

The effect of design of restaurant on customer behavioral intentions

Nawras M. Nusairat^{a*}, Qais Hammouri^b, Hamad Al-Ghadir^c, Alaeddin Mohammad Khalaf Ahmad^d and Mohammad Al Haj Eid^{e*}

^aAssistant professor of Marketing and Consumer Behaviour, Applied Science Private University, Amman, Jordan

^bDepartment of Management Information System, Applied Science Private University, Amman, Jordan

^cProfessor of Marketing, Applied Science Private University, Amman, Jordan

^dProfessor of Marketing, Princess Sumaya University for Technology, Amman, Jordan

^eMarketing Department, University of Otago, Dunedin, New Zealand

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ABSTRACT

This study investigates the mechanism by which customers' affective and cognitive states drive their behavioural intentions towards upscale restaurants. With stimulus-organism-response (SOR) theory as a backbone, two competing mediation scenarios; one-step versus two-step mediation are examined. A dataset of 425 conveniently selected valid responses was used to test the models. Structural equation modelling shows that customer behavioural intentions were better explained by a cognitive-affective mediated model than by one-step mediated model. The results of hypotheses testing reveal the significance of restaurant design in enriching customers' cognitive experience, thus, eliciting their affective states, which ultimately affect their behavioural intentions. This paper shows the applicability of the cognitive theory of emotions in explaining restaurant design-customer behavioural intentions relationship. The results also provide insights for restaurant operators on how the design characteristics of their restaurants can be best utilised to encourage positive customer responses. Discussion, conclusion and future work are also provided.

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1. Introduction

The term “Servicescape” as first introduced by Bitner (1992) describes the physical environment, where the service is provided. Typically, in a servicescape, both customers and employees are exposed to numerous cues and do response in affective and cognitive manners. Since the first time the “Servicescape” term has been brought to service and hospitality literature, increasing research efforts devoted to examine the influence of various factors of the service environment on customers' responses (Wakefield & Blodgett, 1996; Kim & Moon, 2009; De Nisco & Warnaby, 2013; Meng & Choi, 2017; Dedeoglu et al., 2018; Park et al., 2019). Marketing atmospherics and environmental psychology literatures substantially acknowledge the role of servicescapes in driving customers' responses. In this extent, the stimulus-organism-response (SOR) model of Mehrabian and Russell (1974) has inspired much of the previous empirical studies. The SOR model has been largely used to capture the interrelationship among the physical environment (S) customer affective and cognitive states (O) and behavioural responses (R) in different business contexts (Donovan, et al., 1994; Chang et al., 2011; Kumar & Kim., 2014; Nusairat et al., 2017; Ortigón & Royo, 2019). Nevertheless, in some cases, the model shows a deficiency on linking store environment to customer behavioural responses (e.g. Chebat & Michon, 2003). Other empirical studies revealed challenging findings, where customers' cognition was found to precede customers' affections in carrying the impact of environmental factors on customer

* Corresponding author. Tel.: +64 21 029 71940

E-mail address: mohammad.alhajeid@postgrad.otago.ac.nz (M. Al Haj Eid)

behaviour in different retail and service contexts (Kivela et al., 1999; Dennis et al., 2012; Kumar & Kim, 2014). With this knowledge gap in mind and motivated by the absence of empirical studies on customer restaurant behaviour in Jordan, the current research seeks to examine the role of restaurant design in shaping restaurant customer behavioural intentions through assessing two different scenarios of mediation for customers' affective and cognitive states in the context of upscale restaurants.

2. Research significance

Understanding the maze of the mediation suggested by the research models of this study (e.g. one-step or sequential) is insightful for theory and practice. Theoretically; this paper is expected to generate a distinct understanding on the mediating effect of both affective and cognitive states on the relationship between restaurant design and customer behavioural intentions. That is, the study utilizes a broader perspective, whereby the cognitive theory of emotion or cognition-emotion approach is integrated with the M-R model to create two alternative cases of mediation. A simultaneous empirical testing for the resulting competing cases of mediation (i.e. one-step and two-step) for the first time contributes to the novelty of this paper. In addition to that, design factors are explored in this study as a multidimensional factor rather than a certain specific dimension such as colour and layout as reported by the most of previous studies (e.g. Githiri, 2016; Jain et al., 2014; Ryu & Han, 2011; Tantanatewin & Inkarojrit, 2018). Furthermore, the research findings are expected to provide a theoretical foundation that explains how the affective and cognitive states influence customers' intentions specifically in restaurant settings. Empirically, the research findings are expected to be insightful for practitioners through depicting the significance of the design factors in shaping customer intention. Furthermore, understanding how the maze of mediation works can be helpful in leveraging the influence of design characteristics on customer intentions.

