



University of  
**Salford**  
MANCHESTER

# Design factors-customer behaviour relationship: The mediating role of emotions and cognition

Nusairat, N, Rashid, T and Rembielak, G

|                       |   |
|-----------------------|---|
| <b>Title</b>          | Design factors-customer behaviour relationship: The mediating role of emotions and cognition                  |
| <b>Authors</b>        | Nusairat, N, Rashid, T and Rembielak, G   |
| <b>Type</b>           | Conference or Workshop Item   |
| <b>URL</b>            | This version is available at: <a href="http://usir.salford.ac.uk/33848/">http://usir.salford.ac.uk/33848/</a> |
| <b>Published Date</b> | 2015  |

USIR is a digital collection of the research output of the University of Salford. Where copyright permits, full text material held in the repository is made freely available online and can be read, downloaded and copied for non-commercial private study or research purposes. Please check the manuscript for any further copyright restrictions.

For more information, including our policy and submission procedure, please contact the Repository Team at: [usir@salford.ac.uk](mailto:usir@salford.ac.uk).

# **Design Factors-Customer Behaviour Relationship: The Mediating Role of Emotions and Cognition**

## **1. Introduction**

Since Kotler (1973) introduced the term “atmospherics” into the marketing literature, increasing attention has been paid to the impact of retail environments on customer buying behaviour. According to Turley and Milliman (2000), store atmospherics refers to the special sensory qualities of retail spaces that are often designed to evoke particular consumer responses. Baker (1986) introduced the term design factors to describe the visual aspects of a retail environment such as layout, interior design, and interior colour. Although the effect of the characteristics of retail environments on customers’ buying behaviour has been largely evidenced in marketing literature (e.g. De Nisco & Warnaby, 2013; Morrison, Gan, Dubelaar, & Oppewal, 2011; Wakefield & Baker, 1998; Walsh, Shiu, Hassan, Michaelidou, & Beatty, 2011), the mechanism of the effect is still a promising area of research. With this in mind and motivated by the lack of empirical evidence on the buying behaviour of malls’ customers in developing countries such as Jordan, our paper aims to develop a conceptual framework to investigate the effect of the design factors of a shopping environment on customers’ behaviour through introducing two competing scenarios of mediation for customers’ emotions and cognition in the context of shopping malls in Jordan.

## **2. Research Significance**

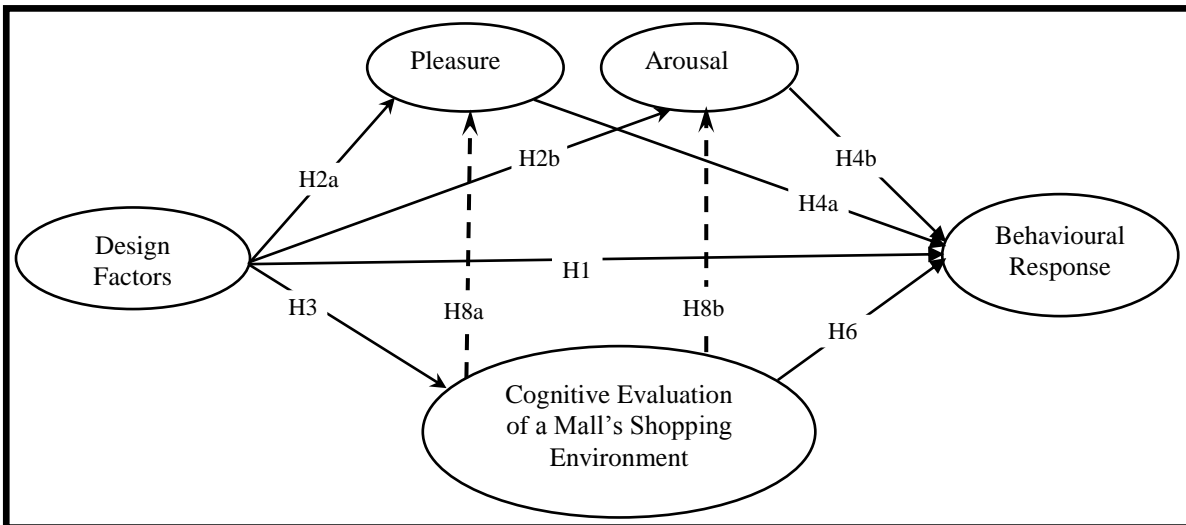
Theoretically, this study is expected to provide distinctive insights on the mediating effect of emotions and cognition in the relationship between the design factors of a mall’s shopping environment and customer behavioural response by introducing two alternative scenarios of mediation. Furthermore, unlike the majority of previous empirical studies (e.g. Chebat & Morrin, 2007; van Rompay, Tanja-Dijkstra, Verhoeven, & van Es, 2012), this study is expected to provide a more comprehensive understanding of the role of the various design factors in deriving customers’ responses in shopping malls. Empirically, the research findings can assets mall operators to leveraging the impact of the design factors of their shopping malls’ environment on customers’ behavioural responses.

