The Effect of Shopping Environment on Jordanian Mall Customers' Behaviour: The Mediating Role of Customers' Emotions and Cognition

Nawras M. Nusairat

Salford Business School

College of Business and Law

University of Salford, Salford, UK

Submitted in Partial Fulfilment of the Requirements of the Degree of Doctor of Philosophy, September 2015

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- Nusairat, N., Rashid, T., Rembielak, G. & Sahadev, S. (2014). Impact of Social Cues in Shaping Customer Behaviour: The Mediating Role of Emotions and Cognition. *The European Journal of Marketing*, in review.

- Rashid, T., Rembielak, G. & Nusairat, N. (2015). *Design Factors-Customer Behaviour Relationship: The Mediating Role of Emotions and Cognition.* Paper accepted for a presentation at Academy of Marketing 2015- The Magic in Marketing Conference, Limerick, Ireland, 7-9th July 2015.

- Nusairat, N., Rashid, T. & Rembielak, G. (2014). *Social Cues-Customer Behaviour Relationship: a Test of Two Competing Models-The Case of Shopping Malls in Jordan*. Paper presented at Contemporary Marketing Conference, Edinburgh, Scotland, 4-6th December 2014.

ACKNOWLEDGEMENT

I would like to find this as an opportunity to thank all the people who helped me to come up with this work. First and foremost, my deepest thanks go to my main supervisors, Dr. Tahir Rashid and Dr. Grazyna Rembielak whose patience, continuous encouragement, immense knowledge and insightful comments were key factors to bring this work to life. I really owe them all appreciation and gratefulness, recognising that this work would not have existed without their support.

I wish also to thank both academic and administrative staff in Salford Business School who have contributed in different ways towards the completion of this thesis, namely: Dr. Brian McGarrie (internal examiner); Dr. Jonathan Swift and Dr. Peter Schofield (internal evaluation panel); Dr. Adrian Monaghan and Dr. Tony Conway (interim assessment panel); Ms Michelle Jones and Ms Susan Sharpels (research support office). My appreciation also extends to Prof. Tina Harrison (external examiner, University of Edinburgh Business School).

My thanks also go to Applied Science Private University for awarding me a full scholarship. A big thank you goes to Mr. Yahaya Betawi for his generous support.

DEDICATION

To my **PARENTS**

&

my **WIFE**.

ABSTRACT

Although the role of retail environment in affecting customer behaviour is highly acknowledged by marketing scholars, the mechanism causing the effect is still a promising area of research. In this respect, most of S-O-R-based research in the relevant literature comprises either emotional or cognitive states as organism factors. Together, emotion and cognition as mediators are mostly investigated in studies addressing either a single or a few environmental stimuli, with less attention paid to the interplay mediating role of customer emotion and cognition on the shopping environment-customer behaviour relationship. With this in mind, this thesis aims to investigate the effect of various factors within the shopping environment on customer mall behaviour through examining the mediating role of customer emotions and cognition.

With the stimulus-organism-response (SOR) model as a backbone, and supported by the cognitive theory of emotions as well as "affect as information" theory, different scenarios of mediation for both customer emotions and cognition (O) in the relationship between shopping environment factors (S) and customer behavioural response (R) are addressed in one holistic framework. Based on a thorough analysis of the existing literature, a conceptual research model comprising eleven main research hypotheses is developed and then empirically examined.

Using a dataset of 1,028 valid survey questionnaires collected using the mall intercept technique, structural equation modelling asserts the capability of various factors within the shopping environment in influencing customer behavioural response through a cognitive-emotional sequence of mediation. Analysis shows that, out of the seventeen direct structural

paths included in the structural model, thirteen paths are significant and in the hypothesised direction, lending support to the majority of research hypotheses. The findings of hypothesis testing indicate that the mall shopping environment plays an important role in shaping customer cognition (evaluation of a mall's overall shopping environment) and in driving their behavioural response, while its direct impact on customer emotions seems to be much less significant. Both customer emotions and cognition are important in predicting customer mall behaviour. However, pleasure, and not the emotion of arousal, plays a role in determining how customers behave in shopping malls. The mediating effect of customer emotions on the relationship between shopping environment factors and customer behavioural response is marginal, while cognition plays a critical mediating impact. Nevertheless, in accordance with the overall finding of this thesis, the mediating role of emotions becomes more significant as a second-step mediating variable.

Theoretically, this study introduces a comprehensive understanding on how a mall's shopping environment affects customer buying behaviour. It also provides distinctive insights onto the mechanism by which customer emotions and cognition mediate the effect. Practically, the findings emphasise the significance of the shopping environment as a marketing tool. The research findings are informative to malls' operators seeking to understand how the shopping mall environment can be best utilised to enrich the shopping experience of customers and to ultimately drive their buying behaviour. Limitations and areas of future research are also discussed.

CHAPTER ONE: Introduction

1.1. Chapter Introduction

This introductory chapter aims to present the essence of the current thesis through shedding light on knowledge gaps and on the motivation for this research. The chapter starts with a theoretical background which introduces the rationale of the thesis. It also presents the research aim, questions and objectives, followed by a discussion of the significance of this thesis and its expected contributions to knowledge and practice. The chapter concludes with an outline of the thesis and, additionally, a brief description of each chapter is included. A chapter summary is also provided at the end of the chapter.

1.2. Background and Study's Rationale

The growing fierce competition in retail markets imposes great burdens on retailers in attempting to differentiate their retail offerings (Chen & Hsieh, 2011). Moreover, retailers generally are also challenged presently by more knowledgeable and sensitive customers (Im & Ha, 2011).In such a situation, where the role of traditional marketing tools (such as merchandise and price) might be eroded, the shopping environment itself becomes a powerful tool of market differentiation and for gaining a competitive advantage (Baker, Grewal, & Levy, 1992; Morrison, Gan, Dubelaar & Oppewal, 2011).

In this regard, Kotler (1973) asserted the importance of what he called the ‘‘total product’’ in affecting customer response. This can include all the features that are associated with a product such as services, financing and atmosphere. He stated that "buyers respond to the total product. One of the most significant features of the total product is the place where it is bought or consumed. In some cases, the place, more specifically the atmosphere of the place, is more

influential than the product itself in the purchase decision" (Kotler, 1973, p. 48). Therefore, in an increasingly competitive sector such as the retail sector, it is not surprising that retailers strive to offer such a total product. One of the approaches retailers can use to provide a unique total experience is to manipulate the aspects of their shopping environments in such a way that enriches customer experience. Thus, developing an effective pleasant shopping environment is a main priority for retailers who want to succeed in an increasingly competitive market (Morrison *et al*., 2011).

Traditionally, customers view shopping malls as a one-stop shopping place where a wide variety of stores can be found in one location. However, the concept of shopping malls has been largely developed over years (Bloch, Ridgway, & Dawson, 1994; El Sayed, Farrag, & Belk, 2003; Pitt & Musa, 2009). Shopping malls are now also perceived as places for social and entertainment activities. Mall customers can not only enjoy the tremendous range of goods and services available but also the experiential and recreational values gained through being there (El Sayed *et al*., 2003). This suggests that a mall's shopping environment itself represents a vital part of the total shopping experience of a mall customer. In this respect, providing an entertaining shopping experience for mall customers has been regarded as a key success factor for several large shopping malls around the world (Levy, Weitz, & Grewal, 2014)

According to Ryu and Jang (2007), the study of the role of the environment in affecting humans' behaviour originated in non-marketing disciplines, such as architecture and environmental psychology. However, nowadays, substantial amounts of such research can be noticed in the field of marketing (Baker, Grewal & Parasuraman, 1994; Ballantine, Jack &

Parsons, 2010; Chen & Hsieh, 2011; Dennis, Michon, Brakus, Newman & Alamanos, 2012; Donovan, Rossiter, Marcoolyn & Nesdale, 1994; Jani & Han, 2015; Kumar & Kim, 2014; Michon, Yu, Smith & Chebat, 2008; Mohan, Sivakumaran & Sharma, 2013; Oh, Fiorito, Cho & Hofacker, 2008; Wakefield & Baker, 1998; Walsh, Shiu, Hassan, Michaelidou & Beatty, 2011). Nevertheless, a review study by Spence, Puccinelli, Grewal and Roggeveen (2014) on the previous studies on the sensory elements of retail environments and their role in driving customer behaviour asserted the need for further research in this area in order to understand the mechanism of the effect.

Numerous empirical studies in the extant literature show the significance of shopping environment factors in enriching customer shopping experience (Akroush, Abu-ElSamen & Jaradat, 2011; Ballantine *et al*., 2010; Chen & Hsieh, 2011; Donovan *et al*., 1994; Hanzaee & Javanbakht, 2013; Michon, Chebat & Turley, 2005; Narang, Polsa, Soneye & Fuxiang, 2015). The findings of such studies assert the positive effects of pleasant shopping environments on customer emotions, cognition and behaviour. In this respect, Turley and Milliman (2000) reviewed previous empirical research on the effect of facility-environmental factors on shopping behaviour. They concluded that the shopping environment is a strong predictor of customer shopping behaviour and that it can be a tool to encourage certain behavioural responses from customers.

Many of the previous studies on the effect of environmental factors on customer behaviour in buying contexts have been inspired by the stimulus-organism-response (SOR) model of Mehrabian and Russell (1974) (also known as the M-R model). The dominant belief of this stream of research is that the characteristics of a retail environment (S) affect customer

internal states involving emotion (basic sensation/feeling) and/or cognition (beliefs) (O) which, in turn, lead to certain behavioural responses (R). However, a considerable part of this research has been limited to certain specific or a few environmental cues such as ambient scent (Chebat & Michon, 2003; Madzharov, Block & Morrin, 2015; Spangenberg, Crowley & Henderson, 1996), music (Andersson, Kristensson, Wästlund & Gustafsson, 2012; Ferreiraa & Oliveira-Castrob, 2011; Sweeney & Wyber, 2002) and colour (Bellizzi & Hite, 1992; van Rompay, Tanja-Dijkstra, Verhoeven & van Es, 2012), suggesting a definite need to examine customer responses in multi-environmental factor framework (Michon *et al*., 2005).

Moreover, most of S-O-R-based research in the relevant literature comprises either emotional or cognitive states as organism factors (Hyun & Kang, 2014; Jang & Namkung, 2009; Loureiro & Roschk, 2014; Morrison *et al*., 2011; Spangenberg *et al*., 1996). Together, emotion and cognition as mediators are mostly investigated in studies addressing either a single or a few environmental stimuli such as ambient scent (Chebat & Michon, 2003), music (Sweeney & Wyber, 2002) and colour and lighting (Babin, Hardesty & Suter, 2003). Moreover, limited research has considered the interplay mediating role of customer emotion and cognition on the shopping environment-customer behaviour relationship. Interestingly, even in the few empirical studies investigating the presence of interactive mediation effects, only one of the cognition-emotion or emotion-cognition hierarchies is considered (e.g. Kumar & Kim, 2014; Laroche, Teng, Michon & Chebat, 2005; Raajpoot, Sharma, & Chebat, 2008). Kumar and Kim (2014), for instance, examined onlyone route of the interplay mediation, namely the cognitive-emotional flow between a store environment and customer behaviours, toward single-brand stores. In contrast, the focus of Raajpoot *et al*. (2008), for example,was

merely on the emotion-cognition sequence of mediation in predicting customer re-patronage intentions in shopping malls.

From a methodological perspective, a noticeable part of the previous empirical studies in the literature have followed a laboratory experimental research strategy (e.g. Baker *et al*., 1994; Holmqvist & Lunardo, 2015; Kaltcheva & Weitz, 2006; Pan & Siemens, 2011), resulting in less realistic findings. In addition to this fact, through analysing the relevant literature, one can notice that the research on this topic is still in its infancy in developing and Eastern countries (e.g. Middle-East countries) in comparison to research in the developed and Western countries (e.g. UK and USA) (see table 2.3, p. 57). In this respect, Ryu and Jang (2007) indicated that most of the M-R-based research has been carried out in Western cultures, suggesting the need for further research in non-Western cultures.

In Jordan, where the empirical work of this thesis was carried out, the retail sector is considered as one of the most important sectors and one of the fastest growing sectors. Increasingly, traditional / unorganised retailing (e.g. small family-owned stores) is being replaced by modern organised retailing formats (e.g. shopping malls) (Abu-Rumman, 2003). Over the last decade, the Jordanian retail market has witnessed an accelerating diffusion of modern shopping malls. This has been associated with a significant change in the shopping habits of the Jordanian community. Jordanians have shifted in large numbers from utilising traditional stores towards using large-scale stores and shopping malls, while neighbourhood small stores mainly serve their last minute needs (Akroush *et al*., 2011; Khraim, Khraim, Al-Kaidah & Al-Qurashi, 2011). Shopping is now viewed as a leisure and entertainment activity. Jordanians enjoy the enclosed environment as well as the leisure and social experiences

available in shopping malls which have become, to some extent, an integral part of people's lives (YIJ, 2012).

Although the pleasant shopping environment is one of the most important factors underlying why customers switch towards shopping malls, there is still a deficiency of empirical evidence on customer mall behaviour in Jordan. Two empirical studies in this respect were noticed in the context of Jordan. In the first study Akroush *et al*. (2011) invistegated the effect of shopping environment cues alongside with shopping motives on shoppers' satisfaction. However, in this study shopping environment was operationalised as a holistic concept, therefore the findings did not revealed the role of each category of shopping environment factors in affecting shoppers' responses. Moreover, only emotion-cognition sequence of mediation on shoppers' satisfaction was addressed, while neglecting the cognitive-emotional mediation. From a methodological standpoint, Akroush and colleagues' study was limited in terms of the targeted research sample, where the focus was only on malls' shoppers in the capital city (Amman). In the second study, Odeh and Abu-Rumman (2014) recently examined the effect of shopping environmental factors on customer behaviour. Although this study considered the effect of different groups of shopping environment characteristics, it simply examined the direct paths linking the diverse factors a mall's shopping environment to customer behaviour. This study did not consider the mediating role of customer emotions or cognition and was also limited to shopping mall customer in Amman.

In the light of the preceding discussion and with the stimulus-organism-response (SOR) model as a backbone, this thesis seeks to understand how a mall's shopping environment affects customer behavioural response through investigating the mediating role of customer emotions

and cognition. The shopping environment is posited to act as a stimulus (S) that elicits customer emotions (pleasure and arousal) and forms customer cognition (evaluation of a mall's overall shopping environment) (O). These, in turn, affect customer behavioural response towards the shopping mall (R). Accordingly, this thesis incorporates a cognitive dimension as another organism factor alongside customer emotions. It also addresses the interplay mediating role of the organisms (e.g. emotions and cognition) and its consequent impact on customer behavioural response.

In addition, unlike the majority of previous research in this area, this thesis applies a multi-environmental factor approach to investigating the effect of the diverse factors of a shopping environment on customer responses. In order to achieve this, Baker's (1986) typology of shopping environmental factors, which is considered as one of the widely common typologies in the relevant literature, is adopted here. Following this typology, the current study examines the effect of ambience, design and the social factors of the shopping environment on customer behaviour in the context of shopping malls. Furthermore, the empirical work of the current thesis was carried out in a real setting where the data was collected using a mall intercept technique within the realistic contexts of seven shopping malls in Jordan.

1.3. Research Aim

This study aims to examine how a mall's shopping environment affects customer behavioural response through investigating the mediating role of customer emotions (pleasure and arousal) and cognition (evaluation of a mall's overall shopping environment).

1.4. Research Questions

This study seeks to answer the following research questions:

1. To what extent do shopping environment factors involving ambient, design and social factors affect customer emotional, cognitive and behavioural responses?
2. To what extent do customer emotions and cognition affect customer behavioural response?
3. Is the relationship between the factors of a mall's shopping environment and customers' behavioural response mediated by their emotions and cognition?
4. How do customer emotions and cognition mediate the relationship between the factors of a mall's shopping environment and customer behavioural response?

1.5. Research Objectives

In the light of the research aim and the research questions, the objectives of this study are as follows:

1. To examine the effect of a mall's shopping environment including ambient, design and social factors on customer behavioural response.
2. To examine the effect of a mall's shopping environment factors on customer emotions.
3. To examine the effect of a mall's shopping environment factors on customer cognition.
4. To examine the effect of the customer emotions of pleasure and arousal on customer behavioural response in shopping malls.
5. To examine the effect of customer cognition on customer behavioural response in shopping malls.
6. To examine the mediating role of both customers' emotions of pleasure and arousal and cognition on the effect of a mall's shopping environment on customer behavioural response.

7. To investigate the mechanisms by which customer emotions and cognition jointly mediate the relationship between a mall's shopping environment and customer behavioural response.

1.6. Research Significance and Expected Contributions to Knowledge and Practice

The significance of the current study is revealed by its expected theoretical and empirical contributions. From a theoretical standpoint, this study is expected to enrich the existing literature on the role of shopping environments in driving customer behavioural responses. This can be summarised in the following: firstly, unlike the majority of prior empirical research, this study applies a multi-environmental framework (e.g. ambient, design and social factors) to capture the effect of the various factors of the shopping environment, rather than focusing on certain particular components such as ambient scent and interior colour. Thus, the research findings are expected to provide a more comprehensive understanding of the role of each category of environmental factors in affecting customer experience in shopping malls. This becomes fundamental in the light of the scarcity of literature on customer mall behaviour in developing economies in general and Middle-Eastern countries in particular. Secondly, the present study distinctively brings three different theories on customer behaviour into one holistic framework to gain a greater understanding of the mechanism by which a shopping environment affects customer behaviour. Lastly, to the researcher's knowledge, this is the first study that simultaneously examines two competing scenarios of interplay mediation between emotion and cognition in the effect of a shopping environment on customer behaviour. Therefore, the findings are expected to provide unique insights into the mechanism by which customer emotions and cognition mediate such an effect.

Empirically, given the lack of empirical evidence on customer mall behaviour in developing countries such as Jordan, this study is believed to have substantial practical significance for current and prospective mall operators. The comprehensive research model introduced and tested in the present research could be very helpful to practitioners seeking to examine customer mall behaviour in Jordan. Furthermore, the particular findings of this thesis can provide insights on how to successfully design the mall shopping environment and on how it can best be utilised to encourage better customer responses. This, in turn, can largely contribute to enhancing a mall's competitiveness and, ultimately, to improving its profitability.

1.7. Thesis Structure

This thesis is organised into eight chapters. The current chapter (**Chapter One**) presents the essence of this thesis. It clarifies the study's rationale, followed by the research aim, questions and objectives. It also summarises the significance of this research and its expected contributions to knowledge and practice. Further to this introductory chapter, this thesis comprises seven other chapters as follows:

Chapter Two: Literature Review.

This chapter is intended to provide a review of the relevant literature. It starts with providing the theoretical background of the main aspects addressed in this thesis. These are shopping environment, Mehrabian and Russell's environmental psychology model, customer emotions and customer cognition. The chapter also presents a review of empirical studies which have investigated the impact of the diverse factors of a shopping environment on customer emotional, cognitive, and behavioural responses.

Chapter Three: The Research Theoretical Framework.

This chapter explores the research focus of this thesis, which includes its conceptual framework, aim, questions and objectives. It also presents the research hypotheses as well as its theoretical and empirical support from previous studies.

Chapter Four: The Hashemite Kingdom of Jordan.

The purpose of this chapter is to provide an overview of Jordan where the empirical work was carried out. The chapter briefly describes the country in terms of its history, geography and climate, people, political system and economic situation. Additionally, it presents a review of the evolution of shopping malls in Jordan.

Chapter Five: Research Methodology.

This chapter details the research methodology that is applied in the present thesis. It introduces the main methodological choices (e.g. positivism) available to the researcher at each step of the research process (e.g. research philosophy), followed by the rationale behind each methodological decision made along this research process.

Chapter Six: Data Analysis and Research Findings.

This chapter intends to describe the data analysis procedures used in analysing the raw data. Included within this is the structural equation modelling (SEM), as the main analytical technique, and different statistical tests such as descriptive statistics and reliability test. The chapter also intends to present the findings of the empirical research.

Chapter Seven: Discussion of the Findings

The purpose of this chapter is to discuss the research findings in the light of the results from previous studies. The chapter shows and explains the level of match and difference between the findings that emerged in this thesis and those shown from other studies.

Chapter Eight: Conclusions, Contributions and Limitations.

This final chapter presents an overview of the thesis followed by its conclusions in relation to each research question. It also highlights the study's contributions to theory and practice, its limitations, and areas for future research.

1.8. Chapter Summary

The purpose of this chapter was to introduce the focus of the thesis. Firstly, gaps in the knowledge and the motivations for the research were briefly indicated. The research aim, questions and objectives were then stated. Subsequently, the significance of this thesis and its expected contributions to knowledge and practice were presented in brief. The structure of the thesis, along with the purpose of each chapter, was outlined at the end of this introductory chapter. The next chapter will present a comprehensive review of the existing literature.

CAHPTER TWO: Literature Review

2.1 Introduction

This chapter aims to present a critical review of the relevant literature. This review is organised into two major parts; the first part (sections 2.2 - 2.6) is intended to provide a conceptual background to the aspects tackled in the study involving shopping environment, the Stimulus-Organism-Response model of Mehrabian and Russell (1974) and customer emotions and customer cognition. The second part (sections 2.7 - 2.9) provides insights onto how retail environmental factors involving ambient, design and social factors can affect customer responses.

2.2 Mall Shopping Environment

A shopping centre, generally, can be referred to as "a group of retail businesses built on a site that is planned, developed, owned, and managed as a unit" (Kotler & Armstrong, 2016, p. 423).The most common kind of shopping centres is known as a shopping mall, and is typically enclosed with a controlled atmosphere (Pitt & Musa, 2009). Atmosphere is basically intended to describe the quality of surroundings, thus the term atmospherics in the marketing literature was precisely defined as "the effort to design a buying environment to produce specific emotional effects in the buyer that enhance his purchase probability" (Kotler, 1973, p. 50).

Kotler (1973) was of the first scholars who introduced the term "atmospherics" into marketing knowledge. He stated that customers typically go beyond merely reacting to a tangible product but react to the "total product" which consists of several augmented features along with the place in which the tangible product is sold. Such atmospherics play three main roles in

affecting customers: firstly, an attention-creating medium, when used to make a place more appealing to customers than its competitors; secondly, a message-creating medium, when used as a communication tool for targeted customers; and thirdly, an affect-creating medium, when used to trigger customers' emotions that contribute to their likelihood to purchase (Kotler, 1973).

Bitner (1992) indicated that, whilst in a store environment, customers are exposed to many cues, messages and suggestions that may affect their responses. She proposed the term "servicescape" as a new parallel term for a store environment in the service context; it was defined as "the man-made physical surroundings as opposed to the natural or social environment" (Bitner, 1992, p.58) and it can be used as a differentiation tool in a highly competitive markets (Baker *et al*. 1994).

Retail atmospherics can also refer to the entire physical and non-physical elements of a store that lie at the retailers' disposal for the purpose of encouraging a desirable behavioural response from customers (Eroglu, Machleit & Davis, 2001). However, for a customer, it is the perceived quality of surroundings that can be recognised via different sensory channels involving sight, sound, scent and touch (Tai & Fung, 1997). Jobber (2004) considered store atmosphere as a function of the design, colour and layout of a store environment including both exterior and interior designs. It is particularly important for retailers operating in an extremely competitive environment where a wide range of competitors offer similar products at relatively similar prices (Tai & Fung, 1997).

According to Turley and Milliman (2000), store atmospherics describe the special sensory qualities of retail spaces that are often designed to evoke particular consumer responses. They are a construct of the diverse characteristics of the retail store that influence consumers' emotions and, in turn, increase the likelihood of the customer making a purchase (Baker *et al.*, 1994). In this extent, it is worth mentioning that listing all the features that can compose a consumer's environment is an impossible task because they are too numerous (d'Astous, 2000). Thus, it would be more useful to classify such environmental factors into a finite set of categories; this will be the focus of the next section.

2.3 Typologies of Shopping Environment Factors

While being in a shopping environment, customers are exposed to numerous environmental cues. Thus, in order to simplify studying the effect of such diverse environmental aspects within a mall's environment, it is worthwhile to discuss the common classification approaches adopted by scholars in the existing literature.

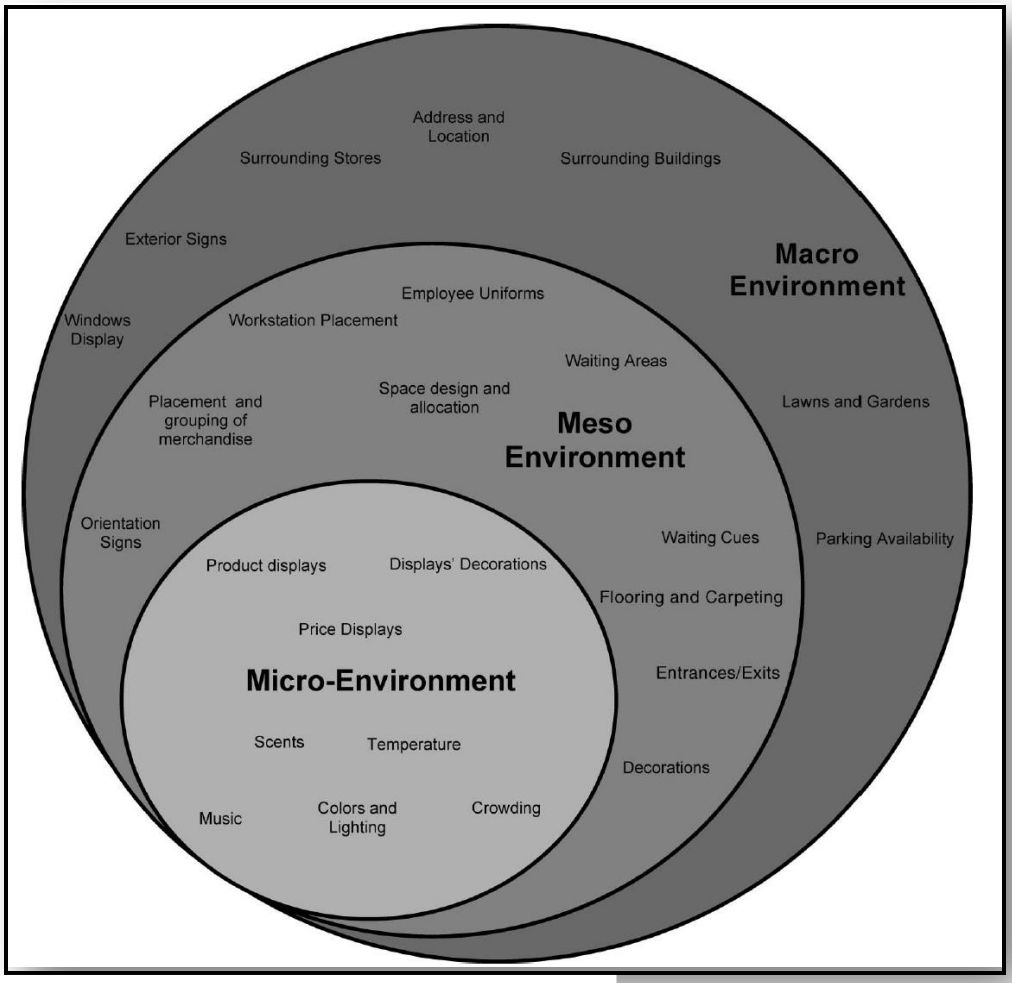
Based on the fact that surroundings can be detected by our senses, Kotler (1973) described store atmosphere variables in sensory terms. He indicated that individuals can see, hear, smell, and feel the environment surrounding them. Therefore, environmental factors can be classified into visual aspects (e.g. colour and brightness); aural aspects (e.g. volume and pitch); olfactory aspects (e.g. scent and freshness), and tactile aspects (e.g. softness and temperature).

Another classification of shopping environmental factors is that proposed in the early nineteen-nineties when Bitner (1992) introduced the term "servicescape" to describe a man-made and non-natural environment or place where a service is provided. She suggested that a

servicescape comprises many aspects which can be classified into three main categories: firstly, the ambient conditions which refer to all the intangible background features affecting customer perceptions such as background music, noise, temperature, lighting and odour and so forth; secondly, the spatial layout and functionality dimension which is defined by the organisation of the mechanical equipment, facilities, furniture and furnishings within the servicescape as well as the extent to which these items simplify the provision of service, and finally, the signs, symbols and artefacts dimension involving all the physical environmental elements that are intended to communicate explicitly and implicitly with the servicescape's users (e.g. signage and style of décor).

Everett, Pieters and Titus (1994) considered the consumer environment as a nested sphere. Although the boundaries between the ranges of this sphere are not clear, consumers typically move from the broadest range which is "the macro" (e.g. the shopping mall) through a narrower one which is "the miso" (e.g. the store) to the narrowest one which is "the micro" (e.g. the aisle within the store). Considering this taxonomy of environmental factors affecting consumers, Massara and Pelloso (2006) suggested that the shopping environment involves three scales, namely: the external environment pertaining to the environmental aspects that are exterior to shopping store environmental variables (e.g. size of building); the internal environment including aspects that determine the structure of the interior (e.g. space design and allocation) and the micro environmental variables involving all the aspects close to the consumer in a geographical sense (e.g. colour and lighting). This typology is shown in figure (2.1) below.

Figure (2.1): The Nested Sphere Scales of a Store Environment



Source: Massara and Pelloso (2006, p. 521)

Berman and Evans (1995) grouped the atmospheric cues into four major categories: store exteriors, general interiors, layout and design variables, and the point-of-purchase and decoration variables. In a later study, Turley and Milliman (2000) recognised the role that the human variable may play within a store. Therefore, they extended Berman and Evans's (1995) typology by adding a new category of environmental cue to shopping environment factors, which is the human factor involving both customers and employees. Such a comprehensive set of environmental elements is assumed to put store managers in a better position to select and

manipulate the appropriate atmospheric variables to communicate a better store image and to stimulate better customers' responses (Turley & Milliman, 2000). The table below details the aspects included in this revised classification scheme.

Table: (2.1) Turley and Milliman's (2000) Revised Classification of Shopping Environmental Cues

External variables	**General interior variables**	**Layout and design variables**
a. Exterior signs	a. Flooring and carpeting	a. Space design and allocation
b. Entrances	b. Colour schemes	b. Placement of merchandise
c. Exterior display windows	c. Lighting	c. Grouping of merchandise
d. Height of building	d. Music	d. Work station placement
e. Size of building	e. P.A. usage	e. Placement of equipment
f. Colour of building	f. Scents	f. Placement of cash registers
g. Surrounding stores	g. Tobacco smoke	g. Waiting areas
h. Lawns and gardens	h. Width of aisles	h. Waiting rooms
i. Address and location	i. Wall composition	i. Department locations
j. Architectural style	j. Paint and wallpaper	j. Traffic flow
k. Surrounding area	k. Ceiling composition	k. Racks and cases
l. Parking availability	l. Merchandise	l. Waiting queues
m. Congestion and traffic	m. Temperature	m. Furniture
n. Exterior walls	n. Cleanliness	n. Dead areas
Point-of-purchase and decoration variables	**Human variables ***	
a. Point-of-purchase displays	a. Employee characteristics	
b. Signs and cards	b. Employee uniforms	
c. Wall decorations	c. Crowding	
d. Degrees and certificates	d. Customer characteristics	
e. Pictures	e. Privacy	
f. Artwork		
g. Product displays		
h. Usage instructions		
i. Price displays		
j. Teletext		

Source: Turley and Milliman (2000, p. 194)

*: Added by Turley and Milliman (2000)

Another widely used typology is that proposed by Baker (1986). As demonstrated in table (2.2) below, Baker classified the entire set of commercial environmental factors into three major groups, namely ambient factors, design factors and social factors (d'Astous, 2000).

Table (2.2): Baker's (1986) Classification of Business Environmental Factors

Category	Definition	Features
Ambient factors	Background conditions that exist below the level of our immediate awareness	Air quality Temperature Humidity Circulation/ventilation Noise (level, pitch) Scent Cleanliness
Design factors	Stimuli that exist at the forefront of our awareness	**Aesthetics** Colour Scale Materials Texture, pattern Accessories **Functional** Layout Comfort Signage
Social factors	People in the environment	**Other customers** Number Appearance Behaviour **Service personnel** Number Appearance Behaviour

Source: Baker (1986, p. 80)

As shown in table (2.2) above, firstly, ambient cues refer to non-apparent background conditions that can only be recognised by customers at a certain level of intensity, involving such factors as music and scent. Secondly, design cues are relatively more apparent in nature than ambient factors involving functional aspects (such as layout) and aesthetic aspects (such as colour). And thirdly, social cues refer to human variables present in the store's environment,

involving both personnel and other customers, along with their attributes such as number and behaviour (Baker, 1986).

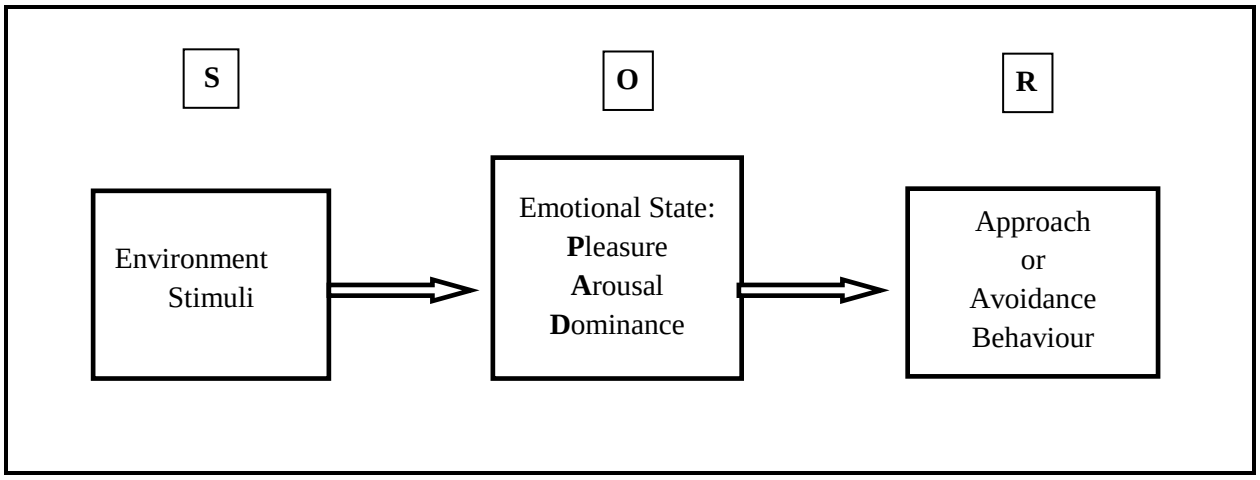
Ballantine, Jack and Parsons (2010) introduced a new typology of the environmental factors of hedonic retail stores. Based on the role they perform in affecting the hedonic experience of retail customers, store atmospherics were classified by Ballatine, Jack and Parsons into two broad categories. One category is attractive stimuli which include factors which play a role in drawing customers' attention, which entertain them and stimulate approach behaviour. This category involves lighting, sound, space, colour, layout, product display features and design features. The other category is, facilitating stimuli involving cues that play a role in facilitating customer involvement with products in the store. These cues are comfort features such as suitable shelves, product display features, lighting, crowding and employees.In conclusion, given that the characteristics and conditions comprising buying settings are unlimited, scholars attempted to list such characteristics and conditions into a limited set of categories. Kotler's (1973) typology was one of the pioneering attempts that signify the role of atmospherics in retailing contexts as a marketing tool; however, his approach has not been commonly adopted as a classification scheme in consequent atmospherics research. Other typologies are too generic (Massara & Pelloso, 2006; Turley & Milliman, 2000) and do not consider the human variable within the shopping environment (Berman & Evans,1995; Bitner, 1992). In contrast, Baker's (1986) classification was mainly concerned with the internal aspects of the shopping environment and explicitly addressed the role of human / social factor within the environment. Thus, this approach is adopted in the present study to understand the effect of the numerous environmental characteristics within the shopping environment on customer mall behaviour. The following section sheds light on the key theory underpinning this study.

2.4 Mehrabian and Russell's Environmental Psychology Model

As a way of explaining the mechanism by which the surrounding environment affects our behaviour as individuals, Mehrabian and Russell (1974) provided a valuable contribution to the body of knowledge through their S-O-R Model (also known as the M-R Model). The M-R model originated in the field of environmental psychology in order to understand how human behaviour links to their surroundings. However, it has been largely adapted by marketing scholars over the past decades to study customer behaviour in retail contexts (Chang, Eckman, & Yan, 2011; 2014; Chebat & Michon, 2003; Chen & Hsieh, 2011; Donovan & Rossiter, 1982; Im & Ha, 2011; Kumar & Kim, 2014; Kwon, Ha & Im, 2015).

The model follows a logical flow of cause and effect relationships among its components (**S**timulus, **O**rganism, and **R**esponse). More specifically, it describes the process by which environmental factors (**S**) affect individuals' internal states (**O**) and, thereby, their approach / avoidance behaviour (**R**). According to the M-R model, individual emotional states are posited to act as a mediating variable in the relationship between environmental factors and individuals' behavioural responses. As shown in the figure (2.2), the environment represents a stimulus that can induce certain internal emotional states (also known as affective states) and, hence, leading to approach or avoidance behaviour.

Figure (2.2) Mehrabian-Russell's (1974) S-O-R Model



Source: Mehrabian and Russell (1974, p. 8)

The term stimulus in the model can be conceptualised as any factor having a changing impact on individuals' internal states (Chang *et al*., 2011). However, when brought to consumer behaviour research, a stimulus is external to an individual and is either a marketing mix element or an environmental input (Bagozzi, 1986). Therefore, when the model is applied to investigating customer behavioural responses in a retail context such as shopping malls, the components of the shopping environment can be then considered as the stimulus.

The second part in the M-R model is organism. This refers to "internal processes and structures intervening between stimuli external to the person and the final actions, reactions or responses emitted. The intervening processes and structures consist of perceptual, physiological feeling and thinking activities" Bagozzi (1986, p. 46).According to the M-R model, the organism phase is captured by three emotional states, namely pleasure, arousal and dominance (also called PAD). Nevertheless, based on a lack of theoretical and empirical support for the role of dominance in predicting customers' behavioural responses (Donovan & Rossiter, 1982; Russell & Pratt, 1980), only pleasure and arousal have dominated the vast

majority of subsequent marketing studies which have adapted the model (Donovan *et al.*, 1994; Holmqvist & Lunardo, 2015; Morrison *et al*., 2011; Ryu & Jang, 2007; Sherman *et al*.,1997; Walsh*et al*., 2011).

Response is the final outcome in the causal chain of the model. Mehrabian and Russell (1974) depicted an individual's response towards an environment simply as approach or avoidance behaviours. These can be described according to three major dimensions: a person's inclination to explore the environment, a willingness to interact with people in the environment, and the level of satisfaction with the environment (Donovan & Rossiter, 1982). Approach behaviours, on the one hand, reflect positive reactions towards a certain setting involving approaching it, remaining, exploring, interacting, and holding a good impression and intention to revisit it again. In contrast, avoidance behaviours reflect a sense of general dissatisfaction with the environment. This might be manifested as a sense of worrying, boredom, irritation and a desire to leave the environment, without any intention to return (Chen & Hsieh, 2011). From a marketing perspective, response can be referred to as "the final outcomes and the final decisions of consumers" (Chang *et al.*, 2011, p. 236) and is mainly operationalised using behavioural outcomes (Im & Ha, 2011).

According to Ryu and Jang (2007), the M-R model has been empirically supported by the results of many studies across different settings, such as retail stores, shopping malls and hotels. Nevertheless, through reviewing the relevant literature, one can notice confusion and misalignment among scholars about the mediating role of organism responses in explaining the effect of environmental factors on customer buying behaviour. That is, while some scholars believe that customer emotions dominate the mediating role in explaining shopping

environment-customer behaviour relationship (e.g. Chang *et al.*, 2011; Donovan *et al.*, 1994; Jani & Han, 2015; Walsh *et al.*, 2011), other scholars extend the focus to include customer cognition as another mediating variable in this relationship (Baker, Parasuraman, Grewal & Voss, 2002; Bitner, 1992; Kumar & Kim, 2014; Laroche *et al*., 2005). However, applying the cognitive route alongside emotions in investigating the effect of a shopping environment on customer buying behaviour has been mostly limited to studies tackling the effect of a particular environmental factor(s) (e.g. Babin *et al*., 2003; Dennis *et al*., 2012; Sweeney & Wyber, 2002). Moreover, little research has addressed the interplay mediating effect of both emotions and cognition in the relevant literature (e.g. Chebat & Michon, 2003; Fiore & Kim, 2007).

Based on the above discussion, a clear gap in the literature and a fruitful area of research can be identified. In particular, there is a definite need to clarify customer organism responses, involving emotional and cognitive dimensions, along with their interactive relationship as mediators in predicting the effect of a shopping environment on customer buying behaviour. The following two sections respectively shed light on these important dimensions (e.g. emotion and cognition).

2.5 Customer Emotions or Affects

According to Vieira (2013), most marketing empirical studies on the impact of a shopping environment on customer behaviour have been inspired by the M-R model. Hence, customer emotional states constitute an integral part of such research. The term emotion describes "a mental state of readiness that arises from cognitive appraisals of events or thoughts; has a phenomenological tone; is accompanied by physiological processes; is often expressed

physically; and may result in specific actions to affirm or cope with the emotion, depending on its nature and the person having it" (Bagozzi, Gopinath, & Nyer, 1999, p. 184). However, according to the "affect as information theory" emotions can be elicited directly without any forerunner cognitive processes (Zajonc & Markus, 1984, 1985). Furthermore, when compared to cognitive evaluations, emotional/affective evaluations are linked to sensations, feelings or emotions (Bagozzi, Gurhan-Canli & Priester, 2002, p. 37). They are more "basic and automatic associative processes" (Berkowitz, 1993, p.10). In line with this, Mehrabian and Russell (1974) indicated that affective emotional states evolve as an instantaneous response without any sophisticated deliberation, for example, a person may smile immediately after watching something funny. Through affective evaluation, a customer concludes the extent to which a thing is pleasant, attractive, likeable or preferable (Russell & Snodgrass, 1987).

Emotional states are viewed as "transitory conditions of the organism conditions that vary substantially, and even rapidly over the course of a day, for example feeling alert versus tired, hungry versus sated, or happy versus unhappy" (Mehrabian, 1996, pp. 261-262). This definition presents a distinctive characteristic, differentiating emotions from mood; that is, unlike emotions, mood describes a long lasting affective state. Furthermore, emotions are intentional, while mood is relatively diffused. Additionally, emotions have a specific object or referent and are often associated with tendencies or actions (Bagozzi *et al.*, 1999). Nevertheless, the use of two terms (emotion and mood) interchangeably is widely common in marketing studies (e.g. Bitner, 1992; Chebat, Michon, Haj-Salem & Oliveira, 2014; Novak, La Lopa & Novak, 2010). Emotions are also distinguished from "temperament"; that is, while emotions are considered as states that may vary considerably over a relatively short period of time (e.g. a day), temperament is a steady trait that may last for a lifetime (Mehrabian, 1996).

Westbrook and Oliver (1991, p. 85) referred to consumption emotions as "the set of emotional responses elicited specifically during product usage or consumption experiences, as described either by the distinctive categories of emotional experience and expression (e.g., joy, anger and fear) or by the structural dimensions underlying emotional categories, such as pleasantness / unpleasantness, relaxation / action, or calmness / excitement". In line with this definition, a study on emotions in consumer behaviour research by Laros and Steenkamp (2005) indicates that emotions are conceptualised using two different approaches. The first is as a general dimension such as positive and negative emotions or pleasure and arousal (e.g. Chen & Hsieh, 2011; Jang & Namkung, 2009; Jani & Han, 2014). The second is as specific states such as Joy, anger, surprise and nervousness (e.g. Bougie, Pieters & Zeelenberg, 2003; Eroglu *et al*. 2005a; Uhrich, 2011). Watson and Spence (2007) viewed emotions which have been investigated by marketing scholars as falling within three different approaches, namely the categories' approach, the dimensions' approach and the cognitive appraisal approach. In the categories' approach, customer emotions are classified on the basis of matching with a basic archetype emotional state. In the dimensions' approach, emotions are investigated using key common dimensions that are deep-rooted in any emotional state, such as the level of arousal. Such dimensions are bipolar axes around which the diverse states of emotion are grouped. Finally, the cognitive appraisal approach captures the minor differences between emotions through a more complicated process which takes into consideration the detailed circumstances associated with emotions (e.g. success through cheating).

Regardless of their nature and the way in which they have been conceptualised, customer emotions have been proven to have a consequent impact on customer behaviour in the retail context. For instance, Wakefield and Baker (1998) found that customers' excitement, induced

by a mall environment, has a positive impact on customers' re-patronage intentions and on the tendency to spend more time in the mall; it also has a negative impact on out-shopping behaviour. Jang and Namkung (2009) revealed a significant positive effect by customers' positive emotions on their behavioural intention (e.g. revisit and recommending to other customers). Such emotions were also found to mediate the effect of restaurant atmospherics on customers' behavioural intentions. More recently, Hyun and Kang (2014) showed customers' arousal was evoked partially by environmental cues in a luxury restaurant setting raising customers' pleasure which, in turn, affected their behavioural intentions.

Lastly, customers' emotions represent a critical mediating factor in explaining how environmental factors affect customer behaviour. However, the effect of such environmental stimuli can also be channelled through a cognitive route. This will be the focus of the following section.

2.6 Customer Cognition

As indicated earlier, the emotional-cognitive distinction is a key approach in studying consumer internal states induced by retail environments. As opposed to customer emotional or affective judgment, cognitive evaluation can be described as a more advanced psychological activity. It is linked to a perceptual process by which "an individual selects, organises, and interprets stimuli into a meaningful and coherent picture of the world" (Schiffman & Kanuk, 2010, p. 157). Customer cognition encompasses beliefs, thoughts and perceptions shaped on the basis of direct points such as shopping environments and indirect ones such as advertisements (Blackwell, Engel & Miniard, 2006). Shiv and Fedorikhin (1999) believed that perceiving a certain environment involves transmitting environmental stimuli into

meaningful information. Accordingly, making sense of the environment with which a customer interacts is an inherent distinctive dimension of customer cognition. Customer perception of a mall's shopping environment comprises a wide range of sensory aspects involving physical and non-physical ones. Such sensory inputs are detected by the customers' senses and transmitted into an overall image of the shopping environment.

Bitner (1992) introduced a comprehensive conceptual framework which considers the mediating role played by cognition in explaining the effect of service environment stimuli on the behavioural responses of both customers and employees. She indicated that customers and employees in a servicescape typically respond in emotional (e.g. mood), cognitive (e.g. belief) and physiological (e.g. pain) manners to servicescape stimuli. Empirical evidence also suggests that customers are exposed to numerous environmental informational cues from which they develop certain inferences about goods, services and price in the environment as well as on the environment itself. For instance, Sweeney and Wyber (2002) extended the M-R model through incorporating customers' cognitions (e.g. perceived service quality, perceived merchandise quality) as a mediating variable in the relationship between the music played in a woman's fashion store and customer approach-avoidance behaviour. Their results indicated that music likeness plays a significant role in affecting the perceived quality of service and merchandise provided. Yan, Yurchisin and Watchravesringkan (2011) also found that customers use the level of formality in employees' dress as an informational cue to develop inferences about the level of service quality. A light and pleasing ambient scent in shopping malls was shown to be associated with better shopper perceptions of the mall environment under moderate retail density conditions (Michon *et al*., 2005). Recently, Chebat *et al.*(2014)

demonstrated the direct impact of mall renovation activities in general on customers' perceptions of the shopping mall environment.

Based on the aforementioned discussions in the current and preceding sections, one can conclude that the organism part of S-O-R model has been mainly tackled from two aspects: affective and cognitive, with less focus on the latter. Customers typically evaluate a shopping environment via cognitive and emotional dimensions and this process plays a determinant role in their buying behaviour. Environmental psychologists and consumer behaviour scholars have largely focused on the emotion-cognition distinction in addressing the role of individuals' internal states in deriving their behaviour in diverse contexts (Bagozzi *et al.*, 2002; Mehrabian & Russell, 1974; Zeithaml, 1988). However, according to Chebat and Michon (2003), there is limited empirical research on the retail environment that jointly includes customer emotion and cognition and looking at them as mediators in the relationship between a shopping environment and customer behaviour. Moreover, the flow or sequence of the interplay effect of these two variables is a debatable issue, representing a promising area of research. For instance, Zajonc and Markus (1984) depicted emotional experience as simply as the cognition of having such experience. Thus, without a preceding cognitive activity, emotions can be experienced. Essentially, this is the core assumption of the "affect as information" theory (Schwarz & Clore, 1983) which posits emotions as inputs on which a customer's cognitive appraisal can be based. On the other hand, Lazarus (1991) deemed cognition as a necessary prerequisite for emotions to be developed. These contrasting perspectives and how they are integrated into the conceptual model of this thesis will be further addressed in the theoretical framework chapter (chapter three).

Lastly, the preceding sections have focused on providing a conceptual background to the key aspects addressed in this thesis. The following sections present the focal point of the study's questions and objectives and will respectively analyse the role of ambient, design and social factors within the shopping environment in driving customer responses. Ambient factors will be tackled first in section (2.7), the effect of design factors will be addressed then in section (2.8) and, finally, social factors within the shopping environment will be the focus of section (2.9).

2.7 The Effect of Ambient Factors on Customer Responses

As indicated earlier, in any shopping environment, surroundings can be categorised into three main groups of factors which are ambient, design and social factors. Ambient factors in the relevant literature are referred to as the non-visual background conditions existing below the level of our immediate awareness as customers. These may involve numerous environmental characteristics such as music, lighting, ambient scent, cleanliness, noise and temperature. In the extant literature, although some scholars have investigated ambient factors in retail contexts as a holistic concept comprising various environmental elements, the majority of empirical studies have been focused mainly on certain particular components such as music (Andersson *et al*., 2012; Milliman, 1982, 1986; Sweeney & Wyber, 2002), ambient scent (Bouzaabia, 2014; Chebat & Michon, 2003; Spangenberg *et al*., 1996) and lighting (Areni & Kim, 1994; El Sayed *et al*., 2003).

