Formative 3nd order	0.366	14.165	0.001	1.786
	Social Dimension	Formative 3nd order	0.709	16.791	<0.001	1.785
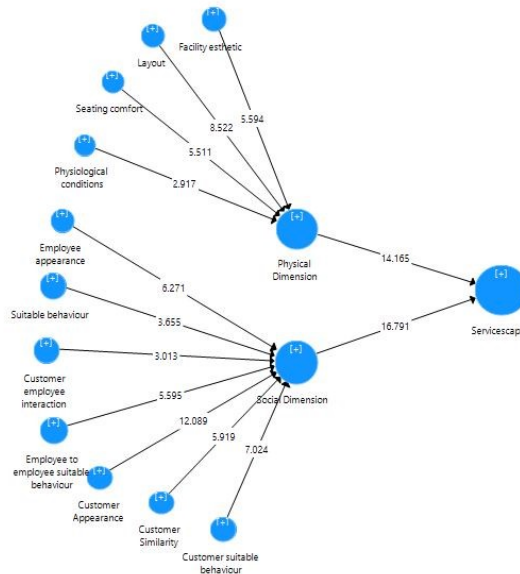
Fig. 2 *Measurement model analysis results*

Step 4: Nomological validity

Nomological validity refers to the extent to which a construct accurately predicts other concepts in a theoretically based model. Servicescape is an extension of Bitner (1992) concept of a man-made environment. The effect of physical servicescape on customer experience satisfaction is already well documented, and the re-conceptualised construct proposed in this research work should have a similar effect on customer satisfaction. Therefore, to ensure nomological validity, we propose that servicescape should have a positive effect on customer experience satisfaction. To test this proposition, smart PLS-SEM was used, and servicescape, a higher-order construct, was linked with customer satisfaction. The results highlighted that servicescape as a higher-order construct (3rd order) significantly predicts

customer satisfaction, P1: β=0.179; [t= 3.478], p=0.000), and as a construct servicescape brings 30.2% variance (R^2= 0.302) in the customer satisfaction dependent variable. These results provide significant support to ensure nomological validity of servicescape higher construct.

Discussion

Conceptualisation of the service environment and its effect on consumer behaviour is considered an important area of research in hospitality literature. The present study discusses servicescape in a full-service restaurant context and also debated prevailing weaknesses in existing studies on servicescape measures. Most of the previous scales on servicescape focused on man-made physical aspects Bitner (1992), while this conceptualisation does not minimize the effort made in previous studies to capture both aspects of the restaurant environment in a consumption setting and recognise the importance of social elements present during consumer consumption behaviour. Therefore, in this study, we adopted a holistic approach to the analysis of servicescape based on the idea that a given system cannot be explained by considering its component/parts separately) from each other, but should instead be studied as a whole (Gestalt approach) (Demangeot & Broderick, 2010). Accordingly, the main objective of this study was to relook or re-conceptualise servicescape using a gestalt/holistic perspective in a full-service restaurant context. An extensive literature review reveals the important dimensions of physical and social elements (customers and employees). Statistical evidence confirmed that servicescape is a higher-order (3rd Order) reflective formative multidimensional construct consisting of physical and social dimensions. Past studies focused only on physical aspects, and work on social servicescape was limited to customer–employee interactions. This study proposes that the presence of other customers and employees influences focal customer perceptions and service evaluations. Moreover, customers are influenced not only by direct interaction, but also by how employees treat their team members (other employees). The gestalt approach (Demangeot & Broderick, 2010) and statistical evidence proved that servicescape is a higher-order construct, and nomological validity was established by confirming servicescape as a significant predictor of customer satisfaction. Taken together, these findings indicate that consumers form a holistic perception of the service environment, which is comprised of both the physical and social aspects of the servicescape. This indicates that both aspects of the service environment should be unanimously considered when measuring service environmental effects on consumer behavior. To develop the scale, we conducted an extensive literature review and developed items based on previous studies. A total of 50 items were sent for content validity check, and later, expert comments and recommendations were accommodated to fulfill content validity criteria. During the validation process, we extracted an 11-factor solution for the servicescape higher-order construct. We also formed a second-order construct (physical and social dimensions) comprising the 11 identified factors. We identified that the full-service restaurant servicescape is a valid multidimensional construct that captures both physical and social dimensions. Hence, this study provides a valid tool to measure consumer perceptions of a full-service restaurant environment covering physical and human aspects.

Theoretical and practical contributions

The physical and social aspects of servicescape have pivotal theoretical implications for consumer behavior. Conceptualisation of servicescape as a third-order construct clarifies the understanding that focal customers observe and perceive the social environment in the same way they perceive physical aspects of servicescape; hence, along with customer and employee active interaction, the presence of other customers and employees and their behaviours (passive interaction) can influence customer experience. Overall, the results indicate that the unanimous effect of the physical and social elements of servicescape positively influences consumer service evaluation (satisfaction). The results of this study have practical implications for managers and practitioners.

Social servicescape: Focusing on the appearance and behavior of employees with others (customers and team members), this study highlights the importance of the employee training process. Most of the employees' training courses are focused on customer–employee interaction, while ignoring the fact that customers also observe employees even in passive mode. This study suggests that employees should be trained to maintain their appearance, gestures, and posture (behavior), even in passive interaction. They should also maintain the decorum of appropriate behavior when interacting with their team members. Thus, employees should be trained to know that they are being watched all the time by the customer at duty, and the maintenance of appropriate and professional behavior will positively enhance customer experience.

Customer appearance, perceived similarity, and suitable behavior are important factors for customer experience satisfaction. Companies can use targeted marketing activities to attract a similar chunk of customers, and cultural associations can be created by developing different themes in the restaurant (showing sports and pop culture, etc.) to develop a sense of belongingness and ingroup behavior. People who are part of the group demonstrate suitable behaviour and always try to act as per socially accepted values and set rules. Hence, these social factors positively contribute to consumer experience.

The physical dimensions of the servicescape are the place where the customer enjoys their food, and the interior and exterior design of the restaurant should be attractive and properly decorated. Customers should feel it is easy to navigate; therefore, appropriate

spaces should be provided within chairs and tables. Chairs should be comfortable, and the restaurant environment should be enticing and welcoming with proper lighting and comfortable temperature.

Conclusion

Our study highlighted important research gaps in the existing literature and reconceptualized servicescape as a higher-order construct consisting of physical and social dimensions in Malaysian full-service restaurant contexts. Most previous studies have focused on either the physical or social aspects of the service environment and their effects on consumer behavior. We adopt a holistic approach and cover the maximum aspects which may affect consumers' consumption evaluation. For scale development, this study adopted the procedure suggested by Churchill Jr (1979) and Tsaur et al. (2016) and also tested the validity and reliability of the measures in the Malaysian context. Further, to ensure nomological validity, we tested the effect of servicescape (as a higher-order construct) on consumers' experience satisfaction, and the findings supported this assertion. This affirms that the holistic effect of servicescape is more useful in identifying how the restaurant environment unanimously influences consumers' experiences. Future studies can also test this scale in other geographic regions and study settings to obtain more generalizable results.

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