## **3. Theoretical Background and Research Hypotheses**

Mehrabian and Russell (1974) provided a valuable contribution to the body of knowledge through their model (known as M-R model). The M-R model is initially based on Stimulus-Organism-Response (SOR) paradigm and posits a retail environment (S) to affect customers’ internal states involving emotion and/or cognition (O), which in turn lead to certain behavioural responses (R). In consumer behaviour research, a stimulus is external to an individual and may involve either a marketing mix element or environmental cues such as design factors (Bagozzi, 1986). Emotion as intervening organism variable is conceptualised in the M-R model as a tri-dimensional concept involving three independent states: *pleasure; arousal; and dominance* (known as PAD states). Nevertheless, based on theoretical arguments and empirical evidences, only pleasure and arousal dominated the vast majority of marketing studies adapting the model (Sherman, Mathur, & Smith, 1997; Walsh et al., 2011). In marketing literature response is referred to as “the final outcomes and the final decisions of consumers” (Chang, Eckman, & Yan, 2011 , p.236) and is mainly operationalised using behavioural outcomes (Im & Ha, 2011).

Marketing scholars have largely adopted the Mehrabian and Russell (1974) model to examine shopping environments (S) - customers' emotions (O) - behavioural responses (R) linkages (e.g. Donovan & Rossiter, 1982; Im & Ha, 2011; Jain, Takayanagi, Malthouse, & Biswas, 2014). Nevertheless, this model failed in some instances to explain how a retail environment can affect customer behaviour (e.g. Chebat & Michon, 2003). Furthermore, the M-R model has been challenged by the findings of Dennis, Michon, Brakus, Newman, and Alamanos (2012) and Kumar and Kim (2014) who found customers' cognition to proceed emotions in bridging the influence of environmental cues on customer behaviour in retail environments. To this end, this study introduces a conceptualisation for two competing scenarios of mediation for emotion and cognition in the relationship between the design factors and customers' behavioural response; *one-step parallel mediation and two-step sequential mediation*. Supported by the M-R model, emotion and cognition are supposed to work in parallel as organism mediating factors in the S-O-R causal chain (figure 1-main lines only). Accordingly, the design factors of a mall's environment directly affect customers' emotions and cognition toward the environment, which in turn derive customers' behavioural response. On the other hand, as suggested by the dashed arrows in figure 1, emotions and cognition are predicted to play an interplay mediating role, where the effect goes through a cognitive-emotional sequence of mediation based on the cognitive theory of emotions (Lazarus, 1991).

**Figure (1): Research Conceptual Model**



\* Hypotheses 5, 7, and 9 suggest mediation, thus, are not explicitly represented in the research conceptual models.

### 3.1 Design Factors and Customers' Emotional, Cognitive and Behavioural Responses

Previous research shows the capability of the various design factors (e.g. layout, colour, and decor) to affect customers' emotions (Chang, Yan, & Eckman, 2014; Lin & Liang, 2011; Muhammad, Musa, & Ali, 2014), cognitions (Chebat & Morrin, 2007; Wakefield & Blodgett, 1996) and behaviours (Babin, Hardesty, & Suter, 2003; Baksi, 2013; van Rompay et al., 2012). Accordingly, we hypothesise that:

**H1:** The design factors of a mall's shopping environment have a significant positive effect on customers' behavioural response.

**H2:** The design factors of a mall's shopping environment have a significant positive effect on customers' emotions of (a) pleasure and (b) arousal.

**H3:** The design factors of a mall's shopping environment have a significant positive effect on customers' cognitive evaluation of the mall's shopping environment.