Amongst the studies tackling ambient factors as an overall concept, Jani and Han (2015), for example, investigated the linkages between a hotel's ambient conditions, guests' emotions, and the resulting loyalty. Their findings revealed that a hotel's ambience can elicit guests'

positive emotions, leading to positive effects on their loyalty. Likewise, in a retail store, Chang *et al*. (2011; 2014) found a significant positive effect for the ambient factors on consumers' emotional responses which, in turn, affected consumers' impulse buying positively. However, findings from other empirical studies asserted the significance of ambient factors in having an effect on customers' minds rather than simply on emotions. For instance, ambient conditions in a retail store can affect what inferences a customer develops about the quality of merchandise and service (Baker *et al*., 1994) which, in turn, affect a customer's approach behaviour (Chen & Hsieh, 2011). Additionally, the findings of Im and Ha (2011) suggest a positive impact by a mall's ambient factors on a customer's expectations in relation to the shopping mall environment, and, thereby, their satisfaction with it. Therefore, attention should be paid to considering both the emotional and cognitive implications of ambient factors when examining how they are linked to customer behaviour in retail contexts.

On the other hand, numerous empirical studies in the relevant literature have addressed the effect of a single or a few ambient characteristics. These include the following:

Music and Ambient Scent

Among the environmental factors at a mall management's disposal, appropriate music and scents are considered as two highly influential variables that can be utilised to create a pleasant shopping environment (Spangenberg, Grohmann, & Sprott, 2005) and to enhance customer satisfaction (Mattila & Wirtz, 2001). However, it is important to remember that understanding the characteristics of the targeted market segment(s) is a starting point when planning any retail context (Chang *et al.*, 2011). Additionally, malls' managers have to go beyond merely selecting the music that is simply appreciated by their target market. Rather,

the focus should also be on what customer behaviours need to be established or modified (Yalch & Spangenberg, 1990).

Music is one of the common influential atmospheric characteristics used by retailers to affect customers. A review study by Jain and Bagdare (2011) researching on the role of music in affecting consumption experiences over the last three decades demonstrates that music can affect customers at three levels: emotional, cognitive, and behavioural. In retail atmospherics' literature, music has been studied using a number of music-related variables such as music type (e.g. Areni & Kim, 1993; Yalch & Spangenberg, 2000), music volume (e.g. Morrison *et al*., 2011; Sullivan, 2002), and music tempo (e.g. Eroglu, *et al*. 2005; Knoferle, Spangenberg, Herrmann, & Landwehr, 2012). Some other scholars have focused on musical likeness (e.g. Herrington, 1996; Sweeney & Wyber, 2002).

Empirical evidence suggests that music is capable of affecting numerous customer responses and marketing outcomes such as perceived time (Chebat, Gelinas-Chebat, & Filiatrault, 1993; Oakes, 2003); actual time spent during shopping (e.g. Anderssone*t al*., 2012; Morrison *et al.*, 2011); customer mood (e.g. Alpert & Alpert, 1990; Osman, Sim Ong, Nor Othman, & Wei Khong, 2014); the amount of money spent (Andersson *et al.*, 2012; Milliman, 1982; Morrison *et al.*, 2011), sales volume (Knoferle *et al*., 2012; Milliman, 1982; North & Hargreaves, 1998), and product selection (Areni & Kim, 1993). A meta-analytical study by Garlin and Owen (2006, p. 761) revealed that the role of music in driving customer responses is evident in the following relationships:

- Familiarity/liking of the music positively affects patronage;
- The mere presence of music is positively linked to patronage and felt pleasure;

- Subjects are more likely to stay for a longer time in slow tempo, low volume and familiar music conditions compared to opposite conditions;
- High volume and tempo, and less liked music conditions are positively linked to customer perceived time duration;
- Tempo is the most influential musical factor in eliciting arousal.

Via two studies in the early nineteen-nineties, Yalch and Spangenberg (1990; 1993) examined the role of music type (e.g. foreground music versus background music) in affecting shoppers' responses in retail stores.In the first study, music type was found to affect perceived shopping time based on a shopper's age, that is, young shoppers reported less perceived shopping time when listening to foreground music, while older shoppers perceived that they shopped for a shorter time with background music conditions. In the second study, music type was found to influence shoppers' cognition of the store, leading to positive effectson shoppers' buying behaviour (e.g. buying and spending). Again, shoppers' responses varied according to the shopper's characteristics. Areni and Kim (1993) examined the effect of classical music versus 'top-forty' music (the top forty albums ranked in Billboard Magazine which encompasses atleast one single song from the top twenty ranked songs over the last six months prior to the study) on customer behaviour in a wine store. Although their findings revealed no significant effects from music type on customers' browsing behaviour, number and frequency of purchases, and time spent in the store, classical music was found to be associated with the purchase of more expensive items. This has been attributed to the fact that buying expensive items is coherent with upmarket and luxury images that can be raised by the classical music. The findings of Grewal, Bake, Levy & Voss (2003) showed a significant positive effect of the presence of classical music in a jewellery store on customers' evaluations of the store

atmosphere, thereby on their patronage intentions. In summary, the findings of such studies indicate the role of music type in driving customer minds and behaviour and supports the view that music can affect customer behavioural responses through cogitive rather than emotional evaluations.

However, the results from other studies suggest that customer behaviour as a response to in-store music can be explained by emotional processes (e.g. El Sayed *et al*., 2003; Walsh *et al*., 2011). For instance, Walsh *et al.* (2011) asserted the positive effect of favourably perceived background music played in coffee shops on customers' emotional states (pleasure and arousal) which, in turn, positively affects customers' loyalty. Likewise, background music in shopping malls was also reported as one of the influential environmental variables which can elicit customers' emotions, thereby affecting their behavioural intentions (El Sayed *et al*., 2003). Recently, in a study examining the effect of different environmental factors (e.g. music, colour and salespeople) on customers' emotions and resulting in-store behaviour, Osman *et al*. (2014) found music to enhance customer mood, leading to positive effects on customer in store-behaviour.

Based on the preceding discussion, practitioners need to be aware of music's implications on customer feelings, while not neglecting its effects on customer minds. Selecting pleasant and appropriate music can stimulate customers' positive feelings and can enhance their likelihood to infer better cognitions of the mall's environment. This, ultimately, can lead to more time and money spent; more propensities to recall the mall, and other approach behaviours. The effective management of the customer-malls' music relationship requires a thorough understanding of what concerns the target market the most, in terms of music characteristics

(e.g. type, tempo and volume), while considering what behaviours need to be reinforced or changed and, therefore, how to manage the music accordingly.

Ambient scent is one of the environmental characteristics that appeal to customers' olfactory senses, particularly in speciality stores (especially those handling fresh items such as bakeries). However, ambient scent has increasingly become one of the major concerns to non-speciality stores' managers (Michon *et al.*, 2005; Spangenberg *et al*., 1996). Throughout the relevant literature, one can notice a common scholarly supported belief that un-offensive store scents are generally associated with better customer responses (Bouzaabia, 2014; Chebat & Michon, 2003; Michon *et al*., 2005; Spangenberg *et al*., 2005). However, ensuring the positive effects of ambient scents on customer responses requires a store's manager to continually monitor how attractive these scents are to customers (Spangenberg *et al.*, 2006).

Empirical evidence shows the significance of ambient scents, diffussed in retail settings, in enhancing customer experience and driving their behaviour; for instance, customers exhibited better evaluations and positive attitudes toward a store, its environment and its merchandise in scented conditions compared to unscented conditions. The presence of ambient scent was also found to decrease the perceived shopping time and to encourage customers to revisit the store (Spangenberg *et al.*, 1996). Similarly, Walsh *et al.* (2011) found favourable customer perceptions of aroma in coffee shops to enhance customer pleasure and satisfaction which, in turn, affected customer loyalty positively. Recently, Madzharov *et al*. (2015) concluded that ambient scent (warm versus cool) has a positive association with customers' perceptions of social density and in affecting customer preferences, which ultimately drive customer buying behaviour (e.g. choice, number of items purchased and money spent).

Ambient scent is also reported as another ambient condition, alongside music, eliciting customer emotions which, in turn, enhances the overall satisfaction with the shopping experience and encourages positive customer behaviour (Morrison *et al.*, 2011). Mattila and Wirtz (2001) examined the joint effect of ambient scent and music on customers' responses in a gift shop. Their findings revealed that ambient scents and music that are congruent in terms of arousing nature can lead to more positive cognitive and behavioural responses, compared to incongruent ones, specifically, greater approach behaviour, better evaluations of the store's environment, higher rates of impulse buying, and better satisfaction with the shopping experience; these were all found to associate with congruent conditions (high, high / low, low arousal conditions) rather than incongruent ones.

In a study focusing on understanding the mechanism by which ambient scent affect shoppers' spending in shopping malls, Chebat and Michon (2003) investigated two competing models addressing the effect of mall ambient scent on shoppers' emotion, cognition and spending. They concluded that the effect of ambient scent is better explained by the cognitive theory of emotions. In other words, ambient scent was found to enhance a shopper's evaluation of the shopping environment (cognitive dimension), eliciting their emotions which ultimately affect their spending behaviour positively. Bouzaabia (2014) examined the moderating role of motivational orientation (e.g. utilitarian / hedonic) and accompaniment state (single / accompanied) on the responses of customers exposed to ambient scent. The results indicated that a pleasant ambient scent has a positive effect on customer evaluation of the store environment, on levels of pleasure and stimulation and on revisiting intentions and money spending. Hedonic customers showed higher revisit intentions than utilitarian customers and accompanied customers spent more money than those with no accompanying persons.

Lighting

According to Gifford (1988), light can act as an arousal agent, determining the extent to which an individual feels alert or active in a situation. Therefore, lighting levels in retail contexts are usually manipulated by retailers to produce the most effective level of customer stimulation, fostering better behavioural responses (Spence *et al*., 2014). In this field, the findings of a number of scholars have shown direct links between in-store lighting and customer behavioural responses. For instance, Areni and Kim (1994) found bright lighting positively affects the number of items examined and handled by a wine store's patrons rather than soft lighting. Similarly, Summers and Hebert (2001) noticed that increasing the level of light encourages shoppers to examine more items and spend more time in the store. The findings of Hultén (2012) asserted the role of in-store lighting in influencing how long a shopper stays in the store, the time spent touching merchandise and, thereby, the shopper's buying intentions and the store's gross sales.

In a study examining the role of lighting in forming shoppers' perceptions in relation to store atmosphere in clothing stores, the attributes of in-store lighting was reported as significant predictors of how shoppers perceive the store environment (Custers, de Kort, IJsselsteijn, & de Kruiff, 2010). Likewise, Oberfeld, Hecht, Allendorf, and Wickelmaier (2009) noticed that manipulating lighting conditions in a winery resulted in significant differences in the perceived value of the wine tasted, that is, respondents evaluated the wine more positively and were more willing to pay more money in red and blue lighting conditions compared to green and white lighting conditions. In-store lighting can also have aninteractive effect with other environmental characteristics (such as interior colour and ambient temperature) in affecting customer pereceptions of retail environments. For instance, Babin *et al*. (2003) have shown

how in-store lighting can interact with a store's interior colours in shaping customers' minds in relation to price fairness. Their findings indicated that, in blue-coloured store interiors, customers reported higher price fairness in bright lighting than in soft lighting, whereas, in orange-coloured store interiors, soft lighting produces a higher level of price fairness compared to bright lighting. Briand-Decre and Pras (2010) also revealed direct and interactive effects of in-store lighting and perceived temperature on customer evaluations of a retail store in terms of the level of stimulation and upmarket positioning. To sum up, the findings of the aforementioned studies (e.g. Briand-Decre & Pras, 2010; Babin *et al*., 2003; Custers *et al*., 2010; Oberfeld *et al*., 2009) indicate how lighting in retailing contexts can affect the cognitive evaluations customers may infer regarding the retail environment itself, or the value of the products sold in this environment.

Empirical evidence also shows how lighting can enhance customer feelings and make shopping a more enjoyable and pleasing experience. In this respect, although the findings of Wakefield and Baker (1998) revealed no significant effect of lighting on either customer excitement or propensity to spend more time at the mall, lighting has been shown as one of the influential physical mall characteristics driving customer emotions and behavioural intentions (El Sayed *et al*., 2004). Also, Ballantine *et al*. (2010) asserted the important role that in-store lighting can play in enhancing both utilitarian and hedonic shopping values. Their results indicated that a sufficient level of lighting encourages and facilitates customers in approaching and examining products. Moreover, the use of product spotlights and dim ambient lighting fosters shopping enjoyment, whereas too low or too high a level of light negatively affects customers' perceptions of products.

Based on the preceding discussion, one can argue that good ambient mall lighting may stimulate better customers' feelings and sense of comfort and encourage more favourable cognitive evaluations. As a result, customers would be more likely to positively perceive other environmental factors; this, in turn, contributes to better customers' cognition of the quality of a mall's environment. Ultimately, comfortable and satisfied customers will be more willing to engage in more approach behaviour. In shopping malls as viable recreational shopping places, bright lighting (as compared to dim lighting) seems to be attractive and may be used to boost customers' attention. However, mall management have to be very cautious about the level of light brightness and avoid overly bright environments which may result in customers' discomfort and lead to reverse outcomes.

Ambient Temperature, Cleanliness and Noise

Ambient temperature is one of the hidden atmospheric variables, which relatively tends to be unconsciously detected by customers in a retail environment. However, it can significantly affect customers psychologically and physiologically and this can have its implications on their behaviour in general and on their buying behaviour as customers in particular. Nevertheless, the effect of ambient temperature in retail contexts is still an under-researched area in retail atmospherics' literature (Spence *et al.*, 2014).

The role of ambient temperature in driving individuals' responses has largely been addressed in non-marketing disciplines such as social psychology. For instance, an early study by Griffit and Veitch (1971) suggested that high temperatures negatively affect individuals' personal affections (e.g. their own feelings), social affections (e.g. liking of others) and unsocial affections (e.g. liking of the testing environment) compared to pleasant temperatures, while

low temperatures are found to induce discomfort and negative affections (Bell & Baron, 1977). More recently, the findings of Zhong and Leonardelli (2008) asserted that low temperatures are associated with situations where individuals feel socially excluded (e.g. rejected by others) rather than included, suggesting a link between physical warmth and social warmth or closeness. The findings of such studies, therefore, suggest the existence of a temperature-comfort zone (e.g. not too hot / too cold) reflecting a satisfactory condition which is subjectively determined by an individual (Baker & Cameron, 1996; Rohles, 2007).

Comfortable ambient temperature in shopping contexts is considered as one of the ambient factors that can positively affect customers' emotion and cognition and result in higher satisfaction levels (Im & Ha, 2011). Any deviation above or below the ideal range of ambient temperature can lead to negative affective responses by customers and can extend their perceived waiting time (Baker & Cameron, 1996). However, even within the comfortable range, high ambient temperatures are more preferable to customers than low temperatures and can lead to better store evaluations (Briand-Decre and Pras, 2010).

In the relevant literature, ambient temperature has been mostly investigated as a part of the holistic concept of ambient factors (e.g. Jani & Han, 2015; Im & Ha, 2011; Wakefield & Baker, 1998). Relatively limited research has been devoted to understand the effect of ambient temperature in particular on customer responses in retail contexts. Amongst the limited research in this field, Hong and Sun (2012) concluded, based on a series of experiments and a movie rental database, that low temperatures foster the need for psychological warmth resulting in a customer's desire to select romance movies. In the same vein, Zwebner, Lee and Goldenberg (2014) found emotional warmth, elicited by warm physical temperatures,

enhanced product valuation. The findings from the two later studies by Hong and Sun (2012) and Zwebner *et al*. (2014) provide evidence of how ambient temperature can affect customers emotionally, cognitively and behaviourally.

Another important ambient condition in any retail environment is cleanliness. In shopping contexts, especially those where customers may spend extended periods of time, cleanliness can be an integral part of the holistic perception of the environment (Wakefield & Blodgett, 1996). Since customers may spend several hours in a shopping mall, they will notice the cleanliness of all the areas of the mall. In this regard, Lee, Ibrahim and Hsueh-Shan (2005) investigated the major influential retail attributes influencing shopping enjoyment and behaviour among male shoppers. Their results indicated that cleanliness generated the highest mean score (5.53) on a 7-point Likert scale ranging from (1) not important at all to (7) very important. This indicates the significant relative importance of cleanliness as a major determinant of shoppers' emotional states and behavioural responses while shopping.

Wakefield and Blodgett (1996) investigated football, baseball and casino environments to understand how environmental dimensions including cleanliness influence customer satisfaction and behaviour. They found that cleanliness, especially in the context of casinos, enhances customers' perceptions of the servicescape's quality, hence, their satisfaction with the servicescape. This, in turn, encouraged customers to stay longer in the servicescape and to return in the future. Similarly, Lucas (2003) studied the role of cleanliness in affecting patrons' satisfaction and behavioural intensions in casinos. Their results indicated that cleanliness, along with other environmental variables, exerted a positive impact on patrons' satisfaction with the servicescape and the overall gambling experience. Ultimately, cleanliness affected

patrons' behavioural intentions, such as their intentions to remain in the environment and to return in the future. In a more recent study, cleanliness in public service facilities has been shown to enhance users' satisfaction with the service provided, thereby affecting their loyalty and reuse intentions (Lee & Kim, 2014).

As for ambient noise, according to Mehta, Zhu, and Cheema (2012, p. 785) the term "noise" is used to describe "any unwanted sound. A sound is defined as a vibration, or a travelling wave that is an oscillation of pressure transmitted through a medium (solid, liquid, or gas). The pressure of these vibrations within a given frequency range stimulates sensation in the ears and enables hearing. Hearing is thus sensitive to the sound pressure level, or "sound level," measured in decibels (dB)". Ambient noise can relate to background music and conversations of other people within a place, as well as physical noise including interior and exterior noises (e.g. moving equipment and street noise) (Zemke, Hertzman, Raab & Singh, 2011).

Analysing previous research undertaken on noise reveals that a significant proportion of the body of knowledge has addressed the effect of noise in other fields such as in environmental psychology and architecture (e.g. Chen & Kang, 2004; Lercher, Evans & Meis, 2003; Moser, 1988; Shabha, 2006). However, ambient noise is a critical variable affecting individuals and one cannot neglect its consequences on customer responses when applied to a retail context such as a shopping mall. In this respect, a study by Hopkins (1994) conducted in West Edmonton Mega-mall (one of the largest shopping malls in the world) revealed a negative impact by noise on individuals' physiological, psychological, and behavioural responses (e.g. muscle tension, stress and arousal, and social interaction). He concluded that the noisy environment of WEM represents a real problem for its customers and staff. Ten years later,

Chen and Kang (2004) noticed that noise and reverberation in Sheffield Meadowhall mall (one of the largest shopping malls in the UK) disturbed the comfort of both the mall's customers and employees and negatively affected communication quality.

On the other hand, amongst the pioneering studies in the field of marketing, Smith and Curnow (1966) investigated the effect of noise on customers' responses in supermarkets by varying the volume of music between loud and soft. They asserted the negative impact of noise on the actual time customers spend in supermarkets. However, no significant effects were noticed on customers' spending and satisfaction. In a later study, Novak *et al.* (2010) investigated the effect of ambient sound pressure on customers' emotions and intended behaviour in restaurants. Their results indicated that ambient noise affects customers' pleasure which, in turn, drives their behavioural intentions to spend more time and money. Additionally, these effects are enhanced by the level of customers' sensitivity to noise.

Thus, one can conclude that excessive noise in a mall's environment might be an annoying aspect that may disturb customers' moods while shopping. This, in turn, may negatively affect their buying behaviour. Customers may feel uncomfortable and try to leave the noisy environment. This means decreasing approach behaviours (e.g. browsing) while increasing avoidance ones (e.g. leave immediately). Moreover, ambient noise may exert a negative effect on the people who work in the mall, affecting their mood and behaviour when dealing with customers. As a result, customers may infer a bad image of the mall and negative perceptions of its environment and service quality.

2.8 The Effect of Design Factors on Customer Responses

Considering Baker's (1986) typology, design factors in a retail environment refer to the visual characteristics of the environment that are more apparent to customers than ambient factors (e.g. colour schemes and interior design). Such factors are crucial for retailers targeting customer groups from different lifestyles (Gilboa & Rafaeli, 2003) as they can be used to convey store identity (Oh *et al*., 2008).

In the extant literature, design factors in retail contexts have been treated by a number of scholars as an overall construct involving several particular variables such as colour, interior design and décor, and layout (e.g. Chang *et al*., 2014; Chen & Hsieh, 2011; Odeh & Abu-Rumman, 2014). In general, the findings of those scholars show the significant role that design factors can play in driving customers emotionally, cognitively and behaviourally. For instance, Odeh and Abu-Rumman (2014) revealed a significant direct impact by design factors in shopping malls on consumer buying behaviour. Moreover, such factors were more influential than both social factors and ambient factors in determining consumers' behavioural responses. The findings of Chen and Hsieh (2011) suggested that such design factors in a retail store can enhance customers' cognitive valuations (e.g. perceived service quality and perceived product value) as well as their positive emotional states while in the store which, in turn, encourages approach behaviours.

In contrast, much of previous research on design factors has been limited to particular individual design elements investigated independently, such as colour (e.g. Babin *et al*., 2003; Chebat & Morrin, 2007; van Rompay *et al*., 2012), layout and interior design (e.g. Hyun & Kang, 2014; Wakefield & Baker, 1998; Wakefield & Blodgett, 1996). Such elements can be

further classified into functional components (e.g. layout and comfort) and aesthetical components (e.g. colour and architecture) (Baker *et al*., 1994). The discussion below sheds light on the most commonly addressed design characteristics in the literature.

Interior Colour

Colour is a flexible and effective design element which can make a highly visible change to any environment and can impose cautious and incautious effects on individuals' responses (Jalil, Yunus, & Said, 2012). Colour warmth (e.g. wavelength) is the most salient attribute differentiating one colour from another (van Rompay *et al*., 2011). Warm colours such as red and yellow have a longer wavelength than cool colours such as blue and green, thus differ in their effects on individuals (Jalil *et al*., 2012). Consumers also vary in terms of their colour preferences as colours may be perceived differently (Osman *et al.*, 2014). However, there is a general tendency to prefer cool short-wavelength colours (e.g. blue) over warm high-wavelength colours in retail contexts (Babin *et al*., 2003; Bellizzi, Crowley, & Hasty1983; Bellizzi & Hite 1992; Yildirim, Akalin-Baskaya, & Hidayetoglu, 2007).

In retail atmospherics' literature, store interior colour has been reported as one of the driving factors of customer emotional and behavioural responses. In this regard, Osman *et al.* (2014) demonstrated a positive effect by favourable colour store environments on customers' mood, and thereby on their in-store behavioural response involving money spent, time spent, and re-patronage intentions. Babin *et al*. (2003) found that cool colour interiors in a women's fashion store generated better customer emotional and behavioural responses than warm colours. Particularly, respondents indicated that blue interiors were more likeable, and they revealed a greater patronage and purchase intentions within blue interiors as compared to a store, where

orange was the predominant colour. Similarly, Bellizzi and Hite (1992) proved the positive effects of calm and cool coloured environments as opposed to those with warm and tense colours, that is, customers exhibited greater intentions to spend, to browse, and to buy in a cool store environment. Moreover, calm environments were also found to be associated with higher levels of customer pleasure compared to tense environments.

Colours can go beyond simply influencing individuals' emotions and mood to affecting cognitive evaluations. For instance, Bellizzi *et al*., (1983) found that store interiors with warm colours (red and yellow) produce more attraction and suggest a more up-to-date image of the merchandise. Chebat and Morrin (2007) investigated the effect of mall décor colour on the customer perception of quality (e.g. mall environment and products) across two different ethnical groups (e.g. French-Canadians and Anglo-Canadians). Their results indicated that French-Canadian customers inferred a higher quality of mall environment and sold products in warm colour décor. In contrast, Anglo-Canadians perceived mall environment and products to have a higher quality in cool colour décor. This can be attributed to cultural differences amongst the targeted research populations (Jalil *et al.*, 2012).

In conclusion, empirical evidence suggests the capability of the interior colour of a shopping environment to affect customers' emotions, minds and behaviour. Therefore, attention should be paid to understanding the characteristics of the targeted market segment and how they may perceive certain colours. Then, a decision can be made concerning the best colour scheme based on what customers' feelings need to be elicited, what cognitive inferences should be suggested, and what behaviours need to be encouraged.

Layout and Interior Design

Spatial layout can be referred to as the way in which objects in a certain place are organised and how they are spatially linked to each other (Bitner, 1992). A good layout in a retail setting ensures the optimal utilisation of the floor area and allows customers to move around easily (Gilbert, 2003). The significance of an appropriate layout in enriching customer experience and encouraging better customer responses is greatly evident in the relevant literature (De Nisco & Warnaby, 2013; Hyun & Kang, 2014; Loureiro *et al*., 2013;Wakefield & Baker, 1998; Wakefield & Blodgett, 1996; van Rompay *et al*., 2012). For instance, Wakefield and Baker (1998) found that a mall layout positively affects both customers' feelings and their desires to stay in the mall. Particularly, interesting malls with modern layouts (e.g. multi-level star shape) were perceived better as compared to traditional ones (e.g. single level L- or I-shapes). In a simulated store environment, van Rompay *et al*., (2012) found spacious layout to positively and directly affect the shopping pleasure and the behavioural intentions of task-oriented shoppers. In a realistic setting (e.g. a luxurious restaurant), the findings of Hyun and Kang (2014) revealed that layout can have a positive impact on customer pleasure indirectly via arousal and this, in turn, can lead to positive effects on customer behavioural intentions. Loureiro *et al*. (2013) found that pleasure and arousal induced by store layout enhances customer delight which ultimately results in positive effects on customer behavioural intentions (e.g. re-visit).

The layout as a functional design aspect in retail contexts can have implications not only on customers' emotions but also on their cognitive evaluations. For instance, attractive physical layouts in shopping areas have been shown to enhance the perceived quality of the service provided, resulting in a greater customer tendency to stay and to re-patronage these areas (De

Nisco & Warnaby, 2013). Likewise, Wakefield and Blodgett (1996) found that a servicescape layout enhances the perceived quality of the servicescape which, in turn, affects the customers' desires to stay in the service facility and to return to it in the future.

Consequently, one can conclude that an appropriate mall layout may stimulate the positive emotions of mall customers and result in better quality inferences of the overall mall environment. Thus, comfortable customers might be more willing to demonstrate better behavioural responses while being in such settings, such as spending more time and money within the mall.

Interior design and décor, on the other hand, has been regarded as a key aesthetic component in a servicescape and a main contributor to its attractiveness (Wakefield & Blodgett, 1996). Mall décor is one of the critical factors affecting customer attitudes and behaviour, thus must be taken into consideration when planning shopping malls (Khare, 2011). Interior design and décor can be used as emotion-triggering tool (Wakefield & Baker, 1998), enhancing customers' pleasantness and ultimately, encouraging positive behavioural intentions (Holmqvist & Lunardo, 2015).

In this respect, in a study examining the impact of the different characteristics of a mall's shopping environment on shoppers' feelings and behavioural intentions El Sayed *et al*. (2003) reported mall interior design and decorations as one of the driving variables of shopper intended behaviours when considering the moderating impact of emotions. In other words, only emotionally affected shoppers showed better behavioural intentions in shopping malls having modern interior design and décor compared to those with classical designs. And

recently, interior décor in restaurants was found to elicit customer arousal which, in turn, enhances level of pleasure, resulting ultimately in positive behavioural intentions (Hyun & Kang, 2014). In addition, the findings of Wakefield and Blodgett (1996) demonstrated the role of attractive interior design in affecting customers' cognitions and, thereby, their consequent behaviour. In particular, their findings revealed the significant positive effect of attractive interiors in three different leisure facilities on their perceived quality. This, in turn, was found to enhance customer satisfaction, resulting ultimately in greater intentions to stay and to re-patronage.

Based on the preceding discussion, one can conclude that the effective management of such aesthetic aspects in shopping mall environments can make them more interesting and enjoyable for customers. Moreover, they can contribute to enhancing customers' evaluations of the mall's environment; this, in turn, may ultimately result in more positive behavioural responses.

2.9 The Effect of Social Factors on Customer Responses

Separately, and along with other atmospheric variables, the social factors of the shopping environment (individual components and the holistic concept) have received considerable attention from many scholars who consider them as one of the antecedents for the cognitive, emotional and behavioural responses of customers in retail contexts (Brocato, Voorhees & Baker, 2012; Chang *et al.*, 2014; Eroglu & Harrell, 1986; Harrell, Hutt & Anderson, 1980; Klassen, Clayson, & Jasper, 1996; Kwon *et al.*, 2015; Lin & Liang, 2011; Pan & Siemens, 2011).

Similar to the ambient and design factors discussed earlier, social factors, in some instances, in the relevant literature have been investigated as a holistic concept comprising different social aspects (Baker *et al*., 1992; Baker *et al*., 1994; Chang *et al*., 2014; Chen & Hsieh, 2011; Kumar & Kim, 2014; Sherman *et al*., 1997). For instance, Sherman *et al*. (1997) examined how store environment (e.g. social factors) and the resulting in-store emotions (e.g. pleasure and arousal) can affect customer buying behaviour. Their findings showed a significant positive impact by social factors on the level of pleasure experienced in the store which, in turn, encourages customer spending and liking of the store. In another study, Baker *et al*. (1992) found that social factors can evoke customer arousal, fostering greater willingness to buy. Such results signify how important the social conditions in a shopping environment are to customers' feelings and, consequently, to their behavioural response. However, customers may also consider such conditions as informational cues based on which certain cognitive evaluations can be developed. For example, social factors were found to be linked to what perceptions a customer forms in relation to the products sold in a retail store as well as to the store itself (Baker *et al*., 1994; Chen & Hsieh, 2011) and, thereby, to how they behave towards the store (Kumar & Kim, 2014).

On the other hand, a significant part of previous research has tackled certain particular social aspects. These aspects are mainly related to two key social dimensions, firstly, other customers who are present in the retail environment (Brocato *et al.*, 2012; Jani & Han, 2014; Kwon *et al.*, 2015; Li *et al*., 2009; Mattila & Wirtz, 2008; Söderlund, 2011; Tse, Sin & Yim, 2002; Whiting & Nakos, 2008), and secondly, facility employees (Klassen *et al.*, 1996; Küçükergin & Dedeoğlu, 2014; Lin & Liang, 2011; Tendai & Crispen, 2009). These factors are discussed below.

Other Customers in the Shopping Environment

The number of other customers presenting in a retailing setting represents a fundamental judgmental aspect made by customers generally (Söderlund, 2011). According to Eroglu *et al.* (2005b, p. 578) "shoppers perceive retail crowding when density (the number of people and objects in a limited space) restricts or interferes with their activities and shopping goals". Thus, while density represents a condition that can be measured objectively by the number of objects in a certain place, crowding refers to the psychological state which can arise from the perceived scarcity of space. In this regard, perceived retail crowding can be basically classified into two different types: perceived human crowding, which is mainly related to other customers and their activities within the retail store, and perceived spatial crowding, which is related to non-human objects within the store, such as merchandise and equipment and their configurations (Machleit, Kellaris, & Eroglu, 1994).

Empirical studies in the relevant literature provide evidence of the capability of in-store crowding to affect different customer responses including cognitive evaluations (e.g. Brocato *et al.*, 2012; Eroglu & Machleit, 1990; Tse *et al.*, 2002), emotional states (Machleit, Eroglu & Mantel, 2000; Pons, Mourali & Giroux, 2014) and behavioural outcomes (Eroglu *et al*., 2005b; Pan & Siemens, 2011). For instance, customers consider the level of human crowdedness in different settings as indicative of store image, the quality of the products sold or services provided, and the prices charged (Pan & Siemens, 2011; Tse *et al.*, 2002). A retail store is evaluated more positively in high crowded conditions compared to a low level of crowdedness (Söderlund, 2011). Retail crowding can also play an interactive role with other environmental factors in affecting customer responses. This has been shown by Eroglu *et al*. (2005b) who investigated the interactive effect of social crowdedness and music on customers' hedonic and

utilitarian values and behavioural responses in the context of shopping malls. Their results indicated that jointly but incongruently the crowdedness level and the music tempo enhanced customers' evaluations of hedonic and utilitarian values. In other words, customers revealed greater evaluations for hedonic and utilitarian values under the conditions of high crowdedness/slow music and low crowdedness / quick music.

The findings of several empirical studies have asserted that customers are more to likely to show positive emotional and behavioural responses under moderate levels of crowding (Argo, Dahl & Manchanda, 2005; Eroglu *et al.*, 2005a; Machleit *et al*., 2000, Michon *et al*., 2005; Pan and Siemens, 2011; Uhrich, 2011). For example, Pan and Siemens (2011) examined the effect of different crowding levels on customers' attitudes and behavioural intentions. Their findings showed that customers in a goods context respond more positively in a moderate level of crowding compared to low or high levels. Likewise, Argo *et al*. (2005) and Uhrich (2011) reported a moderate level of retail crowding as the optimal level inducing customers' positive emotions and reducing negative ones.

However, it is worth mentioning that perceived crowding is a subjective issue that varies from one buying situation to another. Customers may respond differently to retail crowding based on their expectations of, and tolerance for, crowding, shopping orientation, time pressure and type of retail context (Eroglu & Machleit, 1990; Eroglu *et al.*, 2005a; Machleit *et al.*, 2000). For instance, crowding can have a greater impact on customers with low expectations of, and tolerance for, crowding than those with higher expectations and less tolerance (Eroglu *et al.*, 2005a). Moreovere, crowding becomes more acceptable when customers have social shopping motives (Eroglu & Harrell 1986). Additionally, Whiting and Nakos (2008) have suggested

that cultural differences amongst nations can also have implications on how acceptable crowdedness is for customers, that is, individuals of high contact and collectivistic cultures tend to be more tolerant and interested in crowds than their counterparts from low contact and individualistic cultures. Accordingly, one can conclude that high levels of crowding in shopping malls might be more acceptable in comparison to low crowdedness conditions, especially for customers who consider shopping as a leisure pursuit and as a good opportunity to interact and socialise with others. Moreover, some customers may consider this crowding as a cue of strong reputation and an indicator of greater shopping value.

Another important customer-related aspect is the presence of other customers and their behaviour and interactions within the shopping environment. In this extent, Kwon *et al.* (2015) investigated how the social presence of other customers in shopping malls can affect the customer shopping experience. Their results showed perceived similarity to other customers in the mall to be positively linked to customers' cognition (e.g. positive disconfirmation) and emotion (e.g. excitement) which, in turn, affects their satisfaction with the mall. Consistent with this finding, an earlier study by Raajpoot*et al*. (2008) reported customer compatibility in shopping malls as one of the driving factors of its overall evaluation which, in turn, enhances customer re-patronage intentions. Söderlund (2011) also found that customers tend to have better attitudes to, and evaluations of, a retail store where they find their aspiration group and other customers with similar values. Lin and Liang (2011) asserted the positive influence of the behaviour of other customers in retail fashion stores on customers' emotions and satisfaction and, thereby, on their intentions to spend more money, divulge positive word of mouth, and remain loyal to the store.

Thus, in conclusion, customers are more likely to be emotionally stimulated in shopping environments where they find their desirable social climate. Moreover, such a climate may contribute to enhancing customers' evaluations of the overall shopping environment and to encouraging more positive behavioural responses.

Employees in the Shopping Environment

Employees in a retail setting represent an integral part of the retail environment. Their appearance and behaviour are fundamental to customer experience. Customers may consider different employee-related aspects such as number, appearance, dress and attitudes as judgment points that, in sum, can affect customers' perceptions and their resulting behaviour (Baker *et al*., 1994; Baker *at al*., 2002). The general appearance and dress of employees in buying contexts, for example, can play a role in affecting customers' minds. For instance, in a laboratory-based study investigating the effect of formal personnel clothing on customers' expectations of service quality and store image, Yan *et al.* (2011) asserted the positive impact of formal dress on customers' minds. Specifically, customers associate formal dress with greater expectations of personnel's knowledge, competence, trust and reliability. Moreover, the results show that dress formality has direct and indirect effects on store image through customer expectations of the service quality, while the findings by Klassen *et al*. (1996) revealed that stores with overweight salespeople tend to be perceived as being unsuccessful and as having a poor image.

The clothes that employees wear can also affect their self-image (Cardon & Okoro 2009; Peluchette & Karl, 2007; Tu, Yeh, Chuang, Chen & Hu, 2011). Peluchette and Karl (2007) for instance, indicated that wearing a formal dress triggers employees' feelings of authority, trust

and competence, while casual dress fosters a feeling of being creative and friendly (Cardon & Okoro, 2009). Appropriate employees' uniform affects their real performance and puts them in a better mood when serving customers (Solomon & Schopler, 1982). Therefore, in industries where fun and affection are considered to be an integral component of the customer experience (e.g. water slid parks, hotels and recreational centres) casual wear is viewed as more appropriate than formal wear (Tu *et al*., 2011). Accordingly, one can conclude that employees' dress in commercial settings represents an important cue that can affect the customer experience directly and indirectly, that is, customers may use such cues to make certain cognitive inferences (e.g. perceived quality). At the same time, these cues may affect the employees themselves and this, in turn, may be reflected in how positively they interact with customers.

Customer perception of retail personnel can go beyond the appearance and dress of the personnel to encompass also their attitudes and behaviour (Baker *et al.*, 1992). Empirical studies in this area suggest that employee attitudes and the way they interact with customers can also be informational inputs to the customer evaluation processes and consequent behaviour (Jacob, Guéguen, Martin and Boulbry, 2011; Küçükergin & Dedeoğlu, 2014; Raajpoot *et al.*, 2008; Van Baaren, Holland, Steenaert & van Knippenberg, 2003). In this regard, Jacob *et al*. (2011) noticed that customers evaluate the store environment and personnel more positively when they perceive that their verbal and non-verbal expressions are similar to those of the personnel. Similarly, customers pay more tips in restaurants when there is an apparent sense of verbal alignment with the waitresses (Van Baaren *et al*. 2003). Employee hospitality behaviour was found to enhance customers' satisfaction which, in turn, affects their behavioural intentions positively (Küçükergin & Dedeoğlu, 2014). In shopping

malls, Raajpoot *et al.* (2008) found that employees' behaviour positively affects customers' emotions and hence their overall evaluation of the shopping environment which ultimately motivated the customers to return to the mall in the future. Also, mall employees' behaviour was reported as one of the key environmental variables driving customer impulsive buying (Tendai & Crispen, 2009). In conclusion, these results suggest that such buyer-seller behavioural alignments are one of the desired social aspects that are highly valued by customers and may, accordingly, enhance their emotional states and perceptions of the mall and, ultimately, encourage buying behaviour.

Lastly, the preceding sections (2.7-2.9) discussed previous research tackling the role of various factors within the shopping environment including the holistic concepts (e.g. ambient factors) and their related main elements (e.g. ambient scent) in driving customer emotional, cognitive and behavioural responses in different retail settings. A summary of the key previous empirical studies addressed in these sections are provided in table (2.3).

Table (2.3) Summary of Key Empirical Studies Addressed in the Literature Review Chapter

Study	Retail Environmental Variable(s)	Research Strategy	Country	Key Findings
Akroush *et al.* (2011)	Overall construct of the mall environment cues	Questionnaire survey	Jordan	Attractive environmental cues of a shopping mall have a positive effect on customer experiential outcome (emotions) which, in turn, positively affects customer cognition in relation to the service quality provided. This, ultimately, results in higher overall customer satisfaction. The relationship between customer experiential outcome and customer satisfaction is mediated by customer cognition (perceived service quality).
Andersson *et al.* (2012)	Music	Field experiment	Sweden	The findings of the two studies conducted in different retail contexts (electronics' retail store and supermarket) assert the significance of music in driving consumer behaviour. The effect of music on consumer behaviour is moderated by store type and customer gender.
Areni and Kim (1994)	Lighting	Field experiment	USA	Customers examined and handled greater number of items in the store in bright lighting conditions as opposed to soft lighting.
Babin *et al.* (2003)	Colour and lighting	Laboratory experiment	USA	Customers react more favourably (e.g. better evaluations of store and price fairness, more positive emotional state, higher patronage and purchase intentions) to stores described as having blue interiors as opposed to orange ones. Light plays an interactive role with colour in affecting customer responses. The effects of colour and light on customer behavioural intensions are mediated by cognitive and affective evaluations.
Baker *et al.* (1992)	Ambient and social factors	Laboratory experiment	Not identified	Ambient factors interact with social factors in affecting customer pleasure. High social conditions positively affect customer arousal. Customer pleasure and arousal positively enhance customer willingness to buy. Customer pleasure and arousal mediate the effect of the store environment on customer willingness to buy.
Baker *et al.* (1994)	Ambient, design and social factors	Laboratory experiment	USA	Prestigious conditions of ambient and social factors positively affect customer perceptions of merchandise and service quality, and store image. Customer perception of merchandise and service quality positively affect store image. Customer perceptions of service and merchandise quality mediate the effect of social and ambient factors on store image.
Baker *et al.* (2002)	Ambient, design and social factors	Laboratory experiment	USA	Store environment factors, mainly design factors, affect different store choice criteria such as merchandise quality and interpersonal service quality perceptions, affecting merchandise value which, in turn, drives store patronage intentions.

Bellizzi *et al.* (1983)	Colour	Laboratory Experiment	USA	Warm colours (red and yellow) produce more attraction and suggest more an up-to-date image of merchandise compared to cool colours (blue and green). Cool colours are more pleasant for customer emotions.
Bigdeli and Bigdeli (2014)	Store ambience, store design and interaction with store employees	Questionnaire Survey	Iran	Store atmospheric elements positively affect customer emotions but not perceived value. Customer emotions (mix of pleasure and arousal) are positively related to perceived value. Both emotions and perceived value encourages customer behavioural intentions.
Bouzaabia (2014)	Ambient Scent	Field experiment	Tunisia	Customers revealed a better evaluation of a store environment, higher levels of pleasure and stimulation, and greater revisit intentions and money spending in a scented condition compared to an unscented one. Some of the ambient scent effects were moderated by shopping motivations (hedonic or utilitarian) and customer state (single or accompanied).
Brocato *et al.* (2012)	Other customers	Questionnaire Survey	Not identified	Similarity to, and the suitable behaviour of, other customers are significant predictors of approach/avoidance behaviour which, in turn, affect customer word of mouth.
Chang *et al.* (2014)	Ambient, design and social factors	Questionnaire survey	USA	Ambient/design factors have a significant positive effect on consumers' positive emotions and thereby on their impulse buying behaviour. The relationship between the emotions and impulse buying is moderated by situational conditions (e.g. money availability and task definition).
Chebat and Michon (2003)	Scent	Field experiment	Canada	Light and pleasing scents positively affect customers' cognitions of a mall environment, affecting their emotions which ultimately drive their behaviour (e.g. spending)
Chebat and Morrin (2007)	Décor colour	Field experiment	Canada	Décor colour affects the perceived quality of a shopping environment, thereby the perceived quality of products sold. The effect varies according to customer subculture. The effect of décor colour on customer perceptions of product quality is mediated by cognitive inferences rather than affective states.
Chen and Hsieh (2011)	Ambient, design and social factors	Questionnaire survey	Taiwan	Store environmental factors affect customer cognition (e.g. perceived product value), emotions, and approach behaviour. The cognitive valuations and emotional responses of customers affect their approach behaviour.
De Nisco and Warnaby (2013)	Physical design, layout and functionality, store exterior	Questionnaire survey	Italy	Attractive physical layout and functionality and store appearance in shopping areas enhance the perceived service quality provided which positively affects tendency to stay and to re-patronage.
Donovan *et al.* (1982)	Overall store environment	Questionnaire Survey	USA	Consumers' in-store behavioural intentions are mainly predicted by emotions of pleasure and arousal, induced by a store environment.

Donovan *et al*, (1994)	Overall store environment	Questionnaire survey	Not identified	Pleasure in a store environment is positively related to the time spent in the store and unplanned purchases, while arousal has a negative impact on unplanned buying in unpleasant environment.
El Sayed *et al*. (2004)	Music, crowdedness, lighting and interior design	Laboratory experiment	Egypt	Background music, crowdedness, and lights are all found to affect shoppers' behavioural intentions. Interior design affects shoppers' behavioural intensions only when the moderating role emotion is considered. Shoppers' emotions, mainly pleasure moderate the effect of environmental factors and shoppers' behavioural responses.
Eroglu *et al*. (2005b)	Retail density and music	Field experiment	Not identified	Retail crowdedness and music tempo have a significant positive effect on customer evaluations of hedonic and utilitarian values in incongruent conditions. Slow music tempo significantly affects customer intentions to browse and re-patronage. High density significantly affects customer behavioural responses in terms of money spending and unplanned buying.
Ferreiraa and Castrob (2011)	Music	Field experiment	Brazil	The quality of background music has a positive effect on customers' pleasure and on the financial performance of stores. A higher quality of background music decreases conversion rates.
Hanzaee and Javanbakht (2013)	Overall perception of shopping environment	Questionnaire survey	Iran	Environment positively affects tourists' pleasure and arousal which, in turn, enhances perceived value. Perceived value is positively related to tourist satisfaction which, in turn, is positively associated with behavioural intentions.
Herrington(1996)	Music	Field experiment	USA	Customer preference for background music positively affects the amount of money and time spent in a supermarket.
Holmqvist and Lunardo (2015)	Highly stimulating store environment	Laboratory experiment	Not identified	Arousal induced by a highly stimulating store environment enhances customers' pleasantness and, therefore, their behavioural intentions. Shopping orientation (e.g. recreational versus task-oriented shoppers) plays a moderating role in this effect.
Hyun and Kang (2014)	Décor and artefacts, spatial layout and ambient conditions	Questionnaire survey	USA	All environment cues have a significant positive effect on customers' arousal, affecting customers' pleasure which, in turn, drives their behavioural intentions. The effect of arousal on pleasure is moderated by motivational orientation (task-oriented and recreational-oriented). The effect of pleasure on behavioural intentions is moderated by the level of hedonism.
Im and Ha (2011)	Ambient factors	Questionnaire survey	USA	Customers' emotions and cognition work independently in predicting customer satisfaction. Ambient factors positively affect customer pleasure but not arousal, as well as customer disconfirmation of expectations which, in turn, enhance customer satisfaction.

Jacob *et al.* (2011)	Employees	Field experiment	Not identified	Higher similarity in buyer-seller verbal interpersonal relationships result in higher sales volumes, better persuasive effect of sales personnel on customer choice, and better general store evaluations.
Jang and Namkung (2009)	Atmospherics (elements of ambient and design factors)	Questionnaire survey	USA	Atmosphere variables have a positive influence on customer positive emotions and on behavioural intentions to divulge positive word of mouth (WOM) and to re-patronage. Customer positive emotions mediate the relationship between atmosphere variables and customer behavioural intentions.
Jani and Han, (2015)	Ambience	Questionnaire survey	South Korea	Hotel ambience is positively related to guests' positive emotions and negatively linked to negative emotions. These, in turn, respectively lead to positive and negative effects on guests' loyalty. This interrelationship between ambience, emotion and loyalty is moderated by a guest's personality traits.
Kaltcheva and Weitz (2006)	Environmental characteristics in general	Laboratory experiment	USA	The level of arousal induced by the characteristics of a retail environment positively affects customers' pleasantness and their intentions to visit and make purchases in the store. This effect is moderated by customers' shopping orientation (recreational shoppers versus economic shoppers). Pleasantness mediates the effect of customers' arousal on their behavioural intentions.
Kim and Moon (2009)	Perceived servicescape	Questionnaire survey	Canada	Servicescape attributes have a positive effect on customer feelings (pleasure) and perceived service quality. The relationship between servicescape and customer revisit intentions is mediated by pleasure and perceived service quality. Perceived quality enhances customer pleasure. The effect of customer pleasure and perceived quality on revisit intentions is affected by restaurant type.
Kumar and Kim (2014)	Social, design and ambient cues	Questionnaire survey	USA	Ambient and social cues positively influence customer cognitive evaluation of the store which, in turn, affects their approach behaviour. Customers' cognitive evaluations are positively linked to their affective evaluations and, ultimately, to approach behaviour. The affective and cognitive evaluations of the store are positively related to the evaluations of the merchandise.
Kwon *et al.* (2015)	Other customers (perceived similarity to others)	Questionnaire survey	USA	There is a direct positive effect of perceived similarity to other shoppers in the shopping environment on satisfaction, positive disconfirmation and excitement. The relationship between perceived similarity to other shoppers and satisfaction is mediated by positive disconfirmation and excitement. Excitement is positively linked to positive disconfirmation.
Li *et al.* (2009)	Crowding	Questionnaire survey	Taiwan	Human crowding has a positive effect on customer emotions which, in turn, enhance customer satisfaction with the shopping experience. Customer satisfaction has a positive effect on retail outcomes (e.g. impulse buying, time spent, and aisle buying).
Lin and Liang (2011)	Design factors, ambient factors, employees and other	Observation and questionnaire survey	Not identified	Social and physical environments have a positive effect on customer emotion and satisfaction. These, in turn, positively affect customer behavioural intentions.

	customers			
Loureiro *et al.* (2013)	Design factor, layout factor and information factor	Questionnaire survey	Portugal	Both the layout and information dimensions of a store environment are positively linked to customer pleasure and arousal, determining the level of customer delight which, ultimately, fosters the behavioural intentions of customers. The interrelationship amongst atmospheric variables, emotions and intentions is moderated by customer involvement and store type.
Mattila and Wirtz (2001)	Music and scent	Field experiment	Singapore	The congruent condition of music and scent has a significant positive effect on customer pleasure, evaluation of the store environment, approach and impulse buying behaviour, and level of satisfaction.
Mattila and Wirtz (2008)	Crowding and employees	Questionnaire survey	Singapore	High levels of a stimulation environment have a positive impact on impulse buying. Perceived crowding along with level of employee friendliness can positively affect impulse buying.
Michon *et al.* (2005)	Scent and crowding	Field experiment	Not identified	Light and pleasing ambient scent has a positive effect on customers' mood and the perception of the mall environment only at a moderate crowding level. Better customer perception of a mall environment positively influences product quality.
Milliman (1982)	Music	Field Experiment	USA	Slow background music positively affects daily gross sales in supermarkets. Traffic flow within the supermarket varies with background music tempo (fast and slow).
Milliman (1986)	Music	Field Experiment	Not identified	Customers spend more time and money, wait for a longer time before being served and make greater food and bar purchases in slow music conditions.
Morrison *et al.* (2011)	Music and Scent	Field experiment	Australia	High volume music and a vanilla aroma positively influence the customer emotions of pleasure and arousal and satisfaction with the shopping experience. Arousal induced by music enhances pleasure which, in turn, drives customer behaviours involving time and money spent, approach behaviour and the overall satisfaction with the shopping experience.
Novak *et al.* (2010)	Noise (sound pressure)	Field Experiment	USA	Unlike the conditions of no music and too loud music, comfortable music sound pressure in a restaurant's environment positively affects customer pleasure but not arousal and this, in turn, affects customer behavioural intentions (repeat patronage, recommending to others, spending more time and money than planned). Customer sensitivity to noise negatively plays a moderating role in the effect of sound pressure on customer pleasure.
Odeh and Abu-Rumman (2014)	Ambient, design and social factors	Questionnaire survey	Jordan	All environmental factors are found to be positively linked to consumer buying behaviour, with design factors having the highest impact followed by social factors and ambient factors respectively.