3. Theoretical framework and hypotheses development

Much of previous research approved that the Mehrabian and Russell's model is considered as one of the best models to understand the impact of the business environment on customer intentions in different retail and services contexts (Chang et al., 2011; Kalra et al., 2016; Vieira, 2013). The dominate idea of such stream of research is that the features of retail and/or service environments (S) affect customer internal states including emotion and/or cognition (O), which in turn leads to specific behavioural responses (R). The emotional states are derived from the environmental psychology model of M-R. Emotion (Pleasure & Arousal) and cognition is proposed to operate simultaneously as organism mediating variables in the S-O-R series. Based on that, a restaurant's design directly affects customer affective states and the perceived quality of restaurant servicescape, which, in turn, drive customer behavioural intention.

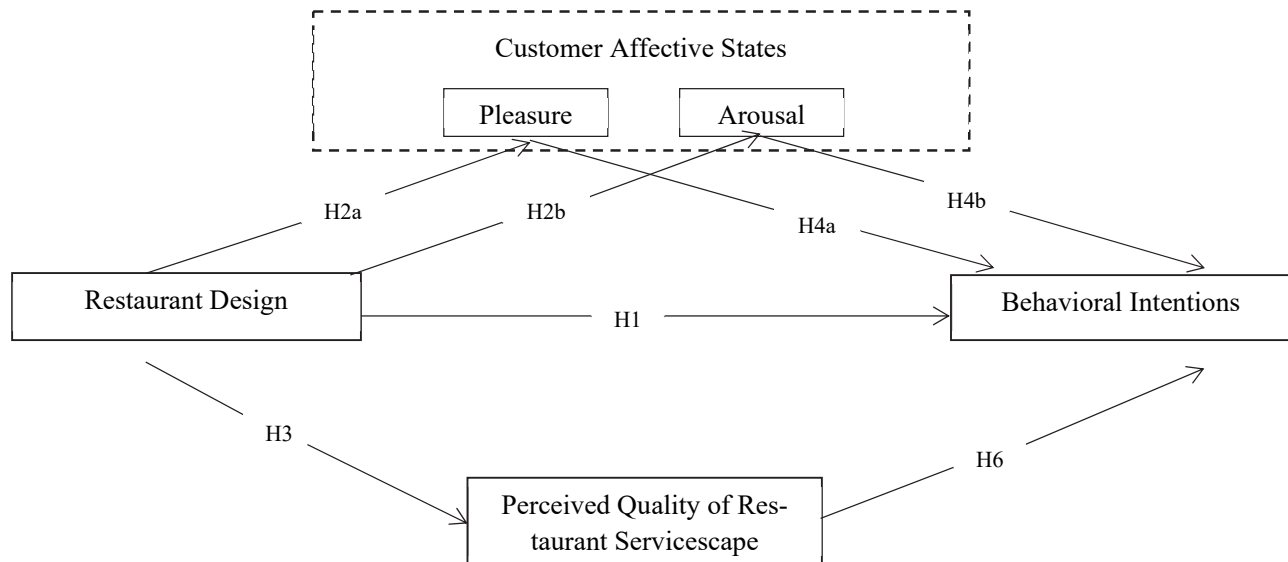


Fig. 1. One-step Parallel Mediation Model

On the other hand, and based on the cognitive theory of emotions (Lazarus, 1991) the effect follows a cognitive-affective sequence of mediation, whereby the cognitive evaluation of the restaurant environment is a critical antecedent before affective states emerge (Fig. 2). That is, restaurant design factors affect customer affective states indirectly through the perceived quality of servicescape and this ultimately leads to customer behavioural intention. According to Martín-Ruiz et al. (2012) servicescape is believed to be of the most important factors that may contribute to enrich customer contextual experience and to encourage more positive responses. In this extent, Wakefield and Blodgett (1996) declared that servicescape influences perceived quality, which result in more satisfaction. To explore the interaction between the environment and customer responses

to environmental stimuli, M-R model founded by Mehrabian and Russell (1974) is considered as one of the robust models utilized to evaluate the influence of atmospheric on consumer behaviour in in different consumption areas (Ali & Amin, 2014; Heung & Gu, 2012; Ryu & Han, 2011; Tantanatewin & Inkarojrit, 2018). According to S-O-R model, design factor is considered as a stimulus influencing individual's emotions. Baker (1986) originated the term “design factors” to describe the visual elements that are visible to customers involving functional elements such as store layout and displays and aesthetic ones such as colour and décor, which can influence an individual's experience. Design factors such as layout have a significant influence on a customer's quality perception. Empirical evidence also approved the capability of design factors to affect individual emotion (Bigdeli & Bigdeli, 2014; Chebat & Morrin, 2007; Hermawan & Yusran, 2015), behavioural intention (Ali & Amin, 2014; Baksi, 2013; Heung & Gu, 2012), and perceived quality (Jang & Namkung 2009; Lee & Kim 2014). Based on previous discussion of literature, the following hypotheses were suggested:

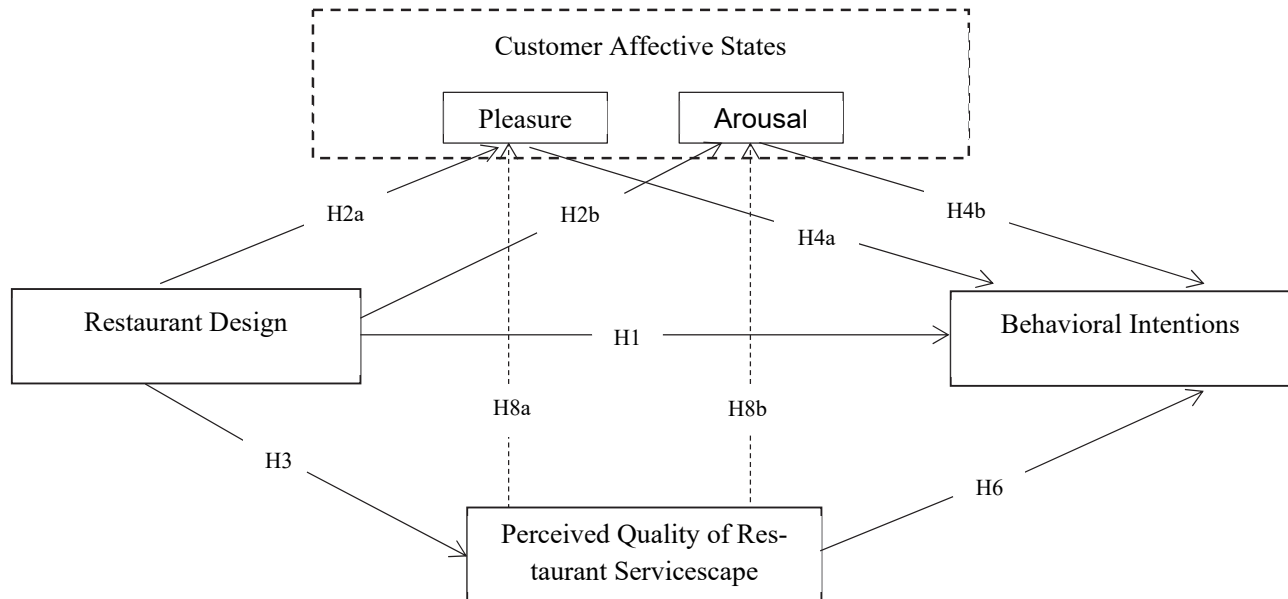


Fig. 2. Two-step Sequential Mediation Model

H1: There is a significant positive effect of restaurant design on customers' behavioural intentions.

H2: There is a significant positive effect of restaurant design on customers' affective states of (a) pleasure and (b) arousal.

H3: There is a significant positive effect of restaurant design on the perceived quality of a restaurant servicescape.

Organism represents the internal activities including a set of perceptual, physiological and feeling processes that make up the final action of the individual (Koo & Ju, 2010). As an organism factor, emotions refer to customer affective senses or feelings in shopping and consumption settings such as shopping malls and restaurants. Whereas, the perceived quality of servicescape is adopted in the current study as an extension to the Mehrabian-Russel's model with an intention to generate a more comprehensive understanding on customer experience while in a servicescape. A servicescape can include two groups of factors, the first group is related to human factors (humanitarian-related factors), this may involve different sorts of customer perceptions such as perceived services provided by restaurant employees, and the second group is related to physical environment features such as design and décor (Khan & Rahman, 2017). In the M-R model, emotion states fall into three basic elements involving: pleasure; arousal; and dominance (known as PAD states). Conceptual insights and observed evidences reported dominance as a non-significant affective state in predicting individual behaviour in business environments, where much of the affective responses are mainly limited to pleasure and arousal (Ryu & Jang, 2007; Ali & Amin, 2014; Bigdeli & Bigdeli, 2014; Hermawan & Yusran, 2015; Morrison et al., 2011; and Simanjuntak et al., 2020). In accordance with this, our study will adopt only pleasure and arousal as major affective organism states. The perceived quality of restaurant servicescape is also depicted as another intervening organism factors leading to the final result in the causal chain, which is response. In marketing research, “response” is focused on the final decisions made by consumers (Chang et al., 2011) and is the outcome in the individual approach or avoidance behaviour (Im & Ha, 2011). Approach behaviours on one hand reflect the positive responses made by the customer on a specific purchasing pattern, whereas the avoidance behaviours include the negative responses that lead to reduce customers' intention to purchase (Eroglu et al., 2001). In light of the previous discussion, the current study utilizes pleasure and arousal to capture individual affective states, while, the perceived quality of restaurant servicescape is measured in terms of customer cognitive evaluation of restaurant servicescape. Customer behavioural intentions are also identified in this research as conative outcomes relating to the positive word of mouth and revisit intentions. Most of previous studies suggested that customer behaviour in restaurant contexts is directly affected by the affective states of customers (Wakefield