### **3.2 Customers' Emotions and Cognition in Design Factors-Behavioural Response Relationship**

Empirical findings suggest that customers' behaviour in retail contexts is directly affected by customers' emotions (Hyun & Kang, 2014; Kaltcheva & Weitz, 2006; Wakefield & Baker, 1998) and cognitive inferences (Babin et al., 2003; Chen & Hsieh, 2011). In addition to that, such emotional and cognitive states are reported as mediating variables in the relationship between shopping environment factors and customer behaviour (Kim & Moon, 2009; Lin & Liang, 2011). Therefore we predict that:

**H4:** Customers' emotions of (a) pleasure and (b) arousal in a mall's shopping environment have a significant positive effect on their behavioural response.

**H5:** Customers' emotions of (a) pleasure and (b) arousal mediate the effect of the design factors of a mall's shopping environment on customers' behavioural response.

**H6:** Better customers' cognitive evaluation of a mall's shopping environment has a significant positive effect on their behavioural response.

**H7:** Customers' cognitive evaluation of a mall's shopping environment mediates the effect of design factors on customers' behavioural response.

### **3.3 The Interplay Mediating Effect of Emotions and Cognition in Social Cues-Behavioural Response Relationship**

Although customers' emotions and cognition may work in parallel in mediating the effect of shopping environment factors (e.g. design factors) on customers' behavioural responses (Im & Ha, 2011; Sweeney & Wyber, 2002), some scholars reported an interactive mediation for the two dimensions in this effect. The present study departs from the traditional parallel mediation to test a sequential interplay mediating effect (as suggested by the dashed arrows in figure 1), where cognition is a necessary antecedent condition for emotions to elicit (Lazarus, 1991). In line with that, supporting empirical findings revealed by Chebat and Michon (2003) and Dennis et al. (2012) provide a rigorous basis to hypothesis that:

**H8:** Customers' cognitive evaluation of a mall's shopping environment has a significant positive effect on customers' emotions of (a) pleasure and (b) arousal.

**H9:** Customers' emotions of (a) pleasure and (b) arousal mediate the effect of customers' cognitive evaluation of a mall's shopping environment on their behavioural response.

## **4. Conclusion**

Inspired by the Mehrabian and Russell's (1974) model and the cognitive theory of emotions (Lazarus, 1991), and supported by the relevant literature, this working paper presented a conceptualisation for two competing scenarios of mediation for customers' emotions and cognition in the effect of mall design factors on customers' behavioural response. In future research, the research hypothesis will be tested using customer shopping mall questionnaire in Jordan and the data will be analysed by applying structural equation modelling (SEM) to determine which aforementioned scenarios works better.

## References

- Babin, B. J., Hardesty, D. M., & Suter, T. A. (2003). Color and shopping intentions: The intervening effect of price fairness and perceived affect. *Journal of Business Research*, 56 (7), 541-551.
- Baker, J. (1986). *The role of the environment in marketing services: the consumer perspective*: Chicago: American Marketing Association.
- Baksi, A. (2013). Examining the moderating effects of CRM on retail atmospherics-shopping behavior link. *Uncertain Supply Chain Management*, 1 (3), 115-132.
- Chang, H.-J., Eckman, M., & Yan, R.-N. (2011). Application of the Stimulus-Organism-Response model to the retail environment: the role of hedonic motivation in impulse buying behavior. *The International Review of Retail, Distribution and Consumer Research*, 21 (3), 233-249.
- Chang, H. J., Yan, R.-N., & Eckman, M. (2014). Moderating effects of situational characteristics on impulse buying. *International Journal of Retail & Distribution Management*, 42 (4), 298-314.
- Chebat, J. C., & Michon, R. (2003). Impact of ambient odors on mall shoppers' emotions, cognition, and spending: A test of competitive causal theories. *Journal of Business Research*, 56 (7), 529-539.
- Chebat, J. C., & Morrin, M. (2007). Colors and cultures: Exploring the effects of mall décor on consumer perceptions. *Journal of Business Research*, 60 (3), 189-196.
- Chen, H., & Hsieh, T. (2011). The effect of atmosphere on customer perceptions and customer behavior responses in chain store supermarkets. *African Journal of Business Management*, 5 (24), 10054-10066.
- De Nisco, A., & Warnaby, G. (2013). Shopping in downtown: The effect of urban environment on service quality perception and behavioural intentions. *International Journal of Retail & Distribution Management*, 41 (9), 654-670.
- Dennis, C., Michon, R., Brakus, J. J., Newman, A., & Alamanos, E. (2012). New insights into the impact of digital signage as a retail atmospheric tool. *Journal of Consumer Behaviour*, 11 (6), 454-466.
- Donovan, R. J., & Rossiter, J. R. (1982). Store atmosphere: an environmental psychology approach. *Journal of Retailing*, 58 (1), 34-57.
- Hyun, S. S., & Kang, J. (2014). A better investment in luxury restaurants: Environmental or non-environmental cues? *International Journal of Hospitality Management*, 39, 57-70.
- Im, H., & Ha, S. (2011). An exploration of the cognitive-affective model of satisfaction in a shopping context: A test of competing models. *The Service Industries Journal*, 31 (13), 2273-2288.
- Jain, V., Takayanagi, M., Malthouse, E. C., & Biswas, D. (2014). Effects of Show Windows on Female Consumers' Shopping Behaviour. *Journal of Consumer Marketing*, 31 (5).
- Kaltcheva, V., & Weitz, B. A. (2006). The moderating influence of motivational orientation on the relationship between shopping environment arousal and behavior. *Journal of Marketing*, 70 (1), 107-118.