Osman *et al.* (2014)	Music, colour and salespersons	Questionnaire survey	Malaysia	Store environment factors are positively linked to customers' mood; thereby to their in-store behaviour (money spent, time spent, and re-patronage intentions).This interrelationship amongst environmental factors, mood and behaviour is moderated by age.
Pan and Siemens (2011)	Crowding	Laboratory experiment	USA	In a goods' setting, the relationship between crowding level and customer attitudes and behavioural intentions follows a curvilinear trend. In a service setting, the relationship between crowding and customer attitudes and behavioural intensions is a linear one.
Ryu and Jang (2007)	Facility aesthetics, lighting, ambience, layout, dining equipment and employees	Questionnaire survey	USA	Customer pleasure is mainly influenced by facility aesthetics, ambience and employees, while arousal is affected only by employees and ambience. The customer emotions of pleasure and arousal positively affect customer behavioural intentions. Pleasure seems to be more influential than arousal in driving customer behavioural intentions.
Ryu *et al*.(2012)	Overall perception of the restaurant environment	Questionnaire survey	USA	The physical environment is one of the influential factors affecting a restaurant's image, thereby customer perceived value. The perceived value is positively related to customers' satisfaction, which ultimately drives their behavioural intentions.
Seock (2009)	Overall construct	Questionnaire survey	USA	Hispanic consumers' patronage behaviour (e.g. selection of a certain retail format) towards apparel stores is determined by three store-related attributes: convenience, physical atmospherics and customer service.
Smith and Curnow (1966)	Noise (loud music)	Field experiment	Not identified	Customers spend less time in supermarkets in noisy conditions; however no significant effects are noticed for the noisy conditions on sales and customer satisfaction.
Söderlund (2011)	Other customers	Laboratory experiment	Sweden	Other customers present in a retail store in terms of number, attitudes and behaviour affect customers' evaluations towards the retail store. Better evaluations are reported for retail stores with higher number of customers, aspired customers, and conservative customers.
Spangenberg *et al.* (1996)	Scent	Laboratory experiment	USA	Customers evaluate the store and merchandise more positively and reveal higher approach behaviour in scented conditions as opposed to unscented ones. Opposite to no scent conditions, customers report less perceived time with the presence of scent.
Spangenberg *et al.* (2005)	Music and scent	Laboratory experiment	USA	Customers report better responses in terms of emotions, evaluations of store, store environment, and merchandise, and higher revisit intentions in congruent music and scent conditions.
Sweeney and Wyber (2002)	Music	Laboratory experiment	USA	Music likeness in general enhances customer emotions and cognitive evaluations of quality. Customer emotions (pleasure but not arousal) and cognitive evaluations (e.g. merchandise and service quality) positively affect customer intended approach behaviour, while the effect of arousal is only significant in pleasant store environments. A positive effect is also noticed for pleasure, arousal and service quality on customer affiliation behaviour.
Tendai and Crispen (2009)	Crowding, scent, music, display and the behaviour of shop staff	Questionnaire survey	South Africa	Impulse buying is mainly driven by in-store factors of an economic nature such as coupons rather than store atmospherics. Among store atmospherics, only the favourable behaviour of store personnel and attractive store displays are shown to drive impulse buying by the customer.

Tse *et al.* (2002)	Crowding	Laboratory experiment	China	Perceived crowdedness in restaurants is positively linked to customer perception of food quality and restaurant reputation and negatively linked to food price.
van Rompay *et al.* (2012)	Colour and layout	Laboratory experiment	Netherlands	Environmental cues interact with shopping motivation in driving shoppers' emotional and behavioural responses. The responses of recreational shoppers are mainly affected by highly-arousing interior colours while the responses of task oriented shoppers are mainly affected by spacious store layout.
Vilnai-Yavetz and Gilboa (2010)	Cleanliness	Laboratory experiment	Israel	Servicescape cleanliness positively influences customer pleasure, trust, attributed prestige and approach behaviour. Pleasure and trust mediate the effect of a servicescape's cleanliness on customer approach behaviour.
Wakefield and Baker (1998)	Ambient (music, lighting, and temperature), interior design and décor and layout alongside variety.	Questionnaire survey	USA	With the exception of mall ambience (lighting and temperature), all environmental factors have a positive effect on either customer excitement or desire to spend more time at the mall. Customer excitement induced by a mall's environment positively affects customer re-patronage intentions and tendency to spend more time at the mall. Excitement and re-patronage intentions are negatively associated with out-shopping behaviour.
Wakefield and Blodgett (1996)	Layout, facility aesthetics, electronic displays, seating comfort and cleanliness	Questionnaire survey	USA	Accessible layout, attractive facility interiors, and cleanliness of a servicescape have a positive effect on its perceived quality. This, in turn, affects customer satisfaction which, ultimately, results in greater tendencies to stay and to re-patronage.
Walsh *et al.* (2011)	Music and scent	Questionnaire survey	Not identified	In-store music has a direct positive effect on both pleasure and arousal and an indirect effect on customer satisfaction and loyalty via pleasure and arousal respectively. In-store scent has a direct and indirect effect on customer satisfaction via pleasure which also directly and indirectly affects customer loyalty via satisfaction.
Yalch and Spangenberg (1990)	Music	Field experiment	USA	Foreground music is more desirable to customers than background music, but has no significant effect on their mood and unplanned buying. Music type affects customers' perceived time spent in the store, based on their age.
Yalch and Spangenberg (1993)	Music	Field experiment	USA	Appropriate music type affects a shopper's tendency to buy more products and to spend more money. Music interacts with a shopper's age in affecting time and money spent in a store.
Yan *et al.* (2011)	Employees	Laboratory experiment	USA	Employees' formal dress is positively associated with customer inferences of service quality. The formal dress of employees in retail environments has a direct and indirect effect on store images through customers' expectations of service. Fashion orientation plays a moderating role in the effect of employee dress on the expected service quality.

2.10 Chapter Summary

This chapter aimed to present a detailed review of the literature written on the effect of a shopping environment on customer emotional, cognitive and behavioural responses. A theoretical background on the concept of a shopping environment and its components was provided. Furthermore, several typologies of shopping environment factors were discussed. The chapter also introduced the S-O-R model of Mehrabian and Russell (1974) as the backbone of this thesis and showed its applicability to a shopping mall context. The thesis adopted Baker's (1986) typology of shopping environmental factors. Accordingly, shopping environmental factors were classified into three groups which are ambient factors, design factors and social factors. Guided by this typology, the chapter presented a review of the relevant literature on the role of the various factors of shopping environment in affecting customer shopping experience and behaviour. This revealed a number of key deficiencies in previous empirical studies. First, most of prior research has been conducted in Western contexts and in developed economies; second, the focus of such research has been mainly limited to the mediating role of either customer emotion or cognition; third, the mediating impact of both emotion and cognition on customer behaviour in shopping contexts has been mostly addressed in studies focusing on a single or limited environmental aspects; and fourth, few studies have examined the interplay mediation and only one of the cognition-emotion or emotion-cognition hierarchies has been considered. The next chapter will introduce the theoretical framework of the thesis.

CHAPTER THREE: The Research Theoretical Framework

3.1 Introduction

This chapter aims to present the focus of this thesis in investigating the effect of a mall's shopping environment on customer behavioural response. The chapter introduces the theoretical framework of the current thesis, followed by research hypotheses as well as presenting the relevant support from the findings of previous studies. It concludes by providing an overall view of the thesis in one summarised table including the research aim, questions, objectives and hypotheses together with supporting studies. A chapter summary is also provided at the end of this chapter.

3.2 The Research Theoretical Framework and Model

The theoretical framework of this thesis is based on the literature on retail environmental psychology as well as retail atmospherics' literature. The study's conceptual model is basically based on Mehrabian and Russell's (1974) model which is initially based on the S-O-R environmental psychology paradigm. As indicated earlier, the M-R model originated in the field of psychology to understand how human behaviour is linked to humans' surroundings. However, the M-R model has inspired much of previous research on the effect of environmental factors on customers' behaviour in buying contexts. The dominant belief of this research is that the characteristics of a retail environment (S) affect customers' internal states involving emotion and/or cognition (O) which, in turn, lead to certain behavioural responses (R).

As indicated in the previous chapter, according to the M-R model the term "stimuli" refers to any factor having a changing impact on individuals' internal states (Vieira, 2013). "Organism" represents the processing stage involving a set of perceptual, physiological,

feeling and thinking activities that make up the emotional and cognitive states of the consumer (Koo & Ju, 2010) and this, ultimately, leads to certain "responses" which may involve positive or negative actions directed towards a particular setting (Chang *et al*., 2011).

3.2.1 Stimulus-The Shopping Environment

In the S-O-R paradigm, a stimulus may involve any factor which influences individuals' internal states. However, when the paradigm is brought to consumer behaviour research, a stimulus is then external to an individual and is either a marketing mix element or environmental cues (Bagozzi, 1986). Therefore, when the model is applied to investigate customer behavioural responses in a retail context, such as shopping malls, the shopping environment can then act as a stimulus. Accordingly, the mall's shopping environment is depicted in this thesis as a stimulus (S), affecting customer internal emotional and cognitive states (O) which, in turn, drive customer behavioural response (R).

For mall operators, the shopping environment or atmosphere represents the physical and non-physical elements of the mall that can be used as a medium to produce a positive customer response towards the mall (Eroglu *et al*., 2001). However, from a customer's perspective, it refers to the perceived quality of the surroundings that are recognised via customers' sensations (Tai & Fung, 1997). The elements of a shopping environment are numerous. Therefore, several typologies categorising shopping environmental factors have been proposed in order to simplify the studying and understanding of these factors (e.g. Baker, 1986; Ballantine *et al*. 2010; Bitner, 1992; Turley & Milliman, 2000). Among the typologies discussed in the relevant literature, Baker's (1986) typology deals exclusively with the internal aspects of the shopping environment, which are the focus of this study. Moreover, this typology has been substantially cited in previous similar studies (Baker *et*

al., 2002; Chang *et al*. 2014; Chen & Hsieh, 2011; Kumar & Kim, 2014; Yang, Xu & Gu, 2011) which, therefore, asserts its validity and appropriateness for the current study.

Therefore, this thesis applies Baker's (1986) approach to classifying shopping environment factors. Following Baker's approach, the factors of a shopping environment are classified into three major groups: ambient factors, design factors; and social factors. Ambient factors are the background conditions that exist below the level of a customer's immediate awareness, such as the mall's background music, noise, and temperature. Design factors involve the stimuli apparent to customer awareness, such as the mall's interior colours, design and layout. Social factors relate to the people who are present in the shopping mall such as employees and other customers. All of the preceding factors construct a shopping environment which can be manipulated to enrich customer experience and generate a desirable customer response.

3.2.2 Organism- Customer Emotions and Cognition

Referring to Mehrabian and Russell's model, after being exposed to shopping environmental cues, some of these cues are captured by a customer's sensory channels, such as sight suggesting (stimulus), then transmitted to be processed (organism) and, ultimately, results in positive or negative responses towards the shopping environment (response). More specifically, the model suggests that the shopping environment has an emotion-triggering power, generating different emotional states which, in turn, lead to approach-avoidance behaviour.

Emotion as an 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 the PAD states). This model has been modified based on empirical evidence

from a retail marketing context by Donovan and Rossiter (1982) to include only pleasure and arousal. Furthermore, theoretically, dominance has been believed to be generated by a cognitive rather than an emotional process (Russell & Pratt, 1980). Consequently, only pleasure and arousal dominate the vast majority of subsequent marketing research which has applied the M-R model (Donovan *et al*., 1994; Loureiro *et al*., 2013; Morrison *et al*., 2011; Osman *et al*., 2014; Ryu & Jang, 2007; Sherman *et al*, 1997; Walsh*et al*., 2011). Thus, in the present study, only pleasure and arousal are used to capture customer emotional states in the shopping environment.

The results of several studies verify the mediating role of customer pleasure and/or arousal induced by the shopping environment in affecting customer behavioural responses (Baker *et al*., 1992; Holmqvist & Lunardo, 2015; Raajpoot *et al*., 2013; Ryu & Jang, 2007; Walsh *et al*., 2011). However, the effect can be also channelled through a cognitive route (Babin *et al*., 2003; Bitner, 1992; De Nisco & Warnaby, 2013; Wan *et al*., 2014). In this regard, whilst the emotional path relates to customer affective states or feelings, the cognitive path represents the rational sense of customer evaluations (Oh *et al.*, 2008).

A number of scholars have considered the interplay mediating role of customer emotions and cognition on the relationship between the retail environment and customer behavioural responses (e.g. Bigdeli & Bigdeli, 2014; Chebat & Michon, 2003; Kwon *et al*., 2015; Kumar & Kim, 2014). Their results revealed two different perspectives in terms of the direction of the causal interactions between the two organisms (e.g. emotion and cognition). The first perspective is aligned with the assumptions of "affect as information theory" (Schwarz & Clore, 1983) or with the emotion-cognition approach (Zajonc & Markus, 1984; 1985). According to this school of belief, emotions are generated directly without any forerunner cognitive processes, suggesting an emotion-cognition sequence of mediation in

the effect of a shopping environment on customer behaviour. This was empirically evidenced by the findings of some studies in the relevant literature (e.g. Bigdeli & Bigdeli, 2014; Kwon *et al*., 2015; Laroche *et al*., 2005). The second perspective is based on the cognitive theory of emotions or cognition-emotion approach (Lazarus, 1991), whereby cognitive evaluation is a vital antecedent before emotion is elicited. The cognition-emotion approach was supported by the results of other scholars, who assert a cognition-emotion sequence in the flow of the mediating organisms (e.g. Chebat & Michon, 2003; Dennis *et al*., 2012; Kumar & Kim, 2014).

In the light of the aforementioned discussion, this thesis applies both emotions and cognition as mediating variables in the relationship between mall shopping environment and customer behavioural response. Furthermore, it also addresses the interplay effect of customer emotions and cognition in directing customer behavioural responses through considering two contrasting perspectives: emotion-cognition and cognition-emotion. Customer emotions while being in a shopping mall, on the one hand, are operationalised using the commonly cited emotional states in the extant literature: pleasure and arousal. Pleasure describes "the extent to which individuals feel good, happy, pleased, or joyful in a situation", while arousal reflects "the degree to which individuals feel stimulated, excited, or active" (Ryu & Jang, 2007, p. 58). Customer cognition, on the other hand, is represented by customers' evaluation of a mall's overall shopping environment, which is the core focus of this study.

3.2.3 Response-Customer Behavioural Response

In the M-R model, a response in general is the final outcome in the causal chain. As indicated before, Mehrabian and Russell (1974) depicted an individual's response towards an environment simply as approach or avoidance behaviours. Approach behaviours reflect

positive reactions toward a certain setting involving approaching it, remaining, exploring, interacting and holding a good impression and intention to revisit it again, while avoidance behaviours imply the opposite.

In marketing research, response is defined as the "final outcomes and the final decisions of consumers" (Chang *et al*., 2011, p. 236) which are mainly operationalised using behavioural outcomes (Im & Ha, 2011). Amongst the most common behavioural outcomes addressed in the relevant literature are: money spent (Lin & Liang, 2011; Novak *et al*., 2010; Spangenberg *et al*., 2003); time spent (Donovan *et al*., 1994; Novak *et al*., 2010; Wakefield & Baker, 1998); unplanned buying (Chang *et al*., 2011, 2014; Li, Kim, & Lee, 2009; Mattila & Wirtz, 2001), word of mouth (WOM) (Hyun & Kang, 2014; Jang & Namkung, 2009; Lin & Liang, 2011; Loureiro *et al*., 2013; Lucas, 2003), and re-patronage intentions (Chebat & Michon, 2003; Kim & Moon, 2009; Loureiro et *al*., 2013; Wakefield & Blodgett, 1996). Accordingly, these five behavioural dimensions (e.g. money spent, time spent, unplanned buying, WOM, and re-patronage intentions) are considered together in the current study to operationalise the construct, customer behavioural response.

3.3 Research Hypotheses

Considering the research aim, questions and objectives and, based on a thorough understanding of the relevant literature, a number of research hypotheses are stated. These are organised into six subsections (3.3.1-3.3.6).

3.3.1 The Effect of the Shopping Environment on Behavioural Response

Through analysing the relevant literature, one can notice that several studies have reported a direct link between the aspects of a shopping environment and customer behavioural responses. For instance, ambient factors were found to have a positive direct impact on

customer approach behaviour (Chen & Hsieh, 2011), buying behaviour (Odeh & Abu-Rumman, 2014), and behavioural intentions (Heung & Gu, 2012). Previous empirical research has also shown the capability of the diverse individual components of ambient factors to directly influence customer behavioural outcomes. Music, for example, was found to affect the amount of money and time a customer spends in retail environments (Herrington, 1996; Yalch & Spangenberg, 1993), the dining speed and waiting time for restaurant patrons (Milliman, 1986), and customer patronage (Seock, 2009). Ambient scent was also found to play a role in fostering customer revisit intentions (Spangenberg *et al*., 1996) and in encouraging approach behaviours (Mattila & Wirtz, 2001). Additionally, lighting was also shown to be positively linked to a number of items examined by customers in a wine store (Areni & Kim, 1994).

Design factors were also found to be positively linked to consumer buying behaviour in shopping malls (Odeh & Abu-Rumman, 2014), and approach behaviour in retail stores (Chen & Hsieh, 2011). Customers revealed high re-patronage intentions and a desire to stay and to spend more time in shopping malls which have a pleasant interior design and décor (Wakefield & Baker, 1998). Other individual elements within design factors (such as colours) have been proved to be an effective tool in generating better behavioural responses such as intentions to re-patronage, browse, buy and spend more money than intended (Babin *et al*., 2003; Bellizzi & Hite, 1992).

The social aspects of the shopping environment, such as employees and other customers are not less influential than the physical aspects in driving customer behavioural responses. For instance, how employees interact with customers in retail contexts has been found to affect customer spending (Van Baaren *et al*., 2003) and unplanned purchases (Mattila & Wirtz, 2008; Tendai & Crispen, 2009). Social interaction with other customers was found

to encourage customer behavioural intentions (Cetin & Dincer, 2014) and approach behaviours (Brocato *et al*., 2012). Also, customers showed higher intentions to patronize stores providing higher levels of service personalisation (Hu & Jasper, 2006). Positive effects were also evidenced for perceived human crowdedness on customer unplanned purchases (Eroglu *et al*., Machleit, & Barr, 2005; Li et al., 2009), intentions to enter the store (Pan & Siemens, 2011) and time spent in the store and purchases made (Harrell *et al*., 1980).

Considering the aforementioned discussion, the following hypothesis is stated:

Hypothesis one: A mall's shopping environment has a significant positive effect on customer behavioural response.

Accordingly, the following sub-hypotheses can be derived:

H1a: The ambient factors of a mall's shopping environment have a significant positive effect on customer behavioural response.

H1b: The design factors of a mall's shopping environment have a significant positive effect on customer behavioural response.

H1c: The social factors of a mall's shopping environment have a significant positive effect on customer behavioural response.

3.3.2 The Effect of the Shopping Environment on Customer Emotions

Mehrabian and Russell (1974) introduced environments in general as emotion-triggering objects affecting individuals' (PAD) emotional states. These, in turn, affect individuals' approach-avoidance behaviour towards the environments with which they interact. Therefore, all the empirical marketing studies that are based on the M-R theoretical framework, including the current thesis, posits that customers' surroundings (e.g. a

shopping environment) are somehow capable of influencing how customers feel towards the environment, thereby, how they would behaviourally respond to it.

Many studies in the existing literature provide evidence of the role of shopping environmental factors in stimulating customer emotions. For instance, ambient conditions can induce customer positive emotions (Jani & Han, 2014) and enhance customer arousal and, thereby, pleasure (Hyun & Kang, 2014). The effect of ambient factors including music, scent, light and temperature on customer emotions is reported in the results of several studies (El Sayed *et al*., 2003; Ferreiraa & Oliveira-Castrob, 2011; Morrison *et al*., 2011; Sweeney & Wyber, 2002). Empirical evidence also supports the role of design factors in eliciting customer affective states. Chang *et al.* (2014), for example, demonstrated a positive association between store design factors and customer positive emotions. Interior design and colours in shopping malls were found to positively affect customer moods (Akroush *et al*., 2011). The results of van Rompay *et al*.'s (2012) study also showed the effect of store interior colour on customer pleasure. Appropriate layout, as another design factor, was also found to enhance customer pleasure (Im & Ha, 2011; Loureiro *et al*., 2013). Findings from other empirical research emphasize the importance of customer-related and employee-related social cues in eliciting customer emotions in buying contexts. For instance, the level of social match with other guests plays a critical role in eliciting guests' emotions in hotels (Jani & Han, 2014). Staff appearance was found to affect customer pleasure in restaurants (Ryu & Jang, 2007). With regard to shopping malls, Raajpoot *et al*. (2008) reported a positive link between the favourable behaviour of employees and customer emotions. The findings of Li *et al*. (2009) revealed a positive relationship between human crowdedness and the customer emotion of pleasure in hypermarket stores.

Accordingly, the following hypothesis is proposed:

Hypothesis two: A mall's shopping environment has a significant positive effect on the customer emotions of (1) pleasure, and (2) arousal.

Based on this, the following sub-hypotheses can be stated:

H2a: The ambient factors of a mall's shopping environment have a significant positive effect on the customer emotions of (1) pleasure, and (2) arousal.

H2b: The design factors of a mall's shopping environment have a significant positive effect on the customer emotions of (1) pleasure, and (2) arousal.

H2c: The social factors of a mall's shopping environment have a significant positive effect on the customer emotions of (1) pleasure, and (2) arousal.

3.3.3 The Effect of the Shopping Environment on Customer Cognition

Bitner (1992) extended the M-R model by introducing cognition as another internal response determined by the shopping environment and additionally determining customer consequent behaviour. Empirical findings in this respect verify the significance of diverse environmental factors in affecting customer cognitive inferences. For instance, ambient factors were shown to have a significant positive effect on customer evaluations of a retail store (Kumar & Kim, 2014) and on perceived service and merchandise quality (Baker *et al*., 1994). Chebat and Michon (2003) concluded that appropriate lighting and pleasant scents have positive effects on customer cognitions of a mall's environment. Consistent with this, a recent study by Bouzaabia (2014) revealed the significant positive influence of the presence of ambient scent on customer evaluation of a store environment. Moreover, customers reported more positive cognitive evaluations of stores' displays which had good lighting conditions (Kerfoot *et al*., 2003) and better perceived quality of a casino's servicescape when it had clean conditions (Wakefield & Blodgett, 1996).

The design characteristics of a retail environment such as interior design, layout and colour can also contribute to shaping customer cognitive evaluations. For instance, De Nisco *et al*. (2013) found that customers tend to infer a higher perceived service quality provided in urban shopping areas with attractive physical layouts and appealing store external appearances. Interior colours were found to affect the perceived quality of a shopping environment (Chebat & Morrin, 2007) and customer evaluations of a store and price fairness (Babin et *al*., 2003). Design factors as an aggregate construct were also reported as one of the driving factors of in-store customer cognitions such as merchandise quality and service quality (Baker *et al*., 2002) and store evaluations (Chen & Hsieh, 2011).

The role of social aspects of the shopping environment in affecting customers' minds has been also demonstrated in the relevant literature. For example, Hwang and Han (2014) found other customers' perception in a servicescape positively affected customer perceptions of a country-club's prestige. Furthermore, customers perceive service qality more favourably in hotels hosting customers of the same age group (Wan, 2014). Customers tend to infer better evaluations of a service setting, such as restaurants, with higher levels of crowdedness compared to those with lower crowdedness levels (Tse *et al*., 2002). Furthermore, the findings of Baker *et al*. (1994) and Yan *et al*. (2011) present evidence of the effect of personnel in a retail store on customer perception of the personnel themselves and the quality of service provided.

Accordingly, the following hypothesis is stated:

Hypothesis three: A mall's shopping environment has a significant positive effect on customer cognition (evaluation of a mall's overall shopping environment).

Based on this, the following sub-hypotheses can be developed:

H3a: The ambient factors of a mall's shopping environment have a significant positive effect on customer cognition (evaluation of a mall's overall shopping environment).

H3b: The design factors of a mall's shopping environment have a significant positive effect on customer cognition (evaluation of a mall's overall shopping environment).

H3c: The social factors of a mall's shopping environment have a significant positive effect on customer cognition (evaluation of a mall's overall shopping environment).

3.3.4 The Role of Customer Emotions in the Relationship between the Shopping Environment and Customer Behavioural Response

Mehrabian and Russell's (1974) model posits the emotional states (PAD) induced by environments as predictors of approach-avoidance behaviour. Reviewing the literature provides evidence of the effect of in-store customer emotions on customer behavioural response. For instance, customer emotions induced by buying contexts were found to affect customer approach-avoidance behaviour (Sweeney & Wyber, 2002; Wirtz *et al*., 2007), money spending (Babin & Darden, 1995; Donovan & Rossiter, 1982), time spent (Donovan *et al*., 1994; Menon & Kahn, 2002), willingness to buy (Baker *et al*., 1992), the number of items bought (Sherman *et al*., 1997), and behavioural intentions (Holmqvist & Lunardo, 2015; Hyun & Kang, 2014; Kaltcheva & Weitz, 2006; Ryu & Jang, 2007).

The stimulus-organism-response model of Mehrabian and Russell (1974) also introduces individuals' emotional states as mediating variables between the environment and the individuals' approach-avoidance behaviour. In line with this view, different empirical studies have explicitly reported on a mediating role by customer emotions on shopping environment factors-customer behaviour relationship. For example, Walsh *et al*. (2011) demonstrated the mediating effect of customer emotions on the relationship between ambient factors and customer loyalty. Baker *et al*. (1992) found that the effect of store

ambient and social factors on customer willingness to buy is mediated by customer pleasure and arousal. The mediation of customer emotions was also evidenced in the effect of design factors on customer re-patronage intentions and positive word of mouth (Jang & Namkung, 2009). The finding of some other scholars suggests that customer emotional states induced by retail environmental factors can mediate the influence on customer behavioural response. For example, Wakefield and Baker (1998) revealed the significant positive effect of mall customer excitement on customer re-patronage intentions and tendency to spend more time at the mall. Chang *et al.* (2014) concluded that both ambient and design factors are positively linked to customer positive emotions, thereby to customer impulse buying. Raajpoot *et al*. (2013) found customer pleasure and arousal elicited by employee-related cues to positively affect customer behavioural intentions.

Accordingly, the following hypotheses are proposed:

Hypothesis four: Customer emotions of (a) pleasure, and (b) arousal in a mall's shopping environment have a significant positive effect on customer behavioural response.

Hypothesis five: The effect of a mall's shopping environment on customer behavioural response is mediated by the customer emotions of (1) pleasure, and (2) arousal.

Therefore, the following sub-hypotheses are proposed:

H5a: The effect of the ambient factors of a mall's shopping environment and customer behavioural response is mediated by the customer emotions of (1) pleasure, and (2) arousal.

H5b: The effect of the design factors of a mall's shopping environment and customer behavioural response is mediated by the customer emotions of (1) pleasure, and (2) arousal.

H5c: The effect of the social factors of a mall's shopping environment and customer behavioural response is mediated by the customer emotions of (1) pleasure, and (2) arousal.

3.3.5 The Role of Customer Cognition in the Relationship between the Shopping Environment and Customer Behavioural Response

Scholars have considered the role of customer cognitive inferences made on the basis of shopping environment qualities in explaining customer behavioural outcomes. In the early nineteen-nineties, Bitner (1992) suggested a broader theoretical framework, extending the traditional M-R model by incorporating customer cognitive response (e.g. beliefs) as another internal state affecting customer response in servicescapes.

Chen and Hsieh (2011) asserted the importance of including both emotional and cognitive evaluations in order to better understand the mechanism by which shopping environmental factors affect customer behaviour. Their results showed how a store's environmental factors affect both customer emotions and cognition (e.g. perceived product value) which, in turn, affect customer approach behaviour. Babin *et al*. (2003) found that better customer cognitive inferences of a store and of its price fairness (which are based on shopping environment cues) affected customer patronage and purchase intentions positively. Furthermore, Wakefield and Blodgett (1996) reported a positive effect concerning the perceived quality of a servicescape on customer satisfaction; this, in turn, enhances customer desires to stay for a longer time and to re-patronage in the future. In a later study, perceived service quality, inferred on the basis of servicescape attributes, was found to be positively linked to behavioural intentions (De Nisco & Warnaby, 2013). The findings of Wan *et al.* (2014) also asserted the mediating role of perceived service quality on the relationship between environmental cues and customer behavioural intentions.

Hence, the following hypotheses are proposed:

Hypothesis six: Customer cognition (evaluation of a mall's overall shopping environment) has a significant positive effect on customer behavioural response.

Hypothesis seven: The effect of a mall's shopping environment on customer behavioural response is mediated by customer cognition (evaluation of a mall's overall shopping environment).

The following sub-hypotheses are consequently stated:

H7a: The effect of the ambient factors of a mall's shopping environment on customer behavioural response is mediated by customer cognition (evaluation of a mall's overall shopping environment).

H7b: The effect of the design factors of a mall's shopping environment on customer behavioural response is mediated by customer cognition (evaluation of a mall's overall shopping environment).

H7c: The effect of the social factors of a mall's shopping environment on customer behavioural response is mediated by customer cognition(evaluation of a mall's overall shopping environment).

3.3.6 The Interplay Mediating Role of Emotions and Cognition

Although customer emotions and cognition may work in parallel in mediating the effect of a shopping environment on customer behavioural responses (e.g. Chen & Hsieh, 2011; Im & Ha, 2011; Sweeney & Wyber, 2002), some scholars have reported an interplay mediation of both emotional and cognitive dimensions (e.g. Kumar & Kim, 2014; Laroche *et al*., 2005).

The cognitive theory of emotions (Lazarus, 1991) posits customer cognition as a necessary antecedent condition before emotions can be elicited. In other words, aspects of a shopping environment need to be cognitively evaluated in relation to a customer's experience first, and then a certain emotional state can be experienced. Accordingly, the emotional state evolves as result of the meaning a customer assigns to a shopping environmental factor

rather than the factor itself (Frijda, 1993). Empirically, different studies support the role of customer cognitive evaluations as an antecedent variable to customer emotions. For instance, Hightower *et al*. (2002) revealed a direct positive influence of customer inferences of a servicescape's quality on their affective states. The findings of Kim and Moon (2009) suggest the perceived service quality as a predictor of a customer's feeling of pleasure in restaurants. Chebat and Michon (2003) found that the impact of mall ambient scent on shoppers' spending is explained by a cognition-emotion flow of mediation. Later, Dennis *et al*. (2012) found customer perception of a mall's shopping environment to positively affect customer feelings, thereby behavioural responses.

Therefore, the following hypotheses are presented:

Hypothesis eight: Customer cognition (evaluation of a mall's overall shopping environment) has a significant positive effect on the customer emotions of (a) pleasure, and (b) arousal.

Hypothesis nine: The relationship between customer cognition (evaluation of a mall's overall shopping environment) and customer behavioural response is mediated by the customer emotions of (a) pleasure, and (b) arousal.

On the other hand, another school of thought posits customer emotions as an antecedent factor to cognitive evaluations. Emotions are inputs on which a customer's cognitive appraisal can be based. In fact, this is the core assumption of the "affect as information" theory (Schwarz & Clore, 1983). Consistent with this view, Zajonc and Markus (1984) depicted the emotional experience as simply as the cognition of having such an experience, thus emotions can be experienced without a preceding cognitive activity. The role of customer affective states in developing cognitive inferences is reported in the findings of some empirical studies. For instance, Hanzaee and Javanbakht (2013) found pleasure and

arousal experienced in a shopping environment enhance customer perceived value, affecting satisfaction, which ultimately drives customer behavioural intentions. Similarly, Liu and Jang (2009) concluded that customer positive emotions elicited by dining atmospherics are positively related to perceived value; this in turn, has a significant effect on customer behavioural intentions. Moreover, the results of Laroche *et al*. (2005) suggest an emotion-cognition hierarchy in the mediation of emotions and cognition on the relationship between a shopping environment and customer behavioural intentions. Specifically, customer appraisal of service quality was found to mediate the relationship between customer mood (evoked by the shopping environment) and customer purchase intentions.

Accordingly, the following hypotheses are stated:

Hypothesis ten: The customer emotions of (a) pleasure and (b) arousal have a significant positive effect on customer cognition (evaluation of a mall's overall shopping environment).

Hypothesis eleven: The relationship between the customer emotions of (a) pleasure and (b) arousal and customer behavioural response is mediated by customer cognition (evaluation of a mall's overall shopping environment).

The research aim, questions, objectives and research hypotheses together with supporting studies are presented in table (3.1). These are followed by a visual representation of the hypothetical relationships in the research's conceptual model, see figure (3.1).

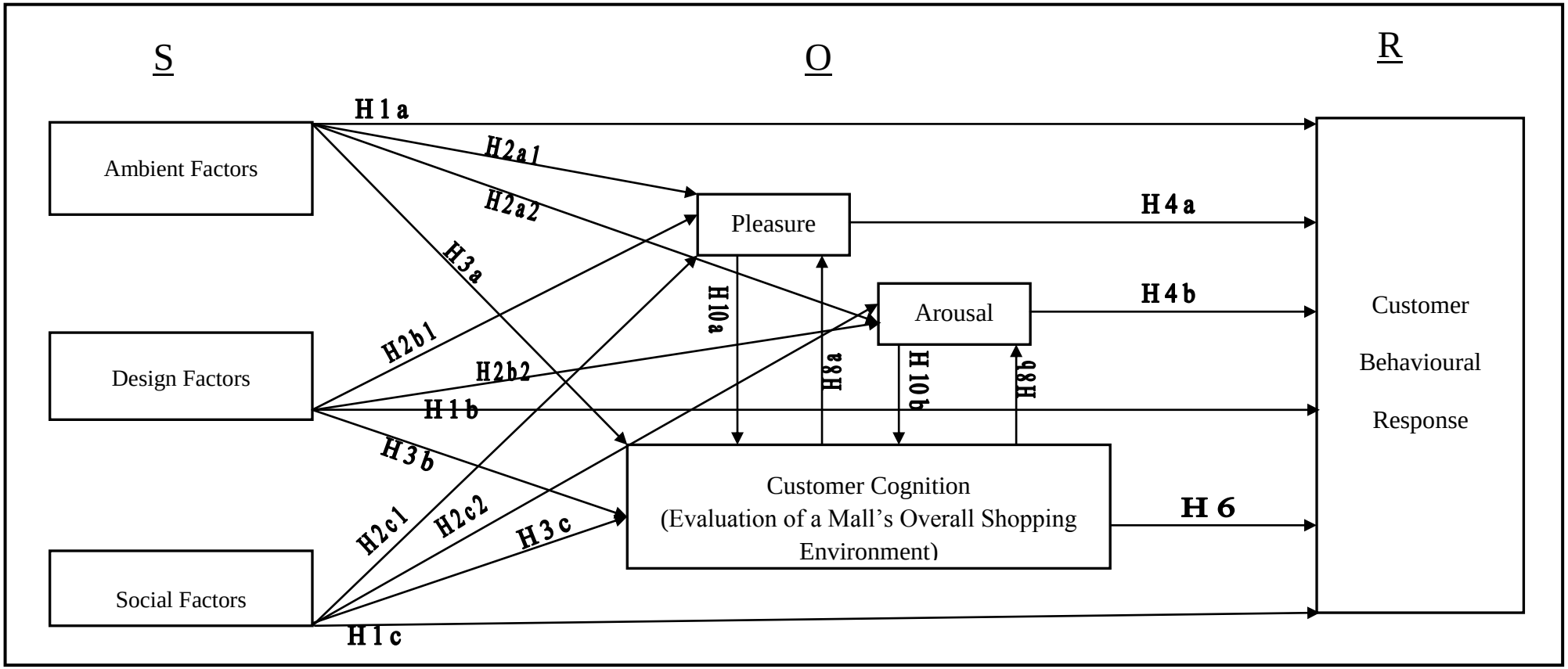
Table (3.1): Overall View of the Thesis

Research Aim	Questions	Objectives	Main Hypotheses	Key Supporting Studies
To examine the mechanisms by which a mall's shopping environment affects customer behavioural response.	**RQ1**: To what extent do shopping environment factors involving ambient, design and social factors affect customer emotional, cognitive and behavioural responses?	**RO1**: To examine the effect of a mall's shopping environment including ambient, design and social factors on customer behavioural response.	**H1**: A mall's shopping environment has a significant positive effect on customer behavioural response.	Areni and Kim (1994) Babin *et al*. (2003) Brocato *et al*. (2012) Chen and Hsieh (2011) Heung and Gu (2012) Mattila and Wirtz (2008) Odeh and Abu-Rumman (2014) Pan and Siemens (2011) Seock (2009)
		RO2: To examine the effect of a mall's shopping environment factors on customer emotions.	**H2**: A mall's shopping environment has a significant positive effect on the customer emotions of (1) pleasure (2) arousal.	Akroush *et al*. (2011) Chang *et al*. (2014) Im and Ha (2011) Jani and Han (2014) Li *et al*. (2009) Morrison *et al*. (2011)
		RO3: To examine the effect of a mall's shopping environment factors on customer cognition.	**H3**: A mall's shopping environment has a significant positive effect on customer cognition (evaluation of a mall's overall shopping environment).	Baker *et al*. (2002) Bouzaabia (2014) Chebat and Morrin (2007) De Nisco and Warnaby (2013) Kumar and Kim (2014) Tse *et al*. (2002) Wakefield and Blodgett (1996)
	RQ2: To what extent do customer emotions and cognition affect	**RO4**: To examine the effect of the customer emotions of pleasure and arousal on customer behavioural response in shopping malls.	**H4:** Customer emotions of (a) pleasure, and (b) arousal in a mall's shopping environment have a significant positive effect on customer behavioural response.	Donovan and Rossiter (1982) Holmqvist and Lunardo (2015) Kaltcheva and Weitz (2006)

	customer behavioural response?	**RO5:** To examine the effect of customer cognition on customer behavioural response in shopping malls.	**H6:** Customer cognition (evaluation of a mall's overall shopping environment) has a significant positive effect on customer behavioural response.	Sherman *et al*. (1997) Sweeney and Wyber (2002) Babin *et al*. (2003) Bitner (1992) Chen and Hsieh (2011) Wakefield and Blodgett (1996)
	RQ3: Is the relationship between the factors of a mall's shopping environment and customers' behavioural response mediated by their emotions and cognition?	**RO6:** To examine the mediating role of both customers' emotions of pleasure and arousal and cognition on the effect of a mall's shopping environment on customer behavioural response.	**H5:** The effect of a mall's shopping environment on customer behavioural response is mediated by the customer emotions of (1) pleasure, and (2) arousal. **H7:** The effect of a mall's shopping environment on customer behavioural response is mediated by customer cognition (evaluation of a mall's overall shopping environment).	Baker *et al*. (1992) Jang and Namkung (2009) Wakefield and Baker (1998) Walsh *et al*. (2011) Chen and Hsieh (2011) De Nisco and Warnaby (2013) Wan *et al*. (2014)

	RQ4: How do customer emotions and cognition mediate the relationship between the factors of a mall's shopping environment and customer behavioural response?	**RO7:** To investigate the mechanisms by which customer emotions and cognition jointly mediate the relationship between a mall's shopping environment and customer behavioural response.	**H8:** Customer cognition (evaluation of a mall's overall shopping environment) has a significant positive effect on the customer emotions of (a) pleasure, and (b) arousal. **H9:** The relationship between customer cognition (evaluation of a mall's overall shopping environment) and customer behavioural response is mediated by the customer emotions of (a) pleasure, and (b) arousal **H10:** The customer emotions of (a) pleasure and (b) arousal have a significant positive effect on customer cognition (evaluation of a mall's overall shopping environment). **H11:** The relationship between the customer emotions of (a) pleasure and (b) arousal and customer behavioural response is mediated by customer cognition (evaluation of a mall's overall shopping environment).	Chebat and Michon (2003) Dennis *et al*. (2012) Hightower *et al*. (2002) Kim and Moon (2009) Kumar and Kim (2014) Hanzaee and Javanbakht (2013) Laroche *et al*. (2005) Liu and Jang (2009) Raajpoot *et al*. (2008)

Figure (3.1) Research Conceptual Model



Note: Hypotheses 5, 7, 9 and 11 suggest mediation and, thus, are not explicitly represented in the research conceptual model

3.4 Chapter Summary

This chapter presented the theoretical framework of the current study. Mehrabian and Russell's (1974) S-O-R model was introduced at first as the main underpinning theory for this thesis. Adapting this model, the shopping mall's environment was assumed to act as a stimulus affecting both customer emotional and cognitive responses (which operate as organism variables) and these, in turn, affect customer behavioural responses. A detailed discussion was provided on each component of the S-O-R model in the light of the research aim, questions and objectives. Eleven main research hypotheses were developed and presented based on a thorough analysis of the relevant literature. Furthermore, theoretical and empirical support was also provided for each research hypothesis. Finally, the research focus (e.g. the overall view of the research including the research aim, questions, objectives and hypotheses together with support from the relevant literature) was presented at the end of the chapter, followed by the research conceptual model.

CHAPTER FOUR: The Hashemite Kingdom of Jordan

4.1 Introduction

This chapter aims to familiarise the reader with an overview of the context in which the empirical work of the present study was conducted. Further to this introductory section, the chapter is organised into three other sections. Section two provides a brief description of Jordan in terms of its historical background, geography and climate, people, political system and economic situation. Section three sheds light on the particular research context which is the shopping malls in Jordan. Finally, a chapter summary is provided in section four at the end of this chapter.

4.2 Jordan at a Glance

This section presents an overview of Jordan where the fieldwork was carried out. It includes a brief historical background on Jordan, its geography and climate, its people, and its political system and economic situation.

4.2.1 Historical Background

Jordan (or what is now officially known as the Hashemite Kingdom of Jordan) has an ancient history on the earth. Since the dawn of history, Jordan has been the home of some of the earliest human communities. Incredible amounts of artefacts from numerous great civilisations such as the Sumerians, the Nabateans, the Greeks and the Romans can still be seen. Historical locations providing evidence of such civilisations include Petra, Jerash and Umm Qais (Jordan Tourism Board, 2013).

Jordan was a part of the Roman Empire in the East for more than six centuries. However, it became ruled by Muslims and thus became part of the Islamic World by the mid seventh century. In the era from 1516 until the early twentieth century, the country was ruled by

the Ottoman Turkish Empire which was eventually defeated by the Allies in the First World War. Subsequently, Jordan (or what was known at that time as the Emirate of Trans-Jordan) was under a British mandate with Abdullah the First as Emir. In May 1946 the country achieved its independence and Emir Abdullah became the King of the Hashemite Kingdom of Trans-Jordan. Four years later, Jordan was renamed the Hashemite Kingdom of Jordan. After King Abdullah's martyrdom in 1951, his eldest son Talal became the king. However, the royal throne was then passed onto his son Hussein due to the King's illness (Ministry of Culture, 2014).

Throughout his long reign (1953-1999) the leader, King Hussein, always had the challenge of dealing with the conflicting interests of the world's greater nations, Israel and numerous Arab states. King Hussein was dedicated to governing in accordance with the essence of democratic liberalism, while keeping the provision of public order. The 1960s were considered to be positive years for the Jordanian economy in which a number of key commercial and industrial enterprises were established, highway networks were developed and a new educational system was introduced. The Jordanian economy at this time was also supported by cash flow coming in from tourism to the West-Bank destinations (which were governed by Jordan) in addition to the remittances home from the Jordanian workforce in Arabian Gulf countries. In the 1980s particularly as a result of the Lebanese civil war in 1975 many regional banking and insurance companies moved to Amman energising the service sector of the state. In 1989 general parliamentary elections were held after twenty-two years of absence of democracy in the kingdom. In 1994 Jordan signed a peace treaty with Israel defining clearly the western borders of Jordan and ending the Zionist proposal that "Jordan is Palestine" (King Hussein I Official Website, 2001).

After the death of King Hussein, his eldest son, Abdullah the Second, assumed constitutional power as a ruler in 1999. The new young King has addressed the special concerns regarding the national economy and Jordanians' welfare, factors which have inspired his overall polices. His orientation towards economic liberalization has made Jordan one of the freest economies in the region of Middle East (King Abdullah II Official Website, 2015). The first parliamentary elections in the reign of King Abdullah the Second were held in 2003.Municipal elections, on the other hand, were held for the first time (incorporating a system which applied a 20% women's quota) in 2007. The last parliamentary elections in 2013, which were boycotted by the key opposition group Islamic Action Front, have shown that the vast majority of the population support the King (BBC News, 2015). Amongst the most challenging issues encountered in the last few years have been the Arab Spring and associated anti-governments protests which called for economic and political reforms and demonstrate against high living costs. Furthermore, economic strains (as a result of a financial budget deficit as well as hosting a huge number of Syrian refugees) have placed more pressure on Jordan (Ministry of Planning and International Cooperation, 2015). In 2014 Jordan participated in the Alliance air strikes against terrorists in Syria. Jordan's anti-terrorism role has recently been intensified as a result of the burning to death of a Jordanian pilot in Syria in early 2015 (BBC News, 2015).

4.2.2 Geography and Climate

The Hashemite Kingdom of Jordan is located in the Middle East. It is bordered by the Syrian Arab Republic to the north, the West Bank on the west, Iraq to the north-east and by Saudi Arabia to the south and east. The country has a total area of 89,318 sq km of which 88,887 sq km are land and 540 sq km are water. It is situated between latitudes 29 and 33 north and longitude 34 and 39 east. The total length of its borders is 1,635 km in total with 375 km shared with Syria, 97 km with the West Bank, 238 km with the green line of 1948,

181 km with Iraq and 744 km with Saudi Arabia. Additionally, the Jordanian coastline on the Red Sea is 26 km long (Department of Statistics, 2013).

Despite its relatively small geographical size, the kingdom has diverse landscapes such as the area between the Jordan Valley and the mountains in the west and the desert plateau in the east, reflecting a variety that can usually be seen in large countries. The climate is mainly affected by the mountains in the west and the desert in the east. Interestingly, Jordan comprises the lowest point on the earth which is the Dead Sea at 408 m below sea level. In contrast, Jebel Umm Ad Dami, standing at 1,854 m above sea level, represents the highest point in the state (King Hussein I Official Website, 2001).

The climate of Jordan can mainly be represented by two seasons, the rainy season starting in November and ending in April, and the dry season which lasts throughout the rest of the year. Although 75% of the country has a desert climate with less than 200 mm of annual rain, the western regions enjoy a Mediterranean-style climate with hot, mild summers and dry, showery winters (King Hussein I Official Website, 2001), for instance, temperatures in the capital city Amman, which lies at 950 m above sea level, range between 7-10°C (with an average rainfall of 62 mm) in the winter and between 23-27°C (with zero mm rainfall) in the summer.

4.2.3 People in Jordan

According to the Department of Statistics (2013), the total population of Jordan in 2013 was 6.530 million. It increased by 2.2% annually during the period 2004-2013. 51.5% of the total population are male. The Jordanians are mostly distributed across twelve main cities/governorates with an overall density ratio of 73.5 persons per each sq km. However,

as shown in table (4.1) below, the population is dominated by three cities which constitute 71.4% of the whole population, namely Amman (the capital city), Irbid and Zarqa.

Table (4.1): Population of the Kingdom by Governorate and Sex at the End of 2013 (Excluding Syrian Refugees)

City/ Governorate	Male	Female	Total	Percentage
Amman (the capital city)	1,300,000	1,228,500	2,528,500	38.7 %
Irbid	595,300	567,000	1,162,300	17.8 %
Zarqa	503,400	469,500	972,900	14.9 %
Balqa	227,200	210,300	437,500	6.7 %
Madaba	84,100	79,200	163,300	2.5 %
Mafraq	159,100	147,800	306,900	4.7 %
Jarash	100,800	95,100	195,900	3.0 %
Ajloun	76,400	73,800	150,200	2.3 %
Karak	128,900	125,800	254,700	3.9 %
Tafiela	46,600	44,800	91,400	1.4 %
Ma'an	65,000	59,100	124,100	1.9 %
Aqaba	79,200	63,100	142,300	2.2 %
Total	3,366,000	3,164,000	6,530,000	100.0 %

Source: Department of Statistics (2013).