& Baker, 1998; Hyun & Kang, 2014; Hermawan & Yusran, 2015; Park et al., 2019) and their cognitive inferences (Babin et al., 2003; Chen & Hsieh, 2011, Dedeoglu et al., 2018). Furthermore, such affective states and cognitive evaluations were observed in some cases as mediating variables in the relationship between store environment and customer behaviour (Kim & Moon, 2009; Lin & Liang, 2011; Dedeoglu et al., 2018; Park et al., 2019). In this paper, the perceived quality of restaurant servicescape is considered as a cognitive inference made by customers towards the restaurant. Therefore, we predict that:

H4: There is a significant positive effect of customers' affective states of (a) pleasure and (b) arousal in restaurant servicescape on customers' behavioural intentions.

H5: The relationship between restaurant design and customers' behavioural intentions which is mediated by customers' affective states of (a) pleasure and (b) arousal

H6: There is a significant positive effect of the perceived quality of restaurant servicescape on customers' behavioural intentions.

H7: The relationship between restaurant design and customers' behavioural intentions is mediated by the perceived quality of restaurant servicescape.

Emotion and cognition are identified in the S-O-R model as independent from each other. In this study, we suppose that emotion and cognition as organism factors are interrelated in a way or another. Therefore, the current research departs from this tradition to test a sequential mediating effect between affective states and the perceived quality of servicescape as shown in the proposed model (Fig. 2). Hence, based on Lazarus's (1991) cognitive theory of emotions, whereby customers think first before they feel, the following hypothesis is formulated:

H8: There is a significant positive effect of the perceived quality of restaurant servicescape on customers' affective states of (a) pleasure and (b) arousal.

H9: The relationship between customers' perceived quality of restaurant servicescape and customers' behavioural intentions which is mediated by their affective states of (a) pleasure and (b) arousal.

4. Research methodology

The research population comprises upscale restaurants customers in Jordan. A self-completed questionnaire survey was administered to a convenient sample of 470 restaurant customers, who were intercepted in 7 randomly selected upscale restaurants in Jordan. Nevertheless, respondent selection was randomized, following a systematic sampling procedure to recruit potential respondents, which has largely contributed to reducing selection bias. Furthermore, respondents were asked to fill in the questionnaire while being in the restaurant, so that they can directly experience the restaurant servicescape, thereby, provide more reliable responses. Out of the total number of questionnaires distributed, 425 complete valid responses were generated, indicating (.90) effective response rate. Research variables were observed using Twenty-Six measurement items derived from established empirical research (see Table 1 below). Particularly, restaurant design and customer behavioural intentions were assessed on a 7-point Likert scale, whereas bipolar semantic differential measures were employed to assess customer affective states (pleasure and arousal) and cognitive inferences (the perceived quality of restaurant servicescape).

Table 1
Variables and Item Coding

Variables	Items Codes	Sources
Restaurant Design	(D1) (D2) (D3) (D4) (D5) (D6) (D7)	(Ryu & Jang, 2007) (Baker et al., 1994)
Pleasure	(P1) (P2) (P3) (P4)	Mehrabian & Russell (1974)
Arousal	(A1) (A2) (A3) (A4)	Mehrabian & Russell (1974)
Perceived Quality of Restaurant Servicescape	(PQR1) (PQR2) (PQR3) (PQR4) (PQR5) (PQR6)	Fisher (1974)
Behavioural Intention	(BI1) (BI2) (BI3) (BI4) (BI5)	Kim & Moon (2009) Ryu & Jang (2007)