- Kim, W. G., & Moon, Y. J. (2009). Customers' cognitive, emotional, and actionable response to the servicescape: A test of the moderating effect of the restaurant type. *International Journal of Hospitality Management*, 28 (1), 144-156.
- Kotler, P. (1973). Atmospherics as a marketing tool. *Journal of Retailing*, 49 (4), 48-64.
- Kumar, A., & Kim, Y.-K. (2014). The store-as-a-brand strategy: The effect of store environment on customer responses. *Journal of Retailing and Consumer Services*, 21 (5), 685-695.
- Lazarus, R. S. (1991). *Emotion and adaptation*: Oxford University Press, USA.
- Lin, J. S. C., & Liang, H. Y. (2011). The influence of service environments on customer emotion and service outcomes. *Managing Service Quality*, 21 (4), 350-372.
- Mehrabian, A., & Russell, J. A. (1974). *An approach to environmental psychology*. Cambridge: MIT Press.
- Morrison, M., Gan, S., Dubelaar, C., & Oppewal, H. (2011). In-store music and aroma influences on shopper behavior and satisfaction. *Journal of Business Research*, 64 (6), 558-564.
- Muhammad, N. S., Musa, R., & Ali, N. S. (2014). Unleashing the Effect of Store Atmospherics on Hedonic Experience and Store Loyalty. *Procedia-Social and Behavioral Sciences*, 130, 469-478.
- Sherman, E., Mathur, A., & Smith, R. B. (1997). Store environment and consumer purchase behavior: mediating role of consumer emotions. *Psychology and Marketing*, 14 (4), 361-378.
- Sweeney, J. C., & Wyber, F. (2002). The role of cognitions and emotions in the music-approach-avoidance behavior relationship. *Journal of Services Marketing*, 16 (1), 51-69.
- Turley, L. W., & Milliman, R. E. (2000). Atmospheric effects on shopping behavior: a review of the experimental evidence. *Journal of Business Research*, 49 (2), 193-211.
- van Rompay, T. J. L., Tanja-Dijkstra, K., Verhoeven, J. W. M., & van Es, A. F. (2012). On Store Design and Consumer Motivation: Spatial Control and Arousal in the Retail Context. *Environment and Behavior*, 44 (6), 800-820.
- Wakefield, K. L., & Baker, J. (1998). Excitement at the mall: determinants and effects on shopping response. *Journal of Retailing*, 74 (4), 515-539.
- Wakefield, K. L., & Blodgett, J. G. (1996). The effect of the servicescape on customers' behavioral intentions in leisure service settings. *Journal of Services Marketing*, 10 (6), 45-61.
- Walsh, G., Shiu, E., Hassan, L. M., Michaelidou, N., & Beatty, S. E. (2011). Emotions, store-environmental cues, store-choice criteria, and marketing outcomes. *Journal of Business Research*, 64 (7), 737-744.