Statistics also indicate that 82.6% of Jordanians live in urban areas. 59.4% of the population are aged between 15-64 years and 37% are less than 15 years old (see table 4.2). Life expectancy at birth for the overall population is 74.4 years which is one of the highest in the Middle East region, indicating a quality healthcare service. Additionally, Jordan enjoys an overall literacy rate of 95.9% with a 97.7% rate for males and a 93.9% rate for females.

Table (4.2) Population of Jordan by Age Group at the End of 2013

Age Group	Total	Percentage
0-4	832,785	12.75
5-9	822,975	12.60
10-14	781,580	11.97
15-19	716,635	10.97
20-24	691,655	10.59
25-29	584,505	8.95
30-34	511,435	7.83
35-39	414,440	6.35
40-44	308,850	4.73
45-49	218,380	3.34
50-54	164,125	2.51
55-59	145,400	2.23
60-64	126,445	1.94
Above 64	210,790	3.23

Source: Department of Statistics (2013).

The official language is Arabic while the use of English is common among middle and upper social classes. Islam is the official religion of the country and 96% of Jordanians are Muslims. Christians represent around 4% of the Jordanian community and most of them are Greek Orthodox. As for ethnic groups, Arabs constitute 98% of the community, while there are 1% Circassians and 1% Armenians. However, the cultural values of the diverse ethnic and religious minorities are completely respected. Tolerance of belief is one of the fundamental social values that contribute to the state's stability and improvement. The family plays a key role in social life and in the social ties amongst individuals in the community (Jordan e-Government, 2015).

4.2.4 The Political System and Economic Situation

The political regime in Jordan is a constitutional monarchy with a parliamentary system based on the constitution released on 8 January, 1952. The King is the head of the state and the highest leader of its military forces. The official power of the King is practiced through the executive authority, represented by the Prime Minster and the Council of Ministers who, in turn, are accountable to the House of Parliament. The later along with the House of Notables constitute what is known as "Majlis al-Umma", the legislative authority of the government. The members of the House of Parliament are elected by the public while the House of Notables' members are appointed by the King. The judicial authority, on the other hand, operates independently from the government.

Jordanian citizens are protected by the state's constitution, defining their rights and responsibilities. Numerous kinds of freedom, such as freedom of religious views, speech, academia, political parties and voting, are all guaranteed by the Constitution. Furthermore, all of the state practices are inspired by the Constitution, resulting in the greater stability of this small country. The political and social stability of the kingdom has been achieved for several decades under the royal Hashemite family. This has also been taken further through the reform policies of the present king, Abdullah II, contributing to more modernization and openness in present day Jordan.

The official currency of the state is the Jordanian Dinar which equals 1.41 (as at June 2015) American Dollars. Economically, Jordan has been exposed to a series of economic pressures in the last few years. Among the key economic challenges which have been encountered are the high rates of unemployment, price inflation and public debt. Moreover, insufficient water supplies, regional instability and the continuing influx of Syrian refugees put additional pressures on the Jordanian economy. Additionally, Jordan lacks domestic oil

resources making it largely dependent on imported energy sources (nearly 98% of its overall energy). Although the Ministry of Energy and Mineral Resources has made many efforts to decrease this reliance on imported energy to less than 93% by 2015, the cost of energy is still a critical economic challenge in the country (Central Bank of Jordan, 2013; Ministry of Energy and Mineral Resources, 2013).

According to the World Bank's classification, the kingdom is one of the developing upper middle income countries. The gross domestic product (GDP) per capita in 2013 was estimated at US$ 6,100withan annual growth rate of 3.3%. The total exports from Jordan in the same year were around US$7,914 billion, while its total imports were about US$18.610 billon. The key exported commodities include potash, phosphates, clothing, vegetables, fertilizers and pharmaceuticals and these are mainly exported to the USA, Iraq, Saudi Arabia, India and Indonesia. Imports, on the other hand, are primarily crude oil, machinery, transport equipment, iron and cereals which are imported mostly from Saudi Arabia, China, the USA, Italy and Turkey (Central Intelligence Agency, 2014).

Since King Abdullah II assumed the throne in 1999, Jordan has shown a keen commitment towards developing an outward-oriented and global economy. It has been a member of the World Trade Organisation since 2000 and it is the first Arab country to have a dual free trade agreement with the United States of America. Other free trade agreements are with the European Union, Malaysia, Canada, Singapore, Tunisia, Syria, Turkey and many other Arab countries. In the last decade, successive governments have largely adopted a number of key economic reform initiatives including enacting laws to handle economic corruption, privatization, encouraging foreign investment, the gradual dropping of fuel subsidies and commencing tax reforms (Jordan e-Government, 2015).

In addition to being one of the safest and most stable countries in the Middle East, the investment climate in Jordan tends to be highly favourable and supportive. Since 1995 Jordan has enhanced the investment environment through enacting the Investment Promotion Law (IPL) and subsequent initiatives. Accordingly, numerous interesting incentives have been provided to attract international investors and to encourage local ones, such as up to 75% income tax exemptions, 100% free of customs tax on fixed assets, and more incentives for expansion and renewing activities. Interestingly, these apply equally to both Jordanian citizens and foreign investors. Thus, the Jordanian economy is one of the freest economies in the Middle East and North Africa (MENA) and also worldwide (e.g. 3rd in MENA and 38th in the world) (Jordan e-Government, 2015).

4.3 Evolution of Shopping Malls in Jordan

Since the early 1980s, the Middle East in general has been an attractive region for European and American retail business investments, making it an appealing prototype for shopping developments in the 1990s (Jones, 2003). In Jordan, the structure of the retail sector is represented by two prominent formats: traditional / unorganised retail outlets and non-traditional/modern organised retail outlets. Unorganised retailing comprises small independent and family-owned retail businesses operating in a limited geographical area. The "Souq" (e.g. a series of small stores mostly handling the same product categories) represents the most traditional form of retailing in Jordan. However, the Jordanian retail market has witnessed a noticeable development in the last decade (Abu-Rumman, 2003).

Traditional and family-run small stores are increasingly losing their market share to organised and modern retailing outlets (e.g. shopping malls and chain stores). Introducing the global chain retailer, Safeway, for the first time in 1986 was an early remarkable change in the retailing sector in Jordan; it encouraged local retailers to boost up their

businesses. Since then, large-scale retail outlets involving local, regional and international companies have been scattering the market. For instance, other global retail brands such as C-Town and Carrefour and regional ones such as Spinneys are widespread in urban areas. Local chain retailers, on the other hand, such as the Al-Fareed and Al-Abbadi chain supermarkets, are mainly expanding in the suburbs (Khraim *et al*., 2011).

These developments in the retail sector in addition to the ever-increasing exposure to the global market has led to the emergence of shopping malls which represent the latest offline retail trend in Jordan. The evolution of the concept of a shopping mall in Jordan started with the establishment of the Majdi Mall in 1994. This was followed by the opening of the Amman Mall in 1998 which was the largest retail outlet in the state until the end of the 20thcentury, with a 65,000 square meters of indoor space. Abdoun Mall was then introduced as the first upscale shopping mall in the kingdom in early 2001.This mall offers 74 global brands in a stylish and luxurious shopping atmosphere. One year later, the Mecca Mall was constructed in the heart of Amman and then opened its doors in 2003. The Mecca Mall has revolutionised the notion of shopping malls in Jordan. It is the foremost and the largest regional mall in the country with 450 outlets spreading over 195,000 square meters of space.

Since 2007, Jordan has begun to experience an accelerating diffusion of shopping malls which have been mostly concentrated in Amman, with a few in other key cities, namely Irbid and Zarqa. Specifically, a number of shopping malls have been constructed in Amman, mainly in the western part of the city. Besides the Mecca Mall, for example, the City Mall is another large mall which opened in 2007 and is only 600 meters to the west of the Mecca Mall, while Al Baraka Mall was opened in 2008 and is also not too far away from the other malls to the east. These have been followed by several shopping malls in the

surrounding districts such as the Taj Life Style Mall in Abdoun, the Sweifieh Avenue Mall and the Galleria Mall in Sweifieh and the Pavilion Mall in Muqabalin. Figures (4.1) and (4.2) present examples of key shopping malls in Jordan.

Figure (4.1): Galleria Mall

Source: Galleria Mall (2015).

This ever accelerating advancement of the retail sector in general and shopping malls in particular has contributed to considerable changes in the shopping habits of a significant proportion of the community in the last few years. Jordanians are increasingly shifting towards using shopping malls and other large organised retail stores, while the role of the traditional neighbourhood store is now limited mainly to selling perishable daily fresh goods. In contrast, shopping malls offer the ultimate shopping experience by providing an enormous range of goods, services and leisure in one place (Khraim *et al*., 2011).

Figure (4.2): City Mall

Source: City Mall (2015).

Table (4.3) List of the Shopping Malls within which the Empirical Work has been Carried out

Shopping Mall	Description	City	Est. Year
Al Baraka Mall	This mall has 40,000 square meters total floor area and 18,000 square meters of gross leasable space, spreading across 5 levels. Contains 100 global brands, meeting a large variety of customer needs. Comprises a 10 screen cinema with the latest technology.	Amman	2008
Arabella Mall	The first shopping mall in the northern part of the kingdom. Has an overall indoor space of 57,000 square meters spreading across 6 floors. Offers a wide range of global and local retail outlets. There are 3 entertainment centres serving different age categories.	Irbid	2010
Bab Mecca Mall	The only shopping mall in the city. The total area is 22,000 square meters, of which 14,000 square meters are leasable. The indoor space extends on three floors presenting a blend of fashion retailers, international hypermarket, fast food restaurants, and a children's entertainment park.	Zarqa	2012
City Mall	The second largest shopping mall in Jordan with a total area of 160,000 square meters. The leasable space is 55,000 square meters,	Amman	2007

	presenting a distinctive blend of big international brands which cater for diverse customer needs. The mall is characterized by its spacious architectural design as well as a large parking space (2,400 cars capacity).		
Galleria Mall	One of the largest shopping malls with 5 floors. The mall occupies 106,000 square meters of indoor and outdoor spaces, of which 55,000 square meters are leasable. Hosts many national and international brands. The Galleria Mall is also distinguished by its spacious and comfortable design. Alongside a wide mix of restaurants and cafes, the mall comprises the largest indoor carting race track in Jordan, making the mall a distinctive leisure attraction.	Amman	2013
Istiklal Mall	The first shopping mall in the eastern part of Amman with a total area of 40,000 square meters. There are around 200 retail outlets with different national and international brands scattered across 4 floors. Entertainment is mainly provided by a 4,000 square meters enclosed entertainment city, coffee shops and a 3D cinema.	Amman	2007
Sweifieh Avenue Mall	A relatively small shopping mall with a total area of 35,000 square meters. The retail space of the mall extends over 5 floors, offering a broad range of local and global brands. It has one of the best Bowling centres in Jordan.	Amman	2011

Source: developed by the researcher.

This tide of shopping malls has been successful in altering the traditional perspective of Jordanians toward shopping from viewing it as a functional utilitarian activity to now viewing it as a kind of entertainment and leisure activity. Jordanians enjoy the enclosed environment as well as the leisure and social experiences available in shopping malls. Furthermore, shopping malls have become a part of people's lives. Amman, for instance, is currently witnessing a kind of mall mania. Shopping malls have turned into destinations which attract a lot of Ammani masses including youths and families with children, particularly on weekends (AlGad Newspaper, 2005). As a result, Jordanian customers have become more knowledgeable and hold higher expectations in relation to the art of merchandising, more so than ever before. This suggests that the shopping malls' industry

has been successful in Jordan and continues to be a promising investment opportunity in the future (Oxford Business Group, 2010).

4.4 Chapter Summary

The aim of this chapter was to introduce the research context of the current study. The chapter provided an overview of Jordan including the country's history, geography and climate, community, and its political and economic conditions. It also discussed the retail sector and the evolution of shopping malls in Jordan. The next chapter will discuss the research methodology adopted in this thesis.

CHAPTER FIVE: Research Methodology

5.1 Introduction

In general, the term research refers to "a systematic and methodological process of inquiry and investigation with a view to increasing knowledge" (Collis & Hussey, 2009, p. 9). Similarly, Leedy (2001) regarded research as a systematic process of collecting, analysing and interpreting information to increase understanding of a phenomenon about which one is interested. Research in its true meaning has three main characteristics: the research must be guided by a clear purpose, must use of a systematic way of data collection and use a systematic way of interpreting the collected data (Saunders, Lewis & Thornhill, 2012).

Therefore, in order to meet the characteristics of true scientific research, a researcher should adopt what is known as a research methodology which refers to the application of various systematic methods and techniques to generate scientific knowledge. It is the "overall approach to the process of research encompassing a body of methods" (Collis & Hussey, 2009, p. 11). In other words, research methodology is the systematic way in which a researcher uses appropriate methods to collect and analyse data in order to achieve the objectives of the study.

Accordingly, this chapter is intended to present the researcher's view of the research methodology which was adopted in answering the research questions and meeting the research aim and objectives. This chapter presents the whole research process including the research philosophy, research approach, research strategy, time horizon, and the methods of data collection and analysis. The chapter introduces the main methodological choices that researcher has taken in each step of the research process, followed by the rationale behind each methodological decision made along this research process.

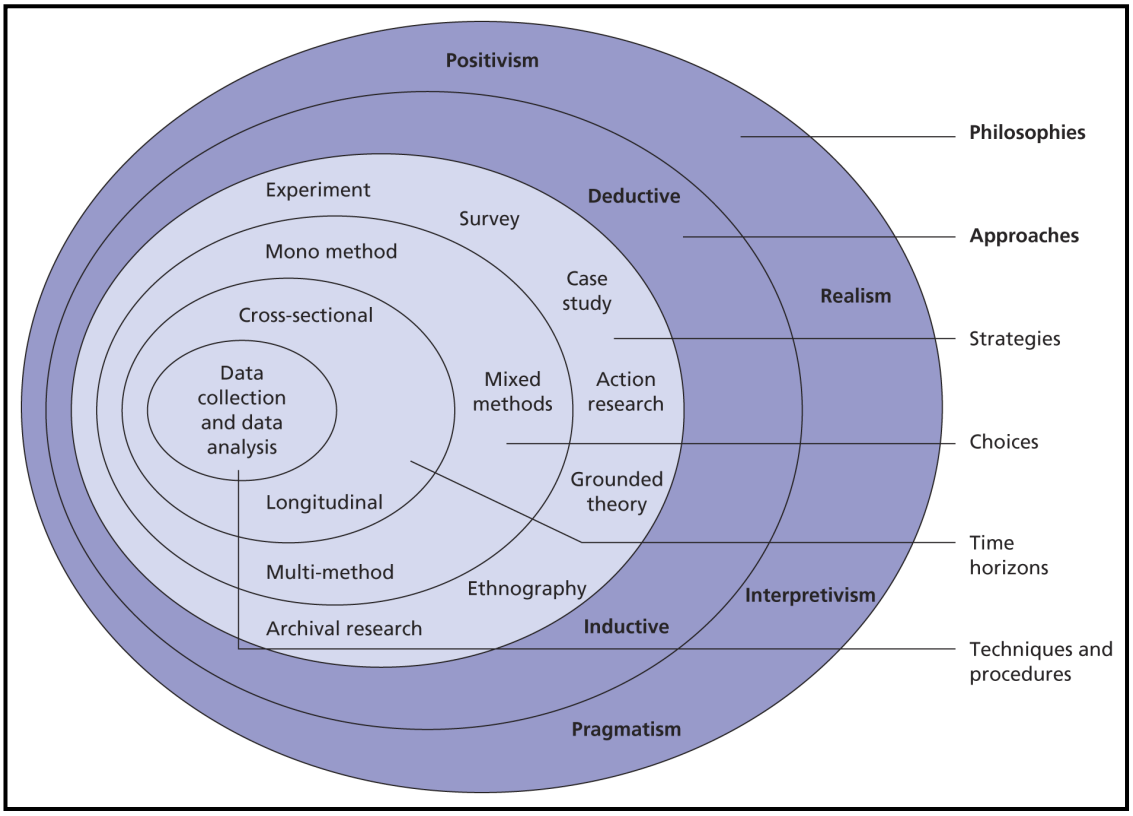
5.2 Research Philosophy

Saunders *et al.* (2012) described the whole research process as a sequence of different layers forming what is called 'the research onion'. Although the layers are separate, they are interrelated, that is a decision in an inner layer depends on the choice taken in the outer ones. For instance, deciding on which research approach to adopt (e.g. deductive / inductive) in the second outer layer depends on which research philosophy has been adopted in the first outer layer.

Research philosophy, which appears in the first outer layer of the research onion, is defined as "an over-arching term relating to the development of knowledge and the nature of that knowledge" (Saunders *et al.*, 2012, p. 127). In other words, it refers to the researcher's view of how the knowledge is constructed.

According to Collis and Hussey (2009), the choice of a research philosophy is vital because it has critical implications on the research methodology and on the data collection methods. Easterby-Smith, Thorpe and Jackson (2012) attributed the importance of the research philosophy to three points. Firstly, it can be helpful in clarifying the research design. Clearly, it helps a researcher in deciding on the kind of data that is needed and how to collect and interpret this data in order to answer the research questions and meet the research objectives. Secondly, the research philosophy can help a researcher in deciding on the appropriateness of a research design, thereby, a research methodology. And thirdly, it may contribute to enrich a researcher's knowledge of new research designs.

Figure (5.1) The Research Onion



Source: Saunders *et al*. (2012, p. 160)

Through reviewing the literature on research methodology, one can notice that scholars have identified several research philosophies. These include positivism and interpretivism (Collis & Hussey, 2009), positivism and social constructionism (Easterby-Smith *et al.*, 2012) and positivism, realism, interpretivism, and pragmatism (Saunders *et al.*, 2012). Nevertheless, positivism and interpretivism represent two ends of the research paradigm continuum with a set of other paradigms in between. Moreover, most business research broadly falls in either the positivism paradigm or the interpretivism one (Collis & Hussey, 2009).

Figure (5.2) Continuum of Research Paradigms

Source: Collis and Hussey (2009, p.57)

Positivism originated in the natural sciences and it assumes that the human behaviour can be carried out in the same way as natural sciences (Collis & Hussey, 2009).This philosophy is underpinned by the belief that "the social world exists externally, and that its properties should be measured through objective methods, rather than being inferred subjectively through sensation, reflection or intuition" (Easterby-Smith *et al.*, 2012, p. 74).

Positivism implies that researchers need to apply highly structured methods and also follow a specific sequence of steps that facilitate replication, thereby uncovering knowledge (Gill & Johnson, 2010). Moreover, the discovery of knowledge requires researchers to follow certain sequences of steps starting with observation, moving onto discovering the idea, then setting hypotheses that are testable, collecting the data, and ultimately drawing conclusions (Hair, Money, Samouel & Page, 2007).

Positivists are mainly concerned with a search for the general laws of cause and effect and well-defined relationships between the research variables (Neuman, 2004). Therefore, it is not surprising that positivist researchers generally show a tendency towards dealing with observable realties and focus on tracking regularity and detecting cause and effect relationships in the data they handle as a way to generate knowledge (Gill & Johnson, 2010).

According to the positivist philosophy, a research project needs to be conducted as far as possible in a value-free way. In other words, a researcher has, to some extent, to play a passive role in carrying out the research process. Additionally, he or she needs to relatively focus on quantifiable observations that can be statistically analysed in an objective manner (Saunders *et al.*, 2012). In this regard, Swartz, Money, Remenyi & Williams (1998, p. 33) asserted that the positivist researcher "is independent and neither affects, nor is affected by,

the subject of the research". Therefore, this philosophy is preferred by researchers who highly appreciate its emphasis on "getting objective measures of 'hard facts' in the form of numbers" (Neuman, 2004, p. 42).

On the other hand, interpretivism has emerged as a result of the perceived inadequacies and criticisms of positivist philosophy in meeting the needs of social scientists. The focus here is not simply on identifying how often a certain pattern occurs, but on exploring the complexity of such phenomena and gaining an interpretive understanding. Scholars have used different labels for the term interpretivism, such as constructivism or naturalism (Tashakkori & Teddlie, 2010) social constructionism, (Easterby-Smith *et al.*, 2012) and phenomenology (Swartz *et al.*, 1998).

The essential belief underpinning social constructionism or interpretivism is that "reality is not objective or exterior but is socially constructed and given meaning by people" (Easterby-Smith *et al.*, 2012, p. 23). Therefore, it gives a high emphasis on how people define their surroundings, especially through interacting with each other using language (Easterby-Smith *et al.*, 2012).

Interpretive studies focus on exploring and gaining an in-depth understanding of the social phenomena being researched (Collis & Hussey, 2009). Interpretivists believe that the social world of business is not simple, to the extent that it can be sufficiently understood through a set of law-like generalisations. Therefore, interpretivists are more likely to use small samples and to apply qualitative methods that provide a rich understanding and meaning to the subject of the research (Saunders *et al.*, 2012).

The role of a social actor is also highly emphasised by interpretivests, that is, researchers need to focus on the differences between the people being researched as they typically play a role which is subjectively interpreted and performed. Therefore, instead of dealing with the research population in a passive manner, researchers need to go into the social world of the research population and to investigate it from their own standpoints (Saunders *et al.*, 2012). Moreover, a researcher's mind cannot be separated from what exists in the social world (Collis & Hussey, 2009). Consequently, a researcher is believed to be integral part of the research which is carried out in a value-bound manner (Saunders *et al.*, 2012).

Generally, research philosophies can be viewed and distinguished according to three philosophical assumptions that represent research standpoints which are: ontology which is concerned about the nature of reality, epistemology which focuses on the kind of acceptable knowledge, and axiology which addresses the role of the researcher's value (Saunders *et al.*, 2012). Based on these philosophical assumptions along with the data collection methods associated with each research philosophy, table (5.1) presents the main differences between the two main philosophical paradigms: positivism and interpretivism.

In this thesis, the aim was to examine how a mall's shopping environment affect customer behavioural response through investigating the mediating role of customer emotions and cognition. This was achieved through testing the applicability of a research model that has mainly been developed based on empirical studies, rather than involving explanations of the phenomena being researched. In order to meet the research aim and objectives, a strict sequence of steps was followed. The first step was to analyse the relevant literature, then the research idea was identified. Next the research hypotheses were developed, the data was collected and analysed and then the research findings were drawn.

Table (5.1) A Comparison of the Two Main Research Philosophies in Business and Management Research

Philosophical Assumption	Positivism	Interpretivism
Ontology: the researcher's view of the nature of reality.	External, objective and independent of social actors.	Socially constructed, subjective, may change, multiple.
Epistemology: the researcher's view regarding what constitutes acceptable knowledge.	Only observable phenomena can provide credible data and facts. Focus is on causality and on law-like generalisations, reducing phenomena to simplest elements.	Subjective meanings and social phenomena. Focus is upon the details of a situation, a reality behind these details, subjective meanings motivating actions.
Axiology: the researcher's view of the role of values in research.	Research is undertaken in a value-free way; the researcher is independent of the data and maintains an objective stance.	Research is value bound, the researcher is part of what is being researched, cannot be separated and so will be subjective.
Data collection techniques most often used:	Highly structured, large samples, measurement, quantitative, but can also use qualitative.	Small samples, in-depth investigation, qualitative.

Adapted from: Saunders *et al*. (2012, p. 140).

In addition, this study focused on causality among the research variables which was examined objectively using rigid quantifiable measures. Accordingly, positivism best describes the research philosophical perspective adopted in this thesis.

5.3 Research Approach

A research approach is linked to how a researcher views the nature of the relationship between theory and research (Bryman & Bell, 2011). Scholars mainly differentiate between two contrasting research approaches based upon the researcher's logic of reasoning, namely the deductive and inductive approaches (Cavana, Delahaye & Sekaran, 2001; Collis & Hussey, 2009; Sekaran & Bougie, 2009). In the deductive approach, "we start with a general theory then apply this theory to a specific case". In contrast, in the inductive approach "we observe specific phenomena and on this basis arrive at a general conclusion" (Sekaran & Bougie, 2009, p. 28).

Bryman and Bell (2011) depicted the deductive approach as a process of six steps starting with theory, then developing research hypotheses, moving to data collection, findings, then confirming/rejecting hypotheses, and ultimately a revision of the theory. A deductive approach involves developing a hypothesis from reading the existing literature and designing a research strategy to test this hypothesis (Saunders *et al.*, 2012). Consequently, this approach means that the researcher moves from the general to the specific.

The deductive approach is mainly characterised by five features: firstly, the search for causal relationships between variables; secondly, collecting quantitative data in most cases; thirdly, following a highly structured methodology; fourthly, the need for concepts' operationalisation in order to facilitate measurement and, finally generalisation. This approach requires a sufficient sample size.

The inductive approach, on the other hand, is a process by which the researcher observes certain phenomena and generates particular conclusions (Cavana *et al.*, 2001). Such an approach cannot be used to prove a hypothesis since there will not be sufficient proof that

the opposite evidence is not existed. Therefore, whilst deduction can be a theory-testing approach, induction has been regarded as a theory generation approach (Sekaran & Bougie, 2009).

One more approach, abduction, has been identified by Saunders *et al.* (2012) and is where the research moves back and forth between deduction (theory to data) and induction (data to theory). In other words, this approach combines both the deduction and induction approaches. Logically, abduction "begins with the observation of a surprising fact, it then works out a plausible theory of how this could have occurred" (Saunders *et al.*, 2012, p. 147). Table (5.2) summarises the distinctive characteristics that differentiate the deduction and induction approaches of reasoning.

Table (5.2) Characteristics of Main Research Approaches

Deduction	Induction
In deductive reasoning, researchers start with a specific theory and then apply this to a certain case.	In inductive reasoning, researchers observe a certain phenomenon and on this basis arrive at general conclusions.
Deduction suggests the need to translate hypotheses into operational terms.	Researchers infer the implications of their findings into theory.
Associated with hypothesis testing.	Not possible to be used in hypothesis testing.
Moving from the general to the specific.	Moving from the specific to the general.
The purpose of data collection is used to test hypotheses relating to the existing theory.	The purpose of data collection is to explore a phenomenon, to identify themes and patterns and create a conceptual framework.
Used to modify or verify a theory.	Used to generate a theory.

Adapted from: Bryman (2012, p. 24); Saunders *et al*. (2012, p. 144); Sekaran and Bougie (2009, p. 28).

As this thesis began with a current theory, with setting out hypotheses, operationalising the hypotheses' variables to be empirically tested, and then confirming or rejecting the hypotheses, and since the focus was to find cause and effect relationships between the research variables, the deduction research approach was implemented in this research.

5.4 Methodological Choice and Research Strategy

Saunders *et al.* (2012) classified research methods into two main methodological choices: the mono method where the researcher adopts a single data collection technique and analysis procedures (either purely quantitative or purely qualitative), and multiple methods where different data research methods are applied.

In the multiple methods methodological choice, a researcher may decide to use either the multi-method approach, where the research incorporates different unified methods (multi-quantitative or multi-qualitative), or the mixed methods' choice where both quantitative and qualitative methods are integrated into one research design. Accordingly, this classification has primarily distinguished between quantitative and qualitative research methods and this represents a common perspective in the literature of research methodology (Collis & Hussey, 2009; Hair, Babin, Money & Samouel, 2003; Saunders *et al.*, 2012; Sekaran & Bougie, 2009).

In this research, the raw data was collected using a highly structured quantitative instrument (a self-administered questionnaire). Subsequently, the raw data was numerically coded and entered into statistical analysis software (SPSS). Structural equation modelling using (AMOS) graphics was then implemented to analyse the data. Accordingly, this thesis can be described as a mono methodological study.

5.4.1 Quantitative Versus Qualitative Research Methods

Generally speaking, the term quantitative can be applied to any data collection instrument (such as a questionnaire) or to any analysis technique (such as regression) that use numerical data. On the other hand, the term qualitative is often used to describe any data collection instrument and analysis procedure that develop or use non-numerical data. In short, the use of numerical data is the basic distinctive characteristic differentiating quantitative research from qualitative research (Saunders *et al.*, 2012).

Quantitative research generally associates with the positivism paradigm and adopts a deductive approach. The focus is on examining causal relationships between research variables. This kind of research tends to use substantial samples and to follow a highly structured manner to gather data. Experimental research and survey are the most common research methods/ strategies in quantitative studies. In contrast, qualitative research is commonly associated with the interpretivism paradigm and inductive reasoning. The focus here is on gaining a rich understanding of the topic being researched. Thus, mostly, the data is collected using an unstructured approach. Amongst the most common research strategies that are used in qualitative studies are action research, case study research, ethnography, and grounded theory (Bryman & Bell, 2011; Collis & Hussey, 2009; Saunders *et al.*, 2012). Table (5.3) summarises the basic features of quantitative and qualitative research.

Table (5.3) Main Features of Quantitative and Qualitative Research

Qualitative	Quantitative
Generally associated with an interpretive philosophy and the inductive approach of reasoning.	Generally associated with a positivist philosophy and the deductive approach of reasoning.
Is common in exploratory research and is associated with case study, action research, ethnography, grounded theory and narrative research strategies.	Common in causal research and in experimental and survey research strategies.
Concerned with generating theories.	Concerned with hypothesis testing.
Uses small samples.	Uses large samples.

Adapted from Saunders *et al.*, (2012, pp. 162-163)

5.4.2 Research Strategy

In business research, researchers have several choices as to how to carry out the empirical side of their study. This represents the essential role of research strategy which has been defined as a "general plan of how a researcher will go about answering the research question" (Saunders *et al.*, 2012, p. 173). The research approach, which is mainly a function of the research objectives, plays a critical role in a researcher's decision on which research strategy to use (Creswell, 1998). Clearly, whilst a deductive approach results in the use of experimental or survey strategies, adopting an inductive approach implies that the researcher may apply case study, action research or grounded theory as the research strategy (Collis & Hussey, 2009).

Different strategies can be noticed in the social sciences in general and in the business domain in particular involving: experiment, survey, case study, action research, grounded theory, ethnography, and archival research (Hair *et al.*, 2003; Saunders *et al.*, 2012; Swartz *et al*., 1998; Sekaran & Bougie, 2009). There is no research strategy that is superior or

inferior to another, each one has its own advantages and drawbacks. However, the research strategy selection should basically be based on the research purpose, the research questions and objectives, the research philosophy and the available resources such as time and money (Saunders *et al.*, 2012; Swartz *et al.*, 1998).

Saunders *et al.* (2012) regarded experiments and surveys to be exclusively associated with quantitative research, whereas other research strategies involving ethnography, action research, grounded theory and narrative inquiry are all considered to be exclusively associated with qualitative research methods.

A survey, as a research strategy, allows a researcher to collect data from a sample, with a view to analysing them statistically. Based on its purpose, survey research can be either descriptive or analytical in nature. In descriptive surveys the purpose is to represent the phenomena of the research in a certain point in time or at different times. In analytical surveys the focus is on examining the causal relationship between two or more variables (Collis & Hussey, 2009). The use of a questionnaire as a data collection technique is highly common in survey research. However, survey data can be also collected using structured interviews and structured observations (Easterby-Smith *et al.*, 2012; Saunders *et al.*, 2012).

Surveys are highly common in business and management research and are associated with positivist and deductive research (Saunders *et al.*, 2012; Swartz *et al.*, 1998). Using a survey strategy, a researcher can collect a large amount of quantitative standardised data from a sizeable population in a cost effective manner. It can be used to address causal relationships and verify a research model. The data collected may range from beliefs, attitudes and lifestyles to general background information such as gender, age and income, as well as company characteristics such as number of employees and revenue (Hair *et al.*,

2003). However, a key concern for researchers using such a strategy is the design of the data collection instrument (Saunders *et al.*, 2012).

Although surveys have some drawbacks, such as low response rates and possible ambiguities in the questions, the advantages are numerous and can be briefly summarised as follows (Collis & Hussey, 2009; Easterby-Smith *et al.*, 2012; Saunders *et al.*, 2012):

- The survey is a popular research strategy, thus it is easy for most people to understand;
- The survey is common in business research in general and marketing in particular. Through it a researcher can collect large amounts of data from a sizeable population;
- It is a cost effective research strategy;
- Survey data are standardised and are not wide in range. This, in turn, facilitates making comparisons and applying statistical analysis techniques.

This thesis' aim is to investigate the effect of the shopping environment on customer mall behaviour through studying a chain of cause and effect relationships among the research's variables (e.g. design factors, pleasure, evaluation of a mall's overall shopping environment and behavioural response). In order to achieve this, the thesis adopted a positivistic research philosophy and followed a deductive reasoning approach. The research population of this thesis was very large and consisted of all shopping malls' customers in Jordan.

Based on the preceding discussion relating to surveys and, in the light of the nature of this thesis in terms of its aim and objectives and the adopted research philosophy and approach,

an analytical survey was used as a research strategy to carry out the empirical work of this study.

5.5 Time Horizon

One of the vital issues that researchers have to think about when planning to undertake a research project is whether the research will be carried out at a particular point in time or over a given period. On this question scholars (e.g. Collis & Hussey, 2009; Saunders *et al.*, 2012; Sekaran & Bougie, 2009) differentiate between two kinds of research, namely cross-sectional (also known as snapshot) and longitudinal (also known as diary).

A cross-sectional research investigates a particular phenomenon at a certain point in time (Saunders *et al.*, 2012). The data is collected once over a short period of time, thus such studies provide a snapshot of the researched phenomenon (Collis & Hussey, 2009). Researchers often use survey strategies to carry out cross-sectional studies (Easterby-Smith *et al.*, 2012). However, qualitative strategies, such as case study, can also be used in cross-sectional studies (Saunders *et al.*, 2012).

A longitudinal research investigates same variables or a group of subjects over a long period of time, with the aim of understanding the dynamics of a certain research problem. In such research, repeated observations are tracked in order to identify the degree of stability or change in the phenomena under research (Collis & Hussey, 2009). Saunders *et al.* (2012) indicated that the main strength of longitudinal studies is the ability to study change and development.

A researcher's decision to adopt a cross-sectional or longitudinal approach is mainly influenced by the purpose of the research, the research questions, the time available for the

researcher (Collis & Hussey, 2009; Saunders *et al.*, 2012) and the sample size (Collis & Hussey, 2009).

In this thesis, the empirical work was carried out in a cross sectional manner. Primary data was collected over two months of fieldwork. A questionnaire survey was administered in selected shopping malls, through which 1,408 respondents were approached using a mall intercept technique. Survey research is often conducted in a cross-sectional manner as survey researchers are usually interested in gathering huge amounts of data from a sizeable population in a particular time (Churchill, 2001). Furthermore, cross-sectional research tends to be appropriate for most research projects that are undertaken for academic courses (e.g. this thesis) since these projects are constrained by time (Saunders *et al.*, 2012).

5.6 Research Population

According to Sekaran and Bougie (2009, p. 262), a research population is "the entire group, events, and things that the researcher wishes to investigate". It consists of a complete set of units of analysis under investigation (Davis, 2000). This study is intended to investigate the effect of a shopping environment on customer behavioural response whilst considering the mediating role of customer emotions and cognition. In order to achieve the research aim, shopping malls in Jordan were utilised as the research context for this study. Consequently, the targeted research population comprised of all malls' customers in Jordan.

5.7 Sampling Methods and Sample Size

It might be possible for a researcher to collect data from an entire population (known as a census); however, attention has to be paid to time and money constraints and a researcher needs to think about the worthiness of the data collected (Davis, 2000; Saunders *et al.*, 2012).

Therefore, a researcher may decide to carry out their research using "a subset of population" which is called a research sample (Collis & Hussey, 2009, p. 62). The use of research samples as an alternative to a census can be useful in the following situations:

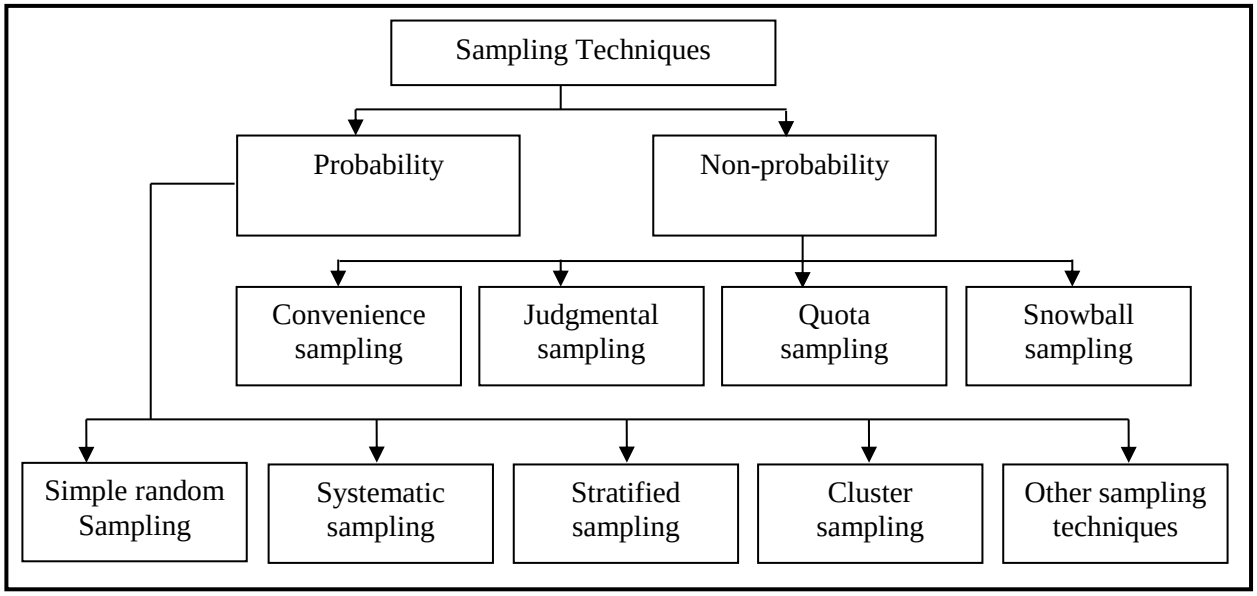
- If it would be impracticable for a researcher to survey the whole population;
- If a researcher is restricted by budget or time constraints (Saunders *et al.*, 2012).

Davis (2000) summarised the rationale for sampling as listed below:

- Resources' constraints including time and cost;
- Accuracy, because in well-drawn samples margins of error are pre-specified;
- Destructive measurement: the use of a sample that enables a researcher to make inferences about the population is very important when the measurement can lead to destructive results.

Two main types of sampling techniques are available: probability (where each member of the population has equal and known chance to appear in the sample) and non-probability (where the probability for each unit to be included in the sample is unknown and unequal) (Saunders *et al.*, 2012; Malhotra, 2010; Sekaran & Bougie, 2009).

Figure (5.3) Classification of Sampling Techniques



Adapted from Malhotra (2010, p. 376)

As shown in the figure above, non-probability sampling techniques include: convenience sampling, judgmental sampling, quota sampling, and snowball sampling. Probability sampling techniques involve simple random sampling, systematic sampling, stratified sampling, cluster sampling, and other sampling techniques. Each of these techniques has its strengths and weaknesses. Table (5.4) presents a brief description along with the strengths and weaknesses of each type.

Table (5.4) Features of Basic Sampling Techniques

Technique	Description	Strengths	Weaknesses
Non-probability Sampling			
Convenience Sampling	Choosing research participants that are readily available The selection of a sample unit is left to researcher	Most convenient Most cost effective	Highly unrepresentative Selection bias, not recommended for causal research
Judgment/ Purposive Sampling	Population elements are purposefully selected by the researcher	Ability to consider the various sizes of groups when different groups are to be chosen Low cost, convenient, not time consuming	Does not allow generalisation, subjective to researcher
Quota Sampling	Identifying quotas for individual groups and then selecting conveniently or judgmentally participants for each one	Allows for selecting a sufficient number of participants with certain characteristics	Selection bias Not possible to assure the sample representativeness of the target population
Snowball Sampling	Selecting a random initial group of respondents, then use these research participants to identify other potential participants	Can estimate rare characteristics Possible to include members of difficult to identify groups	Time consuming Not possible to ensure the representativeness of the selected sample
Probability Sampling			
Simple Random Sampling	Choosing a sample in a manner in which every subject in the population has an equal chance to appear in the	Highly representative when the whole population participates Easily understood,	Requires a sampling frame, expensive, lower precision, no assurance of representativeness

(SRS)	sample through applying random draw procedures	results are projectable	
Systematic Sampling	Determining a sample interval and a random starting point then using the interval to select every element in a succession from the sampling frame	Can increase representativeness, easier to implement than SRS, cost effective	Can decrease representativeness if there are cyclical patterns
Stratified Sampling	Dividing the whole population into subpopulations, then selecting randomly from the various strata within the population	Can ensure that all important subpopulations are included Precision	Difficulty of selecting relevant stratification variables, not feasible to stratify on many variables, expensive Greater efforts are needed compared to SRS. A careful and precise defining of strata is needed
Cluster Sampling	Dividing the population into mutually exclusive and collectively exhaustive subpopulations (clusters), and then selecting a random sample using a probability sampling technique. Can select all the elements of the cluster (one stage cluster sampling) or a sample drawn probabilistically (two stage cluster sampling)	Easy to implement, cost-effective	Imprecise, difficult to compute and interpret results

Adapted from: Black (1999, p. 118); Malhotra (2010, p. 388)

A starting point in deciding on sampling design (probability or non-probability) is to think about the sampling frame which refers to a list of the whole targeted research population. Essentially, it represents a condition to apply probability sampling; otherwise, researchers need to adopt non-probability sampling as an alternative (Saunders *et al.*, 2012; Sekaran & Bougie, 2009). Researchers also need to consider the type of research, resource constraints, and the kind of research analysis that will be applied in analysing the data.

In this thesis, in order to develop a sampling frame from which a research sample can be drawn, the managements of the shopping malls were contacted in order to gain access to their customer databases. None of the contacted shopping malls' managements were willing to provide such information (e.g. their customer database) due to confidentiality and competitive issues. As a result, no sampling frame was at the researcher's disposal. Consequently, a non-probability sampling technique, particularly convenience sampling, was applied to collect the primary data.

However, in order to mitigate the weakness of this sampling technique and in order to gain a better representation of the research population, three main issues were taken into consideration throughout the empirical work. Firstly, as shown in table (5.5), the data collection was carried out within the context of different shopping malls (7 malls) across the three largest cities (Amman, Zarqa, and Irbid) which host all the shopping malls in Jordan. Secondly, attention was also paid to the respondents' selection process in order to ensure that it was highly randomised and would reduce selection bias. In this respect, a systematic procedure using a randomly selected interval was applied to recruit potential respondents, thus every fifth adult shopper bypassing a certain point before the exit of the mall was invited to take part in the survey. Thirdly, the data collection was carried out at

different times of the day, throughout weekdays and at weekends to ensure a better representative sample in terms of demographic variables.

With respect to the sample size, the minimum sample size for an unknown population was computed according to the formula:

$$n = \frac{z^2 * \sigma^2}{e^2}$$

where: n is the sample size, z is the confidence coefficient, σ^2 is the estimated variance, and e is the allowable error. The confidence coefficient for a confidence interval of 95% = 1.96, an estimated variance on a 7-point scale = 3.5, and a 5% allowable error on a 7-point scale = 5% of 6 = 0.3 (Tull & Hawkins, 1993). Therefore,

$$\frac{1.96^2 * 3.5^2}{0.3^2} = \mathbf{523}$$

In addition to that, Alreck and Settle (1995, p. 63) indicated that "for populations of 10,000 and more, most experienced researchers would probably consider a sample size between 200 and 1000". The research population of this thesis consisted of all mall customers in Jordan, thus was expected to exceed 10,000. Furthermore, this research applied a large sample analytical methodology (e.g. structural equation modelling), therefore, a research sample of 1,000 respondents was identified as the target sample size for this study. This figure represents the upper limit proposed by Alreck and Settle (1995) and exceeds the minimum sample size for an unknown population (e.g. 523 respondents) generated by the equation above.

In order to obtain this sizable sample of participants, a simple random sampling technique was used to select 7 shopping malls first. A randomised mall intercept approach was then implemented to recruit the same number of respondents in each of the selected shopping

malls in order to generate an aggregate target sample of 1000 participants. Questionnaires were handed to respondents and filled out within the shopping malls in the presences of the researcher.

Table (5.5) Population of Jordan across the Main Cities at the end of 2013

City/ County	Population Size	Percentage	Number of Shopping Malls Approached
Amman	2,528,500	38.7 %	5
Irbid	1,162,300	17.8%	1
Zarqa	972,900	14.9%	1
Total	4,365,900	71.4%	7

Source: Department of Statistics (2013).

5.8 Data Collection Method

Data conceptually refers to the "known facts or things used as a basis for inference or reckoning" (Collis & Hussey, 2009, p. 187) which can be either quantitative (having a numerical form) or qualitative (having no numerical form) (Collis & Hussey, 2009).

Data can be obtained from different sources and types of data are either primary or secondary (Collis & Hussey, 2009; Easterby-Smith *et al.*, 2012; Saunders *et al.*, 2012; Sekaran & Bougie, 2009). Primary data is obtained for the first time by a researcher through certain research procedures for a specific research purpose, such as data gathered via direct observations, interviews and questionnaires. Secondary data refers to all data that already exists such as governmental publications, company documentation and annual reports (Sekaran & Bougie, 2009).

Research data can be collected using different techniques. These techniques are an integral part of the research process. If a quantitative methodology is applied, then the researcher

will focus on measuring variables or the researcher will count occurrences of a phenomenon whereas, in case of qualitative methodology, the emphasis will be on meanings and experiences related to the phenomenon (Collis & Hussey, 2009). Research interviews, questionnaires and observations are the most common data collection methods used in survey studies (Sekaran & Bougie, 2009).

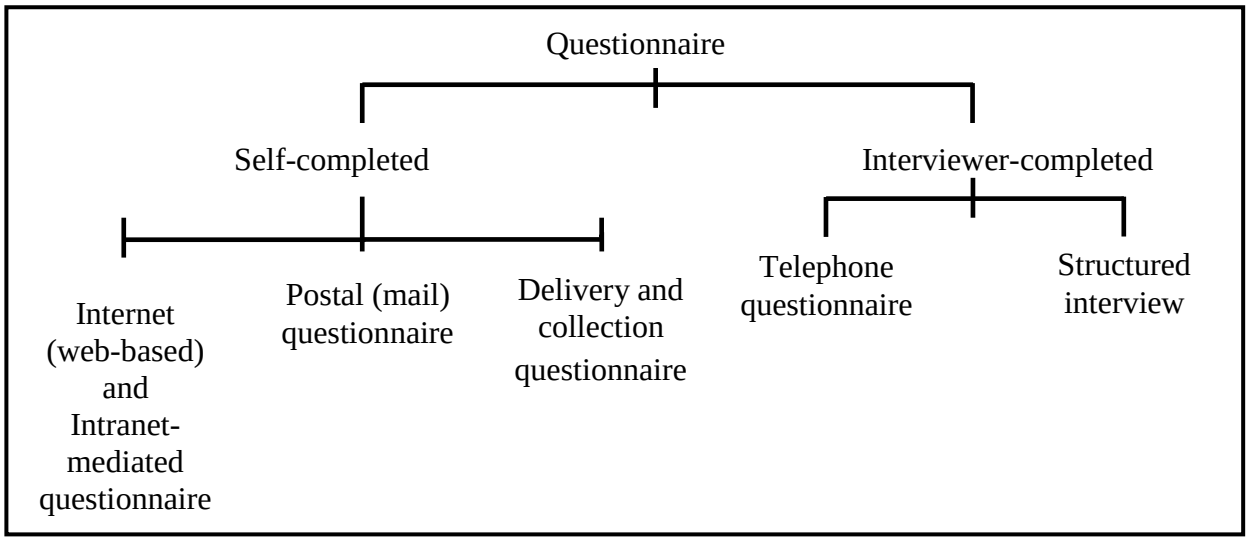
Amongst the main data collection methods identified earlier, a questionnaire is considered to be the most convenient and the most common tool applied in a survey strategy (Saunders *et al.*, 2012; Sekaran & Bougie, 2009). A questionnaire is defined as "a reformulated written set of questions to which respondents record their answers, usually within rather closely defined alternatives" (Sekaran & Bougie, 2009, p. 236). Similarly, Hair *et al*. (2003 p. 130) indicated that a questionnaire refers to a "predetermined set of questions designed to capture data from respondents"; when completed by the participants on their own it usually takes the form of a self-administered document (Bryman & Bell, 2011).

Questionnaires can be classified according to the way in which they are administered and the level of contact a researcher has with respondents. In this extent, Saunders *et al.*(2012) identified two main types of questionnaire: the self-completed questionnaire (which is usually filled out by the respondent) and the interviewer-completed questionnaire (in which the interviewer records the answers of each respondent).The latter can be administered either via telephone (telephone questionnaires) or face-to-face (structured interviews). As can be seen in figure (5.4), self-completed questionnaires are further divided, according to delivery method, into:

- Internet and intranet questionnaires: all questionnaires are sent electronically via the internet. These are also known as web-based questionnaires;

- Postal questionnaires: these are sent and returned through the post;
- Delivery and collection questionnaires: questionnaires are handed to respondents and collected later by the researcher.

Figure (5.4) Types of Questionnaire



Source: Saunders *et al*. (2012, p. 420)

In the current thesis, a self-completed questionnaire, in particular a delivery and collection type of questionnaire, was used as the data collection instrument. After obtaining permission from the managements of the selected shopping malls, customers were intercepted whilst they were in the shopping malls. A mall intercept technique was chosen as a delivery method for five reasons. Firstly, the customers could sense the malls' real environment whilst filling in the questionnaires; therefore, a more reliable response could be obtained. Secondly, this method enhanced the probability of the research questionnaires being completed by the targeted population. Thirdly, this method increased the response rate and reduced the percentage of incomplete responses. Fourthly, by using a mall intercept technique the researcher would be available to clarify any ambiguity faced when filling out the questionnaire. Finally, the intercept technique is used in similar studies (e.g. Akroush *et al*., 2011; Kumar & Kim, 2014; Wakefield & Baker, 1998), which suggests the suitability of this kind of questionnaire delivery in the current study.