5. Data analysis and research findings

As a preliminary procedure, the data was checked for completeness and normality. Descriptive statistics suggested that the data was complete and valid. Also, normality measures including skewness and kurtosis values as suggested by Kline (2005) showed a reasonable normal distribution of the data (skewness $\leq \pm 3$ and kurtosis $\leq \pm 10$). Descriptive statistics indicate that (57.8%) of participants are female and between 36-44 years old (58.8%). The majority of them are Bachelor degree holders (63.0%), privately employed (60.0%) with a monthly income level ranges between 1000 JDs to 1499 JDs (25.5%). Detailed demographic statistics of the observed sample is shown in Table 2 below. The data analysis follows the two-step approach of Anderson and Gerbing (1988), whereby, measurement model validation process is carried out first before the hypothesised structural models are examined. Confirmatory factor analysis (CFA) was conducted to validate the measurement model (typical for both scenarios), followed by reliability and validity assessments.

Table 2
The summary of personal characteristics of the participants

Measure	Item	Count	Percentage %
Gender	Male	204	48.0
	Female	246	57.8
Age	18-26	21	04.9
	27-35	119	28.0
	36-44	250	58.8
	45-53	22	05.1
	54 and above	13	03.2
Marital Status	Single	202	47.0
	Married	221	50.5
	Other	2	02.5
Education	Secondary	45	10.5
	Diploma	34	08.0
	Bachelor	268	63.1
	Higher Education	78	18.4
Job	Public Sector Employee	44	10.4
	Private Sector Employee	255	60.0
	Business Owner	126	29.6
Income	Less than 500 JDs	85	20.0
	500-999 JDs	91	21.4
	1000-1499 JDs	108	25.5
	1500-1999 JDs	100	23.5
	2000 JDs and above	41	09.6

Table 3
CFA Analysis Results and Validity and Reliability Measures

Constructs	Indicators	Factor loadings	CR	Cronbach's alpha	
Restaurant Design	D1	0.91	0.80	0.97	0.97
	D2	0.90			
	D3	0.88			
	D4	0.94			
	D5	0.89			
	D6	0.91			
	D7	0.89			
Pleasure	P1	0.89	0.78	0.94	0.94
	P2	0.87			
	P3	0.92			
	P4	0.86			
Arousal	A1	0.86	0.72	0.93	0.92
	A2	0.89			
	A3	0.89			
	A4	0.84			
Perceived Quality of Restaurant Servicescape	PQR1	0.91	0.76	0.96	0.95
	PQR2	0.87			
	PQR3	0.84			
	PQR4	0.92			
	PQR5	0.89			
	PQR6	0.90			
Behavioural Intentions	BI1	0.86	0.79	0.95	0.95
	BI2	0.89			
	BI3	0.90			
	BI4	0.92			
	BI5	0.89			

The two competing structural models (one-step vs. two-step mediation models) were compared based on of overall goodness of fit indices (CFI > 0.92; GFI, TLI, NFI, and IFI > 0.90; and RMSEA < 0.08) (Byrne, 2001; Hair et al., 2006). Moreover, structural paths' coefficients were inspected to identify which model exhibits a better practical significance in explaining the effect of restaurant design on customer behavioural intentions. The research measurement model including five latent variables observed by twenty-six measurement items were subjected to Confirmatory Factor Analysis (CFA) using AMOS 21.0. CFA results revealed an excellent model fit for the initial measurement model with ($\chi^2=762$, $df=275$, $p\text{ value}=.000$, $\chi^2/df=2.77$, CFI= 0.959, NFI= 0.923, TLI= 0.942, IFI= 0.934, RMSEA= 0.057). All of the scale items had adequate factor loadings (> 0.50) on their latent variables (Hair et al., 2006). Likewise, average variance extracted AVE for all latent variables were above the cut-off point (> 50%) as suggested by Fornell and Larcker (1981). Both Cronbach's alpha reliability and composite reliability scores for all constructs were acceptable (>.70). Accordingly, the convergent validity of the latent constructs is verified. Furthermore, constructs' inter-correlations and the AVE compared to squared correlations between respective constructs were also checked to conclude discriminant validity. Inter-correlation values as presented in Table 4 were acceptable (< 0.85) and AVE of each construct was greater than the squared correlations among corresponding constructs as shown in Table 5. Therefore, discriminant validity was also established (Fornell & Larcker, 1981). In Table 5, diagonal scores are

squared roots of AVE; off-diagonal values are the values of inter-correlation between the constructs. The two competing structural model were assessed using AMOS-graphics 21.0 with the maximum likelihood as an estimation method. The models consisted of the same latent variables measured by the same observed indicators. However, they represent two different kinds of mediation (e.g. one-step versus two-step sequential mediation). Overall fit indices were inspected to conclude model superiority. Moreover, the practical significance of the models as suggested by path coefficients in each model was also considered in the comparison.