The advantages associated with using self-administered questionnaires in general can be summarised as follows (Oppenheim, 1992; Sekaran & Bougie, 2009):

- If compared to interviewer-administered questionnaires, self-administered questionnaires ensure a minimum of interviewer bias;
- Interviewer-administered questionnaires are more time consuming than self-administered questionnaires;
- Delivery and collection questionnaires ensure a high response rate and accurate sampling;
- In delivery and collection questionnaires, all the completed responses can be collected within a short period of time and a good rapport can be established to motivate respondents;
- Using delivery and collection questionnaires, the researcher will be present to introduce the research topic and encourage honest responses;
- Using delivery and collection questionnaires, the researcher will be present to clarify any doubt or misunderstanding in the questionnaire.

5.8.1 Questionnaire Development

As indicated earlier, this study utilised a questionnaire survey as the research strategy. In developing the research questionnaire, multi-item scales used in previous empirical studies were identified and adapted to fit the context of the current study.

The questionnaire consisted of six parts which included 68 items intended to measure seven constructs. The first part of the questionnaire provided a brief description letter clarifying the purpose of the research, indicating that participation was voluntary and assuring the anonymity of the participant and the confidentiality of responses. In order to

ensure that the respondent was a regular mall customer, a filtering question "do you consider yourself as a regular customer to this shopping mall – shopping here twice a month at least?" was included in the first part of the questionnaire.

The second part was intended to assess the aspects of the shopping environment. In total 33 measurement items were implemented to measure three constructs, namely ambient, design and social factors. The construct, ambient factors was measured using 11 statements relating to music, scent and air quality, lighting, temperature, cleanliness and noise. All these items were drawn from different previous studies and included: "I like the music in the mall"; "The mall's music is played at an appropriate volume" "The mall's lighting is appropriate", "The mall's temperature is comfortable" adopted from Wakefield and Baker (1998); "The music played in this mall makes shopping pleasant", "The music I hear in this shopping mall bothers me" and "The music played in this mall is appropriate" adapted from Baker *et al*. (1994); "This shopping mall has a pleasant air quality" and "In this shopping mall you can smell pleasant odours" adapted from Lin and Liang (2011); "This shopping mall is clean" adopted from Akroush *et al*. (2011) and " The noise level is acceptable" (Reimer and Kuehn, 2005).

The construct, design factors was operationalised using 12 items relating to interior design and decorations, layout, and colours. The items included the following: "The mall's architecture gives it an attractive character", "This mall is decorated in an attractive fashion", "The interior walls and floor colour schemes are attractive". "The overall design of this mall is interesting", "The layout makes it easy to get to the stores you want", "The layout makes it easy to get to the food areas", "Overall, the layout makes it easy to get around", adopted from Wakefield and Baker (1998); "The colour scheme is pleasing", "The colours used in the mall appear to be currently fashionable", "The physical facilities of the mall are attractive" adapted from Baker *et al.* (1994) and "The colour of this mall is

bright" and "This shopping mall has an impressive interior design" adapted from Chang *et al.* (2011).

Social factors were measured using 10 items relating to employees, other customers and human crowding. Four of them, namely "There are enough employees in the mall to service customers", "The employees are well dressed and appear neat", "The employees are friendly", "The employees are helpful" were adapted from Baker *et al.* (1994). One additional item "Employees of this mall give customers personal attention" was adapted from Chang *et al.* (2011). Two other items, namely "I can identify with the typical customer who shops at this shopping mall" and "The typical customers at this shopping mall are very much like me" were adopted from Raajpoot *et al*. (2008), and three items relating to human crowding, namely: "The mall is too busy during my shopping trip", "There is much traffic in the mall" and "There are a lot of shoppers in the mall" were adapted from Li *et al*. (2009).

The third part of the questionnaire addressed customer emotional responses to the shopping environment in terms of pleasure and arousal while being in the shopping mall. To achieve this, a 12-item semantic differential scale originated by Mehrabian and Russell (1974) was used to measure customers' emotions of pleasure and arousal. Although this measurement scale originated in the field of environmental psychology, it has been utilised in several marketing studies (e.g. Walsh *et al* 2011; Sweeney and Wyber 2002; Im & Ha 2011, Donovan *et al* 1994, Ryu & Jang 2007; El Sayed 2003; Mattila & Wirtz 2001; Laroch *et al*., 2005). Using Mehrabian and Russell's (1974) emotional scale, customer pleasure, on the one hand, was measured using 6 item pairs including "Annoyed-Pleased", "Dissatisfied-Satisfied", "Unhappy-Happy", "Bored-Relaxed", "Melancholic-Contented" and "Despairing-Hopeful". On the other hand, customer arousal was assessed using six

pairs of items which were "Sluggish-Frenzied", "Unaroused-Aroused", "Sleepy-Wide-awake", "Calm-Excited", "Relaxed-Stimulated", and "Dull-Jittery". Such measurements were used as if they were Likert-type metric scales. That is, respondents were asked to indicate their responses for each pair of contrasting emotional states (such as happy and unhappy) on a 7-point scale.

In the fourth part, customer cognition was assessed in terms of customer evaluation of a mall's overall shopping environment using Fisher's (1974) environment's perceived quality scale. This scale has been substantially adopted in previous research to measure customer cognition of the shopping environment in the retail context in general and shopping malls in particular (e.g. Chebat, *et al.*, 2003, Mattila & Wirtz 2001; Laroch *et al.*,2005; Chebat & Morrin 2007; Spangenberg *et al.*, 1996). The scale consists of 13 pairs of contrasting adjectives. These are "Unattractive-Attractive", "Tense-Relaxed", "Uncomfortable-Comfortable", "Depressing-Cheerful", "Closed-Open", "Drab-Colourful", "Negative-Positive", "Boring-Stimulating", "Bad-Good", "Unlively-Lively", "Dull-Bright", "Unmotivating-Motivating" and "Uninteresting-Interesting". On a 7-point scale respondents were asked to tick the box that best described their response to each pair of contrasting adjectives describing the mall's shopping environment (such as bad and good).

The fifth part of the questionnaire addressed customer behavioural response using 10 items relating to money spent, time spent, impulse buying, positive word of mouth, and re-patronage intention. The items measuring this construct were drawn from different studies. These items included "I feel that I have spent more money than I planned before entering the shopping mall" which was adapted from Yalch and Spangenberg (1990), and two items which were adapted from Li *et al.* (2009) which were "I spent more time than I expected at this mall" and "In this mall, the amount of time I spent was fairly high". Three items were

adapted from Chang *et al.* (2011) namely: "In this shopping mall, I felt a sudden urge to buy something and I bought it"; "In this shopping mall I felt the excitement of the hunt", and "I bought more than I had planned to buy". Two items were adapted from Jang and Namkung (2009) which were "I would say positive things about this shopping mall to others" and "I would recommend this shopping mall to my friends or others", and another two items, namely "I would like to come back to this shopping mall in the future" adapted from Ryu and Jang (2007) and "It is likely that I will shop at this shopping mall in the future" adapted from Jang and Namkung (2009).

Finally, the last part of the questionnaire was devoted to gaining the demographical background of the respondents including age, gender, marital status, educational level and income. With the exception of the demographic variables included in this part, all items across all the questionnaire's parts were assessed on a 7-point scale. Specifically, 7-point Likert type scale where 1 = strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = neither agree nor disagree, 5 = somewhat agree, 6 = agree, and 7 = strongly agree was applied to assess customers' responses to shopping environmental factors in part two and to assess customer behavioural response in part five. 7-point bipolar semantic differential scales were used to assess the customers' emotions of pleasure and arousal and customer cognition (evaluation of a mall's overall shopping environment) in parts three and four respectively. Table (5.6) provides a summery of the questionnaire's constructs along with related measurement items and the sources from which they were drawn

Table (5.6) Questionnaire's Constructs and Items

Constructs	Items	Sources
Ambient Factors	I like the music in the mall The music in the mall is played at an appropriate volume The music played in this mall makes shopping pleasant The music played in this mall is appropriate The music I hear in this shopping mall bothers me (R) The mall temperature is comfortable The mall lighting is appropriate This shopping mall has a pleasant air quality In this shopping mall you can smell pleasant odours This shopping mall is clean The noise level in this shopping mall is acceptable	Akroush *et al.* (2011) Baker *et al*. (1994) Lin and Liang (2011) Wakefield and Baker (1998) Reimer and Kuehn (2005)
Design Factors	The mall's architecture gives it an attractive character This mall is decorated in an attractive fashion This shopping mall has an impressive interior design The overall design of this mall is interesting The layout makes it easy to get to the stores you want The layout makes it easy to get to the food areas Overall, the layout makes it easy to get around The interior wall and floor colour schemes are attractive	Baker *et al*. (1994) Chang *et al.* (2011) Wakefield and Baker (1998)

	The colour scheme is pleasing The colours used in the mall appear to be currently fashionable The colour of this mall is bright The physical facilities of the mall are attractive	
Social Cues	There are enough employees in the mall to service customers The employees are well dressed and appear neat The employees are friendly The employees are helpful Employees of this mall give customers personal attention I can identify with the typical customer who shops at this shopping mall The typical customers at this shopping mall are very much like me The mall is too busy during my shopping trip There is much traffic in the mall There are a lot of shoppers in the mall	Baker *et* al. (1994) Chang *et* al. (2011) Li *et* al. (2009) Raajpoot *et* al. (2008)
Pleasure	Despairing-Hopeful , Annoyed-Pleased, Dissatisfied-Satisfied, Unhappy-Happy, Bored-Relaxed, Melancholic-Contented	Mehrabian and Russell (1974)
Arousal	Relaxed-Stimulated, Calm-Excited, Sleepy-Wide-awake, Unaroused-Aroused, Sluggish-Frenzied, Dull-Jittery	Mehrabian and Russell (1974)

Evaluation of a Mall's Overall Shopping Environment	Unattractive-Attractive, Tense-Relaxed, Uncomfortable-Comfortable, Depressing-Cheerful, Closed-Open, Drab Colourful, Negative-Positive, Boring-Stimulating, Bad-Good, Unlively-Lively, Dull-Bright, Unmotivating-Motivating, Uninteresting-Interesting	Fisher (1974)
Behavioural Response	I feel that I have spent more money than I planned before entering the shopping mall I spent more time than I expected at the mall The amount of time I spent was fairly high In this shopping mall, I felt a sudden urge to buy something and I bought it In this shopping mall, I felt the excitement of the hunt I bought more than I had planned to buy I would say positive things about this shopping mall to others I would recommend this shopping mall to my friends or others I would like to come back to this shopping mall in the future It is likely that I will shop at this shopping mall in the future	Chang *et al*. (2011) Jang and Namkung (2009) Li *et al*. (2009) Ryu and Jang (2007) Yalch and Spangenberg (1990)

As can be seen, all the measurement scales included in the research questionnaire were drawn from different previous studies. A few of the measurements were adopted / adapted from studies that applied a 5-point Likert scale type (e.g. Akroush *et al.*, 2011; Li *et al.*, 2009). Therefore, in order to be consistent with the majority of other measurement scales derived from other studies, a unified 7-point Likert scale was employed in the relevant parts of the questionnaire. In addition, a 7-point scale is believed to provide a richer and more precise understanding of respondents' opinions regarding the investigated concept (Cox III, 1980).

5.8.2 Questionnaire Design

As previously suggested, a questionnaire consists of predetermined questions that are intended to capture respondents' answers in relation to the researched topic. Therefore, ensuring the questionnaire's validity is of essential concerns for researchers using questionnaires as a data collection instrument. In order to minimise bias and reduce measurement errors, and to enhance a questionnaire's validity, a researcher has to consider three main areas of questionnaire design which are: the wording of the questions, measurement scales and the general appearance of questionnaire (Sekaran & Bougie, 2009). The following three sections shed the light on these major areas.

The Principles of Wording

Sekaran and Bougie (2009) have summarised the principles of wording into five aspects: the appropriateness of the questions' contents; words used and the level of language sophistication; type of questions asked; the sequence of questions, and the personal data required from the respondents.

The appropriateness of the content of the questions is assessed by the relevancy of the questions to the variable being investigated. A researcher intending to measure an objective fact (e.g. age) can use a single direct question in the form of ordinal scaled categories. However, a subjective concept (e.g. customer pleasure) needs to be measured using the elements that construct this concept. Additionally, the words used should be simple and easily understandable, and aligned with the respondents' culture. Moreover, researchers need to avoid long, ambiguous, leading, loaded and double-barrelled questions (Sekaran & Bougie, 2009).

It is worth noting that a research questionnaire involves either open-ended questions, which allow the respondent to answer in their own way, or close-ended questions, where the respondent is restricted by certain alternative answers (Saunders *et al.*, 2012). In an open-ended question, respondents are allowed to compose their answers in their own way. However, more time and effort are needed to answer such types of questions and the answers cannot be compared easily. In contrast, close-ended questions, although they are restricted, save a respondent time and effort and respondents' answers can be compared more easily (Saunders *et al.*, 2012; Sekaran & Bougie, 2009).

Collis and Hussey (2009) summarised the general rules of designing good questions via the following:

- Provide a context through identifying the purpose of the research in brief;
- Only ask relevant questions;
- Keep each question as short and as simple as possible;
- Avoid ambiguity and negative questions;
- Avoid calculations and memory tests;
- Avoid questions that could be perceived as offensive.

In this thesis, the research questionnaire was ethically approved by the ethics panel at the University of Salford. This ensures that the questionnaire does not involve any offensive questions. In addition, the research questionnaire of this thesis included a covering letter, which clarified the purpose of the study and assured the anonymity and confidentiality of the responses. Attention has been paid to the questionnaire's wording in terms of the clarity and simplicity of its questions. Furthermore, in order to ensure that the questions were clear and understandable by the respondents, the target research questionnaire was piloted and pre-tested with a sample of respondents having similar characteristics. It was also reviewed by two academics from the field of marketing. The feedback and remarks gained from the field and academic piloting were taken into consideration in forming the final questionnaire.

Measurement Scales

Scales and scaling techniques that are used in measuring concepts play a major role in defining to what extent the collected data is appropriate for testing the research hypotheses (Sekaran & Bougie, 2009). According to Easterby-Smith *et al.* (2012), researchers commonly use two kinds of measurement scales that differ in terms of number of distinctions between alternative points on the scale; these are:

I. Category scales: these provide few distinctions and may come in the form of ordered scales having a natural order (ordinal scales) or unordered scales that do not have a natural order (nominal scales);
II. Continuous scales: these consist of several distinctions and allow respondents to answer in the form of more or less based on the value on the scale; therefore, they are order scales by nature. This kind of scales involves:

- Interval scales: these have an equal distance between points on the scale, but do not have a true zero value.
- Ratio scales: these have equal distances between points on the scale and there is a true zero value.

In this thesis, both category scales (nominal and ordinal) and continuous scales (interval) were used in constructing the research questionnaire. Particularly, category-nominal scales were implemented to obtain data relating to respondent gender and education level. Category-ordinal scales were used to obtain other personal data including age and income. On the other hand, continuous-interval scales were applied in the second, third and fourth parts of the research questionnaire. In the second part, a 7-point Likert scale ranging from (1) strongly disagrees to (7) strongly agree was used to indicate the respondents' level of agreement and disagreement with the statements relating to the shopping environment factors. In the third and fourth parts, 7-point bipolar semantic differential scales were used to measure customer emotions and customer cognition.

Questionnaire Appearance or Layout

In questionnaire design, the matter of how the questionnaire looks is very important. An attractive questionnaire design with a proper introduction and instructions, and well-arrayed questions and alternatives, will simplify a respondent's task in answering its questions (Sekaran & Bougie, 2009). Furthermore, in order to get a high response rate, a questionnaire must not be too long; a self-administered questionnaire of between four and eight A4 pages length is acceptable (Saunders *et al.,* 2012). Numerous guidelines on the proper design of a questionnaire were identified and considered when designing the questionnaire of the current study; these are summarised in the following (Malhotra, 2010; Oppenheim, 1992; Sekaran & Bougie, 2009):

- The introduction must be clear, must clarify the research purpose and must contain instructions of how to fill in the answer in each part;
- Questions need to range from the general to the more specific to make the questionnaire easier to answer;
- It is good practice to divide a questionnaire into several parts;
- In order to facilitate coding responses, questions in each part need to be numbered;
- In order to facilitate the control of questionnaires in the field and determine if any have been lost, questionnaires themselves need to be given serial numbers;
- In order to facilitate accessing companies, encourage respondents to participate in the study and assure participants that the data will be treated confidentially; self-completed questionnaires are mostly accompanied with a covering letter.

5.8.3 Translating the Research Questionnaire

This study was empirically carried out in Jordan where Arabic is the first language. Therefore, the data collection instrument -questionnaire- which was derived from previous similar studies in Western contexts needed to be translated into Arabic, so that it could be easily understood by all respondents. To do this, four techniques of questionnaire translation were identified involving direct translation, back-translation, parallel translation and mixed techniques. Table (5.6) presents the approach, advantages and disadvantages of each of these techniques.

In the current thesis, a parallel translation technique was adopted to translate the source questionnaire (the English version) into the target questionnaire (the Arabic version). The source research questionnaire was translated into Arabic by two independent professional translators. The translated questionnaires were then compared and considered to develop the final questionnaire.

Beside the advantages identified in table (5.6), this translating technique was assumed to save the researcher's time since the translation work is parallel work rather than a sequential one. The final version of the target questionnaire was further reviewed by two marketing academics from Jordanian universities (British graduates) to avoid any deviations from the idiomatic and experiential meanings of the target questionnaire.

Table (5.7) Translation Techniques for Questionnaires

	Direct translation	**Back-translation**	**Parallel translation**	**Mixed techniques**
Approach	Source questionnaire to target questionnaire	Source questionnaire to target questionnaire to source questionnaire again, comparison of the two source questionnaires, creation of final version.	Source questionnaire to target questionnaire by two or more independent translators, comparison of the two target questionnaires, creation of final version.	Back translation undertaken by two or more independent translators, comparison of the two source questionnaires, creation of final version.
Advantages	Easy to implement	Likely to discover most problems.	Leads to good wording within the target questionnaire.	Ensures best match between source and target questionnaire.
Disadvantages	Can lead to many discrepancies (including those relating to meaning) between source and target questionnaire	Requires two translators, one native speaker of the source language, the other a native speaker of target language.	Cannot ensure that lexical, idiomatic and experiential meanings are kept in target questionnaire.	Costly, requires two or more independent translators. Implies that the source questionnaire can also be changed.

Source: Saunders *et al*. (2012, p. 442).

5.9 Questionnaire Validity and Reliability

Testing the reliability and validity of the measurement scales is a crucial step in any questionnaire survey research. Measurement scales must be valid and reliable (Malhotra, 2010; Oppenheim, 1992; Sekaran & Bougie, 2009), otherwise invalid or unreliable scales can lead to ineffective data analysis (Field, 2005). This section sheds light on these crucial tests.

5.9.1 Validity

The term "validity" refers to the extent to which the research instrument measures what it is intended to measure (Hair *et al*., 2003; Oppenheim, 1992). Therefore, constructing an appropriate match between the concept and its indicators is the essence of the concept of validity (Bryman & Bell, 2011).

In survey research, face / content and construct validity can be regarded as of the most common kinds of validity. Face / content validity, on the one hand, refers to "the degree to which a measurement appears to measure what it is supposed to" (McDaniel & Gates, 1998, p. 309). The aim here is to ensure that the research instrument sufficiently measures the investigated concept (Sekaran & Bougie, 2009). In a questionnaire survey research, a researcher can adopt constructs that have been validated in previous studies to establish a questionnaire's content validity. In the present thesis, measurement scales were based on established research; however, the research questionnaire was also further reviewed by academics in the field of marketing.

Construct validity, on the other hand, can be defined as the extent to which an operational group of items precisely measures the concept under research (Netemeyer, Bearden, & Sharma, 2003). The aim is to ensure that the questions or items reflect the concept they

were designed to measure (Bryman & Bell, 2011). Two key kinds of construct validity can be noticed in the literature. These are convergent and discriminate validity (Hair *et al*., 2006; Sekaran & Bougie, 2009). According to Hair *et al.* (2006) the focus of convergent validity is to assess the level of association between the measures of the same concept, whereas discriminant validity focuses on ensuring that the each construct is sufficiently distinct from other ones.

In the light of the preceding discussion and, in order to assure a high level of research validity, different procedures were applied in this thesis:

- The research questionnaire was constructed according to an extensive review of the relevant literature which enabled the researcher to include all possible items measuring each concept;
- Significant attention was paid to the questionnaire's translation stage in which two specialist academics familiar with the two languages (e.g. Arabic and English) and cultural differences were involved in reviewing the final questionnaire;
- The translated questionnaire was further subjected to academic piloting in which two other marketing academics from Jordanian universities reviewed the translated questionnaire to ensure content validity;
- The research questionnaire was empirically piloted using personal interviews with 10 mall customers to ensure the clarity of the questions and the appropriateness of questionnaire's design;
- A pre-test study was carried out to ensure more validity and reliability and a further refinement of the measurement scales;
- The data was collected through self-administered questionnaires distributed using a mall intercept technique. Thus, the researcher was available to clarify any

ambiguity in filling out the questionnaire and to ensure a high level of questionnaire completion.

5.9.2 Reliability

Assessing the reliability or the internal consistency of the measurement scale represents a primary quantitative step in scale development. Reliability is defined as the extent to which the measure generates consistent results in different applications or with different research samples (Netemeyer *et al.*, 2003); thus, the stability of the measure is the heart of reliability test (Hair *et al.*, 2003).

In the relevant literature, three kinds of reliability can be noticed: test re-test; alternate-forms, and internal-consistency reliability (Litwin, 1995; Treiman, 2009). In test re-test reliability, the focus is to check the correlation between the ratings of a measure at two different points in time (Treiman, 2009). Alternate-forms reliability focuses on comparing responses to alternative forms of the same questions (Saunders *et al.*, 2012), whereas internal consistency reliability is a function of the level of homogeneity among items formulating a construct in the instrument (Sekaran & Bougie, 2009). Such a kind of reliability assesses the level of correlation among items in the measurement (Creswell, 2009; Field, 2005; Treiman, 2009). The value of Cronbach alpha (α) is highly recognised as an indicator of the level of reliability of a scale (Creswell, 2009; Field, 2005; Hair *et al.*, 2003; Saunders *et al.*, 2012).

An alpha with a value of (0.50) to (0.60) indicates sufficient reliability (Nunnally, 1978) and (0.70) or higher suggests good reliability (Hair *et al.*, 2003). In order to ensure the highest levels of reliability, an internal consistency test associated with Cronbach's alpha value was used in both the pilot and the main study to assess the overall reliability of each

measurement scale. Furthermore, the composite reliability for each construct was also considered in the main study as another indicator of scale reliability.

5.10 Piloting and Pre-testing the Research Questionnaire

As indicated earlier, a researcher should seriously consider questionnaire design issues involving wording, measurement scales and layout in order to minimize bias and reduce measurement errors, encourage higher response rate, and enhance questionnaire validity. Moreover, the final design of the research questionnaire needs also to be test piloted before the main study is conducted.

On this point, Saunders *et al.* (2012) asserted the importance of piloting a research questionnaire before utilising it in the data collection stage. They indicate that "the purpose of the pilot test is to refine the questionnaire so that respondents will have no problem in recording the data. In addition, it will enable you to obtain some assessment of the questions' validity and the likely reliability of that data that will be collected" (Saunders *et al.*, 2012, p. 451).

The pilot study was carried out in two stages. In the first stage, the questionnaire was piloted using personal interviews with 10 mall customers in order to assess the clarity and the appropriateness of statements used and to gain feedback about the whole questionnaire. Interviewees' comments on the pre-test questionnaire were valuable and led to some wording and design modifications.

In the second stage, the resulting questionnaire was checked for its structure and the suitability and representativeness of its questions by two specialised academic members, namely: Professor Asa'ad Abu Rumman (Head of the Marketing Department at Applied

Science University) and Professor Mamoun Akroush (German Jordanian University). Such a kind of judgment is regarded as one of the most common types of instrument validation in business research. Slight alterations relating to the filling in instructions and the questionnaire's covering letter were made in the light of the academics' feedback.

Before undertaking the main field survey, a research questionnaire should be pre-tested with a similar sample to those who will participate in the main study (Malhotra, 2010). This becomes crucial when using scales adopted from different previous studies. Following up on this recommendation, and for the purpose of checking the reliability of the measurement scales and the appropriateness of the measurement items, the final questionnaire was then pre-tested with a convenience sample of 100 mall customers. After gaining permission from the management of a randomly selected shopping mall, 100 questionnaires were distributed by the researcher using a mall intercept technique. 89 questionnaires were returned indicating a response rate of 89%. 6 questionnaires from within the returned ones were excluded due to incomplete responses resulting in 83 valid questionnaires in total.

The pre-test study was beneficial to the main study in terms of examining the reliability of various constructs included in the questionnaire as well as identifying the estimated time that a questionnaire needs to be completed. Reliability was checked using Cronbach's alpha analysis which tested the internal consistency of the measurement scale. Moreover, the respondents showed a general satisfaction with the clarity, simplicity and appropriateness of the questions, as well as the whole questionnaire. The results of the reliability test (table 5.7) indicated that all the questionnaire's constructs generated reliability scores above the cut-off value of (0.70) (Hair *et al.*, 2006), indicating good scales' reliability.

Table (5.8) Items Used in the Pre-test Study and Their Reliability Scores (Coefficient Alpha Values)

Construct	Number of Items	Reliability Score Cronbach's Alpha
Ambient Factors	11	0.791
Design Factors	12	0.831
Social Factors	10	0.786
Pleasure	6	0.825
Arousal	6	0.850
Customer Cognition (Evaluation of a Mall's Overall Shopping Environment)	13	0.882
Behavioural Response	10	0.762

5.11 Data Analysis

After collecting the questionnaires and excluding invalid ones, all the collected data was encoded using numerical codes acceptable by computers and was entered into a computer to be analysed using the statistical software (SPSS-AMOS version 20).Different statistical techniques involving descriptive analysis, reliability test, and structural equation modelling (SEM) were employed to analyse the data.

Descriptive statistics including means, frequencies and standard deviations are regarded as one of the primary statistical techniques in quantitative studies. According to Sekaran and Bougie (2009), such statistics focus on ordering and manipulating data to transform them into a form that allows a description of the investigated situation. In this thesis, descriptive statistics were beneficial in figuring out the demographical background of the respondents. Moreover, frequencies and the values of both skewness and kurtosis were considered to examine the completeness and the normality of the data respectively. While, reliability

(Cronbach's alpha) analysis was used to test the internal consistency of the measurement scales (Hair *et al*., 2006).

Structural Equation Modelling (SEM), on the other hand, is viewed as an advanced analytical technique that is capable of concurrently examining a series of interdependent relationships among research variables (Singh, 2009). Through using SEM, interdependent causal relationships can be transformed into a series of structural equations which, in turn, can be used to generate an understandable model. SEM is also viewed as a statistical technique that combines both factor analysis and multiple-regression (Byrne, 2001). However, SEM is believed to have several advantages over traditional analytical procedures such as multiple regression analysis.

These can be summarised in the following (Bentler, 1988; Byrne, 2001; Kline, 2005):

- Using SEM, one can test complex conceptual models including several hypotheses simultaneously. In contrast, using traditional techniques a researcher would have to conduct a number of separate analyses;
- Unlike traditional analytical procedures (e.g. regression analysis), SEM explicitly accounts for measurement errors which, in turn, leads to more reliable findings (unbiased by measurement error).
- Using SEM, data analysis is not merely based on observed variables (measurement items), but also on unobserved variables.
- SEM allows for several dependent variables, whereas multiple regressions allows for only one dependent variable.
- SEM examines the overall model rather than single coefficients.

Programmes that are commonly used to conduct structural equation modelling include AMOS, LISREL EQS, Mplus, Mx. A researcher's choice of a certain software programme

is based on the programme's availability and the researcher's preference (Hair *et al*., 2006). AMOS was used in this thesis because it is a user-friendly programme, in addition to being an add-on analysis technique in SPSS, which is at the researcher's disposal. Interestingly, AMOS provides two different modes of model building to work with: AMOS-graphics and AMOS-basic. Using AMOS-basic, the work is essentially equation statements-based by nature, whereas, in AMOS-graphic, models are conceptualised and presented in graphical forms. Four geometric symbols including oval or circular shapes, rectangles, single headed arrows and double headed arrows are used to depict structural equation models. Oval shapes signify unobserved variables (e.g. latent constructs), rectangles stand for observed variables (measurement items), single-headed arrows (→) suggest causal direction, and double-headed arrows (↔) express covariances amongst any couple of variables in the model (Lei & Wu, 2007).

As an analytical approach, structural equation modelling (SEM) deals with two kinds of models: measurement models and structural models. A measurement model, also called a confirmatory factor analysis (CFA) model, specifies the relationship between observed variables (measurement items) and unobserved ones (latent variables or constructs). It shows the extent to which the measurement items are linked to their underlying latent variables or constructs using factor loading. A structural model, on the other hand, depicts the links among the unobserved variables of the model. In other words, it specifies the direct and indirect effects of each latent variable on other latent variables in the hypothesised model (Byrne, 2001; Iacobucci, 2009; Lei & Wu, 2007).

Structural equation modelling was adopted as an analytical methodology to the main data analysis in the present study. The data analysis was carried out using the two-step approach, suggested by Anderson and Gerbing (1988). Following this approach, the measurement

model was statistically validated first, and then the hypothesised structural model was examined.

In order to examine and validate the overall measurement model (step one), a confirmatory factor analysis (CFA) was carried out using AMOS-graphics 20. Unlike exploratory factor analysis (EFA), confirmatory factor analysis implies that the measurement scales are specified a priori rather than developed from the data (Lei & Wu, 2007). Indeed, the focus here is to test a model that is theoretically specified a priori. Using CFA, only items that best reflect the constructs are included in the model. Therefore, the measurement has been subjected to CFA to test the construct's unidiminsionality and validity, and to assess the model fit of the measurement model. Factor loadings, goodness of fit indices (e.g. CFI, NFI, TLI, IFI and RMSEA), along with construct validity involving convergent and discriminant validity as well as scale reliability are then inspected to validate the measurement model and to assess the model fit of the measurement model.

After validating the measurement, the next step was to build the structural or path model, where the latent variables are linked together as they have been hypothesised, based on the literature. In the structural model, both exogenous and endogenous variables were linked together by arrows that indicate a causal relationship. In the causal chain, variables on which arrows are pointed are known as endogenous variables (dependent variables) and are affected by what is known as exogenous variables (independent variables) (Byrne, 2001; Lei & Wu, 2007). Measurement variables (observed variables) along with their loadings are not a concern at this stage as they have been examined before. What is really of concern at this stage is to examine the structural paths among exogenous and endogenous latent variables, thereby testing the research hypotheses. Fit indices for the structural model were checked first to ensure that the specified structural model

sufficiently fits the sample data. After that, the standardised path coefficients or regression weights, along with their related statistical significance, were inspected for hypothesis-testing purposes.

5.12 Ethical Considerations

In social research, a researcher might have to deal with a position having several ethical considerations. Such ethical considerations can be generally classified into three major domains: firstly, ethical standards for social research which refer to a set of guidelines that are developed by different professional associations for the purpose of guiding social researchers; secondly, procedural issues which are associated with executing the data collection process such as informed consent and the selection of participants, and thirdly, confidentiality and the right of privacy which concerns participants' privacy and protecting them from deception (Kimmel, 1988).

In this thesis, the ethical issues associated with the fieldwork were extremely important to the researcher. Every aspect of the fieldwork was processed according to the ethical standards of the University of Salford. In the light of the University's regulations, a completed ethical approval application form (along with related appendices including details on the research instrument, the participant information sheet, the participant invitation letter, the organisation agreement letter and the consent form) were submitted to the Ethics Panel in the University. The application was then officially approved by the Research Ethics Panel on 16/10/2013 (see appendix C).

As for the procedural ethical issues, an invitation / agreement letter was firstly sent to the randomly selected shopping malls' managers asking them for permission to carry out the empirical research in their contexts. This procedure can serve as an ethical standard that

protects the privacy of the context of the study along with informed consent. Each research questionnaire distributed in the shopping malls was accomplished by a covering letter clarifying the purpose of the research, indicating that participation is voluntary, and that data is anonymous and will be handled with complete confidentiality. This ensures that anonymity and personal privacy will be protected, in line with the ethical principles of informed consent. Furthermore, no confidential information about participants was gathered or disclosed. This is in tune with the ethical standard of the need to decrease any possible harm to participants.

In filling in the research questionnaire, participants were asked to answer all the questionnaire's questions according to their own opinions. This was clearly indicated on the cover sheet of the questionnaire, where the respondents were also notified that there would not be any right or wrong answers. The researcher had paid significant attention to comments gained from the pilot study, particularly relating to questionnaire design. As a result, the research questionnaire was organised in a way that eliminated any confusion and misunderstanding. Instructions on how to respond to the measurement scales were indicated at the commencement of each section of the questionnaire. These procedures ensured meeting the ethical principle of eliminating the possibility of participant deception.

5.13 Chapter Summary

The focus of this chapter was to present the researcher's view of the research methodology that was adopted to answer the research questions and meet the research aim and objectives.

Following a presentation of the layers of the "Research Onion" proposed by Saunders *et al.* (2012) in describing the whole research process, this chapter presented the methodological choices available to the researcher throughout the research process. This process includes the research philosophy, the research approach, the research strategy, the time horizon and the methods of data collection and analysis. Besides presenting the researcher's methodological view, the chapter also provided the rationale behind each methodological choice adopted in every single stage of the research process.

The chapter started with a general introduction on the concept and nature of scientific research and introduced this thesis as a cross-sectional positivist study that adopts a mono method-quantitative methodology and follows a deductive approach of reasoning. The differences between the main philosophical views of research (positivism and interpretivisim), along with the major characteristics of quantitative research as opposed to qualitative research, have been discussed. The main research strategies were identified and a detailed description of survey research, which was used in this study, was provided and supported by the rationale for using this research strategy.

As this thesis is quantitative in nature and applies a questionnaire survey research as a research strategy, the chapter has largely focused on sampling procedures and the development of the data collection instrument. A summarised description relating the nature, strengths and weaknesses of both probability and non-probability sampling methods has been presented. A simple random sampling technique was used to select 7 shopping malls across the three largest cities in Jordan in order to obtain a convenience sample of 1000 respondents.

Several data collection techniques were identified, including a self-administered questionnaire which was used to gather the primary data using the mall intercept approach. The questionnaire was mainly derived from previous studies. A parallel translation technique was then used to translate the questionnaire from English to Arabic. Attention was also paid to the questionnaire's design in terms of wording, kind of scales used and the issues relating to layout. Tests and procedures relating to the questionnaire's validity and reliability have been clarified and implemented to ensure the highest levels of validity and reliability. A pilot study using personal interviews with 10 mall customers followed by a pre-test pilot, with a convenience sample of 100, were carried out to generate valid and reliable scales used in the main study.

Finally, the chapter presented an overview of the data analysis. This mainly involved introducing structural equation modelling (SEM) as an analytical methodology and AMOS as the statistical software to conduct the main data analysis. Additionally, any ethical issues in social research that may have been encountered by the researcher were clarified in the last section of this chapter. The next chapter (data analysis and research findings) will provide more insights on the analytical techniques applied to analyse the collected data and will present the research findings.

CHAPTER SIX: Data Analysis and Research Findings

6.1 Introduction

As indicated in an earlier chapter, the research population of this study was shopping malls' customers in Jordan. A questionnaire survey was administered using the mall intercept technique to collect the raw data. Then, structural equation modelling using AMOS-graphics was employed to analyse the data.

The aim of this chapter is to present the data analysis of, and the research findings from, the fieldwork. The chapter starts by presenting the data preparation and the preliminary analysis involving sample demographic characteristics and the general descriptive statistics of respondents' responses. An overview of the main data analysis and assessing model fit is then provided. After that, the measurement model is assessed and validated using confirmatory factor analysis (CFA), followed by validity and reliability checks. Once the measurement is validated, the next step is to portray and to assess the structural model in terms of overall goodness of fit in order to ultimately test the research hypotheses.

6.2 Data Preparation

In order to identify the number of respondents that needed to be contacted (the base sample size) to obtain 1000 respondents (the target sample size); the researcher computed the percentage of usable questionnaires obtained from the first 100 questionnaires that were distributed, which was 71%. Accordingly, 1,408 questionnaires were distributed across seven shopping malls (5 in Amman, 1 in Irbid and 1 in Zarqa) using the mall intercept technique. From there 1,281 were returned indicating a response rate of 91%.

As the data was analysed using statistical package software-AMOS, which is very sensitive to any missing value, great attention was given to the data completion issue. Throughout

the data collection stage, every single questionnaire was quickly checked in the presence of the respondent. Any missing answers were tackled by referring to the respondents immediately. The responses were further screened and, as a result, 253 questionnaires were discarded. Particularly, 234 questionnaires were discarded, based on a filtering question, where the respondent was not a regular mall customer. Additionally, using "the listwise" method of dealing with missing data, which implies using only complete data (Hair *et al*., 2006), 19 more questionnaires were also excluded due to them being incomplete. Consequently, a dataset of 1,028 useable questionnaires were carried forward for further analysis.

The valid questionnaires were coded and entered into the SPSS software on a daily basis in order to best utilize the researcher's time and to reduce any data entry mistakes that might result from dealing with a huge load of questionnaires at one time. Entered data was also subjected to further checks to detect any error in data entry using descriptive and frequency analyses. Descriptive analysis was used to check errors in the data that measured using a 7-point Likert scale (such as items measuring design factors and behavioural responses) and to check errors in data that was measured on 7-point semantic differential scales (such as items measuring customer evaluation of the mall's shopping environment). On the other hand, frequency analysis was undertaken to detect any missing values in the demographic data such as age, gender and education. The results of the aforementioned analyses confirmed that the data was complete and within the acceptable range.

6.3 Preliminary Analysis: Sample Characteristics and Descriptive Statistics

A preliminary step in any quantitative study is to carry out a descriptive analysis of the dataset obtained from the research sample. The descriptive statistics can help a researcher to enrich the understanding of the data at hand (Hair *et al*., 2006). Furthermore, the

findings of descriptive analysis may provide guidance to a researcher in discussing the results generated from other advanced statistical approaches (Malhotra, 2010). Several descriptive statistics have been used here involving frequencies, means and standard deviations.

6.3.1 Respondents' Demographic Profile

The findings of the descriptive analysis showed that there were 541 (52.6%) females and 487 (47.4%) males out of the 1,028 respondents in total. The majority of the respondents were single, 683 (66.4%), and were within the 20-29 years old bracket, 637 (62%). The vast majority (657, 63.9%) of the respondents had a Bachelor's degree. In terms of work, the respondents were mainly students (450, 43.8 %) and private sector employees (279, 27.1 %). Finally, in terms of income level, the vast majority (854, 83.1%) of the respondents got less than 1,000 JDs as monthly income. A detailed demographic profile of the respondents is presented in table (6.1) below.

Table (6.1) Respondents' Demographic Profile

Variable	Category	Count	Percentage %
Gender	Male	487	47.4
	Female	541	52.6
	Total	1028	100.0
Age	15-19	118	11.5
	20-24	400	38.9
	25-29	237	23.0
	30-34	144	14.0
	35-39	35	3.4
	40-44	43	4.2
	45-49	39	3.8
	50 and above	12	1.2
	Total	1028	100.0
Marital Status	Single	683	66.4
	Married	324	31.5
	Divorced	9	0.9
	Widow	12	1.2
	Total	1028	100.0
Education	Secondary	144	14.0
	Diploma	76	7.4
	Bachelor	657	63.9
	Higher Education	141	13.7
	Other	10	1.0
	Total	1028	100.0
Job	Student	450	43.8
	Unemployed	98	9.5
	Private Sector Employee	279	27.1
	Public Sector Employee	77	7.5
	Business Owner	90	8.8
	Other	34	3.3
	Total	1028	100.0
Income	500 and less	598	58.2
	501-999	256	24.9
	1000-1499	109	10.6
	1500-1999	29	2.8
	2000-2499	17	1.7
	2500 and above	19	1.8
	Total	1028	100.0

6.3.2 Descriptive Statistics

In order to gain more understanding of the data at hand, all the measurement items were subjected to descriptive analysis. Descriptive measures, involving minimum and maximum values, means and standard deviations for every measurement item were examined here.

Shopping Mall Environment Statistics

Shopping mall environment aspects were grouped into three categories which were ambient, design and social factors. All the items were measured on a 7-point Likert scale ranging from 1=strongly disagree to 7=strongly agree. Table (6.2) below shows the descriptive statistics for each measurement item and for the whole category.

Customer Emotions' Statistics

Customer emotions were measured using two emotional states: pleasure and arousal. Each of them was measured using a 7-point bipolar semantic differential scale (e.g. unhappy-happy). Table (6.3) below shows the descriptive statistics for each measurement item as well as for the whole construct.

Customer Cognition (evaluation of a mall's overall shopping environment) Statistics

Customer evaluation of a mall's shopping environment was operationalised using 13 items measured on 7-point bipolar semantic differential scale. The findings from the descriptive analysis on this dimension are presented in table (6.4) below.

Table (6.2) Descriptive Statistics for the Items Related to the Shopping Environment Factors

No.	Item	Min	Max	Mean	SD	Skewness	Kurtosis
***	**Ambient Factors**			4.54			
1	I like the music in the mall.	1.00	7.00	4.23	1.79	-0.16	-0.68
2	The music in the mall is played at an appropriate volume.	1.00	7.00	4.26	1.79	-0.24	-0.68
3	The music played in this mall makes shopping pleasant.	1.00	7.00	4.34	1.86	-0.22	-0.82
4	The music played in this mall is appropriate.	1.00	7.00	4.23	1.72	-0.16	-0.59
5	The music I hear in this shopping mall bothers me. (R)	1.00	7.00	3.73	1.95	0.11	-1.05
6	The mall's temperature is comfortable.	1.00	7.00	4.75	1.90	-0.53	-0.74
7	The mall's lighting is appropriate.	1.00	7.00	4.96	1.82	-0.67	-0.48
8	This shopping mall has a pleasant air quality.	1.00	7.00	4.75	1.81	-0.51	-0.61
9	In this shopping mall you can smell pleasant odours.	1.00	7.00	4.51	1.84	-0.34	-0.75
10	This shopping mall is clean.	1.00	7.00	4.85	1.71	-0.53	-0.44
11	The noise level in this shopping mall is acceptable.	1.00	7.00	4.30	1.72	-0.22	-0.79
***	**Design Factors**			4.92			

1	The mall's architecture gives it an attractive character.	1.00	7.00	4.95	1.71	-0.58	-0.45
2	This mall is decorated in an attractive fashion.	1.00	7.00	4.91	1.68	-0.58	-0.35
3	This shopping mall has an impressive interior design.	1.00	7.00	4.78	1.71	-0.48	-0.54
4	The overall design of this mall is interesting.	1.00	7.00	4.71	1.71	-0.48	-0.46
5	The layout makes it easy to get to the stores you want.	1.00	7.00	5.12	1.62	-0.77	0.01
6	The layout makes it easy to get to the food areas.	1.00	7.00	5.29	1.63	-0.87	0.12
7	Overall, the layout makes it easy to get around.	1.00	7.00	5.25	1.60	-0.77	-0.09
8	The interior walls and floor colour schemes are attractive.	1.00	7.00	5.05	1.63	-0.67	-0.14
9	The colour scheme is pleasing.	1.00	7.00	5.04	1.56	-0.60	-0.10
10	The colours used in the mall appear to be currently fashionable.	1.00	7.00	5.01	1.58	-0.57	-0.21
11	The colour of this mall is bright.	1.00	7.00	4.83	1.46	-0.24	-0.24
12	The physical facilities of the mall are attractive.	1.00	7.00	4.56	1.81	-0.46	-0.63
***	**Social Factors**			4.72			
1	There are enough employees in the mall to service customers.	1.00	7.00	4.85	1.65	-0.57	-0.41
2	The employees are well dressed and appear neat.	1.00	7.00	4.86	1.65	-0.62	-0.28

3	The employees are friendly.	1.00	7.00	5.12	1.53	-0.77	0.35
4	The employees are helpful.	1.00	7.00	4.97	1.58	-0.60	-0.24
5	Employees of this mall give customers personal attention.	1.00	7.00	4.70	1.62	-0.45	-0.42
6	I can identify with the typical customer who shops at this shopping mall.	1.00	7.00	4.70	1.62	-0.49	-0.29
7	The typical customers in this shopping mall are very much like me.	1.00	7.00	4.07	1.59	-0.07	-0.33
8	The mall is too busy during this shopping trip.	1.00	7.00	4.57	1.75	-0.38	-0.70
9	There is much traffic in the mall.	1.00	7.00	4.68	1.67	-0.39	-0.57
10	There are a lot of shoppers in the mall.	1.00	7.00	4.67	1.73	-0.45	-0.63

SD: Standard Deviation

***: the whole dimension

Table (6.3) Descriptive Statistics for the Items Related to Customer Emotions

No.	Items	Min	Max	Mean	SD	Skewness	Kurtosis
***	**Pleasure**			4.75			
1	Despairing-Hopeful	1.00	7.00	4.75	1.40	-0.298	-0.004
2	Annoyed-Pleased	1.00	7.00	4.70	1.40	-0.256	-0.146
3	Dissatisfied-Satisfied	1.00	7.00	4.79	1.40	-0.394	-0.090
4	Unhappy-Happy	1.00	7.00	4.77	1.43	-0.386	-0.037
5	Bored-Relaxed	1.00	7.00	4.69	1.41	-0.379	-0.167
6	Melancholic- Contented	1.00	7.00	4.81	1.50	-0.360	-0.095
***	**Arousal**			4.19			
1	Relaxed-Stimulated	1.00	7.00	4.14	1.42	-0.139	-0.131
2	Calm-Excited	1.00	7.00	4.05	1.46	-0.142	-0.246
3	Sleepy-Wide awake	1.00	7.00	4.33	1.43	-0.166	-0.202
4	Unaroused-Aroused	1.00	7.00	4.16	1.42	-0.129	-0.116
5	Sluggish-Frenzied	1.00	7.00	4.38	1.43	-0.161	-0.151
6	Dull-Jittery	1.00	7.00	4.06	1.40	-0.093	-0.058

SD: Standard Deviation

***: the whole dimension

Table (6.4) Descriptive Statistics for the Items Related to Customer Cognition

No.	Items	Min	Max	Mean	SD	Skewness	Kurtosis
***	**Customer Cognition (evaluation of a mall's overall shopping environment).**			4.75			
1	Unattractive-Attractive	1.00	7.00	4.70	1.47	-0.507	-0.092
2	Tense-Relaxed	1.00	7.00	4.76	1.45	-0.463	-0.165
3	Uncomfortable-Comfortable	1.00	7.00	4.79	1.44	-0.463	-0.127
4	Depressing-Cheerful	1.00	7.00	4.76	1.48	-0.512	-0.131
5	Closed-Open	1.00	7.00	4.72	1.52	-0.474	-0.221
6	Drab-Colourful	1.00	7.00	4.74	1.46	-0.472	-0.112
7	Negative-Positive	1.00	7.00	4.81	1.45	-0.590	0.089
8	Boring-Stimulating	1.00	7.00	4.65	1.48	-0.511	-0.066
9	Bad-Good	1.00	7.00	4.81	1.42	-0.569	0.145
10	Unlively-Lively	1.00	7.00	4.82	1.46	-0.535	0.001
11	Dull-Bright	1.00	7.00	4.77	1.45	-0.498	-0.053
12	Unmotivating- Motivating	1.00	7.00	4.70	1.47	-0.445	-0.148
13	Uninteresting- Interesting	1.00	7.00	4.77	1.52	-0.551	-0.102

SD: Standard Deviation
***: the whole dimension

Customer Behavioural Response Statistics

Through analysing the extant literature, five main behavioural dimensions have been noticed to be the most common behavioural responses recognised by scholars in the relevant literature. These are money spent, time spent, impulse buying, word of mouth and re-patronage intentions. Consequently, these have been adopted to represent customer behavioural response. All the items that were used to operationalise customer behavioural response were measured using a 7-point Likert scale ranging from (1) strongly disagree to (7) strongly agree.

Table (6.5) Descriptive Statistics for the Items Related to Customer Behavioural Response

No.	Items	Min	Max	Mean	SD	Skewness	Kurtosis
***	**Behavioural Response**			4.82			
1	I feel that I have spent more money than I planned before entering the shopping mall.	1.00	7.00	4.89	1.70	-0.576	-0.319
2	I spent more time than I expected at the mall.	1.00	7.00	4.86	1.76	-0.626	-0.468
3	The amount of time I spent was fairly high.	1.00	7.00	4.73	1.78	-0.522	-0.558
4	In this shopping mall, I felt a sudden urge to buy something and I bought it.	1.00	7.00	4.80	1.91	-0.616	-0.716
5	In this shopping mall, I felt the excitement of the hunt.	1.00	7.00	4.70	1.86	-0.544	-0.679
6	I bought more than I had planned to buy.	1.00	7.00	4.64	1.91	-0.544	-0.743
7	I would say positive things about this shopping mall to others.	1.00	7.00	4.93	1.50	-0.506	-0.121
8	I would recommend this shopping mall to my friends or others.	1.00	7.00	4.72	1.70	-0.527	-0.413
9	I would like to come back to this shopping mall in the future.	1.00	7.00	4.90	1.58	-0.643	-0.005
10	It is likely that I will shop at this shopping mall in the future.	1.00	7.00	5.00	1.53	-0.709	0.147

SD: Standard Deviation

***: the whole dimension

6.4 Data Normality

Data normality is related to the distribution of all the individual measurement items of the study's variables and can be checked by evaluating skewness and kurtosis values. Skewness refers to the extent to which the frequency distribution of the data does not follow symmetrical distribution. Kurtosis shows how flattening or peaking is the frequency distribution of the data above the normal distribution (Collis & Hussey, 2009). Skewness and kurtosis values for all measurement items relating to design factors, ambient factors, social factors, pleasure, arousal, customer cognition (evaluation of a mall's overall shopping environment) and customer behavioural response were inspected.

The absolute values of skewness for the items measuring ambient, design and social factors ranged between (0.07 & 0.87) and kurtosis values for the same items were between (0.01 & 1.05) in absolute value. As for the items measuring the emotional states of the customers, the absolute values of skewness and kurtosis for pleasure and arousal ranged between (0.093 & 0.394) and (0.004 & 0.246) respectively. Skewness and kurtosis values for items measuring customer cognition were between (0.445 & 0.590) and (0.001 & 0.165) in absolute value respectively. And finally, the skewness values for the items relating to customer behavioural response ranged between (0.0.506 – 0.709) and kurtosis values for the same items were between (0.005 and 0.743) in absolute value.

In summary, skewness and kurtosis values for all measurement items were within the acceptable cut-off values (skewness<± 3 and kurtosis <± 10), indicating that the data was reasonably normally distributed (Kline, 2005). The outputs of normality diagnosis using descriptive statistics for all the measurement scales are presented in tables (6.2-6.5)

6.5 Main Data Analysis

The main data analysis in this research was carried using structural equation modelling. Following the two-step approach, suggested by Anderson and Gerbing (1988), the measurement model was statistically validated first, and then the hypothesised structural model was examined.

The initial hypothetical model of this study included a reciprocal path between the mediating variables in the causal chain: customer emotions (pleasure and arousal) and customer cognition (evaluation of a mall's overall shopping environment). This suggests that customer emotions of pleasure and arousal have a direct effect on customer cognition (evaluation of a mall's overall shopping environment) and vice versa. Such models, where the dependent variable of a certain structural equation becomes a source variable in another equation in the causal chain, are called non-recursive models. A non-recursive model does not produce meaningful and reliable results unless the model meets order and rank criteria. This implies that a model must comprise one instrumental variable for every dependent variable included in the reciprocal path, so that the model can be estimated (Martens & Haase, 2006). An instrumental variable refers to a variable that can have a direct path with one of the dependent variables of the feedback loop but not with the other ones.

No instrumental variable was identified in the causal chain of the research hypothetical model. All the exogenous variables (e.g. ambient, design and social factors) simultaneously have direct paths with all the mediators (e.g. pleasure, arousal and the evaluation of a mall's overall shopping environment) resulting in a non-estimable model. Accordingly, two separate structural models, in which the reciprocal path is eliminated, were portrayed. In the first model (e.g. the emotion-cognition mediated model) only the structural paths from customer emotions to customer cognition (evaluation of a mall's

overall shopping environment) were retained. In the second model (e.g. the cognition-emotion mediated model) only the paths from customer cognition (evaluation of a mall's overall shopping environment) to customer emotions were retained. The two models were then tested and assessed on the basis of overall fitting indices in order to decide which model was more robust in predicting the effect and, thus, would ultimately be considered as the model to test the research hypotheses. In addition to that, one additional model suggesting a parallel mediation of emotions independent from cognition was also examined to gain insights of one more possible scenario of mediation.

6.5.1 Assessing Model Fit

In order to assess a model's fit, goodness-of-fit indices (GOF) need to be inspected. According to Hair *et al*. (2006), GOF indices show the extent to which the observed and estimated covariance matrices are similar. Closer values of the estimated covariance matrix with the observed one suggest a better model fit. Therefore, in a perfect research theory, the estimated and observed covariance matrices will be the same.

Assessing a model's fit is more complicated in structural equation modelling than with other traditional analytical techniques such as multiple regressions. That is, with SEM, the quality of the model is assessed using a number of statistical indices. Three kinds of overall goodness-of-fit indices can be noted in the relevant literature: absolute measures, incremental measures and parsimony measures (Hair *et al*., 2006).

Absolute fit measures determine the extent to which the specified measurement or structural models reproduce the observed covariance matrix (data-based covariance). Chi-square ($\chi 2$), goodness-of-fit index (GFI), root mean square error of approximation (RMSEA) and root mean square residual (RMR) are common absolute fit indices.

Incremental fit indices compare the proposed model with another competing null/baseline model (Hair *et al*., 2006). Common incremental fit indices include the following: comparative fit index (CFI), incremental fit index (IFI), normed fit index (NFI), non-normed fit index (NNFI) or Tucker–Lewis index (TLI), and relative fix index (RFI). Finally, parsimonious fit measures such as the parsimonious normed fit index (PNFI) and the parsimonious goodness of fit index (PGFI) aim to identify the extent to which the model fit has been achieved by using too many coefficients. Therefore, they basically relate model fit to the number of estimated coefficients required to produce this level of model fit (Hair *et al*., 2006).

In assessing model fit, there is no standard rule for the use of goodness of fit indices to conclude whether a model has a good or poor model fit across all situations (Hair *et al.*, 2006). However, researchers are advised to report multiple indices representing different kinds of GOF (Hair *et al*., 2006; Lei & Wu, 2007; Marsh, Balla & McDonald, 1988). Interestingly, a review of SEM-based marketing studies in leading marketing journals revealed that model fit in these studies was mostly concluded on the basis of absolute and incremental fit indices. Among the most common indices used, as reported in this review, were Chi-square and RMSEA (absolute fit indices) and CFI (incremental fit index). Additionally, there has been a significant growth in the use of other incremental fit indices such as NFI, TLI, IFI and RFI (Martínez-López, Gázquez-Abad & Sousa, 2013).

The Chi-Square value is a fundamental statistical measure for evaluating model fit, assessing the level of discrepancy between the observed and estimated matrices. A model with an acceptable model fit would exhibit insignificant p value (at least $p > 0.05$). However, the $\chi 2$ is criticised for being sensitive to the sample size, that is, it has a tendency to reject models measured using large samples (Hair *et al*., 2006). In order to minimise the

effect of sample size, a statistical measure relating Chi-square to degrees of freedom ($\chi 2/df$) is proposed. Recommendations in respect of the $\chi 2$/df ratio vary from as high as 5/1 to as low as 2/1 (Hooper, Coughlan & Mullen, 2008). Other fit indices such as RMSEA and CFI can also be considered to assess a model's fit. Apart from Chi-square value which should be reported at all times, Hair *et al.* (2006) suggested that reporting three to four fit measures would be sufficient enough to prove a model's fit. As a rule of thumb, these should encompass one absolute fit index (e.g. RMSEA or GFI), one incremental fit index (e.g. CFI or NFI), one goodness of fit index (e.g. CFI or TLI) and one badness of fit index (e.g. RMSEA). A researcher also has to consider a model's situation in terms of complexity, the number of indicators used and the sample size. More specifically, stricted evaluation should be imposed on simple models with small sample sizes compared to complex models with large sample sizes. In the present study, five fit indices representing two different kinds of goodness of fit along with Chi-square and the associated degrees of freedom and significance value were reported in order to conclude the model's fit. These are summarised in table (6.6).

Table (6.6) Goodness-of-Fit Indices and Recommended Cut-off Points

Fit Index	Description	Kind	Cut-off Value	Reference
CFI	Measures goodness of fit by examining the level of discrepancy between the estimated model and the independence model. Ranges between 0-1.0, and closer values to 1.0 are better.	Incremental fit index	≥ 0.90	Wang and Wang, (2012); Weston and Gore (2006)
RMSEA	Measures the badness of fit in a model relative to a perfect model. Values of greater than .10 suggest poor fit, .08-.10 represent mediocre fit, .05-.08 indicate acceptable fit, and .05 and less suggest close fit.	Absolute fit index	< 0.08	Byrne (2001); Hair *et al*. (2006)
NFI	Examines the level of discrepancy between the estimated model and the independence model. Ranges between 0 (no fit) - 1.0 (ideal fit). Not recommended for small samples.	Incremental fit index	≥ 0.90	Hair *et al*. (2006); Sharma (1996)
NNFI/ TLI	Adjusts NFI by considering degrees of freedom. May fall outside the range 0 and .10. Values closer to 1.0 are preferable. Can be very low in small samples.	Incremental fit index	≥ 0.90	Hair *et al*. (2006); Sharma (1996); Wang and Wang (2012)
IFI	Addresses sample size and parsimony issues associated with NFI and the variability of TLI values.	Incremental fit index	≥ 0.90	Byrne (2001); Hair *et al.* (2006)

CFI: comparative fit index, RMSEA: root mean square error of approximation, IFI: incremental fit index, NFI: normed fit index, NNFI/TLI: non-normed fit index/Tucker–Lewis index.

6.5.2 Measurement Model

The initial overall measurement model with seven constructs measured by 68 items in total was subjected to confirmatory factor analysis (CFA). The CFA findings indicated a poor model fit (χ2 = 13760, df = 2189, *p* value= .000, $\chi 2$/df = 6.286, CFI = 0.827, NFI = 0.801, TLI = 0.820, IFI = 0.827, RMSEA = 0.072). Therefore, some modifications in the model are needed in order to generate a model that better fits the data.

6.5.3 Measurement Model Improvement

In order to improve the model's fit, areas of misfit need to be identified. In this regard, items' loading, modification indices, parameter change values and standardised residuals have been inspected to detect areas of misfit. Items with poor loading values were considered as candidates for deletion and high modification indices in conjunction with high parameter change values are a sign of misfit (Hair *et al*., 2006; Lei & Wu, 2007). Furthermore, in the model re-specification process, standardised residuals with values of 2.50-4.00 should be of the researcher's interest and residuals greater than 4.00 suggest a misfit problem (Hair *et al*., 2006).

Guided by the aforementioned diagnostic measures, offending items were sequentially dropped from the model and error terms of the same construct were also allowed to sequentially correlate until a reasonable model fit was achieved. In the initial measurement model (the CFA model), 12 items out of the 68 included items showed weak factor loadings on their respective constructs. These items are shown in table (6.7).

Accordingly, all of the identified items were dropped from the model except for D12, BEH1 and BEH2. The latter items were retained in the model for the following reasons. Firstly, each of D12 and BEH1 is the only item in their constructs representing physical facilities and money spent respectively; secondly, BEH2 is the only item in the behavioural response construct representing time spent after BEH3 is deleted and, thirdly, deleting each of the aforementioned items (e.g. D12, BEH1 and BEH2) did not considerably contribute to improving the model's fit.

Table (6.7) Low Factor Loadings Items- Initial Measurement Model (CFA Model)

Code	Item	Loading
	Ambient Factors	
A5	The music I hear in this shopping mall bothers me.	0.247
A7	The mall's lighting is appropriate.	0.117
A9	In this shopping mall you can smell pleasant odours.	0.132
A11	The noise level in this shopping mall is acceptable.	0.232
	Design Factors	
D5	The layout makes it easy to get to the stores you want.	0.352
D11	The colour of this mall is bright.	0.493
D12	The physical facilities of the mall are attractive.	0.503
	Social Factors	
S7	The typical customers in this shopping mall are very much like me.	0.264
S9	There is much traffic in the mall.	0.276
	Behavioural Response	
BEH1	I feel that I have spent more money than I planned before entering the shopping mall.	0.498
BEH2	I spent more time than I expected at the mall.	0.475
BEH3	The amount of time I spent was fairly high.	0.405

After omitting the indicated items, the model was then re-run. The resulting measurement model exhibited a better model fit. For example, the values of CFI and NFI increased from (0.827) and (0.801) to (0.856) and (0.835). The TLI and IFI values also improved from (0.820) and (0.827) to (0.849) and (0.857). Nevertheless, the model did not fit the data sufficiently and a further model check and specification were needed.

By referring to other diagnostic measures (e.g. modification indices), very high modification indices (MI) were detected between several pairs of error terms relating to items of the same constructs as follows: A1 with A2 (MI = 59.471); A6 with A8 (MI = 311.659); D6 with D7 (MI = 465.802); D8 with D9 (MI = 229.881) D8 with D10 (MI = 83.279); D9 with D10 (MI = 190.103); S3 with S4 (MI =63.682); S4 with S5 (MI = 32.043); S8 with S10 (MI = 63.682); PL1 with PL2 (MI = 39.121); Ar1 with Ar2 (MI =

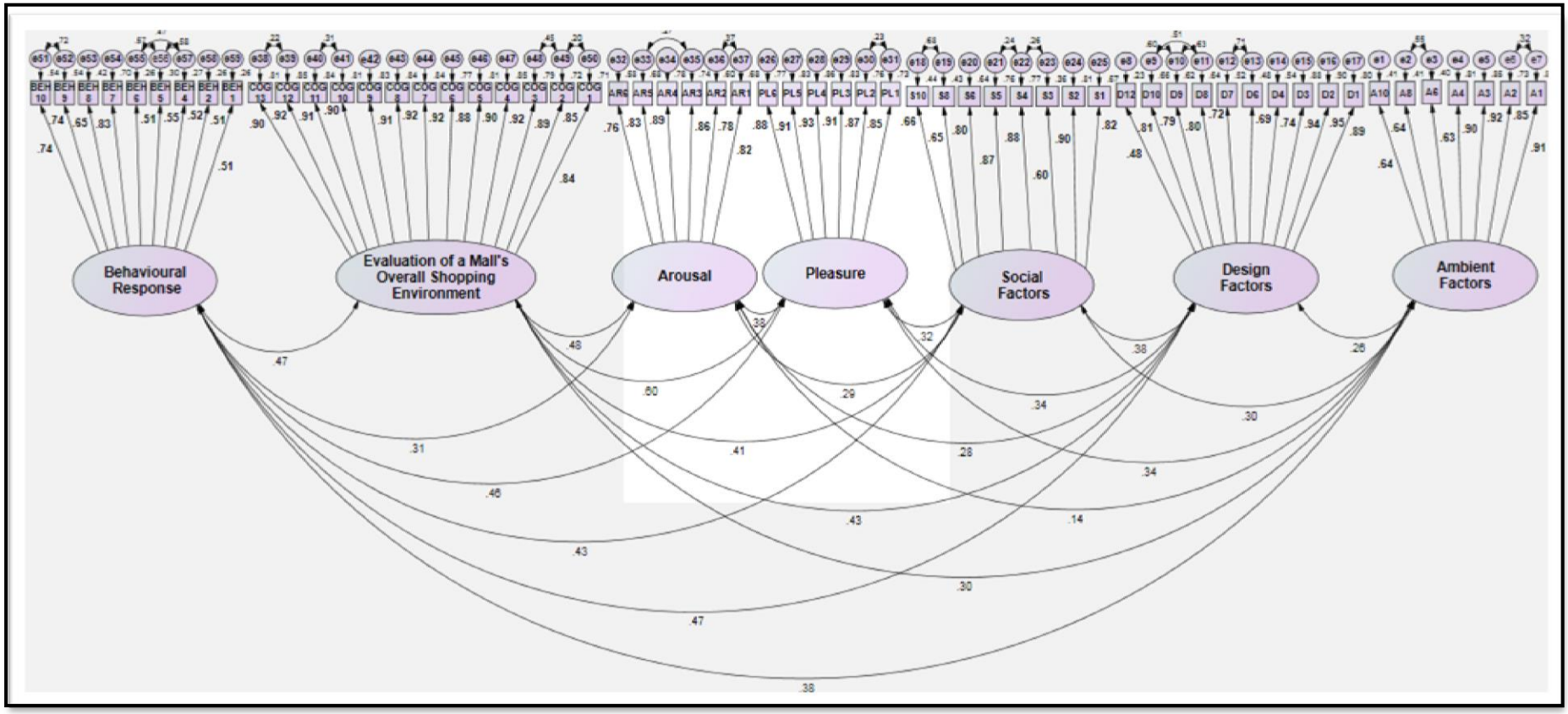
124.340); AR3 with AR5 (MI = 60.645); COG1 with COG2 (MI = 87.377); COG10 with COG11 (MI = 92.052); COG12 with COG13(MI = 43.140); BEH4 with BEH5 (MI = 348.156); BEH4 with BEH6 (MI = 236.695); BEH5 with BEH6 (MI = 358.629) and BEH9 with BEH10 (MI = 351.15). Accordingly, these pairs of error terms were allowed to correlate as long as they were associated with items measuring the same aspect. The analysis was then performed one more time. The resulting CFA measurement model figure (6.1) showed an adequate model fit as presented in table (6.8) below. The retained items of the final measurement model and their loading values on respective constructs are shown in table (6.9).

Table (6.8) Fit Indices for the Final Overall Measurement Model

No. of items	Chi sq	Sig	df	Chi sq/df	CFI	NFI	TLI	IFI	RMSEA
59	6240	0.000	1611	3.874	0.927	0.904	.0923	0.927	0.053

Sig: significance, df: degree of freedom, CFI: comparative fit index, NFI: normed fit index, TLI: Tucker-Lewis fit index, IFI: incremental fit index, RMSEA: rout mean square error of approximation.

Figure (6.1) Overall Final Measurement Model



Model Fit: ($\chi 2$= 6240, df = 1611, $\chi 2$/df = 3.874, *p* value = .000, CFI = 0.927, NFI = 0.904, TLI = 0.923, IFI= 0.927, RMSEA= 0.053)

Table (6.9) Retained Items and their Loading Values on Respective Latent Variables

Code	Item	Loading	CR
	Ambient Factors		
A1	I like the music in the mall.	0.909***	23.953
A2	The music in the mall is played at an appropriate volume.	0.855***	22.888
A3	The music played in this mall makes shopping pleasant.	0.925***	24.258
A4	The music played in this mall is appropriate.	0.898***	23.782
A6	The mall's temperature is comfortable.	0.629***	17.984
A8	This shopping mall has a pleasant air quality.	0.643***	18.322
A10	This shopping mall is clean. (FP)	0.638	-------
	Design Factors		
D1	The mall's architecture gives it an attractive character.	0.893***	16.377
D2	This mall is decorated in an attractive fashion.	0.950***	16.703
D3	This shopping mall has an impressive interior design.	0.938***	16.640
D4	The overall design of this mall is interesting.	0.736***	15.208
D6	The layout makes it easy to get to the food areas.	0.690***	14.771
D7	Overall, the layout makes it easy to get around.	0.719***	15.048
D8	The interior walls and floor colour schemes are attractive.	0.798***	15.720
D9	The colour scheme is pleasing.	0.789***	15.644
D10	The colours used in the mall appear to be currently fashionable.	0.811***	15.816
D12	The physical facilities of the mall are attractive. (FP)	0.475	-------
	Social Factors		
S1	There are enough employees in the mall to service customers.	0.820***	23.297
S2	The employees are well dressed and appear neat.	0.900***	25.106
S3	The employees are friendly.	0.634***	17.776
S4	The employees are helpful.	0.876***	24.510
S5	Employees of this mall give customers personal attention.	0.870***	24.375
S6	I can identify with the typical customer who shops at this shopping mall.	0.802***	22.862
S8	The mall is too busy during this shopping trip.	0.653***	34.140
S10	There are a lot of shoppers in the mall. (FP)	0.665	-------
	Customer Emotion - Pleasure		
PL1	Despairing-Hopeful.	0.854***	38.005
PL2	Annoyed-Pleased.	0.872***	39.675
PL3	Dissatisfied-Satisfied	0.913***	43.961
PL4	Unhappy-Happy	0.927***	45.550
PL5	Bored- Relaxed	0.910***	43.653
PL6	Melancholic-Contented. (FP)	0.876	--------
	Customer Emotion - Arousal		

AR1	Relaxed-Stimulated	0.824***	27.591
AR2	Calm-Excited	0.777***	25.719
AR3	Sleepy-Wide awake	0.860***	28.886
AR4	Unaroused-Aroused	0.886***	30.027
AR5	Sluggish-Frenzied	0.827***	27.548
AR6	Dull-Jittery. (FP)	0.760***	--------
	Customer Cognition (evaluation of a mall's overall shopping environment)		
COG1	Unattractive-Attractive	0.844***	39.754
COG2	Tense-Relaxed	0.846***	39.877
COG3	Uncomfortable-Comfortable	0.889***	44.913
COG4	Depressing-Cheerful	0.923***	49.602
COG5	Closed-Open	0.900***	46.267
COG6	Drab-Colourful	0.878***	43.529
COG7	Negative-Positive	0.916***	48.556
COG8	Boring-Stimulating	0.916***	48.555
COG9	Bad-Good	0.913***	48.226
COG10	Unlively-Lively	0.901***	46.412
COG11	Dull- Bright	0.915***	48.390
COG12	Unmotivating-Motivating	0.922***	56.158
COG13	Uninteresting-Interesting. (FP)	0.901***	-------
	Behavioural Response		
BEH1	I feel that I have spent more money than I planned before entering the shopping mall.	0.508***	15.156
BEH2	I spent more time than I expected at the mall.	0.509***	15.215
BEH4	In this shopping mall, I felt a sudden urge to buy something and I bought it.	0.517***	15.421
BEH5	In this shopping mall, I felt the excitement of the hunt.	0.548***	16.337
BEH6	I bought more than I had planned to buy.	0.511***	15.220
BEH7	I would say positive things about this shopping mall to others.	0.834***	24.281
BEH8	I would recommend this shopping mall to my friends or others.	0.651***	19.439
BEH9	I would like to come back to this shopping mall in the future.	0.736***	42.496
BEH10	It is likely that I will shop at this shopping mall in the future. (FP)	0.736	-------

CR: critical ratio, FP: fixed parameter, ***: p <0.001.

6.6 Unidimensionality

Unidimensionality reflects the extent to which the items of a construct are associated with each other and they can only be linked to one underlying construct in the model. Nunnally (1978) asserted the necessity of checking the unidimensionality of each construct included in the conceptual model as a prerequisite step for validity and reliability tests. In the current study, unidimensionality was established using confirmatory factor analysis by which the measurement items for each construct were specified. The measurement model was refined based on factor loadings, that is, observed variables that did not have satisfactory factor loadings (< 0.50) were dropped from the measurement model. Furthermore, Cronbach's alpha values were also inspected to check the internal consistency among the observed items of each construct in the measurement model. The Cronbach's alpha values for the seven constructs included in the measurement model were above the recommended threshold level of (0.70). Accordingly, the unidimensionality of each construct in the measurement model was verified.

6.7 Convergent Validity

The term convergent validity indicates the extent to which the items of a specific construct converge or share a high proportion of variance in common (Hair *et al*., 2006). Convergent validity can be assessed based on factor loadings, variance extracted and composite reliability.

Factor loadings are represented by the standardised regression weights for measurement items. Variance extracted is represented by the average squared factor loadings of the entire set of items related to a construct. In other words, it is the squared sum of standardised factor loadings in a construct divided by the number of items in that construct.

Average variance extracted (AVE) is calculated according to the following formula:

$$\text{AVE} = \frac{\Sigma(\lambda)^2}{\text{n}}$$

where Σ stands for sum, λ is the standard loadings of the items and n is number of items in the construct.

Composite reliability is another scale reliability test indicated by the squared sum of factor loadings in each construct divided by the sum of squared factor loadings and standard error variance. Composite reliability is computed according to the formula:

$$\text{CR} = \frac{(\sum \lambda)^2}{(\sum \lambda)^2 + \Sigma Var\ (\varepsilon i)}$$

where Σ stands for sum, λ is standard loading and Var (εi) is error variance (Raykov, 1997). The measures of convergent validity are presented in table (6.10) below.

Table (6.10) Convergent Validity Evaluation

Constructs		Items Retained	Factor Loadings	CR	AVE %	R^2	EV	Composite Reliability	Cronbach's Alpha
Mall Shopping Environment	Ambient Factors	A1	0.91 ***	23.953	63.7	0.83	0.172	0.92	0.93
		A2	0.86 ***	22.888		0.74	0.260		
		A3	0.93 ***	24.258		0.87	0.135		
		A4	0.90 ***	23.782		0.81	0.190		
		A6	0.63 ***	17.984		0.40	0.603		
		A8	0.64 ***	18.322		0.41	0.590		
		A10	0.64	-------		0.41	0.590		
	Design Factors	D1	0.89 ***	16.377	62.7	0.79	0.792	0.95	0.94
		D2	0.95 ***	16.703		0.90	0.902		
		D3	0.94 ***	16.640		0.88	0.884		
		D4	0.74***	15.208		0.55	0.548		
		D6	0.69 ***	14.771		0.48	0.476		

		D7	0.72 ***	15.048		0.52	0.482		
		D8	0.80 ***	15.720		0.64	0.360		
		D9	0.79 ***	15.644		0.62	0.376		
		D10	0.81 ***	15.816		0.66	0.344		
		D12	0.48	-------		0.23	0.770		
	Social Factors	S1	0.82***	23.297	61.5	0.67	0.328	0.93	0.93
		S2	0.90***	25.106		0.81	0.190		
		S3	0.63***	17.776		0.40	0.598		
		S4	0.88 ***	24.510		0.77	0.233		
		S5	0.87 ***	24.375		0.76	0.243		
		S6	0.80 ***	22.862		0.64	0.357		
		S8	0.65 ***	34.140		0.43	0.574		
		S10	0.67	-------		0.44	0.558		
Customer Emotions	Pleasure	PL1	0.85 ***	38.005	72.0	0.73	0.271	0.96	0.96
		PL2	0.87 ***	39.675		0.76	0.240		
		PL3	0.91 ***	43.961		0.83	0.166		
		PL4	0.93 ***	45.550		0.86	0.141		
		PL5	0.91 ***	43.653		0.83	0.172		
		PL6	0.88	--------		0.77	0.233		
	Arousal	AR1	0.82 ***	27.591	67.8	0.68	0.321	0.93	0.93
		AR2	0.78 ***	25.719		0.60	0.396		
		AR3	0.86 ***	28.886		0.74	0.260		
		AR4	0.89 ***	30.027		0.79	0.316		
		AR5	0.83 ***	27.548		0.68	0.422		
		AR6	0.76	--------		0.58	0.215		
Cognition (evaluation of a mall's overall shopping environment)		COG1	0.84 ***	39.754	80.5	0.71	0.288	0.98	0.98
		COG2	0.85 ***	39.877		0.72	0.284		
		COG3	0.89 ***	44.913		0.79	0.210		
		COG4	0.92 ***	49.602		0.85	0.148		
		COG5	0.90 ***	46.267		0.81	0.190		
		COG6	0.88 ***	43.529		0.77	0.229		
		COG7	0.92***	48.556		0.84	0.161		
		COG8	0.92 ***	48.555		0.84	0.161		
		COG9	0.91 ***	48.226		0.83	0.166		
		COG10	0.90***	46.412		0.81	0.188		
		COG11	0.91 ***	48.390		0.84	0.163		

	COG12	0.92 ***	56.158		0.85	0.150		
	COG13	0.90	-----		0.81	0.188		
Behavioural Response	BEH1	0.51***	15.156	39.3	0.26	0.742	0.85	0.87
	BEH2	0.51***	15.215		0.26	0.741		
	BEH4	0.52 ***	15.421		0.27	0.733		
	BEH5	0.55 ***	16.337		0.30	0.700		
	BEH6	0.51 ***	15.220		0.26	0.739		
	BEH7	0.83 ***	24.281		0.70	0.304		
	BEH8	0.65 ***	19.439		0.42	0.576		
	BEH9	0.74 ***	42.496		0.54	0.458		
	BEH10	0.74	-----		0.54	0.458		

AVE: average variance extracted, CR: critical ratio, ***: p value < 0.001, R^2: squared correlation, EV: error variance.

As can be noticed in table (6.10) above, all of the observed items showed sufficient factor loadings above the recommend threshold value of (0.50) (Hair *et al*., 2006). With the exception of the construct of behavioural response, the values of average variance extracted for all the constructs were within the suggested value of > 50% (Fornell & Larcker, 1981). The AVE value for behavioural response was below the recommended level (39.3). Nevertheless, all the items relating to this construct showed sufficient factor loadings (> 0.50). Moreover, the construct had good scores in both Cronbach's alpha (0.87) and composite reliability (0.85).

As for composite reliability, the scores for all the constructs were above the cut-off of (0.70) (Hair *et al*., 2006) and ranged between (0.85) (for the behavioural response construct) and (0.98) (for the cognition construct). Moreover, alpha values for all the constructs were above the recommended threshold value of (0.70) and ranged between (0.87) for the behavioural response construct and (0.98) for the cognition construct. Accordingly, one can conclude that the convergent validity for all the constructs was established in the present research.

6.8 Discriminant Validity

In questionnaire survey research, it is essential to ensure that a construct is truly distinct from other constructs in the questionnaire. This is basically the concern of discriminant validity which is defined as the "extent to which a construct is truly distinct from other constructs" (Hair *et al*., 2006, p.778). In order to establish the discriminant validity, two approaches recommended by Fornell and Larcker (1981) and Kline (2005) were adopted in this thesis.

Following Kline's method, discriminant validity is evidenced if the inter-correlation values between the model's constructs are not too high (< 0.85). In the present study, the entire set of latent variables, including the exogenous and endogenous ones, were correlated together and the findings are provided in the table (6.11) below.

Table (6.11) Inter-correlation Matrix

	Ambient Factors	Design Factors	Social Factors	Pleasure	Arousal	Cognition	Behavioural Response
Ambient Factors	1.00	0.26 (0.07)	0.30 (0.09)	0.34 (0.12)	0.14 (0.02)	0.30 (0.09)	0.38 (0.14)
Design Factors		1.00	0.38 (0.14)	0.34 (0.12)	0.28 (0.08)	0.43 (0.18)	0.47 (0.22)
Social Factors			1.00	0.32 (0.10)	0.29 (0.08)	0.41 (0.17)	0.43 (0.18)
Pleasure				1.00	0.38 (0.14)	0.60 (0.36)	0.46 (0.21)
Arousal					1.00	0.48 (0.23)	0.31 (0.10)
Cognition						1.00	0.47 (0.22)
Behavioural Response							1.00

Values in brackets denote squared correlation.

As shown in table (6.11), all the inter-correlation values were within the threshold of recommended value (< 0.85). The lowest correlation value was (0.14), between ambient factors and arousal, whereas the highest correlation was between pleasure and the cognition (evaluation of a mall's overall shopping environment) with a value of (0.60) indicating that the constructs were distinct and measuring different concepts.

Using the second approach suggested by Fornell and Larcker (1981), the average variance extracted for each construct needed to be computed and then compared with the values of the squared correlation between the constructs. If the average variance extracted for each construct involved is higher than the squared correlation between the two constructs, the discriminant validity can then be concluded. Referring to the values of average variance extracted shown in table (6.10) and the squared correlations shown in table (6.11), the average variance extracted for each construct was higher than the squared correlation among the respective two constructs. Accordingly, further evidence of discriminant validity was provided by this.

6.9 Scales' Reliability

As indicated earlier, the term reliability refers to the extent to which a measure generates consistent results in different applications or with different research samples (Netemeyer *et al*., 2003). Internal consistency using Cronbach's alpha (α) is of the common reliability tests intended to assess scale reliability. Such a kind of reliability focuses on the level of correlation among items formulating a measurement scale (Creswell, 2009; Field, 2005; Treiman, 2009).

In the current study, scale reliability was established using both Cronbach's alpha values and composite reliability (CR). The internal consistency reliability (e.g. Cronbach's alpha)

showed very good results across all the constructs as all the values were above the recommended cut-off point of (0.70), and ranged between (0.87) for the behavioural response and (0.98) for the customer cognition (evaluation of a mall's overall shopping environment). On the other hand, the values of CR were also (> 0.70) and ranged between (0.85) for the behavioural response and (0.98) for the customer cognitive evaluation of the mall's shopping environment indicating good constructs' reliabilities. A summary of Coronbach's alpha scores and the composite reliabilities for all the constructs is shown in table (6.10).

6.10 Common Method Bias

Common method bias refers to the "variance that is attributable to the measurement method rather than to the constructs the measures represent" (Podsakoff, MacKenzie, Lee & Podsakoff, 2003, p. 879). It represents a methodological concern when applying survey research in general or when collecting data from the same respondents (Siemsen, Roth & Oliveira, 2010). Common method bias may evolve mainly as a result of one or more of the following: the use a common source (e.g. the same respondent assesses the predicting and criterion variables); the use of a common measurement context (e.g. measuring the predicting and criterion variables at the same time and place); item context (e.g. item context-induced mood due to the approach by which the items are worded), and item characteristics (e.g. measuring different constructs using a similar scale format). In such cases, researchers need to assess whether or not common method bias is a concern in their studies (Podsakoff *et al*., 2003).

In this thesis, common method bias was diagnosed using Harman's single-factor approach (confirmatory factor analysis method) as reviewed by Malhotra, Kim, & Patil (2006). Accordingly, all the observed retained items across all constructs were loaded onto one

single latent construct. The resulting single-factor model exhibited a model fit (Chi sq/df = 15.937, CFI = 0.616, NFI = 0.601, TLI = 0.598, IFI = 0.617, RMSEA = 0.121) which was much worse than the model fit of the measurement model (Chi sq/df = 3.874, CFI = 0.927, NFI = 0.904, TLI = 0.923, IFI = 0.927, RMSEA = 0.053). Based on this, common method bias does not seem to be problematic in the present study.

6.11 Structural Model

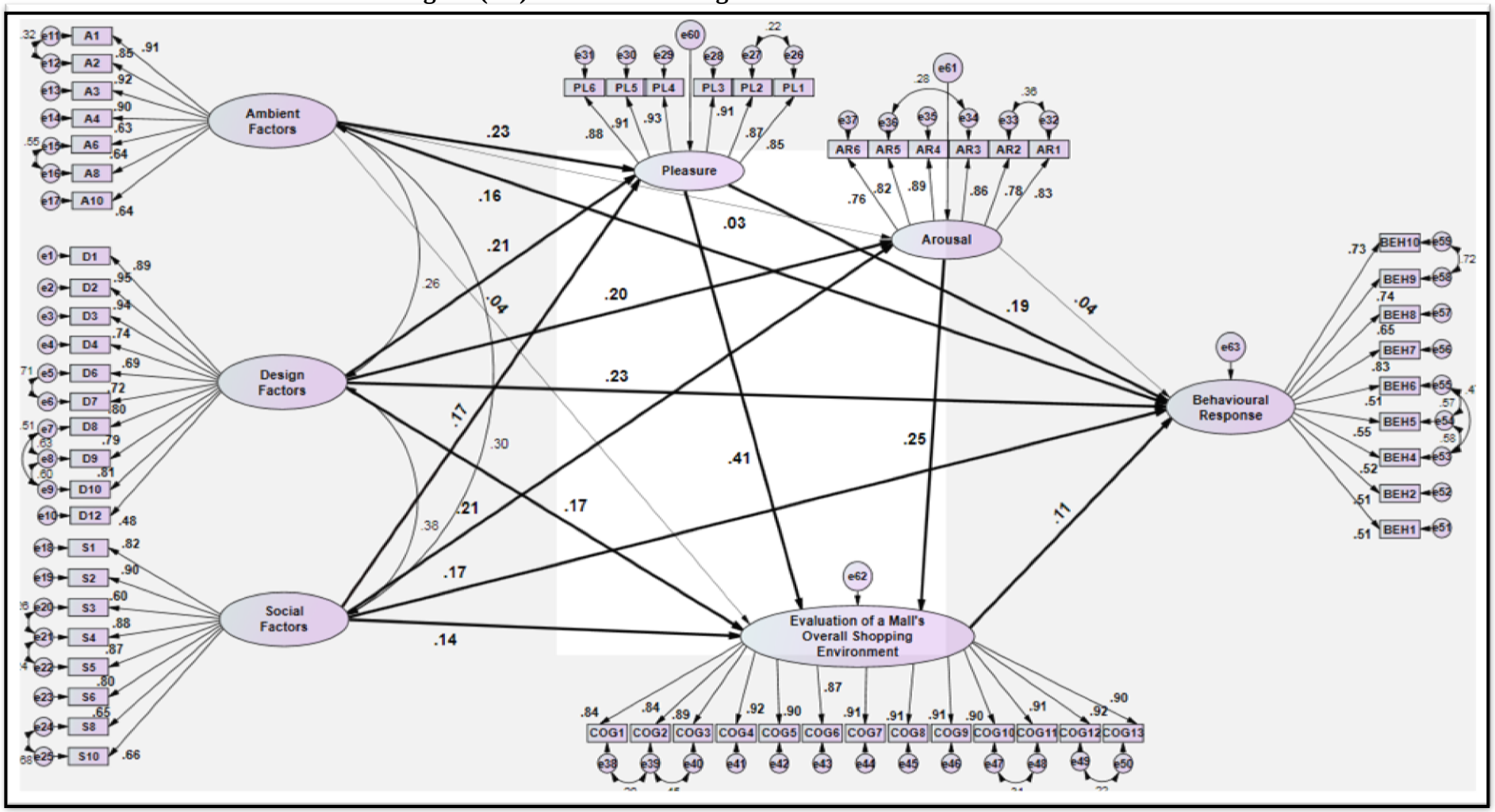
Once the measurement model concerning the links between the observed indicators and their respective latent variables has been specified, the next step is to portray the structural/path model where the relationships between the exogenous and endogenous variables are addressed.

The structural model was assessed using AMOS-graphics 20. The maximum likelihood estimation method was applied in analysing the data. In addition to being a preferable method in the case of a large sample size and reasonably normally distributed data, maximum likelihood is considered as the most commonly used estimation method (Byrne, 2001; Kline, 2005).

The final structural model consisted of seven latent variables measured by 59 retained observed indicators. Of the model's variables, there are three exogenous variables: ambient factors, design factors and social factors affecting one endogenous variable (behavioural response) through three mediators: pleasure and arousal (that represent customer emotions) and evaluation of a mall's overall shopping environment which, in turn, represents customer cognition.

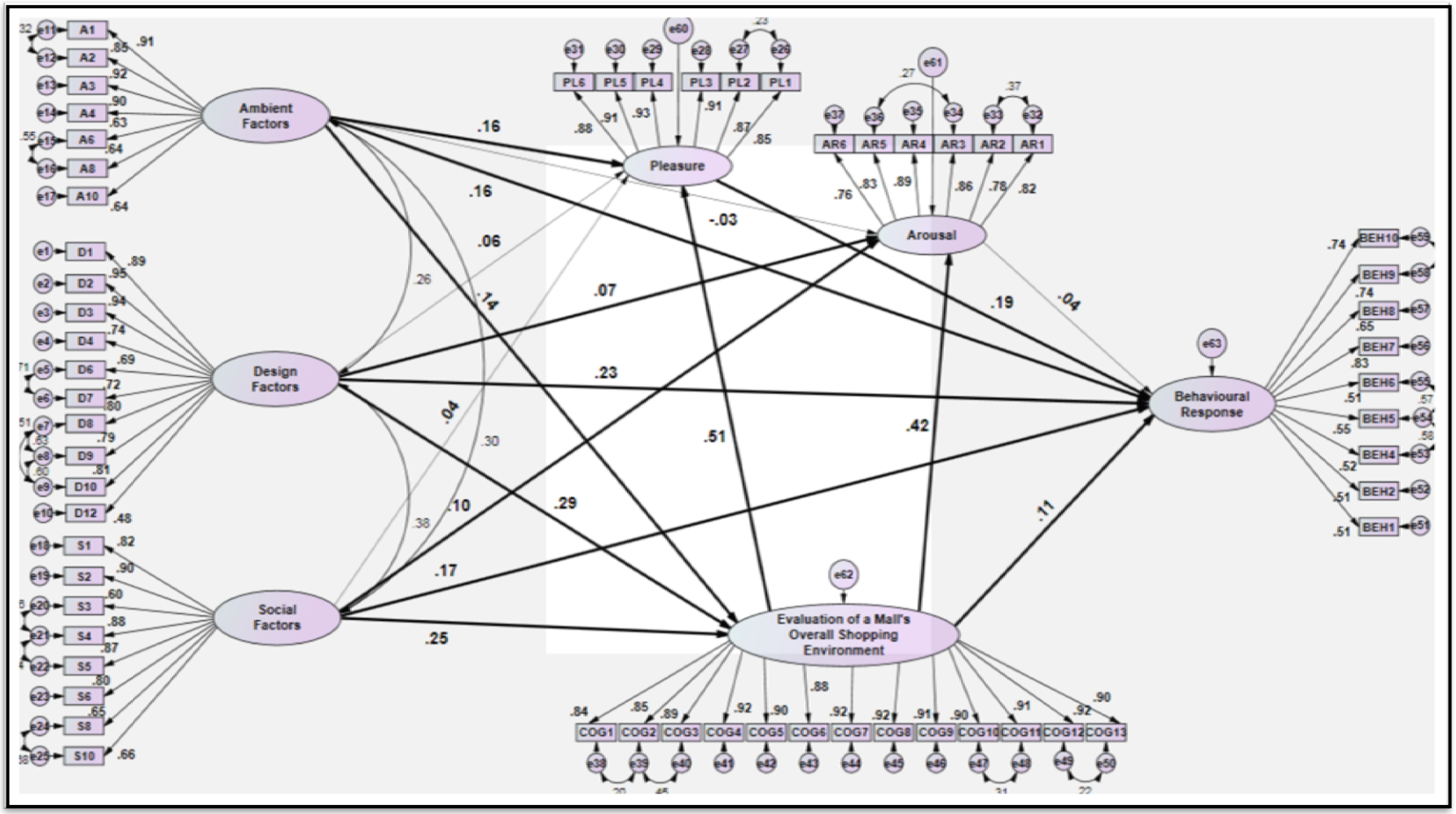
As indicated earlier, the conceptual model of this study includes a two-sided causal path between the mediating variables (e.g. pleasure and arousal from one side and the evaluation of the overall shopping environment from the other side). Thus, in order to examine the structural model and to test the research hypotheses, a decision was made to portray two structural models representing two separate causal paths between the mediators. The first structural model included only the causal paths from pleasure and arousal towards customer cognition (evaluation of a mall's overall shopping environment); thus, this model was labelled as the emotion-cognition mediated model. In the second model only the causal paths from cognition (evaluation of a mall's overall shopping environment) towards both pleasure and arousal were included, thus the model in this case was labelled as the cognition-emotion mediated model. In addition, a third model, suggesting one more possible scenario of mediation (e.g. parallel mediation/emotion independent from cognition) was also examined to gain a greater insight on the mediating role of emotion and cognition on the relationship between shopping mall environment factors and customer behavioural response. These models (e.g. the emotion-cognition mediated model, the cognition-emotion mediated model and the parallel mediation model) are shown in figures (6.2), (6.3) and (6.4) respectively.

Figure (6.2) The Emotion-Cognition Mediated Structural Model



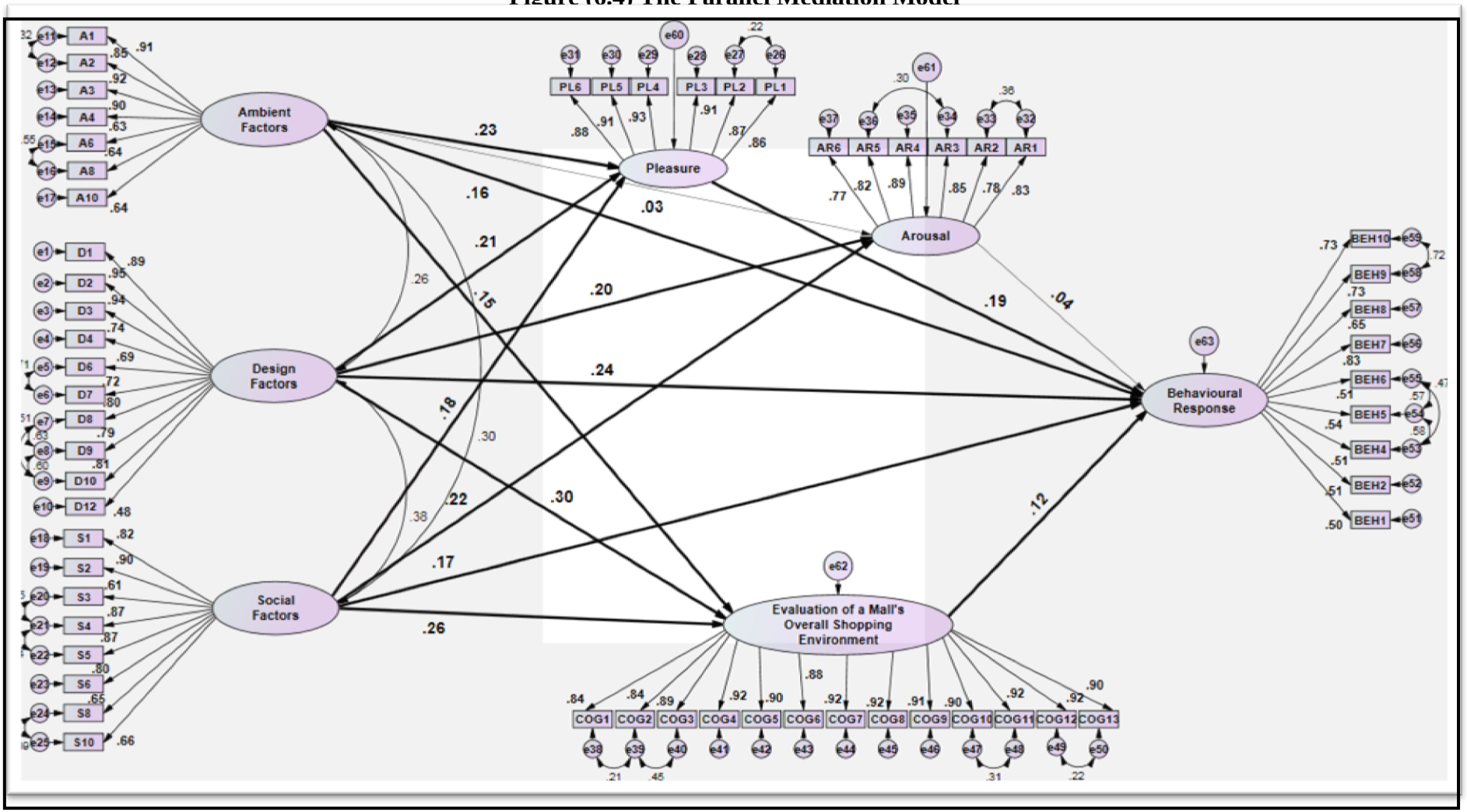
Model Fit: ($\chi 2$ = 6311, df = 1612, $\chi 2$/df = 3.915, *p* value= .000, CFI = 0.926, NFI= 0.903, TLI= 0.922, IFI= 0.926, RMSEA= 0.053).
Structural paths in light lines denote insignificant effect.

Figure (6.3) The Cognition-Emotion Mediated Structural Model



Model Fit: ($\chi 2$ = 6252, df = 1612, $\chi 2$/df = 3.878, *p* value = .000, CFI= 0.927, NFI = 0.904, TLI= 0.923, IFI= 0.927, RMSEA= 0.053). Structural paths in light lines denote insignificant effect.

Figure (6.4) The Parallel Mediation Model



Model Fit: ($\chi 2$= 6644, df= 1614, $\chi 2$/df = 4.116, *p* value= .000, CFI= 0.921, NFI= 0.898, TLI= 0.916, IFI= 0.921, RMSEA= 0.055).
Structural paths in light lines denote insignificant effect.

As can be noticed in the figures above, the causal relationship paths between the exogenous and endogenous variables are depicted by single-headed arrows. For example, an arrow from the design factors to customer cognition (evaluation of a mall's overall shopping environment) suggests that a change in the evaluation of the overall shopping environment is predicted by a change in design factors. Exogenous variables were correlated with each other using two-headed arrows. Small oval shapes representing errors (e60, e61, e62 and e63) were placed on the endogenous variables including the mediators. These errors are called residuals and they represent errors associated with predicting each endogenous variable (Byrne, 2001).

Both the emotion-cognition mediated model and the cognition-emotion mediated model were then assessed for goodness of fit. Fitting indices were inspected in order to identify which one fitted the data better than the other and, consequently, would be used to test the relevant research hypotheses. The fitting indices of the parallel mediation model were also inspected and reported on. The findings of the models' fit assessment are shown in table (6.12) below.

Table (6.12) Structural Models' Fit Assessment

Model	Chi sq	Sig	Df	Chi sq/df	CFI	NFI	TLI	IFI	RMSEA
Cognition-emotion	6252	.000	1612	3.878	.927	.904	.923	.927	.053
Emotion-cognition	6311	.000	1612	3.915	.926	.903	.922	.926	.053
Parallel mediation	6644	.000	1614	4.116	.921	.898	.916	.921	.055

Sig: significance, df: degree of freedom, CFI: comparative fit index, NFI: normed fit index, TLI: Tucker–Lewis fit index, IFI: incremental fit index, RMSEA: rout mean square error of approximation.

As can be noted from table (6.12), the cognition-emotion mediated model exhibited a slightly better model fit over the emotion-cognition mediated model. In fact, this was not unpredicted given that the two models had the same number of latent and observed variables. Although the difference of model fit between the two models was minor, the cognition-emotion mediated model revealed a higher practical significance than the emotion-cognition mediated model. That is, the significance and the strength of the structural paths were higher in the former model than the latter. For instance, all the paths linking shopping environment factors to customer cognition were verified, and the strength of the effect of customer cognition on the customer emotions of pleasure (β = .51) and arousal (β =.42) (cognition-emotion flow) was higher than the effect of pleasure (β =.41) and arousal (β =.25) on cognition (emotion-cognition flow). Moreover, the cognition-emotion mediated model was further compared to the parallel mediation model. The findings asserted the superiority of the cognition-emotion mediated structural model, thus it was considered for testing the relevant research hypotheses.

6.12 Hypothesis Testing

Considering the better model fit reported for the cognition-emotion mediated model over the emotion-cognition mediated model and the parallel mediation model, as well as its practical significance compared to the emotion-cognition mediated model, the former one was used as the final structural model to test the relevant research hypotheses. The results of the hypotheses related to the direct effects were reported on the basis of the standardised regression weights / beta coefficients of the causal paths along with their statistical significances. These are shown in table (6.13).

6.12.1 Shopping Environment and Customer Behavioural Response

Hypothesis one suggests that a mall's shopping environment positively affects customer behavioural response. This hypothesis was represented by three sub-hypotheses relating to the ambient factors ***H1a***, design factors ***H1b*** and social factors ***H1c*** within the shopping environment.

H1a: *The ambient factors of a mall's shopping environment have a significant positive effect on customer behavioural response.*

The effect in this hypothesis was expressed by the standardised beta coefficient (0.161).The related probability value was less than (0.001), indicating a significant statistical effect at ($p < 0.01$). Consequently, this sub-hypothesis was supported.