Table 4
Constructs' Inter-correlations

Construct	1	2	3	4	5
1. Restaurant Design	1.00	0.36	0.29	0.43	0.39
2. Pleasure		1.00	0.37	0.42	0.38
3. Arousal			1.00	0.39	0.36
4. Perceived Quality of Restaurant Servicescape				1.00	0.40
5. Behavioural Intention					1.00

Table 5
Discriminant Validity Test

Construct	1	2	3	4	5
1. Restaurant Design	0.80	0.13	0.08	0.18	0.15
2. Pleasure		0.78	0.14	0.18	0.14
3. Arousal			0.72	0.15	0.13
4. Perceived Quality of Restaurant Servicescape				0.76	0.16
5. Behavioural Intention					0.79

Table 6
Structural Models' Fit Assessment

Model	Chi sq	Sig	Df	Chi sq/df	CFI	NFI	TLI	IFI	RMSEA
One-step Parallel-mediation	762	.000	275	2.77	.959	.923	.942	.934	.057
Two-step Cognitive-affective mediation	745	.000	278	2.67	.959	.923	.942	.935	.056

As shown in Table 6 a slight better model fit is reported for the two-step cognitive-affective mediated model over the one-step parallel mediation model. Furthermore, path coefficient values suggest that the former model has a greater practical significance and is deemed to be more robust than the latter one in predicting the effect of restaurant design on customer behavioural intentions. The two-step cognitive-affective mediated model is, therefore, used to test the relevant research hypotheses. The findings of hypotheses pertaining the direct relationships among the research variables were reported on the basis of beta coefficient values for relevant paths and their statistical significance as shown in Table 7. Direct paths-hypothesis testing showed a significant positive impact for restaurant design on customer behavioural intention ($\beta = 0.29$, $p < 0.001$), pleasure ($\beta = 0.09$, $p = .002$), arousal ($\beta = 0.09$, $p = 0.005$), and perceived quality of restaurant servicescape ($\beta = 0.42$, $p < 0.001$). Accordingly, a full support was reported for hypotheses one, two, and three. The affective state of pleasure ($\beta = 0.25$, $p < 0.001$) but not arousal ($\beta = 0.05$, $p = 0.135$) was found to have a significant positive impact on customer behavioural intention, indicating a partial support for hypothesis four. The findings also support the influence of the perceived quality of restaurant servicescape on customer behavioural intention ($\beta = 0.17$, $p < 0.001$), customer pleasure ($\beta = 0.56$, $p < 0.001$) and customer arousal ($\beta = 0.45$, $p < 0.001$), thus hypothesis six and hypothesis eight were supported.

Table 7
Testing Hypotheses -Direct Relationships

Hypothesis	Path	(β)	p Value	C.R.	Result
H1	D → BI	.29	***	8.44	Confirmed
H2a	D → P	.09	.002	3.12	Confirmed
H3	D → PQR	.42	***	13.468	Confirmed
H4a	P → BI	.25	***	6.40	Confirmed
H6	PQR → BI	.17	***	4.06	Confirmed
H8a	PQR → P	.56	***	17.94	Confirmed

***: $p < .001$, (β): path coefficient, D: restaurant design PQR: perceived quality of restaurant servicescape, P: pleasure, A: arousal, BI: behavioural intention. Path in italics suggests an unsupported sub-hypothesis.

Baron and Kenny's (1986) approach was adopted to report the results of mediation hypotheses. Accordingly, the mediation was examined by assessing path coefficients in the model with and without mediators. Mediation type was reported based on the magnitude of direct and mediated effects of the independent variable on the dependent variable. The statistical significance of mediated effects was concluded based on bootstrapping procedures available in AMOS 21.0. The results of indirect paths-hypothesis testing are presented in Table 8.