H1b: *The design factors of a mall's shopping environment have a significant positive effect on customer behavioural response.*

The effect was expressed by the standardised beta coefficient (0.233). The related probability value was less than (0.001) indicating a significant statistical effect at ($p < 0.01$). Thus, this sub-hypothesis was confirmed.

H1c: *The social factors of a mall's shopping environment have a significant positive effect on customer behavioural response.*

The path representing this sub-hypothesis had a standardised beta coefficient of (0.172). The effect in this path was significant at ($p < 0.01$), indicating a significant positive relationship. Hence, the sub-hypothesis was accepted.

Considering the results from the related sub-hypotheses, the main hypothesis ***H1*** was thus fully supported.

6.12.2 Shopping Environment and Customer Emotions

Hypothesis two posits that *a mall's shopping environment has a significant positive effect on the customer emotions of (1) pleasure, and (2) arousal.*

This hypothesis comprised three sub-hypotheses as follows:

H2a: *The ambient factors of a mall's shopping environment have a significant positive effect on the customers' emotions of (1) pleasure, and (2) arousal.*

The effect of ambient factors on customer pleasure was examined first. The relevant path showed a standardised beta coefficient value of (0.156) with a probability value of less than (0.001) indicating a significant statistical effect at ($p < 0.01$). Consequently, this part of the hypothesis was verified. The second part of the hypothesis is represented by the path: ambient factors-arousal. The path was expressed by a standardised beta coefficient of (-0.030) which suggests a weak inverse relationship. The related probability value was (0.342) suggesting no significant statistical effect. Therefore, this part of the hypothesis was rejected. Accordingly, ***H2a*** was partially supported.

H2b: *The design factors of a mall's shopping environment have a significant positive effect on the customer emotions of (1) pleasure, and (2) arousal.*

The effect of design factors on pleasure was expressed by the standardised beta coefficient (0.059). The related probability value was (0.05) suggesting an insignificant effect. Consequently, this part of ***H2b*** was rejected. On the other hand, the standardised beta coefficient of the path of design factors-customer arousal was (0.072). The related probability value was (0.036), suggesting a significant statistical effect at ($p < 0.05$). Consequently, the effect of design factors on customer arousal was verified. Therefore, a partial support was found here for ***H2b***.

H2c: *The social factors of a mall's shopping environment have a significant positive effect on the customer emotions of (1) pleasure, and (2) arousal.*

In this hypothesis, the effect of social factors on pleasure was expressed by a standardised beta coefficient of (0.041). The related probability value was (0.178) which is higher than the significance level of ($p < 0.05$), indicating an insignificant statistical effect. Consequently, this part of ***H2c*** was rejected. On the other hand, the standardised beta coefficient of the path of social factors on customer arousal was (0.099) with a related probability value of (0.004) which indicates a significant statistical effect at ($p < 0.01$). Therefore, this hypothesis was partially supported.

Accordingly, the main hypothesis ***H2*** pertaining to the effect of a mall's shopping environment on customers' pleasure and arousal was partially supported.

Table (6.13) Hypothesis Testing-Direct Paths

Hypothesis	Path			*(β)*	*p* Value	C.R.
H1						
H1a	AMB	→	BEH	0.161	***	4.982
H1b	DES	→	BEH	0.233	***	6.425
H1c	SOC	→	BEH	0.172	***	5.996
H2						
H2a1	AMB	→	PL	0.156	***	5.407
H2a2	*AMB*	→	*AR*	-0.030	.342	-0.950
H2b1	*DES*	→	*PL*	0.059	.050	1.960
H2b2	DES	→	AR	0.072	.036	2.102
H2c1	*SOC*	→	*PL*	0.041	.178	1.347
H2c2	SOC	→	AR	0.099	.004	2.865
H3						
H3a	AMB	→	COG	0.143	***	2.865
H3b	DES	→	COG	0.295	***	4.706
H3c	SOC	→	COG	0.255	***	7.729
H4a	PL	→	BEH	0.193	***	5.133
H4b	*AR*	→	*BEH*	0.043	.208	1.260

H6	COG → BEH	0.112	.006	2.728
H8				
H8a	COG → PL	0.513	***	15.928
H8b	COG → AR	0.423	***	11.583

***: $p < .001$, (β): standardised regression weight, AMB: ambient factors, DES: design factors, SOC: social factors, COG: evaluation of a mall's overall shopping environment, PL: pleasure, AR: arousal, BEH: behavioural response. Paths in italics suggest an unsupported sub-hypothesis.

6.12.3 Shopping Environment and Customer Cognition

The third hypothesis posits that *a mall's shopping environment has a significant positive effect on customer cognition (evaluation of a mall's overall shopping environment*).

Three sub-hypotheses were derived from this hypothesis as follows:

H3a: *The ambient factors of a mall's shopping environment have a significant positive effect on customer cognition (evaluation of a mall's overall shopping environment*).

The effect of ambient factors on customer cognition was expressed by a standardised beta coefficient (0.143) which was significant at ($p < 0.01$), suggesting a significant statistical relationship. Therefore, this hypothesis was verified.

H3b: *The design factors of a mall's shopping environment have a significant positive effect on customer cognition (evaluation of a mall's overall shopping environment*).

The standardised beta coefficient of the path linking design factors to customer cognition was (0.295). The path was statistically significant at ($p < 0.01$), indicating significant statistical effect. Consequently, the hypothesis was verified.

H3c: *The social factors of a mall's shopping environment have a significant positive effect on customer cognition (evaluation of a mall's overall shopping environment*).

The path representing this hypothesis had a significant standardised beta coefficient (0.255) at ($p < 0.01$) therefore, the relevant hypothesis was supported.

Based on the results of the relevant sub-hypotheses, ***H3*** was fully supported.

6.12.4 The Role of Customer Emotions in the Relationship between the Shopping Environment and Customer Behavioural Response

Hypothesis four predicted that *the customer emotions of (a) pleasure and (b) arousal in a mall's shopping environment have a significant positive effect on customer behavioural response.*

In this hypothesis, the relationship was represented by two paths. The first path, which is the pleasure-behavioural response, had a standardised beta coefficient of (0.193). The related probability value was less than (0.001) indicating a significant statistical effect at ($p < 0.01$). The second path which is the arousal-behavioural response showed an insignificant standardised beta coefficient of (0.043) with a probability value of (0.208). Thus, this part of the hypothesis was rejected. Accordingly, a partial support was shown for the respective hypothesis, ***H4***.

The mediating impact of the customer emotions of pleasure and arousal on the relationship between shopping environment factors (ambient, design and social factors) and customer behavioural response was addressed by hypothesis five, ***H5***.

In fact, mediation occurs when the relationship between an independent variable (e.g. ambient factors) and a dependant variable (e.g. behavioural response) is intervened by a mediating variable (e.g. pleasure), carrying the impact of the independent variable onto the dependent variable. What a researcher seeks to know is the degree to which the effect is direct or indirect through the mediating variable (Iacobucci, Saldanha & Deng, 2007). Therefore, a meditational hypothesis focuses on the mechanism by which the independent variable affects the dependent variable.

According to Baron and Kenny's (1986) approach, mediation is established when the following conditions are met:

A) The independent variable has a significant relationship with the mediator (path a).
B) The mediating variable has a significant relationship with the dependent variable (path b).
C) A significant drop in the direct effect of the independent variable on the dependent variable (path c) when paths (a) and (b) are controlled.

A full mediation can be concluded if the effect of the independent variable on the dependent variable becomes insignificant when the mediator is included in the model. In contrast, if the standardised beta coefficient value of the independent variable on the dependent variable drops considerably but is still statistically significant, then a partial mediation can be concluded in such a case.

Using Gaskin's (2013) approach, which was initially inspired by the logic of Baron and Kenny's (1986) procedures, mediation hypotheses were tested by comparing the effect of independent variable(s) on the dependent variable in models with, and without, the mediators. Then, direct and indirect effects among the constructs were inspected to identify the mediation type (e.g. partial or full). The significance of the indirect paths was concluded on the basis of bootstrapping procedures using AMOS. The findings from the mediation analysis are reported in table (6.14).

In the current study, hypothesis five posits that *the effect of a mall's shopping environment on customer behavioural response is mediated by the customer emotions of (1) pleasure, and (2) arousal.*

In order to test this hypothesis, three sub-hypotheses needed to be examined as shown in the following:

H5a: *The effect of the ambient factors of a mall's shopping environment on customer behavioural response is mediated by the customer emotions of (1) pleasure, and (2) arousal.*

The mediation of pleasure was indicated by the indirect path of ambient factors on customer behavioural response through pleasure. The unmediated path between ambient factors and behavioural response was expressed by the standardised beta coefficient of (0.223) which was statistically significant at ($p < 0.01$). When the mediating role of pleasure was included in the model, the paths ambient factors-pleasure ($\beta = 0.156$) and pleasure-behaviour ($\beta = 0.193$) were significant at ($p < 0.01$). Interestingly, the beta coefficient value of the path ambient factors-behavioural response dropped significantly (0.161), but remained significant at ($p < 0.01$). Thus, a partial mediation for pleasure was reported in the relationship between ambient factors and customer behavioural response. The mediation of arousal, on the other hand, was represented by the indirect path of the effect through arousal. In the mediated model, the paths ambient factors-arousal ($\beta = -0.030$) and arousal-behaviour ($\beta = 0.043$) were not significant. Additionally, the indirect path between ambient factors and behavioural response via arousal was also insignificant (.225), suggesting no mediation role for arousal in the effect. Accordingly, hypothesis ***H5a*** was partially supported.

H5b *The effect of the design factors of a mall's shopping environment on customer behavioural response is mediated by the customer emotions of (1) pleasure, and (2) arousal.*

The mediation in this hypothesis was indicated by the indirect paths of the effect through pleasure and through arousal. In the unmediated model, the path relating design factors to

behavioural response was expressed by (β = 0.314, p < 0.05). When the mediating role of pleasure was added to the model, the path linking design factors to pleasure (β = 0.059) was statistically insignificant (p = 0.50). Additionally, the indirect path between design factors and behavioural response through pleasure was also insignificant (p = 0.069). Therefore, no mediation was reported for pleasure in the relationship between design factors and customer behavioural response.

As for the mediating role of arousal, the path arousal-behaviour (β= 0.043) was not significant (p = 0.208) in the mediated model. Additionally, the indirect path between design factors and behavioural response via arousal was also insignificant (p = 0.204), suggesting no mediation role for arousal in the effect. Accordingly, hypothesis ***H5b*** was rejected.

H5c *The effect of the social factors of a mall's shopping environment on customer behavioural response is mediated by the customer emotions of (1) pleasure, and (2) arousal.*

Similarly, the mediation here was indicated by the indirect paths of the effect through pleasure and through arousal. The unmediated path relating social factors to behavioural response was expressed by (β = 0.242, p < 0.01). When the mediating effect of pleasure was added to the model, the path between social factors and pleasure (β = 0.041) was insignificant (p = 0.178). Additionally, the indirect path between social factors and behavioural response via arousal was also insignificant (p = 0.187), suggesting no mediation for arousal in the relationship between social factors and behavioural response. In the second part of the hypothesis (e.g. the mediation of arousal), the path arousal-behaviour (0.043) was insignificant (p = 0.208) in the mediated model. The indirect path between social factors and behavioural response via arousal was also insignificant (p =

0.169), suggesting no mediation role for arousal in the effect. Accordingly, hypothesis ***H5c*** was rejected.

In the light of the results given for the relevant sub-hypotheses (***H5a, H5b, and H5c***), partial support is reported here for the main hypothesis ***H5.***

6.12.5 The Role of Customer Cognition in the Relationship between the Shopping Environment and Customer Behavioural Response

The relationship between customer cognition and customer behavioural response was indicated by ***H6*** which suggests that customer cognition (evaluation of a mall's overall shopping environment) has a significant positive effect on customer behavioural response.

The standardised beta coefficient of the path between customer cognition and behavioural response was (0.112). The related probability value was (0.006), indicating a significant statistical effect at ($p < 0.01$). Consequently, the effect in this hypothesis was verified.

The mediation of customer cognition was addressed by **hypothesis seven** which posits that *the effect of a mall's shopping environment on customer behavioural response is mediated by customer cognition (evaluation of a mall's overall shopping environment).*

This was expressed by three sub- hypotheses:

H7a: *The effect of the ambient factors of a mall's shopping environment on customer behavioural response is mediated by customer cognition (evaluation of a mall's overall shopping environment).*

The mediation of customer cognition in the effect of ambient factors on behavioural responses is referred to as the indirect path of the effect through customer cognition.

Table (6.14) Findings of Mediation Analysis- Indirect Paths (H5, H7, and H9)

Hypothesis	Path	(*β*) without Mediator	(*β*) with Mediator	Indirect Path Significance and Result
H5				
H5a1	AMB-PL-BEH	0.223*** C.R.= 6.649	0.161*** C.R.= 5.002	Sig (0.001) Partial mediation
H5a2	AMB-AR-BEH	0.223*** C.R.= 6.649	0.163*** C.R.= 5.124	Not sig (0.225) No mediation
H5b1	DES-PL-BEH	0.314* C.R.= 8.148	0.234*** C.R.= 6.612	Not sig (0.069) No mediation
H5b2	DES-AR-BEH	0.314*** C.R.= 8.148	0.235*** C.R.= 6.614	Not sig (0.204) No mediation
H5c1	*SOC-PL-BEH*	.242*** C.R.=6.863	.172*** C.R.=5.142	Not sig (0.187) No mediation
H5c2	*SOC-AR-BEH*	0.242*** C.R.= 6.863	0.172*** C.R.= 5.119	Not sig (0.169) No mediation
H7				
H7a	AMB-COG-BEH	0.223*** C.R.= 6.649	0.191*** C.R= 5.863	Sig (0.001) Partial mediation
H7b	DES-COG-BEH	0.314*** C.R.= 8.148	0.247*** C.R.= 6.675	Sig (0.001) Partial mediation
H7c	SOC-COG-BEH	0.242*** C.R.= 6.863	0.184*** C.R.= 5.279	Sig (0.001) Partial mediation
H9				
H9a	COG-PL-BEH	0.229*** C.R.= 6.636	0.113 (0.003) C.R.= 2.930	Sig (0.001) Partial mediation
H9b	*COG-AR-BEH*	0.229*** C.R.= 6.636	0.117 (0.002) C.R.= 3.172	Not sig (0.296) No mediation

***: $p < 0.001$, Sig: significant, AMB: ambient factor, DES: design factors, SOC: social factors, COG: cognition (evaluation of a mall's overall shopping environment). PL: pleasure, AR: arousal, BEH: behavioural response.

Paths in italics suggest an unsupported sub-hypothesis.

The unmediated path between ambient factors and behavioural response was expressed by a standardised beta coefficient of (0.223) which was statistically significant at ($p < 0.01$). When the mediating role of cognition was included in the model, the paths ambient factors-cognition ($\beta = 0.143$) and cognition-behavioural response ($\beta = 0.112$) were significant at ($p < 0.01$). Interestingly, the beta coefficient value of the path ambient factors-behavioural response dropped considerably ($\beta = 0.191$) but remained significant at ($p < 0.01$). Thus, a partial mediation for cognition was reported in the relationship between ambient factors and customer behavioural response. Accordingly, ***H7a*** was thus supported.

H7b: *The effect of the design factors of a mall's shopping environment on customer behavioural response is mediated by customer cognition (evaluation of a mall's overall shopping environment).*

The mediating role of customer cognition in the effect of design factors on customer behavioural response was indicated by the indirect path of the effect through customer cognition.

In the unmediated model, the path between design factors and behavioural response was expressed by ($\beta = 0.314$, $p < 0.01$). When the mediating role of cognition was included in the model, the paths design factors-cognition ($\beta = 0.295$) and cognition-behaviour ($\beta = 0.112$) were significant at ($p < 0.01$). The beta coefficient value of the path design factors-behavioural response dropped considerably ($\beta = 0.247$) but remained significant at ($p < 0.01$). This suggested a partial mediation for cognition in the relationship between design factors and customer behavioural response. Thus, ***H7b*** was supported.

H7c: *The effect of the social factors of a mall's shopping environment on customer behavioural response is mediated by customer cognition (evaluation of a mall's overall shopping environment*).

The mediating role of customer cognition in the relationship between social factors and behavioural response was indicated by the indirect path of the effect through customer cognition.

The unmediated path linking social factors to behavioural response was expressed by (β = 0.242) which was significant at ($p < 0.01$). When the mediating role of cognition was included in the model, the paths social-cognition (0.255) and cognition-behaviour (0.112) were significant at ($p < 0.01$). Importantly, the beta coefficient value of the path social factors-behavioural response dropped considerably (0.184) but remained significant at ($p < 0.01$). Therefore, a partial mediation was reported for cognition in the effect of social factors on customer behavioural response. This supported ***H7c***.

Based on the aforementioned results for the relevant sub-hypotheses (***H7a***, ***H7b***, and ***H7c***), the main hypothesis ***H7*** was fully supported.

6.12.6 The Interplay Mediating Role of Emotions and Cognition

The eighth hypothesis, ***H8***, described the effect of customer cognition with respect to an evaluation of a mall's overall shopping environment on customer emotions. Specifically, it was posited that *customer cognition (evaluation of a mall's overall shopping environment) has a significant positive effect on the customer emotions of (a) pleasure and (b) arousal*.

The cause-effect relationship in this hypothesis was represented by two paths. The standardised beta coefficient for the first path (e.g. cognition-pleasure) was (0.513) with a p value of less than (0.001), indicating a significant effect at ($p < 0.01$). The second path (e.g. cognition-arousal) also had a significant standardised beta coefficient of (0.423) at ($p < 0.01$). Therefore, full support was discovered here for the main hypothesis, ***H8***.

According to **hypothesis nine**, *the relationship between customer cognition (evaluation of a mall's overall shopping environment*) *and customer behavioural response is mediated by the customer emotions of (a) pleasure, and (b) arousal.*

The mediation in this hypothesis was indicated by the indirect paths of the effect through pleasure **H9a** and through arousal **H9b**. The unmediated path relating cognition to behaviour was expressed by (β = 0.229, $p < 0.01$). When the mediating effect of pleasure was added to the model, the paths cognition-pleasure (β = 0.513) and pleasure-behaviour (β = 0.193) were significant *at* ($p < 0.01$). Importantly, the beta coefficient value of the path relating cognition to behaviour dropped considerably (β = 0.117) but remained significant at ($p < 0.01$). Thus, ***H9a*** was confirmed.

As for the mediating role of arousal as indicated by the second part of the hypothesis, the path arousal-behaviour (β = 0.043) was insignificant (p = 0.208) in the mediated model. The indirect path between cognition and behavioural response via arousal was also insignificant (p = 0.296), suggesting no mediation role for arousal in the effect of cognition on behaviour. Accordingly, hypothesis ***H9b*** was rejected.

In the light of the results for the sub-hypotheses (***H9a*** and ***H9b***), partial support was indicated for the main hypothesis, ***H9***, whereby the effect was mediated only by pleasure.

6.13 Chapter Summary

Following the "list-wise" approach, a dataset of 1,028 usable questionnaires collected using the mall intercept technique from shopping malls' customers in Jordan was used to carry out the data analysis. Both descriptive and frequency analyses indicated that the data was complete and within the defined range. Furthermore, the data was found to have a reasonable normal distribution of frequency. The measurement model was assessed and validated using confirmatory factor analysis (CFA), in which items with poor loadings

were omitted from any further analytical steps. The improved CFA model showed a satisfactory model fit to the observed data. Validity and reliability checks also verified that all measurement scales had convergent and discriminant validity and high internal consistency. The structural model was then developed as was specified in the theoretical framework. Thus, it included reciprocal paths between the mediating variables, resulting in an inestimable non-recursive model. Two recursive models (e.g. the emotion-cognition mediated model and the cognition-emotion mediated model), representing the two reciprocal paths separately, were then derived and assessed against each other. A third model suggesting parallel mediation (emotions independent from cognition) was also examined. The cognition-emotion model was more robust in predicting the effect than the other two models, thus, was used to test the relevant research hypotheses. Standardised regression weights of causal paths, along with their statistical significance, were examined to report hypothesis testing results. Accordingly, with the exception of a few (e.g. H2a2, H2b1, H2c1 and H4b), the majority of the structural paths were statistically significant and in the right direction, lending support to the majority of the research hypotheses. The following chapter will present a full discussion of the findings outlined in the present chapter. A more detailed discussion of the overall result and the findings from the hypothesis testing in light of the results of previous studies will be provided.

CHAPTER SEVEN: Discussion of the Findings

7.1 Introduction

This thesis investigates how the various factors of a shopping environment affect customer behavioural response in the context of shopping malls. In a stimulus-organism-response-based framework, different mediating scenarios of customers' emotions and cognition are examined when looking at the relationship between shopping environment factors and customers' behavioural response.

The previous chapter presented the data analysis and research findings. Two competing structural models derived from the initial proposed conceptual model were assessed and compared against each other. A third model suggesting one more possible scenario of mediation (e.g. emotion independent from cognition mediation) was also examined. The model that showed the best model fit was then used for hypothesis testing. This chapter takes the findings one step further by providing more insights into the overall result and into the findings of hypothesis testing. The research findings are also discussed in relation to the results obtained by prior research which was addressed in the literature review chapter.

A summary of the research findings is presented first, followed by a discussion of the overall results from the structural models. The results of the hypothesis testing are then discussed in the light of prior research findings following the same structure used to present the research hypotheses in the data analysis and research findings chapter. Finally, a chapter summary is provided at the end of the chapter.

7.2 Summary of Findings

The initial hypothesised structural model of this study incorporated two-sided causal paths, resulting in a non-recursive model that could not be estimated. Therefore, two different recursive structural models representing two different scenarios of interplay mediation between emotions and cognition were portrayed and compared against each other on the basis of overall fitting indices. The first model was labelled as the emotion-cognition mediated model since it includes paths flowing from pleasure and arousal toward customer cognition (evaluation of a mall's overall shopping environment). In contrary, the second model includes paths from customer cognition (evaluation of a mall's overall shopping environment) towards both pleasure and arousal, thus it was labelled as the cognition-emotion mediated model. Additionally, one more model suggesting a parallel mediation of emotions independent from cognition was also examined to gain insights into one more possible scenario of mediation. As shown in table (7.1), assessing models' fit revealed that the cognition-emotion mediated model better fits the data than both the emotion-cognition mediated model and the parallel mediation model. Therefore, the earlier model was chosen to test the relevant research hypotheses. A summary of the hypothesis testing results (direct paths and indirect paths) are presented in tables (7.2) and (7.3) respectively.

Table (7.1) Structural Models' Fit

Model	Chi sq	Sig	Df	Chi sq/df	CFI	NFI	TLI	IFI	RMSEA
Emotion-cognition	6311	.000	1612	3.915	.926	.903	.922	.926	.053
Cognition-emotion	6252	.000	1612	3.878	.927	.904	.923	.927	.053
Parallel mediation	6644	.000	1614	4.116	.921	.898	.916	.921	.055

*: *p*-value < .001, df: degree of freedom

Table (7.2) Findings of Hypothesis Testing- Direct Paths

Hypothesis	Path	(*β*)	*p*	C.R.	Result
Hypothesis one: A mall's shopping environment has a significant positive effect on customer behavioural response.	Fully supported				
H1a: The ambient factors of a mall's shopping environment have a significant positive effect on customer behavioural response.	Ambient Factors → Behaviour	.161	***	4.982	Supported
H1b: The design factors of a mall's shopping environment have a significant positive effect on customer behavioural response.	Design Factors → Behaviour	.233	***	6.425	Supported
H1c: The social factors of a mall's shopping environment have a significant positive effect on customer behavioural response.	Social Factors → Behaviour	.172	***	5.996	Supported
Hypothesis two: A mall's shopping environment has a significant positive effect on the customer emotions of (1) pleasure (2) arousal.	Partially supported				
H2a: The ambient factors of a mall's shopping environment have a significant positive effect on the customer emotions of (1) pleasure and (2) arousal.	Ambient Factors → Pleasure *Ambient Factors* → *Arousal*	.156 -.030	*** .342	5.407 -.950	Partially supported
H2b: The design factors of a mall's shopping environment have a significant positive effect on the customer emotions of (1) pleasure and (2) arousal.	*Design Factors* → *Pleasure* Design Factors → Arousal	.059 .072	.050 .036	1.960 2.102	Partially supported
H2c: The social factors of a mall's shopping environment have a significant positive effect on the customer emotions of (1) pleasure and (2) arousal	*Social Factors* → *Pleasure* Social Factors → Arousal	.041 .099	.178 .004	1.347 2.865	Partially supported
Hypothesis three: A mall's shopping environment has a significant positive effect on customer cognition (evaluation of a mall's overall shopping environment).	Fully supported				
H3a: The ambient factors of a mall's shopping environment have a significant positive effect on customer cognition (evaluation of a	Ambient Factors → Cognition	.143	***	2.865	Supported

mall's overall shopping environment).					
H3b: The design factors of a mall's shopping environment have a significant positive effect on customer cognition (evaluation of a mall's overall shopping environment).	Design Factors → Cognition	.295	***	4.706	Supported
H3c: The social factors of a mall's shopping environment have a significant positive effect on customer cognition (evaluation of a mall's overall shopping environment)	Social Factors → Cognition	.255	***	7.729	Supported
Hypothesis four: The customer emotions of (a) pleasure and (b) arousal in a mall's shopping environment have a positive effect on customer behavioural response.	Pleasure → Behaviour *Arousal* → *Behaviour*	.193 .043	*** .208	5.133 1.260	Partially supported
Hypothesis six: Customer cognition (evaluation of a mall's overall shopping environment) has a significant positive effect on customer behavioural response.	Cognition → Behaviour	.112	.006	2.728	Supported
Hypothesis eight: Customer cognition (evaluation of a mall's overall shopping environment)has a significant positive effect on the customer emotions of (a) pleasure and (b) arousal	Cognition → Pleasure Cognition → Arousal	.513 .423	*** ***	15.928 11.583	Fully supported

(β): standardised regression coefficients, ***: $p < .001$, C.R.: critical ratio, H: hypothesis.

Table (7.3) Findings of Hypothesis Testing- Indirect Paths

Hypothesis	Path	(*β*) Without Mediator	(*β*) With Mediator	Indirect Path Significance and Result
Hypothesis five: The effect of a mall's shopping environment on customer behavioural response is mediated by the customer emotions of (1) pleasure and (2) arousal.	Partially supported			
H5a: The effect of the ambient factors of a mall's shopping environment on customer behavioural response is mediated by customer emotions of (1) pleasure (2) arousal.	AMB-PL-BEH	.223*** C.R.= 6.649	.161*** C.R.= 5.002	Sig (.001) Partial mediation
	AMB-AR-BEH	.223*** C.R.= 6.649	.163*** C.R.= 5.124	Not sig (.225) No mediation
H5b: The effect of the design factors of a mall's shopping environment on customer behavioural response is mediated by the customer emotions of (1) pleasure (2) arousal.	*DES-Pl-BEH*	.314*** C.R.= 8.148	.234*** C.R.= 6.612	Not sig (.069) No mediation
	DES-AR-BEH	.314*** C.R.= 8.148	.235*** C.R.= 6.614	Not sig (.204) No mediation
H5c: The effect of the social factors of a mall's shopping environment on customer behavioural response is mediated by the customer emotions of (1) pleasure (2) arousal.	*SOC-PL-BEH*	.242*** C.R.=6.863	.172*** C.R.=5.142	Not sig (.187) No mediation
	SOC-AR-BEH	.242*** C.R.= 6.863	.172*** C.R.= 5.119	Not sig (.169) No mediation
Hypothesis seven: The effect of a mall's shopping environment on customer behavioural response is mediated by customer cognition (evaluation of a mall's overall shopping environment).	Fully supported			
H7a: The effect of the ambient factors of a mall's shopping environment on customer behavioural response is mediated by	AMB-COG-BEH	.223*** C.R.= 6.649	.191*** C.R.= 5.863	Sig (.001) Partial mediation

customer cognition.				
H7b: The effect of the design factors of a mall's shopping environment on customer behavioural response is mediated by customer cognition.	DES-COG-BEH	.314*** C.R.= 8.148	.247*** C.R.= 6.675	Sig (.001) Partial mediation
H7c: The effect of the social factors of a mall's shopping environment on customer behavioural response is mediated by customer cognition.	SOC-COG-BEH	.242*** C.R.= 6.863	.184*** C.R.= 5.279	Sig (.001) Partial mediation
Hypothesis nine: The relationship between customer cognition (the overall evaluation of a mall's shopping environment) and customer behavioural response is mediated by the customer emotions of (a) pleasure and (b) arousal.	COG-PL-BEH *COG-AR-BEH*	.229*** C.R.= 6.636 .229*** C.R.= 6.636	.113 (0.003) C.R.= 2.930 .117 (0.002) C.R.= 3.172	Sig (.001) Partial mediation Not sig (.296) No mediation **H9 is partially supported**

***: $p < .001$, Sig: significant, AMB: ambient factor, DES: design factors, SOC: social factors, COG: evaluation of a mall's overall shopping environment, PL: pleasure, AR: arousal, BEH: behavioural response, C.R.: critical ratio.
Paths in italics suggest an unsupported sub-hypothesis.

7.3 Discussing the Overall Result of Structural Models

As indicated before, the overall hypothesised structural model comprises a reciprocal path linking the mediating variables (e.g. emotions and cognition) resulting in a non-estimable model. In order for this overall model to be examined, two competing models representing different kinds of two-step/interplay mediation were derived and assessed. Each of the derived models consisted of the same latent factors measured by the same observable items. However, they differed in terms of the sequence of the mediation based on two contrasting schools of beliefs (e.g. emotion-cognition versus cognition-emotion).

In the first model, the mediation flows in accordance with the essence of "affect as information theory" (Schwarz & Clore, 1983) or with the emotion-cognition approach (Zajonc & Markus, 1984; 1985). According to this approach, emotions are posited as inputs on which a customer's cognitive appraisal can be based. The hierarchy of the mediation in the second model follows the cognition-emotion approach which suggests the cognitive state as a vital antecedent condition for emotions to take place (Lazarus, 1991), that is, environmental factors have to be appraised against an individual's own experience first, and then a certain kind of emotions can be elicited. Additionally, a third model, representing one-step / parallel mediation via emotions and cognition independently, was also examined in order to gain more insights into the mechanism by which a shopping environment factors affect customers' behavioural response.

Referring to the models' fitting indices reported in table (7.1), the cognition-emotion mediated model exhibited a slightly better fit over the emotion-cognition mediated model (lower Chi sq and Chi sq/df, and higher CFI, NFI, TLI and IFI). A further assessment of the interplay mediation models against the independent / parallel mediation model asserted that the cognition-emotion mediated model is the best fitting one. This model also showed

a higher practical significance, indicated by the strength of the relationships among its constructs. Although emotions and cognition may work in parallel in mediating the effect of shopping environment factors on customers' behavioural response (Chen & Hsieh, 2011; Im & Ha, 2011; Sweeney & Wyber, 2002), their interplay mediation was more robust in predicting this relationship in the present study.

Based on this overall result, the effect of a shopping environment on customers' behavioural response is mediated first by their cognition (evaluation of a mall's overall shopping environment), and then by their emotions (e.g. pleasure). This confirms the applicability of Lazarus's (1991) cognitive theory of emotions in explaining the interplay mediation of emotions and cognition in a stimulus-organism-response-based model. Accordingly, the present study supported Kumar and Kim's (2014) findings in that customers use the various shopping environment factors to develop a certain cognitive evaluation of the shopping environment, which triggers a certain emotional state and this, in turn, influences their behavioural response.

7.4 Discussion of the Findings from the Hypothesis Testing

This section is devoted to discussing the findings from hypothesis testing. This discussion is organised into six subsections; the first three address the direct paths linking shopping environment factors to customer behavioural response, emotional response, and cognitive response respectively. The fourth and fifth subsections tackle the role of emotions and cognition as organism variables in the stimulus-organism-response chain. Finally, the last subsection discusses the interplay of emotions and cognition (e.g. the cognition-emotion sequence of mediation) in explaining the effect of a shopping environment on customer behaviour.

7.4.1 Shopping Environment and Customer Behavioural Response

As indicated in the theoretical framework chapter, the findings of several empirical studies have verified the effect of a shopping environment on customer behavioural response. Scholars have largely acknowledged the ability of the various aspects of a shopping environment to influence customer behaviour in different retail contexts (Areni & Kim, 1994; Mattila & Wirtz, 2008; Milliman, 1986; Spangenberg *et al*., 1996; Tendai & Crispen, 2009; Wakefield & Baker, 1998). The findings of the aforementioned empirical studies provided a rigorous basis for **hypothesis one (H1)** which predicted a significant positive effect of a mall's shopping environment on customer behavioural response.

The result of this hypothesis was reported on the basis of examining three sub-hypotheses utilising Baker's (1986) typology of shopping environment factors (e.g. ambient factors, design factors and social factors). This also holds true for the other hypotheses tackling the links of shopping environmental factors to emotions (**H2)** and cognition (**H3)** and mediation hypotheses **(H5)** and **(H7)**.

The first sub-hypothesis **(H1**a**)** relates ambient factors to customer behavioural response. As expected, the findings of the structural equation modelling (SEM) confirmed the path of (**H1**a) suggesting a significant positive effect by ambient factors on customer behavioural response. Prior empirical research demonstrated support of the findings (Areni & Kim, 1994; Bouzaabia, 2014; Ferreiraa & Oliveira-Castrob, 2011; Jang & Namkung, 2009; Shashikala & Suresh, 2013; Vilnai-Yavetz & Gilboa, 2010). For instance, ambient factors have been reported as one of driving factors of customer loyalty towards shopping malls (Shashikala & Suresh, 2013). Customers showed greater intentions to revisit and to spend more money in scented stores compared to unscented ones (Bouzaabia, 2014). Servicescape cleanliness was shown to enhance customer approach behaviour (Vilnai-

Yavetz & Gilboa, 2010). Music, as another ambient factor, was also found to affect the amount of money spent (Herrington, 1996) and the time customers spend in retail stores (Andersson *et al*., 2012).

Support was also found for the effect of design factors on customer behavioural response, verifying the second sub-hypothesis **(H1**b**)**. This significant relationship was evidenced in previous empirical studies. For instance, Loureiro and Roschk (2014) demonstrated that store design fosters customers' loyalty intentions in offline retail stores. The findings of Jang and Namkung (2009) confirmed the role of design atmospherics in driving customers' behavioural intensions in restaurants. Other empirical findings affirm the positive effects of design components such as colour, layout, décor and interior design on customers' behavioural responses. van Rompay *et al*. (2012), for example, found a positive impact by store interior colour and layout on customers' behavioural intensions. Consistently, décor and interior design, and layout were shown to affect customers' desire to spend more time in shopping malls (Wakefield & Baker, 1998).

The third sub-hypothesis **(H1**c**)** posits a positive relationship between the social factors of a mall's shopping environment and customers' behavioural response. As expected, the findings of SEM verified the structural path of this sub-hypothesis. This result is in line with Brocato *et al.*(2012) who found that other customers in terms of similarity and behaviour have a significant positive impact on customer approach behaviour and a negative impact on their avoidance behaviour. This result is also congruent with findings by Tendai and Crispen (2009) who reported a direct positive link between the behaviour of store personnel and customer impulse buying. Similarly, Mattila and Wirtz (2008) found perceived retail crowding and employee friendliness to positively affect impulse buying. This finding is also consistent with a recent study by Cetin and Dincer (2014) who found

that perceived social interactions experienced in hotels positively affect customer word of mouth (WOM) and return intentions.

Overall, by referring to the beta coefficients of the structural paths linking each of the aforementioned factors to customer behavioural response, design factors had the largest significant influence with a beta coefficient of (.233), followed by social factors (.172) and ambient factors (.161). This suggests that the direct effect of a shopping environment on customer behaviour in shopping malls is mainly explained by design factors, social factors and ambient factors respectively. More specifically, customer behavioural response in shopping malls is mostly affected by the design of the shopping environment involving the extent to which the overall layout helps in navigating the shopping mall and ultimately simplifies the shopping task. Customers also pay attention to interior colours and interior design and decorations which are considered as fundamental design characteristics affecting customers' responses in shopping malls. On the other hand, both ambient factors (e.g. cleanliness and temperature) and social factors (e.g. employees' characteristics and attitudes) play a less influential role in this direct effect.

7.4.2 Shopping Environment and Customer Emotions

As indicated before, Mehrabian and Russell (1974) introduced environment in general as an emotion-triggering object affecting the emotions of individuals and, thereby, their approach/avoidance behaviour. Empirically, the role of the diverse factors of a shopping environment (e.g. ambient, design and social factors) in stimulating customer emotions has been largely evidenced in the retail atmospheric literature (Baker *et al*., 1992; Bigdeli & Bigdeli, 2014; De Silvaa, 2014; Donovan *et al.*,1994; Ferreiraa & Oliveira-Castrob, 2011; Hyun & Kang, 2014; Im & Ha, 2011; Li, Kim, & Lee, 2009; Morrison et *al.*, 2011; Novak *et al*., 2010; Ryu & Jang, 2007). Thus, hypothesis two **(H2)** predicted a significant positive

effect of a mall's shopping environment on the customer emotions of (1) pleasure, and (2) arousal.

Referring to the findings for related sub-hypotheses, the first sub-hypothesis (**H2**a**)** relating ambient factors to the customer emotions of pleasure and arousal was partially supported. Particularly, consistent with previous empirical findings (Bouzaabia, 2014; Ferreiraa & Oliveira-Castrob, 2011; Ryu & Jang, 2007; Vilnai-Yavetz & Gilboa, 2010), the path between ambient factors and customer pleasure was confirmed, verifying **(H2**a1**)**. However, no significant effect was noticed for ambient factors on customer arousal. In fact, this is not a surprising result given the nature of arousal and ambient factors; that is, arousal reflects a sense of stimulation and activation which is more likely to be triggered when being exposed to unpredicted distinct stimuli. Ambient conditions studied in the present study such as ambience temperature are not very obvious to customers and can only be recognised at a certain level of intensity (Baker, 1986; d'Astous, 2000). Therefore, such ambient factors in a mall's shopping environment might not be intensive enough to significantly arouse customers. In this respect, prior research supports this finding. For instance, the findings by Im and Ha (2011) suggested that ambient factors in shopping environments are capable of eliciting the customer emotion of pleasure; however, they have no significant effect on the emotion of arousal. Consistent with this, Novak *et al*. (2010) found that ambient noise (sound pressure) in dining environments could affect customers' feelings of pleasure but not arousal.

In contrast, design factors addressed in (**H2**b**)** significantly affected customer arousal but not pleasure, lending partial support to this sub-hypothesis. This might be attributed to the fact that design factors can affect customer pleasure indirectly via arousal. On this subject, Hyun and Kang (2014) reported interior décor and spatial layout in restaurants as one of

the environmental cues driving customer arousal, thereby customer pleasure. Also, Holmqvist and Lunardo (2015) found that a store environment induces customer arousal which, in turn, enhances customer pleasantness.

The relationship between social factors and customer emotions as predicted by the third sub-hypothesis **(H2**c**)** was partially confirmed. In the findings of Baker *et al*. (1992), a significant effect was noticed for social factors on customer arousal (**H2**c2**)**. However, the effect demonstrated in the present study was relatively weak. Additionally, contrary to expectations, the effect on customer pleasure (**H2**c1**)** was statistically insignificant. This might be attributed to the fact that social factors could affect customer emotions indirectly via cognition. In other words, social factors (e.g. employees dress and attitudes) could be used to develop certain cognitive evaluations in relation to the quality of service provided or the quality of the shopping environment itself, and this, in turn, evoked customer emotions. In this respect, Kumar and Kim (2014) for instance, found social cues in a single apparel retail store to affect how customers' evaluated the store, which in turn, affected how they felt towards it.

In sum, although some of the direct paths relating the various factors of a mall's environment to customer emotions were statistically confirmed, the effects indicated by the beta coefficients were to some extent not considerable. For instance, with the exception of the path linking ambient factors to pleasure, all other paths in this part of the chain (environment-emotion) were either not statistically and (or) practically significant. This suggests that shopping environment factors do not considerably contribute directly to how customers feel while being in shopping malls. However, the role of the surroundings in general and the shopping environment in particular in eliciting customer emotions cannot

be neglected. Interestingly, in this study, the effect flows through a mediating variable such as cognition, as will be discussed later.

7.4.3 Shopping Environment and Customer Cognition

In the relevant literature, scholars applying the M-R model to study customer buying behaviour in retail contexts admire the significance of customer cognitive inferences in bridging the effect of shopping environment on customer behaviour (Bitner, 1992; Chen & Hsieh, 2011; Kumar & Kim, 2014; Sweeney & Wyber, 2002). Findings from different empirical studies suggest that the effect of shopping environment factors can go beyond customers' emotions to involving customers' cognition (Akroush *et al*., 2011; Babin, Hardesty & Suter, 2003; Bouzaabia, 2014; Im & Ha, 2011). Therefore, hypothesis three predicted a mall's shopping environment factors to have a significant positive effect on customer cognition (evaluation of a mall's overall shopping environment).

Path analysis findings confirmed all the structural paths linking ambient factors **(H3a)**, design factors **(H3b)** and social factors (**H3c)** to customer cognition (evaluation of a mall's overall shopping environment), providing a full support for hypothesis three. This indicates that customers use shopping environment factors as a basis to form their perceived quality of the shopping mall environment. Prior research in this respect has revealed supportive findings whereby shopping environment cues were reported as predictors of customer cognitive responses. Kumar and Kim (2014), for example, found a significant positive influence by ambient and social factors on customers' cognitive evaluations toward single-apparel stores. The findings of Bouzaabia (2014) and Spangenberg *et al*. (2005) suggest that ambient scent in retail contexts is capable of influencing how customers evaluate retail store environments. Similarly, Chebat and Morrin (2007) revealed a significant link between interior décor colour and the perceived quality of shopping environment.

By referring to the standardised regression coefficients of related structural paths, amongst the factors affecting customer evaluation of the shopping environment, design factors exerted the highest impact with a standardised regression weight of (.295), followed by social factors (.255) and ambient factors (.143). This implies that customer evaluation of the shopping environment is driven by design, social and ambient factors respectively. More specifically, customers highly consider the extent to which the mall layout simplifies their shopping activities, and the fact that the interior colour and decorations are attractive. Additionally, customers base their cognitive evaluations on social aspects present in the shopping environment such as the level of employees' care towards them, the degree of alignment with other customers in the shopping environment and the level of human traffic in the mall.

Lastly, shopping mall ambiance conditions such as cleanliness, temperature and air quality play a less important role on determining what cognitive inferences a customer may develop about a shopping environment. This can be attributed to the nature of ambient factors as being non-visual and less apparent to customers compared to design and social factors. In this respect, Wakefield and Baker (1998) indicated that such ambient conditions (e.g. temperature) would not be captured by customers as long as they are within the comfort zone of the customers. This suggests that, although the presence of pleasant ambience conditions may not be influential, its absence could distract customers and lead to inverse outcomes. For example, too low ambient temperatures or insufficient lighting levels may negatively affect how customers perceive the shopping environment. Therefore, attention must be made not to neglect the significance of ambient factors in affecting the whole shopping experience.

7.4.4 The Role of Customer Emotions in the Relationship between the Shopping Environment and Customer Behavioural Response

The M-R model posits emotions as a mediating variable in the environment-individuals' approach/avoidance behaviour relationship. In line with this view, empirical findings in retail marketing literature acknowledge the role of customer emotions induced by a shopping environment as predicting variables of customer buying behaviour. For instance, customers with positive emotions in retail environments show higher intentions to publicise positive word of mouth (Nyer, 1997), to buy more (Baker, 1992) and to spend more money and remain loyal (Lin & Liang, 2011). The results of Ryu and Jang (2007) and Raajpoot *et al*. (2013) suggest customer emotions as a mediating variable in the social cues-customer behavioural response relationship. Therefore, the fourth hypothesis (**H4)** predicted a positive effect of the customer emotions of (a) pleasure and (b) arousal in a mall's shopping environment on customer behavioural response. Also, these emotions were posited to mediate the effect of the various shopping environment factors on customer behavioural response as suggested by hypotheses **(H5**a-c**)**.

The findings of path analysis demonstrated a partial support for hypothesis four (**H4)**. Particularly, the path linking customer pleasure to behavioural response was confirmed, suggesting a positive impact for pleasure on customer behavioural response. Pleased customers spent more time and money than intended and bought items that were not on their shopping lists. They also revealed higher intensions to revisit in the future and to recommend the mall to their friends. This result is aligned with prior research in this area (Donovan *et al*., 1994; Kim & Moon, 2009; Novak *et al*., 2010; Ryu & Jang, 2007; Sweeney & Wyber, 2002). For instance, customers with higher levels of pleasure tend to spend more time in stores and to make more unplanned purchases (Donovan *etal*., 1994), and to show a greater revisit intentions (Kim & Moon, 2009). Additionally, the results of a

study by Sweeney and Wyber (2002) verify the positive effect of customer emotions (e.g. pleasure) on intended approach behaviour in general.

On the other hand, contrary to what was expected by (**H4**b**)**, the path between arousal and customer behavioural response was not verified, suggesting no significant effect by arousal on customer behavioural response. Similar findings have been reported in some previous studies (Donovan & Rossiter, 1982; Novak *et al*., 2010).This insignificant relationship can be attributed to the fact that arousal can affect customer behaviour indirectly via pleasure as reported in the findings of other scholars (Hyun & Kang, 2014; Kaltcheva & Weitz, 2006; Morrison *et al*., 2011), that is, customers' arousal elicited by shopping environments enhances their feelings of pleasure which, in turn, drive their behavioural responses.

The mediating role of pleasure and arousal in the relationship between shopping environments and customer behavioural response as predicted by hypothesis five (**H5)** was marginal. Specifically, three sub-hypotheses addressing the mediation in the effect of ambient factors (**H5**a**)**, design factors **(H5**b**)** and social factors **(H5**c**)** on customer behavioural response were examined. The findings revealed no mediation for either pleasure or arousal in the structural paths linking design factors and social factors to customer behavioural response. This suggests that two sub-hypotheses (**H5**b and **H5**c) out of the three relevant sub-hypotheses were rejected. One possible reason for the insignificant mediation of emotions in these effects is that customer emotions may mediate these effects indirectly as second step mediating variables rather than first step mediators. In other words, design and social factors may affect customer cognition of the shopping environment first which, in turn, elicits customer emotions and these ultimately drive customer behavioural response.

In this regard, a number of supporting findings can be noticed in the body of relevant literature. For instance, a recent study by Kumar and Kim (2014) has revealed that store environment cues (e.g. social cues) can, firstly, affect customers' cognitive evaluations of the store and the merchandise carried which, in turn, affect customers' feelings and, thereby, their approach behaviour. Similarly, Dennis *et al*. (2012) found customers' perception of mall shopping environments formed on the basis of environmental aspects positively affected customers' emotions which, in turn, affected customers' behavioural responses.

The only proved mediation was for pleasure in the relationship between ambient factors and customer behavioural response suggesting a partial support for **(H5**a**)**. This supports previous empirical findings by Vilnai-Yavetz and Gilboa (2010) who reported customer pleasure as a mediating variable in the effect of a servicescape's ambience (e.g. cleanliness) on customer approach behaviour. Consistent with this result, the findings of Novak *et al*. (2010) suggested a mediating effect by pleasure, but not arousal, on the relationship between sound pressure(ambient noise) and customers' behavioural intentions.

7.4.5 The Role of Customer Cognition in the Relationship between the Shopping Environment and Customer Behavioural Response

As indicated earlier, not only emotions but also cognition can play a role as an organism variable in a stimulus-organism-response (**SOR)** based study. Customers' cognitive evaluations inferred on the basis of shopping environment factors in the **S-O** part of the chain can further influence how customers respond behaviourally in the **O-R** part.

Regarding this, much empirical evidence has been provided on how customers with more positive cognitive inferences in retail environments reveal better behavioural responses

(Babin *et al*., 2003; Chen & Hsieh, 2011; De Nisco & Warnaby, 2013; Ryu, Lee & Kim, 2012; Wakefield & Blodgett, 1996; Wan *et al*., 2014). For example, customers with better evaluations of retail store environments showed higher patronage and purchase intentions (Babin *et al*., 2003). The findings of Ryu *et al*. (2012) suggest a positive indirect link between a restaurant's perceived value and customer behavioural intentions via customer satisfaction. Wan *et al.* (2014) reported on the mediating role of perceived service quality in the relationship between servicescape cues (e.g. perceived similarity with other customers in restaurant contexts) and customers' behavioural intentions. Accordingly, hypothesis six **(H6)** predicted a significant positive relationship between customer cognition towards a shopping environment and their behavioural response. Furthermore, hypothesis seven (**H7**a-c**)** posited that cognition can mediate the effect of the various factors of a mall's shopping environment on customer behavioural response.

The findings of the present study verified the positive effect of customer cognitive evaluation of a shopping environment on their behavioural response. For instance, customers showed better behavioural responses (e.g. higher revisit intentions and more money spent) in environments that are perceived to be lively, good, positive and comfortable. This result is in line with Bitner's (1992) theoretical framework which suggested customer cognitive reactions as one of the internal responses influencing customer behaviour in servicescapes. Also, prior empirical studies have revealed supportive findings. For example, Wakefield and Blodgett (1996) reported a positive effect of the perceived quality of a servicescape, inferred on the basis of pleasant environmental features, on customers' satisfaction and, ultimately, on their desires to stay and to re-patronize. Similarly, in a more recent study, De Nisco and Warnaby (2013) found that customers' perceptions of service quality induced by attractive shopping areas fostered customers' intentions to spend more time and to re-patronage in the future.