Table 8
Test of Mediation

Path	Direct without mediator	Indirect with mediator	Indirect effect significance and Result
D-P-BI	.456 *	.304 *	Significant (.005) Partial mediation
D-A-BI	.456 *	.306 *	Not Significant (.133) No mediation
D-PQR-BI	.456 *	.317 *	Significant (.001) Partial mediation
PQR-P-BI	.182*	.173 *	Significant (.001) Partial mediation
PQR-A-BI	.182*	.181 *	Not significant (.157) No mediation

*: $p < .001$. D: restaurant design, PQR: perceived quality of restaurant servicescape, P: pleasure, A: arousal, BI: behavioural Intention

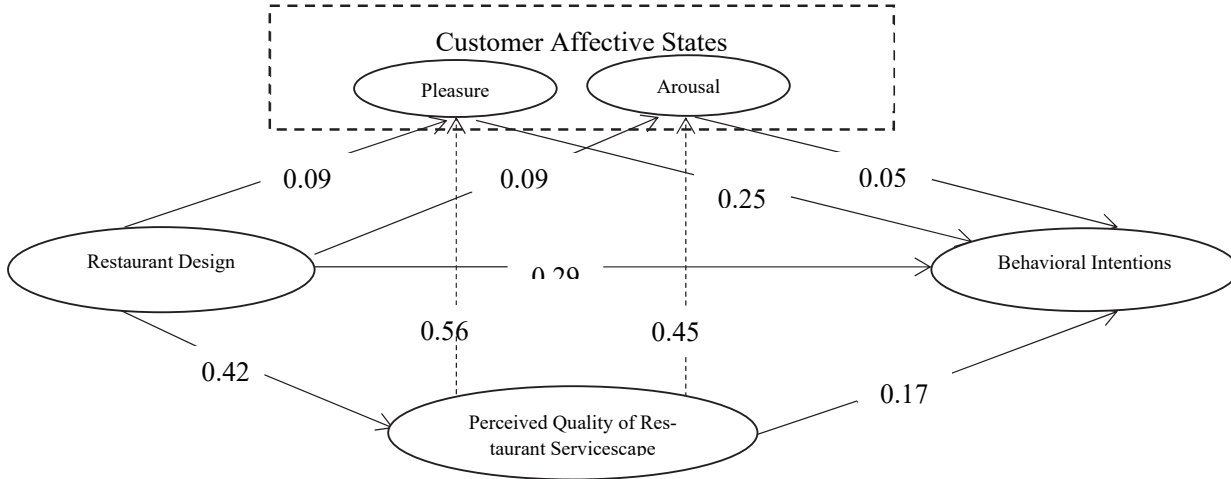


Fig. 3. Two-step Cognition-Emotion Mediation Structural Model

Model Fit: Chi Sq (df) = 745(278); Chi Sq/df = 2.67; CFI = .959; NFI = .923; TLI = .942; IFI = .935; RMSEA = .056

Mediation test revealed a partial mediation for the perceived quality of restaurant servicescape along with customer pleasure on restaurant design-customer behavioural intention relationship. These results lend a full support for hypothesis seven and partial support for hypothesis five. In addition, the effect of customers' perceived quality of restaurant servicescape on their behavioural intentions was found to be partially mediated by pleasure but not arousal, indicating a partial support for hypothesis nine.

6. Discussion of findings

This research paper is mainly motivated by the objective to examine two competing scenarios of mediation for customer affective states and the perceived quality of restaurant servicescape in the impact of the restaurant design on customer behaviour intentions in Jordan. Assessing models' fit showed that customer restaurant behaviour is better explained by a two-step sequential mediation model than by one-step parallel mediation model. This supports the applicability of Lazarus's (1991) theory of emotions in describing the interplay mediation of emotions and cognition in the S-O-R model. That is, in line with the research outcomes by Lee and Kim (2014) customers use design features in the restaurant environment to develop a set of cognitive inferences (e.g. perceived quality of restaurant servicescape), affecting their emotional states (e.g. pleasure and Arousal), which eventually influence their behaviour intentions. Restaurant design was found to have a significant influence on customer affective states (H₂), the perceived quality of restaurant servicescape (H₃) and customer behavioural intentions (H₁). Previous empirical research revealed supporting findings. For instance, customer behavioural intentions were found to be significantly and directly affected by design factors in different business contexts (Loureiro et al., 2013; Ali & Amin, 2014; Baksi, 2013; Heung & Gu, 2012). Restaurant design was also found to enhance the level of customer affective states (Bigdeli & Bigdeli, 2014; Hyun & Kang, 2014; Chebat & Morrin, 2007; Hermawan & Yusran, 2015) and to improve customers' perceptions in relation to quality (Jang & Namkung 2009; Lee & Kim 2014). The results of path analysis suggested that hypothesis four (H₄) is partially supported. Specifically, the path connecting pleasure of customers to behavioural intentions was confirmed (H_{4a}). This result indicates that when customers feel higher levels of pleasure, they become more likely to convey higher intentions to revisit the restaurant and to recommend it to their friends. This result conforms to the findings of several similar empirical studies (Ryu & Jang, 2007; Ali & Amin, 2014; Bigdeli & Bigdeli, 2014). The results of Sweeney and Wyber (2002) for instance confirmed a positive association between the affective states of customers and their behavioural intentions. On contrary to what (H_{4b}) suggests, no significant impact was noticed for arousal on customer behavioural intentions confirming the findings of some previous empirical studies in this area (Donovan & Rossiter, 1982; Novak et al., 2010). This may refer to that the effect of arousal on customer behavioural responses may flow indirectly via pleasure as stated in the results of different studies (Hyun & Kang, 2014; Kaltcheva & Weitz, 2006; Morrison et al., 2011). That is, customers' arousal, induced by a restaurant's environment improves the level of pleasure they feel, thus, positively affects their behavioural intentions. The findings of mediation analysis indicated that the impact of restaurant design on customer behavioural intentions is partially mediated by customer pleasure (H_{5a}) and the perceived quality of restaurant servicescape (H₇). These