Further to the result of hypothesis six **(H6)**, customer cognition (evaluation of a mall's overall shopping environment) was also found to mediate the effect of ambient, design and social factors on customer behavioural response, lending full support for (**H7a)**, (**H7b)**, and (**H7c)** respectively. These findings are also congruent with prior research addressing the effect of such cognitive inferences (e.g. perceived quality of the environment, and service and product perceived value) in the retail environment-customer behaviour relationship. For example, in chain-supermarkets, Chen and Hsieh (2011) demonstrated a significant positive effect by ambient, design and social factors on customers' cognitive valuations (e.g. product value and service quality) which, in turn, affected their approach behaviour. A more recent study by De Nisco and Warnaby (2013) found that the physical layout and functionality of urban shopping areas (as well as the appearance of the stores) indirectly fostered customers' behavioural intentions via the overall perceived service quality in these areas.

7.4.6 The Interplay Mediating Role of Emotions and Cognition

The overall theoretical model of the current research addressed the interactive relationship between emotion and cognition in bridging the effect of shopping environment factors on customer behaviour. However, as indicated earlier in the overall result section, the cognition-emotion sequence of mediation was more robust in predicting this effect compared to both the emotion-cognition sequence and parallel mediation. The earlier order of mediation was inspired by the cognitive theory of emotions (Lazarus, 1991) which posits customer cognition as a necessary antecedent condition for emotions to be elicited. In accordance with this, hypothesis eight (**H8)** posited a significant positive effect by customer cognition (evaluation of a mall's overall shopping environment) on the customer emotions of pleasure and arousal. Furthermore, hypothesis nine **(H9)** predicted these emotions to mediate the effect on customer behavioural response.

The findings demonstrated a direct effect by customer evaluation of the shopping environment on both pleasure and arousal and an indirect effect on behavioural response via pleasure, lending full support to **(H8)** and partial support to **(H9)**. Customers who perceived the mall shopping environment more positively (e.g. attractive, good and interesting) experienced higher levels of pleasure and were more stimulated and excited while being in the mall. Consistent with this, Dennis *et al.* (2012) showed a positive impact by customer cognition (evaluation of a mall's overall shopping environment) on customer affective state which, in turn, affects approach behaviours. Similarly, Chebat and Michon (2003) revealed congruent findings, whereby the effect of ambient scents on shoppers' spending follows a cognitive-emotional route rather than an emotional-cognitive route. These results have been recently supported by Kumar and Kim (2014) who revealed a cognition-emotion sequence of organisms (O) in the effect of both store atmosphere and merchandise cues (S) on customer approach/avoidance behaviour (R).

Finally, the findings overall suggest the design factors of shopping environments to be the most influential in driving customer responses in shopping malls, followed by social factors and ambient factors. In an examination of the descriptive statistics of the retained items of design factors, mall layout generated the highest average mean of (5.27), followed by interior colours (5.03) and interior design (4.88). This implies that customers' responses are mainly affected by mall layout, interior colours and interior design respectively. Clearly, customers are mostly concerned with the extent to which the shopping mall is navigable, and with the fact that the interior colours and decorations are attractive and pleasant.

Amongst the social factors addressed in the present study, employee-related aspects such as the level of cooperation and friendliness have the highest relative importance with an

average mean of (4.90), followed by integration with other customers (4.70) and human crowdedness (4.62). Thus, the effect of the social factors mostly relate to the attitudes, appearance and number of employees available to serve customers. Lastly, based on the descriptive statistics relating to the retained items of ambient factors, cleanliness has the highest relative importance with a mean of (4.85), followed by ambient temperature and air quality with a mean of (4.75). This suggests that, amongst the various ambient factors in shopping malls, customers are mainly influenced by the level of mall cleanliness, ambient temperature and ambient air quality respectively.

7.5 Chapter Summary

This chapter has provided further insights into the overall research result and the findings of the hypothesis testing which were carried forward from the data analysis and research findings' chapter. The focus in the present chapter was to show the level of match and discrepancies between the current findings and that of previous studies. Also, the chapter was concerned with providing a more in-depth understanding of the findings and, in some instances, a possible justification of the results which contradict prior research. The chapter started with a brief presentation of the findings including both the overall result from the structural models as well as the findings from the hypothesis testing. The overall result confirmed the capability of the various factors of the shopping environment **(S)** in influencing customer behavioural response **(R)** in shopping malls through a cognitive-emotional sequence of mediation **(O)**. This confirmed the applicability of Lazarus's (1991) cognitive theory of emotions in explaining the mechanism (part **O** of the **S-O-R** chain) by which a mall's shopping environment factors affect customer behaviour.

A discussion of the nine main research hypotheses tested was also provided. The findings were largely consistent with the findings published in the literature. Out of seventeen direct

structural paths included in the structural model, thirteen paths were verified providing full support for four hypotheses (H1, H3, H6, and H8) and partial support for two others (H2 and H4). Furthermore, the mediation analysis lent full support to (H7) confirming the mediating role of cognition in the relationship between shopping environment factors and customer behavioural response. On the other hand, although the mediation of emotion in the effect of shopping environment factors on customer behavioural response (H5) was partially supported, it was marginal (e.g. only for pleasure in the ambient-behaviour relationship). Partial support was also found for (H9), that is, the effect of cognition (evaluation of a mall's overall shopping environment) on customer behavioural response was mediated by pleasure but not arousal.

Overall, the design factors of a shopping environment seemed to be the most influential in deriving customer responses in shopping malls, followed by social factors and ambient factors. Amongst the most important aspects of the design factors were mall layout, interior colours and interior design. Of the social factors, employee-related cues (such as the level of employees' cooperation and friendliness) had the highest relative importance followed by customer-related cues and human crowdedness. Finally, mall cleanliness was the most important aspect within ambient factors followed by ambient temperature and air quality.

Following the discussion presented in this chapter, the next and final chapter of this thesis will present the overall conclusions of the study in relation to the research questions. Additionally, both the theoretical contributions and the practical implications of this research will be illustrated. Finally, the research limitations and the areas for possible future research will also be addressed in the next chapter.

CHAPTER EIGHT: Conclusions, Contributions and Limitations

8.1 Introduction

This chapter aims to present the conclusions of this study, its contributions to theory and practice as well as the research limitations and areas of possible future research. The chapter firstly introduces an overview of the study followed by conclusions in relation to each research question. The theoretical contributions of the study and its managerial implications are then outlined. The study's limitations and areas of possible further research are also highlighted. Finally, a chapter summary is presented at the end of this chapter.

8.2 Study's Overview

This thesis sets out to examine how a mall's shopping environment affects customer behavioural responsethrough investigating the mediating role of customer emotions (pleasure and arousal) and cognition (evaluation of a mall's overall shopping environment). In line with this aim, four research questions were raised. Firstly, to what extent do shopping environment factors involving ambient, design and social factors affect customer emotional, cognitive and behavioural responses? Secondly, to what extent do customer emotions and cognition affect customer behavioural response? Thirdly, is the relationship between the factors of a mall's shopping environment and customers' behavioural response mediated by their emotions and cognition? Fourthly, how do customer emotions and cognition mediate the relationship between the factors of a mall's shopping environment and customer behavioural response?

An extensive review of the existing literature was carried out and a comprehensive conceptual research model comprising eleven research hypotheses was developed. The model was primarily inspired by the stimulus-organism-response model of Mehrabian and Russell (1974) which represented the backbone of the overall research framework. The research model is comprehensive and comprises several interdependent relationships among three independent variables -stimulus- (e.g. ambient factors, design factors and social factors); three mediating variables -organism- (customers' pleasure, arousal and evaluation of a mall's overall shopping environment), and one dependent variable -response- (e.g. customer behavioural response). It also addresses different scenarios of mediation, whereby the effect of the aforementioned shopping environment factors on customer behavioural response flows through both a parallel and a sequential mediation of emotions (pleasure and arousal) and cognition (evaluation of a mall's overall shopping environment). In the sequential/two-step mediation, the effect is channelled through two contrasting manners (e.g. an emotion-cognition sequence and a cognition-emotion sequence). In order to empirically test the research conceptual model, a questionnaire survey was administered using a mall intercept technique to 1,408 shopping mall customers in total. A dataset of 1,028 valid responses / usable questionnaires was carried forward to the data analysis. Structural equation modelling using AMOS-graphics 20 was implemented to analyse the data following the two-step approach suggested by Anderson and Gerbing (1988). After validating the overall measurement model, three structural models suggesting the indicated scenarios of mediation were derived and examined separately, since the initial comprehensive structural model was inestimable on AMOS. Based on model fitting indices, the cognition-emotion sequence (represented by the cognition-emotion mediated mode) was concluded to be the most robust one in explaining the effect of shopping environment factors on customer behavioural response in shopping malls. Accordingly, this model was utilised to test the relevant research hypotheses (e.g.

H1-H9). As shown in figure (8.1), thirteen (13) out of seventeen (17) structural paths in total were statistically significant and in the hypothesised direction, lending support to the majority of the research hypotheses. These empirical findings have been presented in the data analysis and research findings' chapter and further discussed in the findings discussion chapter. The following section will present the research conclusions made on the basis of these findings to answer the four research questions.

8.3 Research Conclusions

In the light of the research findings that were outlined in the data analysis and research findings' chapter and discussed in the discussion of findings chapter, this section presents the major research conclusions made in relation to each research question.

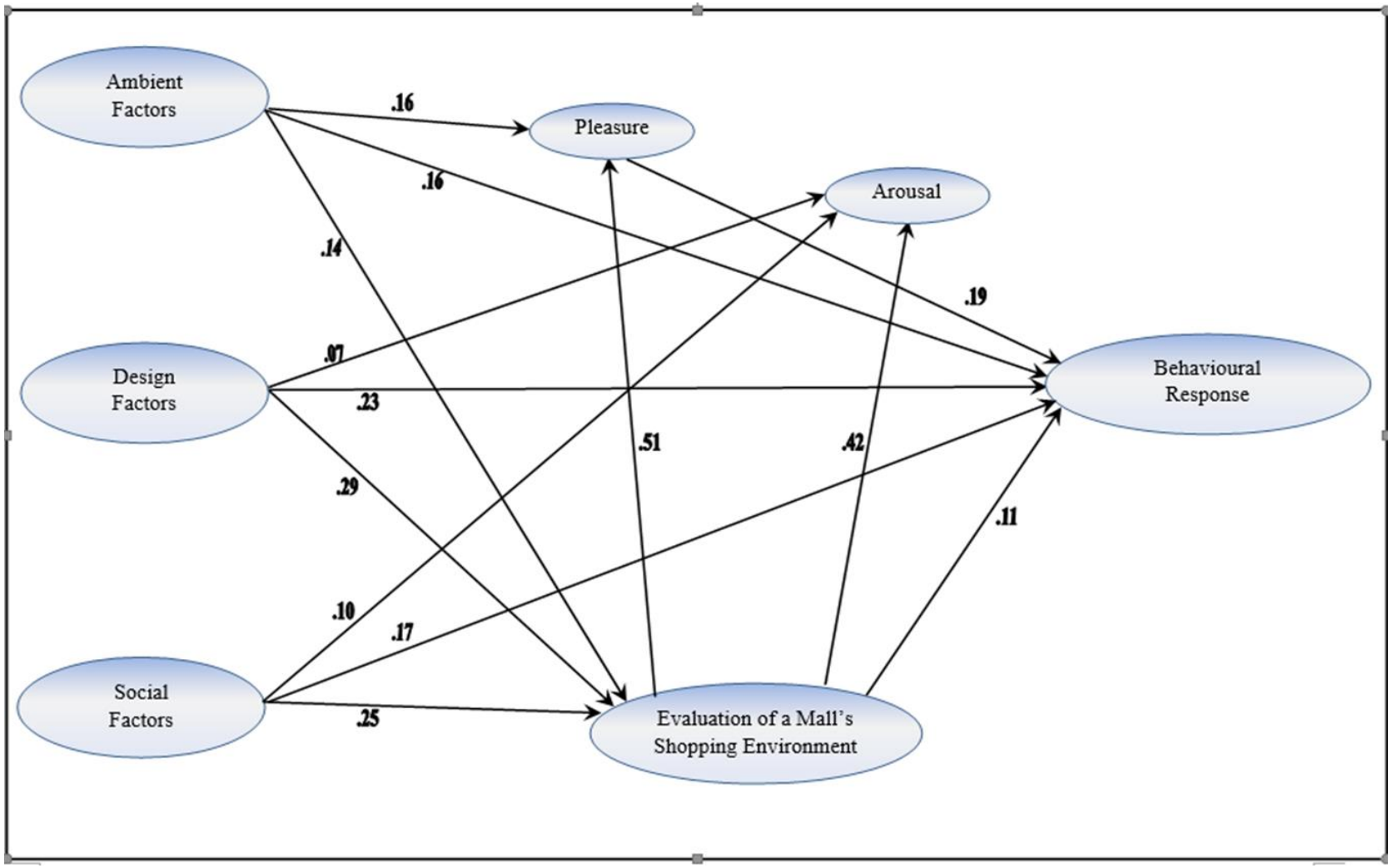
8.3.1 Conclusion to the First Research Question

To what extent do shopping environment factors involving ambient, design and social factors affect customer emotional, cognitive and behavioural responses?

The empirical findings asserted the capability of the various factors of a mall's shopping environment to impact on customer emotions, cognition and behavioural response. However, such factors were shown to be less influential in driving customer emotions compared to customer cognition (evaluation of a mall's overall shopping environment) and customer behavioural response.

The role of shopping environment factors in eliciting customer emotional states was relatively marginal, that is, amongst the shopping environment factors, only ambient factors were significant in predicting customer pleasure while the effect of design and social factors were only significant on customer arousal.

. **Figure (8.1) Final Structural Model (Significant Paths)**



Noticeably, none of the shopping environment factors was successful in directly triggering the two emotional states of pleasure and arousal. This weak direct effect of the shopping environment on customer emotions is mainly predicted by ambient factors, social factors and design factors respectively.

Customer cognition (evaluation of a mall's overall shopping environment) was the most affected response by shopping environment factors. Shopping environment factors serve as a basis on which customers base their evaluations of the mall's overall shopping environment. Design factors, such as layout, interior colours and design, are the most significant predicting variable contributing to how customers evaluate the shopping environment. Also, customers' evaluations depends to a large extent on the social factors of the shopping environment especially employees' attitudes and characteristics (e.g. friendliness and number of employees available to serve customers) which was ranked as the second influential variable after design factors. Ambient factors such as cleanliness and ambient temperature play a role in driving customers' cognition toward the shopping environment; however, their effect seems to be less significant if compared to design and social factors. Similarly, the mall's shopping environment was successful in predicting customer behavioural response. Such a response was mainly dominated by design factors, social factors and ambient factors respectively.

Accordingly, it can be concluded that a mall's shopping environment can be considered as an effective and powerful tool in shaping customer cognition towards the shopping environment and in driving their behavioural response. However, its direct effect on customer emotions seems to be much less significant. Overall, customer responses are

mainly driven by design factors which play the most influential role, followed by social factors and ambient factors respectively.

In the light of the proceeding discussion, the following specific research objectives have been fulfilled:

RO1: To examine the effect of a mall's shopping environment including ambient, design and social factors on customer behavioural response.

RO2: To examine the effect of a mall's shopping environment factors on customer emotions.

RO3: To examine the effect of a mall's shopping environment factors on customer cognition.

8.3.2 Conclusion to the Second Research Question

To what extent do customer emotions and cognition affect customer behavioural response?

The empirical findings demonstrated a significant positive effect for the emotion of pleasure on customer behavioural response. A customer who felt good and was happy, pleased and joyful in the mall revealed positive behavioural responses in terms of amount of time and money spent in the mall, impulse purchases made, intentions to divulge positive word of mouth about the mall, and to revisit it in the future. In contrast, the effect of arousal was insignificant, that is, no association was noticed between the extent to which a customer feels stimulated or active in the mall and their behavioural response. On the other hand, customer cognition indicated by their evaluation of the mall's overall shopping environment was significant in predicting customer behavioural response. Customers with positive evaluations toward the shopping environment showed positive behavioural responses. Nevertheless, such cognition was less influential than the emotion of pleasure in influencing customer behavioural response.

Accordingly, one can conclude that both customer emotions and cognition (evaluation of a mall's overall shopping environment) are important in explaining customer behaviour in shopping malls, while the former is more effective. However, pleasure, and not the emotion of arousal, only plays a role in determining how customers behave in shopping malls. This helped to meet the following research objectives in particular:

RO4: To examine the effect of the customer emotions of pleasure and arousal on customer behavioural response in shopping malls.

RO5: To examine the effect of customer cognition on customer behavioural response in shopping malls.

8.3.3 Conclusion to the Third Research Question

Is the relationship between the factors of a mall's shopping environment and customers' behavioural response mediated by their emotions and cognition?

The findings of the mediation analysis revealed a partial mediation by customer pleasure in the relationship between ambient factors and behavioural response, while no mediation was reported for arousal in this relationship. Furthermore, neither pleasure nor arousal was found to mediate the effect of design factors and social factors on customer behavioural response. On the other hand, a partial mediation was reported for customer cognition (evaluation of a mall's overall shopping environment) in the effect of each of the shopping environment factors including ambient, design, and social factors on customer behavioural response.

Based on this, the conclusion that can be made here is that the mediating effect of customer emotions on the relationship between shopping environment factors and customer behavioural response is marginal. In contrast, customer cognition plays a critical mediating role, whereby the effect of every single group of the factors (e.g. ambient, design and

social factors) on customer behavioural response flows through customer cognition (evaluation of a mall's overall shopping environment). This contributed to fulfilling the sixth research objective **RO6**: To examine the mediating role of both customers' emotions of pleasure and arousal and cognition on the effect of a mall's shopping environment on customer behavioural response.

8.3.4 Conclusion to the Fourth Research Question

How do customer emotions and cognition mediate the relationship between the factors of a mall's shopping environment and customer behavioural response?

As indicated before, the effect of shopping environment factors on customer behavioural response was mainly channelled through customer cognition, while customer emotions played a minor mediating role in this effect. However, in accordance with the overall finding of this thesis, the mediating role of emotions becomes more significant as a second-step mediating variable. That is, the fitting indices of the derived competing structural models (e.g. the cognition-emotion mediated model, the emotion-cognition mediated model and the parallel mediation model) supported a cognitive-emotional sequence of mediation which was more robust in predicting the effect than the two other alternatives. Accordingly, the effect of the various factors of a mall's shopping environment on customer behavioural response is mediated first by customer cognition and then by their emotions (pleasure). In line with this, the effect of customer cognition on customer behavioural response was shown to be partially mediated by the customer emotion of pleasure, while no mediating role was found for arousal in this effect.

The conclusion that can then be made is that rather than working independently, both customer cognition and emotions interactively mediate the effect of the various factors of a mall's shopping environment on customer behavioural response. In particular, the effect

flows through a cognitive-emotional channel of mediation and, more specifically, through a cognition-pleasure sequence.

The preceding discussion helped to meet the last research objective **RO7**: To investigate the mechanisms by which customer emotions and cognition jointly mediate the relationship between a mall's shopping environment and customer behavioural response.

8.4 Contributions to Knowledge

This study demonstrates a number of important contributions to knowledge at theoretical and practical levels. Such theoretical contributions and empirical implications are presented in the following two sections respectively.

8.4.1 Theoretical Contributions

This research was mainly motivated by a number of deficiencies in the extant literature. In the first instance, the vast majority of studies addressing the role of a shopping environment in affecting customer buying behaviour have been carried out in developed and Western countries. Thus, there is a deficiency of such empirical research in developing countries in general and the Middle-East region in particular. Secondly, although the effect of shopping environments on customer behaviour is largely evident in the relevant literature, the empirical findings suggest that the mechanism of the effect is still a promising area of research. Therefore, developing and testing a conceptual model which addresses a number of possible mechanisms for explaining this effect is invited. Thirdly, the joint mediating effect of customer emotions and cognition in stimulus-organism-response based research is mostly investigated in studies addressing a single or few environmental stimuli. Thus, there is a definite need for this effect to be studied in a multi-environmental framework. In addition to this, very limited research has considered the interplay mediating role of emotions and cognition in shopping environment-customer

behaviour relationship. Lastly, to the best of the researcher's knowledge, this is the first study that simultaneously examines two different scenarios of interplay mediation between emotions and cognition in the effect of shopping environments on customer behaviour.

The contribution of this research can be explained by several points. In the first place, theoretically, the present study enriches the existing limited literature on customer buying behaviour in shopping contexts in developing and Middle-Eastern countries. This was achieved through developing a holistic conceptual model based on empirical evidence from Western contexts and then empirically examining this model in the context of shopping malls in Jordan. Testing such a comprehensive model involving a series of interdependent relationships among multi-environmental factors and customer emotional, cognitive and behavioural responses for the first time in Jordan adds to the significance of this study.

Unlike the majority of previous empirical studies on customer buying behaviour in retail contexts (e.g. Bellizzi & Hite, 1992; Sweeney & Wyber, 2002; Walsh *et al.*,2011), this study adopts a multi-environmental framework involving ambient, design and social factors rather than only focusing on a certain specific environmental factor such as interior colour or music. Furthermore, the study addresses a concern as to the relative importance of each group of the aforementioned factors in driving customer mall behaviour. Therefore, it provides a more comprehensive understanding of the effect of the entire environment on customer behaviour.

In addition, much of previous research in retail atmospherics literature in general (e.g. Andersson *et al*, 2012; Babin *et al*. 2003; Herrington 1996; Ferreiraa & Castrob, 2011) and in studies applying multi-environmental frameworks in particular (e.g. Baker *et al*., 2002; Chang *et al*., 2014; Chen & Hsieh, 2011; Lin & Liang, 2011) has been conducted at the

store level. This thesis departs from this trend by examining the role of the shopping environment in enriching customer experiences at the mall level. This becomes fundamental in the light of the fact that the shopping environment is more encompassing and rich in nature in shopping malls compared to retail stores or servicescapes. Moreover, the shopping environment itself represents the essence of the business and the main stream of shopping malls profits. Therefore, the findings presented in this thesis provide a distinctive understanding of the key attractiveness factors of this particular and unique retail format.

Another fundamental contribution of the current study is that it uniquely integrates three different theories of customer behaviour into one comprehensive framework to gain a greater understanding as to how the various factors of a mall's shopping environment affect customer mall behaviour. Particularly, the two contrasting perspectives, cognition-emotion-response and emotion-cognition-response, are brought together to explain the mediating role of the two organisms (emotions and cognition) in a stimulus-organism-response framework. In other words, in addition to the parallel mediation of emotions and cognition, this study simultaneously examines two other competing scenarios of interplay mediation in the shopping environment-customer behaviour relationship: the cognitive-emotional sequence and the emotional-cognitive sequence. Interestingly, even in the few empirical studies investigating the presence of mediation effects, only one of the cognition-emotion or emotion-cognition hierarchies was considered (e.g. Kumar & Kim, 2014; Laroche *et al*. 2005; Raajpoot *et al.* 2008). Thus, the empirical findings of the present study introduce an advanced understanding of the applicability of the traditional stimulus-organism-response model and provide distinctive insights into the mechanism by which customer emotions and cognition mediate the effect.

8.4.2 Practical Implications

Besides the theoretical contributions indicated earlier, this study also demonstrates a number of important implications to practice. In the first place, uniquely, this study provides mall operators in Jordan with a holistic research model that can be used to analyse customer mall behaviour from the viewpoint of customers. Furthermore, given the scarce empirical evidence on customers mall behaviour in Jordan, the detailed research findings presented in the current study are informative for malls' operators seeking to understand how the shopping mall environment can be best utilised to enrich the shopping experience of customers and to ultimately drive their buying behaviour. The significance of these findings for practitioners is revealed by two main points: firstly, the use of a multi-environmental factor model and assessing the contribution of each group of environmental factors to customers' responses; secondly, the unique emphasis on customer internal emotional and cognitive states and their mediating effect on the relationship between the shopping environment and customer behavioural response.

By identifying the relative significance of each category of shopping environment factors in deriving customers' responses, the research findings can assist mall marketers to set priorities and to deploy such factors in the most effective way. In this extent, all the categories of shopping environment factors are important contributors to customers' responses in shopping malls. Nevertheless, design factors are shown to be the most influential category, and social factors are more important than ambient factors.

The research findings reinforced the significance of a shopping environment in driving customer emotional, cognitive and behavioural responses in shopping malls. Therefore, practitioners need to be aware of the necessity to include the numerous shopping environment factors in their marketing toolbox. If the aim is to enrich the emotional and cognitive experiences of shopping malls' customers and ultimately encourage positive

behavioural response, mall operators should not neglect the significance of mall atmospherics. More specifically, they have to mostly consider the extent to which the mall layout allows customers to easily get around in the mall and to get to the stores they want. Attention should also be paid to the attractiveness of the interior colours and the novelty of the malls' interior design. Mall operators have also to always encourage their employees to show the highest levels of care, cooperation and friendliness when dealing with the malls' customers. Furthermore, they should not underestimate the role of pleasing ambience conditions such as cleanliness and ambient temperature and air quality. Maintaining such a pleasant shopping environment, which takes into account customers' needs and desires, contributes significantly as to how positively customers evaluate the quality of the overall shopping environment. This, in turn, enhances customers' emotional states and ultimately encourages a favourable behavioural response towards the mall. Moreover, such pleasant customers' experiences and the resulting positive behavioural responses may enhance a mall's profitability and competitiveness in the long run.

In addition, another important practical contribution of this study is that it goes beyond simply showing the effect of the various factors of a shopping environment on customer mall behaviour. Rather, this study focuses on providing marketers with insights on the mechanism by which this effect is exerted. In other words, the study is concerned with the role of customer emotions and cognition in bridging the relationship between the factors of a mall's shopping environment and customer behavioural response. In this regard, the findings of the mediation analysis suggest that, together, customer emotions and cognition towards the shopping environment are crucial in explaining this relationship. However, practitioners should be aware that the effect in this relationship flows through a cognitive-emotional sequence of interplay mediation.

By understanding whether cognition precedes emotions or vice versa, markets would be in a better position to leverage the effect of the various factors of a mall's environment on customer behavioural response. The research findings suggest that practitioners are advised to consider the implications of the shopping environment on customer cognition rather than simply thinking about its direct implications on customer emotions. For instance, it would be illogical to focus on emotional triggering tools such as stimulating colours unless they also affect customer cognition toward the shopping environment. Instead, it is advisable to improve the shopping environment in a way that enhances the cognitive inferences of customers toward the shopping environment and this, in turn, will stimulate customer emotions and, ultimately, encourage better behavioural response.

8.5 Research Limitations and Areas of Possible Future Research

Despite the keen concern that was taken on board in developing and carrying out the present study, as with any behavioural research, this study is believed to have some limitations offering promising areas for further research.

The findings of the current study are limited in terms of generalisabilty due the fact that data was collected exclusively in shopping malls and, to some extent, by using convenience sampling. Therefore, future research is invited to examine the research model in other retailing and service contexts (e.g. department stores and restaurants) using probability sampling techniques (e.g. simple random sampling). Additionally, given the weak convergent validity shown for the construct of behavioural response, a future study could consider an alternative measurement scale. Furthermore, the dimensions incorporated in this construct such as impulse buying and behavioural intentions could be also examined independently to show how the shopping environment can affect each of such dimensions.

Prior research reported a moderating role for personal variables (e.g. demographics) and shopping orientations on customer behaviour in shopping environments (Andersson *et al*., 2012; Chang *et al*., 2011; Kaltcheva & Weitz, 2006); nevertheless, they are not addressed in the present study. Thus, such personal and situational variables could be taken into consideration and applied to the hypothesised model as moderating variables in a future research. It would be also interesting to study how customer responses may vary based on customers' familiarity with the mall's shopping environment and to compare customers' responses across different shopping malls. Future research could also test the research conceptual model within the context of several shopping malls that differ in size to show how customer responses may vary depending on a shopping mall's size.

Additionally, the fieldwork of the present study was carried out using a non-experimental research strategy, in which the researcher had less control over the research variables. Nevertheless, in the light of the broad focus of the present study on numerous variables within the shopping environment, such a strategy can be considered appropriate in this case. In addition, due to the nature of the present study as a Ph.D. research project, this study has investigated the role of shopping environments in driving customer responses using a cross-sectional manner. However, addressing such a topic using longitudinal research on a certain shopping mall could be undertaken to uncover how the effect of the environment factors may change over time. Furthermore, qualitative research methods can be also implemented to gain a deeper understanding of customer experience in shopping malls.

Also, one of the limitations of this study is that it did not address the interactive relationship between pleasure and arousal as a mediating variable in the research model. Interestingly, the findings from some previous empirical research (e.g. Kaltcheva & Weitz,

2006; Morrison *et al*., 2011) suggest that customer pleasure can be predicted by the level of their arousal. Therefore, a future work that tackles this limitation would contribute to generating greater insights into emotions and their implications on customer cognitive and behavioural responses. In addition, this study took a customer stance to examine how the various factors of a shopping environment affect customers in shopping environments. A future research could also examine how a shopping environment can be utilised to enhance customer cognitive and emotional experience from a malls' manager's standpoint (El-Adly, 2007).

A final note that can be made is that this thesis addressed the role the factors of a mall's shopping environment in driving customer responses from a global point of view. For instance, the findings of this thesis did not specify which kind of, e.g. music or interior design, etc. is appropriate. Thus, further studies could be conducted at a mall's individual level to identify the optimal kind of such environmental characteristics for its target market segment(s) and thus can be more influential in enriching customer mall experience and encouraging better behavioural responses.

8.6 Chapter Summary

This concluding chapter commenced with an overview of the study which briefly described the main aspects of this study involving its purpose, the conceptualisation of the research model and research hypotheses, and the empirical side of the study. The chapter continued with presenting the research conclusions that were derived from the research findings outlined in the data analysis and research findings chapter. Research conclusions were presented in relation to each of the research questions. The contributions of this study to theory and practice were then discussed. Lastly, the chapter concluded with the limitations of this study and directions for possible future research.

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Appendix A- Research Questionnaire-English Version

Dear Sir/Madame,

My name is Nawras M. Nusairat. I am a second year Ph.D. student at Salford Business School, University of Salford, UK. As a part of my study, I am conducting a research project investigating the effect of the shopping environment on customer emotional, cognitive, and behavioural responses.

I would like to take this opportunity to thank you for completing this research questionnaire. I would like also to assure you that the data collected in this questionnaire will be used only for the research purpose indicated above. Responses will be anonymous and will be handled with complete confidentiality.

Your participation will make a valuable contribution in understanding the extent to which each group of the shopping environment factors affects your emotions, cognitions of the shopping environment, and buying behaviour.

Please answer all the questions carefully according to your own opinion taking into consideration that there will not be right or wrong answers.

Thank you,

Nawras Nusairat

Do you consider yourself as a regular customer to this shopping mall- does shop twice a month at least?

☐ **Yes**

☐ **NO** **Stop here.**

Part One-Shopping Mall Environment

Please tick boxes indicating the level of your agreement or disagreement with each of the following statements, where 1=Strongly disagree and 7=Strongly agree:

No.	Statement	Strongly disagree			Neither agree nor disagree			Strongly agree
	Ambient Factors							
1.	I like the music in the mall.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
2.	The music in the mall is played at an appropriate volume.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
3.	The music played in this mall makes shopping pleasant.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
4.	The music played in this mall is appropriate.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
5.	The music I hear in this shopping mall bothers me. (R)	**1**	**2**	**3**	**4**	**5**	**6**	**7**
6.	The mall's temperature is comfortable.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
7.	The mall's lighting is appropriate.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
8.	This shopping mall has a pleasant air quality.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
9.	In this shopping mall you can smell pleasant odours.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
10.	This shopping mall is clean.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
11.	The noise level in this shopping mall is acceptable.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
	Design Factors							
12.	The mall's architecture gives it an attractive character.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
13.	This mall is decorated in an attractive fashion.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
14.	This shopping mall has an impressive interior design.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
15.	The overall design of this mall is interesting.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
16.	The layout makes it easy to get to the stores you want.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
17.	The layout makes it easy to get to the food areas.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
18.	Overall, the layout makes it easy to get around.	**1**	**2**	**3**	**4**	**5**	**6**	**7**

19.	The interior walls and floor colour schemes are attractive.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
20.	The colour scheme is pleasing.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
21.	The colours used in the mall appear to be currently fashionable.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
22.	The colour of this mall is bright.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
23.	The physical facilities of the mall are attractive.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
	Social Factors							
24.	There are enough employees in the mall to service customers.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
25.	The employees are well dressed and appear neat.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
26.	The employees are friendly.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
27.	The employees are helpful.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
28.	Employees of this mall give customers personal attention.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
29.	I can identify with the typical customer who shops at this shopping mall.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
30.	The typical customers at this shopping mall are very much like me.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
31.	The mall is too busy during my shopping trip.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
32.	There is much traffic in the mall.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
33.	There are a lot of shoppers in the mall.	**1**	**2**	**3**	**4**	**5**	**6**	**7**

Part Two-Customer Emotions

On the scale below, please tick boxes that best describe your current feelings toward the mall's environment:

Pleasure							
No.							
34	**Despairing**	←					**Hopeful** →
	1	**2**	**3**	**4**	**5**	**6**	**7**
35	**Annoyed**	←					**Pleased** →
	1	**2**	**3**	**4**	**5**	**6**	**7**
36	**Dissatisfied**	←					**Satisfied** →
	1	**2**	**3**	**4**	**5**	**6**	**7**
37	**Unhappy**	←					**Happy** →
	1	**2**	**3**	**4**	**5**	**6**	**7**
38	**Bored**	←					**Relaxed** →
	1	**2**	**3**	**4**	**5**	**6**	**7**
39	**Melancholic**	←					**Contented** →
	1	**2**	**3**	**4**	**5**	**6**	**7**
Arousal							
40	**Relaxed**	←					**Stimulated** →
	1	**2**	**3**	**4**	**5**	**6**	**7**
41	**Calm**	←					**Excited** →
	1	**2**	**3**	**4**	**5**	**6**	**7**
42	**Sleepy**	←					**Wide awake** →
	1	**2**	**3**	**4**	**5**	**6**	**7**
43	**Unaroused**	←					**Aroused** →
	1	**2**	**3**	**4**	**5**	**6**	**7**
44	**Sluggish**	←					**Frenzied** →
	1	**2**	**3**	**4**	**5**	**6**	**7**
45	**Dull**	←					**Jittery** →
	1	**2**	**3**	**4**	**5**	**6**	**7**

Part Three- Customer Cognition (Evaluation of a Mall's Overall Shopping environment)

On the scale below, please tick boxes that best indicate your evaluation of the mall's overall shopping environment:

Evaluation of the Mall's Overall Shopping Environment							
No.							
46	**Unattractive**	←				→	**Attractive**
	1	**2**	**3**	**4**	**5**	**6**	**7**
47	**Tense**	←				→	**Relaxed**
	1	**2**	**3**	**4**	**5**	**6**	**7**
48	**Uncomfortable**	←				→	**Comfortable**
	1	**2**	**3**	**4**	**5**	**6**	**7**
49	**Depressing**	←				→	**Cheerful**
	1	**2**	**3**	**4**	**5**	**6**	**7**
50	**Closed**	←				→	**Open**
	1	**2**	**3**	**4**	**5**	**6**	**7**
51	**Drab**	←				→	**Colourful**
	1	**2**	**3**	**4**	**5**	**6**	**7**
52	**Negative**	←				→	**Positive**
	1	**2**	**3**	**4**	**5**	**6**	**7**
53	**Boring**	←				→	**Stimulating**
	1	**2**	**3**	**4**	**5**	**6**	**7**
54	**Bad**	←				→	**Good**
	1	**2**	**3**	**4**	**5**	**6**	**7**
55	**Unlively**	←				→	**Lively**
	1	**2**	**3**	**4**	**5**	**6**	**7**
56	**Dull**	←				→	**Bright**
	1	**2**	**3**	**4**	**5**	**6**	**7**
57	**Unmotivating**	←				→	**Motivating**
	1	**2**	**3**	**4**	**5**	**6**	**7**
58	**Uninteresting**	←				→	**Interesting**
	1	**2**	**3**	**4**	**5**	**6**	**7**

Part Four-Customer Behavioural Response

For each of the following statements, please tick boxes indicating the level of your response where 1=strongly disagree and 7= strongly agree:

No.	Statement	Strongly disagree			Neither agree nor disagree			Strongly agree
	Behavioural Response							
59	I feel that I have spent more money than I planned before entering the shopping mall.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
60	I spent more time than I expected at the mall.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
61	The amount of time I spent was fairly high.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
62	In this shopping mall, I felt a sudden urge to buy something and I bought it.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
63	In this shopping mall, I felt excitement of the hunt.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
64	I bought more than what I had planned to buy.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
65	I would say positive things about this shopping mall.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
66	I would recommend this shopping mall to my friends.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
67	I would like to come back to this shopping mall in the future.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
68	It is likely that I will shop at this shopping mall in the future.	**1**	**2**	**3**	**4**	**5**	**6**	**7**

Part Five: Demographical Background

Please tick boxes where appropriate:

Age:

15-19 ☐ 20-24 ☐ 25-29 ☐ 30-34 ☐

35-39 ☐ 40-44 ☐ 45-49 ☐ 50 years and above ☐

Gender:

Male ☐ Female ☐

Marital Status:

Single ☐ Married ☐ Divorced ☐ Widow ☐

Educational Level:

High School ☐ Diploma-Two Years College ☐ Bachelor Degree ☐

Higher Education Degrees ☐ Other ☐

Current Career:

Student ☐ Unemployed ☐ Private Sector Employee ☐

Public Sector Employee ☐ Business Owner ☐ Other ☐

Monthly Income:

Less than 500 JD ☐ 501-999 JD ☐

1000-1499 JD ☐ 1500-1999 JD ☐

2000-2499 JD ☐ 2500 JD and above ☐

Many Thanks

Appendix B- Research Questionnaire-Arabic Version

عزيزي المستجيب/المستجيبه،،

كجزء من متطلبات الحصول على درجة الدكتوراه في التسويق يقوم الباحث بتنفيذ دراسة بعنوان " أثر البيئة التسوقية للمولات في الأردن على عواطف الزبون و إدركاته تجاه البيئة التسوقية و دورها في صياغة سلوكه الشرائي ". تهدف هذه الإستبانه إلى دراسة أثر متغيرات البيئة الداخليه للمول على عواطف الزبائن و إدراكاتهم تجاه البيئة التسوقيه ودورها في صياغة السلوك الشرائي لزبائن المولات في الأردن.

تتكون هذه الإستبانه من 68 عبارة موزعه على أربعة أبعاد رئيسية هي: بيئة المول و عواطف الزبون و تقييم الزبون لبيئة المول و السلوك الشرائي للزبون إضافة للبعد المتعلق بالخصائص الديموغرافيه للمستجيب. إن مشاركتك هذه ستساهم بفهم مدى تأثير كل مجموعه من عناصر بيئة التسوق علىعواطفك وإدراكاتك المتعلقه ببيئة التسوق و بالتالي سلوكك الشرائي. أرجو الإجابه على جميع أسئلة هذا الإستبيان وفقا لرأيك الشخصي مع الأخذ بغين الإعتبار أنه ليس هناك إجابات صحيحه أو خاطئه وأن جميع البيانات ستعامل بسرية تامه و ستستخدم فقط لأغراض البحث العلمي المشار إليه.

هل تعتبر نفسك أحد زبائن هذا المول (تتسوق مرتين على الأقل في الشهر في هذا المول)؟

لا ( ) . توقف هنا.

نعم ( ) . انتقل الى الصفحة الأخرى للإجابة على الأسئلة.

الجزء الأول - بيئة المول :

الرجاء التأشير على المربع الذى يعبر عن مدى موافقتك أوعدم موافقتك مع مضمون كل من العبارات التاليه، حيث (1= غير موافق بشدة و 7= موافق بشدة).

		1	2	3	4	5	6	7
الرقم	**العباره**	**غير موافق بشده**			**محايد**			**موافق بشده**
المحيط المادي								
1	أحب الموسيقى التي تبث في هذا المول.	1	2	3	4	5	6	7
2	مستوى صوت الموسيقى التي تبث في هذا المول مناسب بالنسبة لي.	1	2	3	4	5	6	7
3	الموسيقى التي تبث داخل هذا المول تجعل التسوق ممتعاً.	1	2	3	4	5	6	7
4	الموسيقى التي تبث في هذا المول مناسبة.	1	2	3	4	5	6	7
5	الموسيقى التي أسمعها في هذا المول تزعجني.R	1	2	3	4	5	6	7
6	درجة الحرارة داخل المول مريحة بالنسبة لي.	1	2	3	4	5	6	7
7	الإضاءة داخل المول مناسبة.	1	2	3	4	5	6	7
8	يمتاز هذا المول بأنهذو تهوية مريحة.	1	2	3	4	5	6	7
9	داخل هذا المول يمكنك ان تشمّ روائح طيبة.	1	2	3	4	5	6	7
10	يتمتع هذا المول بدرجة نظافة معقولة.	1	2	3	4	5	6	7
11	مستوى الضوضاء داخل المول مقبول.	1	2	3	4	5	6	7
عوامل التصميم								
12	التصميم المعماري لهذا المول يجعله أكثر جاذبيةً.	1	2	3	4	5	6	7
13	يتمتع هذا المول بديكورات جذابة وعصرية.	1	2	3	4	5	6	7
14	التصميم الداخلي لهذا المول مثير للإعجاب	1	2	3	4	5	6	7
15	التصميم العام للمول يجذب الإنتباه.	1	2	3	4	5	6	7
16	التصميم الداخلي(التقسيم) لهذا المول يجعل عملية الوصول الى المحال التجارية التي ترغب أكثر سهولة	1	2	3	4	5	6	7
17	طريقة تصميم (تقسيم) المول تجعل عملية وصولي الى المطاعم سهله للغاية.	1	2	3	4	5	6	7
18	بشكل عام، تصميم (تقسيم) هذا المول يجعل التجول فيه سهلاً.	1	2	3	4	5	6	7
19	هناك تناسق بين الوان الجدران الداخلية والأرضيات لهذا المول ما يجعله جذاباً.	1	2	3	4	5	6	7
20	الوان المول تبعث على الراحة والرضى.	1	2	3	4	5	6	7
21	الالوان المستخدمه في هذا المول تبدو عصرية.	1	2	3	4	5	6	7
22	الوان هذا المول زاهية.	1	2	3	4	5	6	7
23	المرافق (كالمصاعد، المرافق الصحية، اللوحات الإرشادية..الخ) في هذا المول جذابة.	1	2	3	4	5	6	7
عوامل المحيط الإجتماعي								
24	هناك عدد كاف من الموظفين لخدمة الزبائن.	1	2	3	4	5	6	7
25	يمتاز موظفوهذا المول بالأناقة واللباس الجيد.	1	2	3	4	5	6	7

26	موظفو هذا المول لطيفون في تعاملهم مع الزبائن.	1	2	3	4	5	6	7
27	موظفو هذا المول متعاونون.	1	2	3	4	5	6	7
28	الموظفون يولون الزبائن إهتماماً شخصياً.							
29	أستطيع أن أنسجم من حيث الطبيعة مع الزبائن المعتادين/التقليديين الذين يتسوقون في هذا المول.	1	2	3	4	5	6	7
30	الزبائن المعتادون/التقليديون في هذا المول يشبهونني إلى حد بعيد.	1	2	3	4	5	6	7
31	هذا المول عالي الإزدحام هذه المره.	1	2	3	4	5	6	7
32	مستوى الإقبال/الحركه على هذا المول إلى حد ماعالي هذه المرة.	1	2	3	4	5	6	7
33	هنالك عدد هائل من الزبائن داخل المول.	1	2	3	4	5	6	7

الجزء الثاني –عواطف الزبون

المقياس المدرج في الأسفل يمثل نقيضين من العواطف (متكدر مقابل متفائل مثلاً) والذين يمثلان نهايتي المقياس 1 -7 . الرجاء التأشير على المربع الأقرب في التعبيرعن مشاعرك الحاليه نحو بيئة المول.

A-البهجة/ السرور							
الرقم							
34	متكدر/محبط	1	2	3	4	5	6	متفائل
الإجابة							7	
35	منزعج/ضجران	1	2	3	4	5	6	مسرور
الإجابة							7	
36	غير راض	1	2	3	4	5	6	راض
الإجابة							7	
37	غير سعيد	1	2	3	4	5	6	سعيد
الإجابة							7	
38	ملان	1	2	3	4	5	6	مستمتع/متسلي
الإجابة							7	
39	سوداوي/ مكتئب	1	2	3	4	5	6	مقتنع
الإجابة							7	
B- الإثاره							
40	مسترخي	1	2	3	4	5	6	مُحفَز
الإجابة							7	
41	هادئ	1	2	3	4	5	6	مُنفعل
الإجابة							7	
42	خامل	1	2	3	4	5	6	مُتنبه
الإجابة							7	
43	غير مُثار	1	2	3	4	5	6	مثار
الإجابة							7	
44	بليد	1	2	3	4	5	6	متحمس
الإجابة							7	
45	راكد/فاتر	1	2	3	4	5	6	متنرفز/متوتر
الإجابة							7	

الجزء الثالث- إدراك الزبائن (التقييم العام لبيئة التسوق)

المقياس المدرج في الأسفل يمثل نقيضين من التقييم الإدراكي لبيئة المول (بيئةإيجابيةمقابل بيئة سلبية مثلاً) والذين يمثلان نهايتي المقياس 1 -7 . الرجاء التأشير على المربع الأقرب في التعبيرعن مشاعرك الحاليه نحو بيئة المول.

التقييم العام لبيئة التسوق							
الرقم							
46	بيئة غير جذابه	←				→	بيئة جذابه
الإجابة	1	2	3	4	5	6	7
47	بيئة مُوتره	←				→	بيئة مطمئنة/مؤنسة
الإجابة	1	2	3	4	5	6	7
48	بيئة غير مريحة	←				→	بيئة مريحة
الإجابة	1	2	3	4	5	6	7
49	بيئة كئيبه	←				→	بيئة مبهجه
الإجابة	1	2	3	4	5	6	7
50	بيئة مغلقه/كتمه	←				→	بيئة منفتحه/ شرحه
الإجابة	1	2	3	4	5	6	7
51	بيئة أحادية اللون/غير متمايزة	←				→	بيئة ملونه/متمايزة الالوان
الإجابة	1	2	3	4	5	6	7
52	بيئة سلبية	←				→	بيئة إيجابية
الإجابة	1	2	3	4	5	6	7
53	بيئة مملة	←				→	بيئة مثيرة
الإجابة	1	2	3	4	5	6	7
54	بيئة سيئة	←				→	بيئة حسنة
الإجابة	1	2	3	4	5	6	7
55	بيئة غير حيوية	←				→	بيئة حيوية
	1	2	3	4	5	6	7
56	بيئة باهتة	←				→	بيئة زاهية
الإجابة	1	2	3	4	5	6	7
57	بيئة غير محفزة	←				→	بيئة محفزة
الإجابة	1	2	3	4	5	6	7
58	بيئة غير جاذبة للإنتباه	←				→	بيئة جاذبة للإنتباه
الإجابة	1	2	3	4	5	6	7

الجزء الرابع- السلوك الشرائي للزبون

الرجاء التأشير على المربع الذى يعبر عن مدى موافقتك أوعدم موافقتك مع مضمون كل من العبارات التاليه، حيث (1= غير موافق بشدة و 7= موافق بشدة).

الرقم	العبارة	1	2	3	4	5	6	7
		غير موافق بشدة			محايد			موافق بشدة
59	أشعر بأن المبالغ التي قمت بصرفها داخل المول تفوق ما كنت قد خططت له قبل دخولي للمول	1	2	3	4	5	6	7
60	الوقت الذي قضيته داخل هذا المول أكثر مما توقعت	1	2	3	4	5	6	7
61	مقدار الوقت الذي قضيته كان حقاً عالياً	1	2	3	4	5	6	7
62	في هذا المول شعرت بحاجة مفاجئة لشراء شيء وقد قمت بشرائه.	1	2	3	4	5	6	7
63	أثناء تواجدي في هذا المول شعرت بإثارة قوية للشراء (متعة إقتناص الفرص كالعروض مثلاً)	1	2	3	4	5	6	7
64	أشتريت أكثر مما كنت قد خططت لشرائه.	1	2	3	4	5	6	7
65	سوف أتحدث بشكل إيجابي عن هذا المول	1	2	3	4	5	6	7
66	أرغب بتوصية أصدقائي للتسوق من هذا المول	1	2	3	4	5	6	7
67	أفضل الإستمرار بالتعامل مع هذا المول في المستقبل	1	2	3	4	5	6	7
68	على الأرجح أنني سأتسوق في هذا المول في المستقبل	1	2	3	4	5	6	7

الجزء الخامس- خلفية ديموغرافية

الرجاء التأشير في المربعات المناسبة.

العمر :

☐ 30 -34 ☐ 25-29 ☐ 20-24 ☐ 15-19

☐ 50وما فوق 45-49 ☐ 40- 44 ☐ 35-39

الجنس :

ذكر ☐ أنثى ☐

الحالة الإجتماعية:

أعزب ☐ متزوج ☐ مطلق ☐ أرمل ☐

الدرجه العلمية:

ثانوي ☐ دبلوم /كلية ☐

بكالوريوس ☐ دراسات عليا ☐ غير ذلك ☐

المهنة الحاليه

طالب ☐ بلا وظيفه ☐ موظف قطاع خاص ☐

موظف قطاع عام ☐ عمل خاص ☐ غيرذلك ☐

الدخل الشهري

أقل من 500 دينار ☐ 501-999 ☐

1000-1499 ☐ 1500-1999 ☐

2000-2499 ☐ 2500 وما فوق ☐

شكراً لمشاركتك

Appendix C- Ethical Approval

University of Salford MANCHESTER

College of Arts & Social Sciences
Room 626 Maxwell Building
The Crescent
Salford, M5 4WT
Tel: 0161 295 5876

16 October 2013

Nawras Nusairat
University of Salford

Dear Nawras

Re: Ethical Approval Application – CASS120047

I am pleased to inform you that based on the information provided, the Research Ethics Panel have no objections on ethical grounds to your project.

Yours sincerely

Deborah Woodman
On Behalf of CASS Research Ethics Panel