findings are in line with the research results of similar previous empirical studies. For example, the results of Novak et al. (2010) suggest a mediating role for pleasure on the relationship between store ambience and customer behavioural intentions. Similar results were also reported by Vilnai-Yavetz and Gilboa (2010) who addressed the mediating impact of customer pleasure on servicescape's ambience- customer approach behaviour relationship. Likewise, Demoulin (2011) found customer pleasure to mediate the influence of music on the return intentions of customers in restaurant settings. Additionally, other previous research studies revealed supporting findings on the mediation of customer cognitive inferences in the relationship between restaurant environmental cues customer behaviour intentions. For instance, Ryu et al. (2012) demonstrated a significant positive effect for restaurant design characteristics on customer cognitive evaluations such as food value and the quality of service provided, which ultimately lead to certain behavioural intentions. Furthermore, both customer affective states and perceived quality of restaurant servicescape played an interplay mediating role in examining the influence of restaurant design factors on customer behavioural intentions. In particular, perceived quality of restaurant servicescape was found to have a direct impact on each of pleasure and arousal, and indirect influence on the behavioural intentions of customers through pleasure. Thus, a full and partial supports were lent to hypotheses (H₈) and (H₉) respectively. This result concurs with the study conducted by Wirtz et al. (2000), which showed a positive impact of customer cognition in the service environment on their affective state, which in turn drives customer behavioural intentions.

7. Conclusion

The findings of such study show the significance of restaurant design as a powerful factor in shaping customers' perceptions and driving their behavioural intentions towards upscale restaurants with less significant direct impact on customer emotions. Both customer affective states and perceived quality of a restaurant's servicescape (evaluation of the restaurant environment) are crucial in predicting customer behaviour in restaurants. Such states play an interactive mediating role, by which, the effect follows a cognitive-affective sequence of mediation. The research's contribution can be discussed by a set of points. Theoretically, the study findings enrich the existing limited empirical evidence on customer behaviour in a restaurant context in developing countries, especially in Middle-Eastern countries. Therefore, conducting such a research in Jordan adds to the novelty of this research work. The present research helps to introduce a clearer understanding of the applicability of the traditional S-O-R model and provides extraordinary insights through testing a research model addressing both customer affective states and cognitive inferences as interrelated mediating variables. Moreover, unlike the majority of previous empirical research, the design characteristics were observed in the current study as a multidimensional variable rather than a certain specific aspect such as interior colour, décor, and interior design (Jain et al., 2014; Ryu & Han, 2011; Tantantawin & Inkarojrit, 2018). This provided a broader understanding of several different design features within the restaurant environment and its impact as a holistic unit in enriching customer experience in restaurants. From a practical standpoint, the research findings provided in the present study are instructive for restaurants' operators, trying to understand how the design of their restaurants can be best exploited to enrich customers' experience and to positively influence their behavioural intentions. This is mainly demonstrated by the unique focuses on customer affective and cognitive states and their interplay mediating influence in driving customer behavioural intentions in restaurant contexts.

8. Limitations and future research

This study was limited to restaurants in Jordan, where a response from a convenient sample of restaurant customers was used to test the hypothesised models. Such limitation may threaten the generalizability of our findings. This would be avoided by using a more randomly selected sample of participants. Furthermore, since this study focus on understanding the impact of restaurant design on customer behavioural intentions from customer perspective, it would be interesting if such concern is also addressed from a restaurant operators' perspective. Another promising extent of further research is to consider the moderating role of demographic variables to how customers' responses to restaurant design characteristics may vary according to their demographics.

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